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Bengal (India). Public Health Department.

Publication/Creation

Calcutta : The Bengal Secretariat Book Depot, [1929]

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Government of Bengal
Public Health Department

Bengal Public Health Report

By

Dr. C. A. Bentley, C.I.E., M.B., D.P.H., D.T.M.&H.

Director of Public Health, Bengal

Reports of the
Bengal Sanitary Board and
the Chief Engineer
Public Health Department

For the Year 1929

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Price—Indian, Re. 1; English, 1s. 9d.



22501294293



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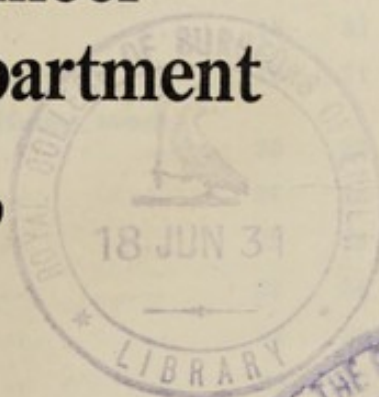
Reports of the Bengal Sanitary Board and the Chief Engineer Public Health Department

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Bengal Secretariat Book Depot

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Published by the Bengal Secretariat Book Depot,
Writers' Buildings, Calcutta.

Agents in India.

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Messrs. Thacker, Spink & Co., Calcutta.

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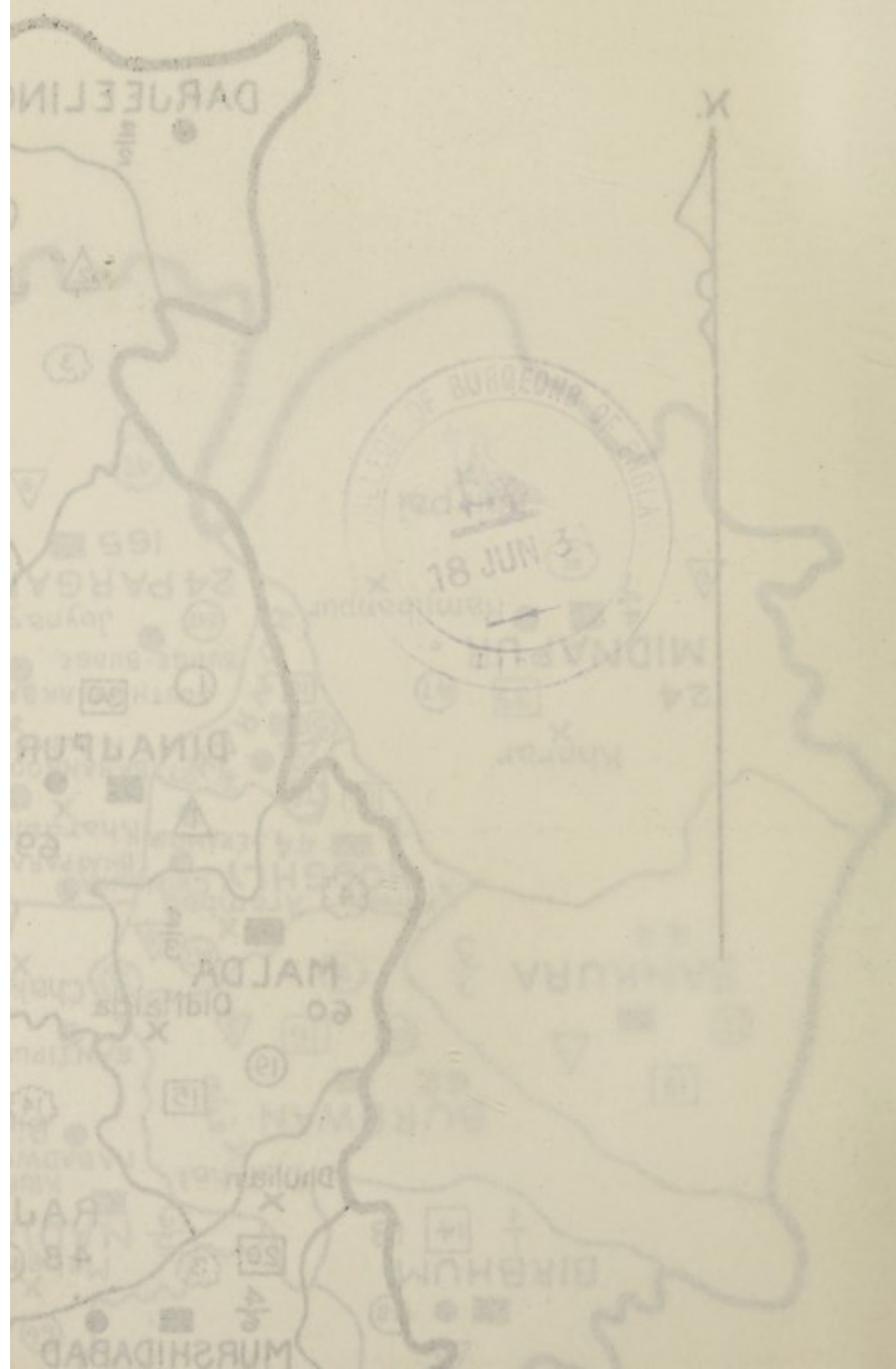
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Bengal Public Health Department

Part I

Sixty-Second Annual Report of the Director of Public Health, Bengal, 1929.

SECTION I.

Meteorology.

The following short account of the rainfall over Bengal, during the monsoon period May to October 1929, is extracted from the Meteorologist's report:—

The total rainfall of May was in large defect in the Presidency and Burdwan Divisions and in slight to moderate defect over the rest of the province. In June it was in moderate excess in the Chittagong Division and slight to moderate defect in the other divisions. In July there was slight to moderate excess in the Presidency and the Burdwan Divisions, while it was normal or in slight defect in the Rajshahi, Dacca and the Chittagong Divisions. In August it was in slight excess in the Burdwan Division and in moderate defect over the rest of the province, outside the Dacca Division when it was in slight defect. During September it was in slight defect in the Presidency, Burdwan and the Rajshahi Divisions and in slight excess in the other divisions. In October the total rainfall was normal in the Chittagong Division, in moderate excess in the Burdwan and the Dacca Divisions, in large excess in the Presidency Division and in considerable excess in the Rajshahi Division. The following table shows the departure in the province from normal rainfall:—

Divisions.	May.	June.	July.	August.	Sep- tember.	October.	Monsoon Season, 1929.
Presidency ..	-50	-11	+15	-25	-12	+40	-11
Burdwan ..	-59	-18	+25	+7	-22	+17	+7
Rajshahi ..	-11	-9	-10	-28	-10	+276	+4
Dacca ..	-30	-15	-1	-8	+12	+25	-6
Chittagong ..	-18	+24	-12	-33	+15	-1	-4

SECTIONS II to IV.

European Army, Indian Army and Jails, respectively, are no longer dealt with in this report.

SECTION V.

Vital Statistics.

2. **The Provincial Birth and Death Rates.**—It has been the usual practice to calculate the provincial birth and death rates on the population of the province as it stood at the time of the preceding census. Excluding the Chittagong Hill Tracts and the Indian States of Cooch Behar and Tippera, it is stated to have been 46,522,293 in 1921 although actually, in spite of the defective registration, there has been a minimum increase of 1,269,809 since then. The birth and death rates of the province for the year 1929, as calculated on the last census population, are as follows:—

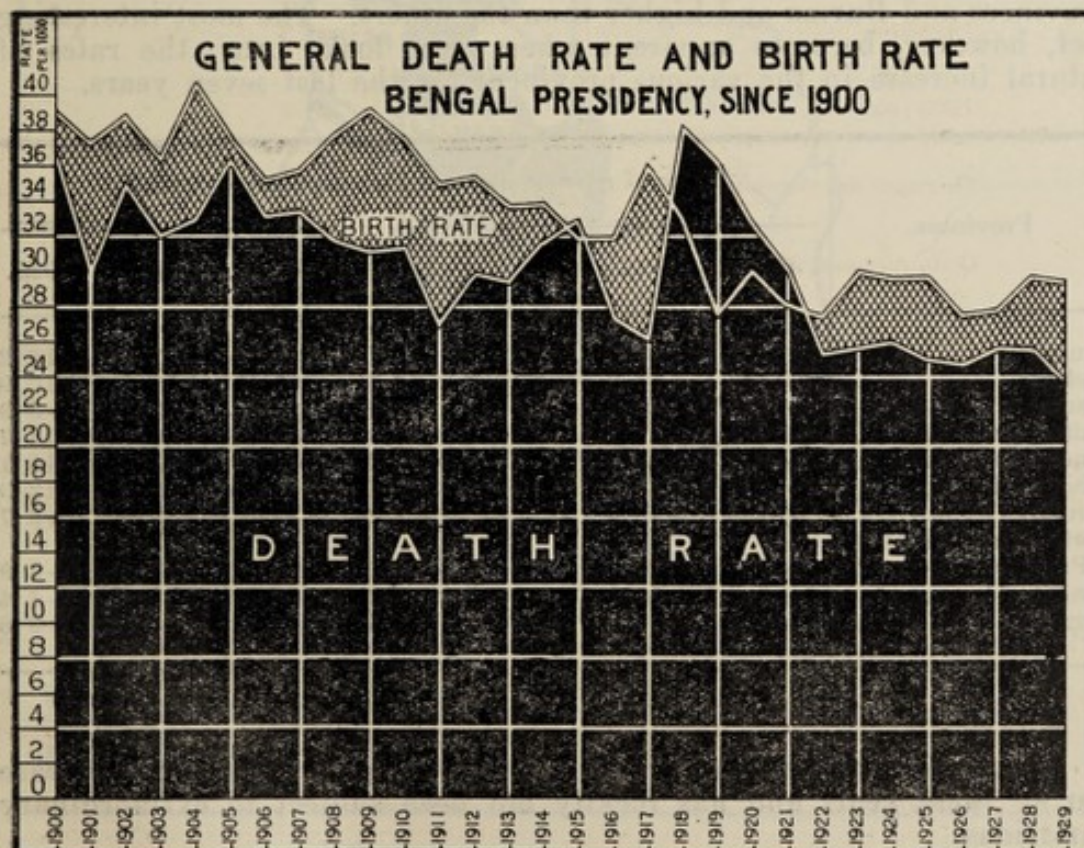
Headings.	Birth rates.	Death rates.
1929 (per mille)	29·3	23·5
1928 (per mille)	29·6	25·5
Increase or decrease (per cent.) ..	-1·0	-7·8
Quinquennial average	28·7	25·3
Increase or decrease (per cent.) ..	+2·1	-7·1

Both the birth and death rates decreased, the former by 1·0 per cent. and the latter by 7·8 per cent. as compared with the previous year, though the birth rate was 2·1 per cent. in excess of the quinquennial average and the death rate less by 7·1 per cent.

A glance at the following table shows the fluctuations in the provincial birth and death rates since 1911. It shows that, while up to 1921 there was an excess of births over deaths for six years since 1911 and that of deaths over births in the remaining five years of that period, there has been a regular steady increase in the number of births over deaths during the last eight years, varying between 2·1 and 5·8 per mille, and this in spite of the fact that both cholera and smallpox have been exacting a heavy toll during the last five years.

Birth and death rates and the rate of natural increase in the Bengal Presidency since the Census year 1911.

Years.	Births.	Birth rates per mille.	Deaths.	Death rates per mille.	Natural increase + or decrease —.	Rate of natural increase + or decrease —.
1911	1,585,187	34.9	1,221,580	26.9	+363,607	+8.0
1912	1,600,335	35.3	1,349,779	29.8	+250,556	+5.5
1913	1,529,921	33.7	1,331,868	29.4	+198,053	+4.3
1914	1,535,281	33.8	1,431,289	31.6	+103,992	+2.2
1915	1,441,628	31.8	1,488,567	32.8	-46,939	-1.0
1916	1,445,592	31.9	1,241,021	27.4	+204,571	+4.5
1917	1,627,873	35.9	1,187,509	26.2	+440,364	+9.7
1918	1,489,135	32.9	1,727,331	38.1	-238,198	-5.2
1919	1,245,392	27.5	1,641,111	36.2	-395,719	-8.7
1920	1,359,913	30.0	1,481,612	32.7	-121,699	-2.7
1921	1,301,001	28.0	1,403,030	30.1	-102,029	-2.1
1922	1,275,614	27.4	1,173,246	25.2	+102,368	+2.2
1923	1,393,411	29.9	1,185,791	25.5	+207,620	+4.4
1924	1,370,114	29.5	1,203,244	25.9	+166,870	+3.6
1925	1,377,097	29.6	1,158,473	24.9	+218,624	+4.7
1926	1,276,380	27.4	1,151,197	24.7	+125,183	+2.7
1927	1,286,863	27.7	1,189,370	25.6	+97,493	+2.1
1928	1,375,680	29.6	1,189,015	25.5	+186,665	+4.1
1929	1,361,278	29.3	1,094,263	23.5	+267,015	+5.8



3. **Comparison of Bengal Vital Statistics with those of the other provinces.**—The following statement compares the birth, death and the infant mortality rates of Bengal with those of the other provinces:—

Provinces.	Birth rates per mille of population for the year 1929.	Death rates per mille of population for the year 1929.	Infant mortality rates per mille calculated on the number of births registered during the year 1929.		
			Male.	Female.	Total.
Bengal Presidency ..	29·3	23·5	185·0	174·3	179·9
Madras Presidency ..	37·9	25·3	190·3	169·4	180·04
Bombay Presidency ..	38·18	30·53	196·92	181·27	189·39
United Provinces ..	34·33	24·26	173·42	163·20	168·61
Punjab ..	44·45	28·75	189·79	182·18	186·20
Central Provinces ..	43·96	34·13	256·82	223·21	240·49
Bihar and Orissa ..	35·6	26·9	144·5	125·3	135·0
North-West Frontier Province ..	30·82	23·66	167·38	168·00	167·65
Burma ..	26·43	22·06	236·96	214·40	225·97
Assam ..	32·77	20·91	166·76	147·46	157·44

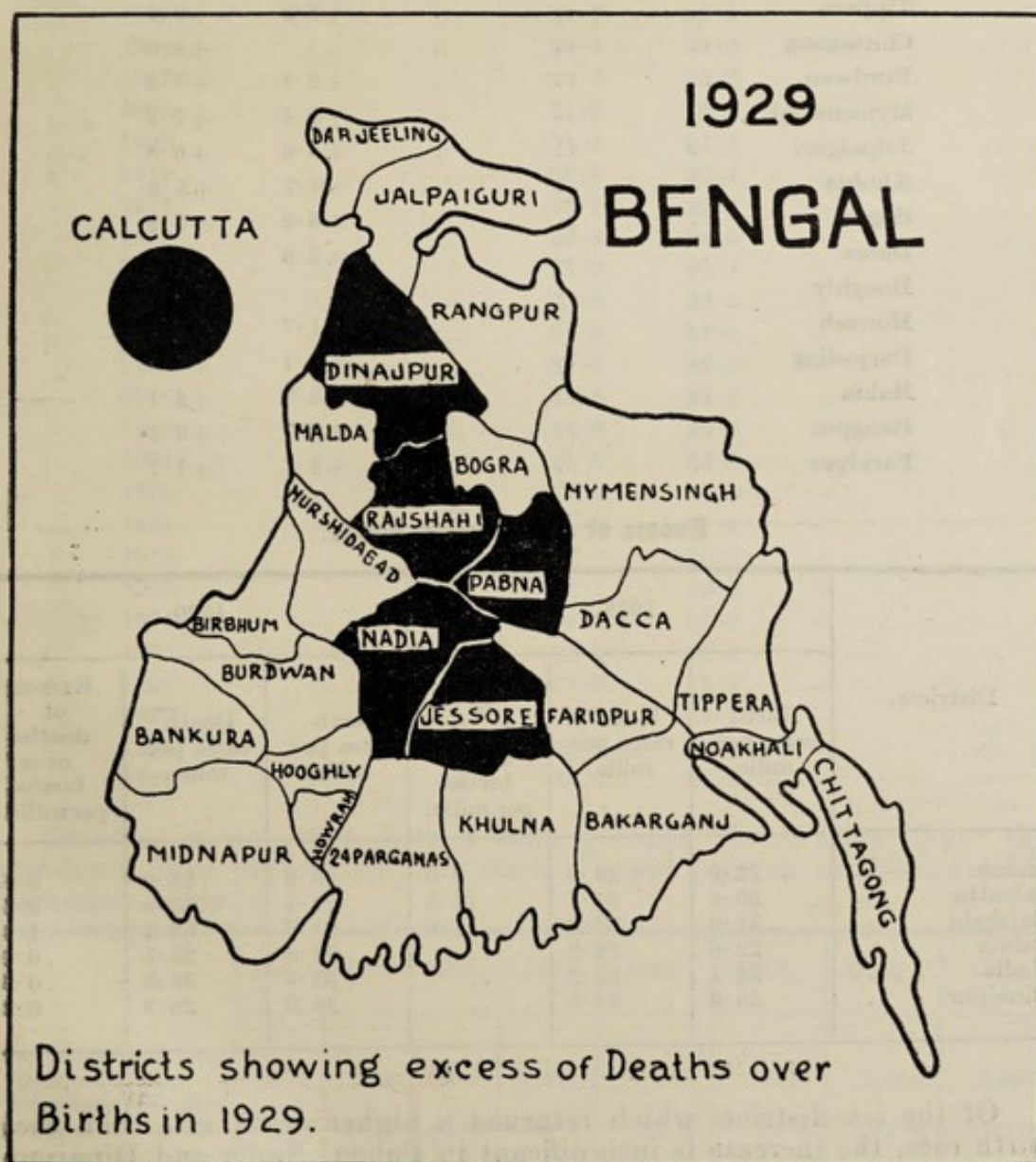
Bengal shows a lower birth rate than every other province except Burma and a higher death rate than Burma and Assam. Its infant mortality rate is lower than Madras, Bombay, Punjab, Central Provinces and Burma and higher than the others. The most interesting fact, however, becomes apparent when we look into the rates of natural increase in the various provinces for the last seven years.

Provinces.	Rates of natural increase + or decrease — per mille.						
	1929.	1928.	1927.	1926.	1925.	1924.	1923.
Punjab ..	+15·7	+21·6	+14·8	+5·1	+10·1	—3·4	+12·2
Madras ..	+12·6	+11·0	+12·2	+10·5	+9·3	+10·4	+10·9
Assam ..	+11·9	+9·1	+6·8	+7·8	+6·6	+3·7	+5·3
United Provinces ..	+10·1	+14·1	+14·1	+9·1	+7·9	+6·4	+12·7
Central Provinces ..	+9·8	+12·8	+14·3	+11·7	+16·6	+11·6	+15·1
Bihar and Orissa ..	+8·7	+13·0	+12·6	+11·6	+11·9	+6·6	+12·0
Bombay ..	+7·6	+10·9	+11·1	+8·5	+11·0	+8·0	+9·7
North-West Frontier Province ..	+7·2	+13·2	+7·2	+8·5	+7·1	—4·0	+3·9
Bengal ..	+5·8	+4·1	+2·1	+2·7	+4·7	+3·6	+4·4
Burma ..	+4·4	+4·6	+5·5	+6·7	+6·7	+5·9	+8·6

Bengal appears to have maintained a steady healthy increase during these years and has luckily not been subject to extraordinary variations.

4. **Natural increase of population in Bengal.**—It is apparent from the table appended to paragraph 2 above that there was an increase of 267,015 in the population of Bengal in 1929. This was shared by all the divisions, though unequally as shown in the following table:—

Divisions.	Rates of natural increase per mille.		Differences.
	1928.	1929.	
Burdwan	+4·9	+9·4	+4·5
Presidency	+2·2	+2·5	+0·3
Rajshahi	+2·7	+2·2	—0·5
Dacca	+5·0	+6·9	+1·9
Chittagong	+5·8	+9·9	+4·1



With the exception of six districts all the others showed an excess of births over deaths, the rate of natural increase varying with each. Of these, again, 13 returned a higher rate than in the previous year, while in the remaining 8 it appears to have been reduced.

Districts.	Rates of natural increase in districts per mille.	
	1928.	1929.
Birbhum	+7.9	+16.0
Murshidabad	+12.8	+15.6
Noakhali	+8.1	+14.3
Bakarganj	+4.2	+11.9
Midnapur	+6.0	+11.4
Bankura	+11.0	+10.7
24-Parganas	+3.9	+9.2
Tippura	+8.2	+8.4
Chittagong	..	+8.0
Burdwan	+2.8	+7.2
Mymensingh	+5.4	+7.2
Jalpaiguri	+5.6	+6.8
Khulna	+9.7	+5.8
Bogra	+6.2	+5.8
Dacca	+5.9	+5.6
Hooghly	..	+5.4
Howrah	+1.7	+5.1
Darjeeling	+5.1	+4.5
Malda	+5.8	+4.1
Rangpur	+3.7	+3.5
Faridpur	+3.7	+1.7

Excess of deaths over births.

Districts.	1928.			1929.		
	Birth rates per mille.	Death rates per mille.	Excess of deaths over births per mille.	Birth rates per mille.	Death rates per mille.	Excess of deaths over births per mille.
Jessore ..	22.9	29.9	7.0	23.2	33.0	9.8
Calcutta ..	20.4	31.7	11.3	21.1	30.6	9.5
Rajshahi ..	31.6	33.2	1.6	31.7	33.1	1.4
Pabna ..	22.6	22.2	..	24.8	25.7	0.9
Nadia ..	33.1	29.2	..	32.7	33.3	0.6
Dinajpur ..	35.8	34.5	..	28.0	28.3	0.3

Of the six districts which returned a higher death rate than their birth rate, the increase is insignificant in Pabna, Nadia and Dinajpur,

in Rajshahi too which joined this list in the previous year, it is not of much consequence. In Calcutta the birth rate is always much less as a rule than its death rate on account of the nature of its population. Jessore, however, where the death rate has been exceeding the birth rate for 21 years since 1900 as shown below presents a very serious problem:—

Birth and death rates in Jessore district since 1900.

Years.	Birth rates per mille.	Death rates per mille.	Increase+ or decrease— in population.
1900	32.7	37.3	—
1901	35.3	34.7	+
1902	35.0	42.5	—
1903	30.8	37.4	—
1904	34.5	42.5	—
1905	30.5	39.3	—
1906	30.3	33.5	—
1907	29.6	35.2	—
1908	31.9	34.3	—
1909	34.1	32.1	+
1910	33.4	32.1	+
1911	33.7	29.6	+
1912	32.8	34.0	—
1913	31.7	28.1	+
1914	33.9	30.6	+
1915	27.9	37.0	—
1916	27.6	32.3	—
1917	33.5	23.6	+
1918	24.9	30.0	—
1919	21.0	30.2	—
1920	21.4	28.3	—
1921	25.7	37.4	—
1922	28.2	30.3	—
1923	32.1	26.2	+
1924	28.2	27.2	+
1925	26.4	29.2	—
1926	23.5	28.5	—
1927	23.7	29.7	—
1928	22.9	29.9	—
1929	23.2	33.0	—

Besides, in no other district than perhaps in Pabna has the decadence been proceeding with such a rapid pace as in Jessore (vide statement below):—

	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
Total decadent area in square miles	1,553	328	1,181	2,437	2,542	2,201	2,608	2,697
Percentage of district ..	53.4	11.3	40.6	83.9	87.5	75.8	89.8	92.9

Turning to the towns, the total number of births was 67,028 and of deaths 73,361 showing a decrease of 6,333 in 1929. This was more than compensated for by the net increase in population in the rural areas amounting to 273,348, the number of births registered being 1,294,250 and of deaths 1,020,902.

5. **Decadent areas.**—In spite of the improvement noticed in 21 out of the 26 districts, unhealthy areas are found to exist in practically every district as shown in the following statement: 12 districts appear to have improved, 11 to have retrogressed, while 3 others show no change, as compared with the previous year:—

Decadent areas in Bengal.

Districts.	Total decadent area in square miles.		Percentage of district.		Improve- ment+ or retro- gression—.
	1928.	1929.	1928.	1929.	
Burdwan Division—					
Burdwan	666	408	24·6	15·1	+
Birbhum	..	4	..	·2	—
Bankura	73	108	2·8	4·1	—
Midnapur	940	150	18·6	3·0	+
Hooghly	637	270	53·6	22·7	+
Howrah	9	9	1·7	1·7	±
Presidency Division—					
24-Parganas ..	2,189	41	45·2	·8	+
Nadia	1,230	1,686	44·3	60·7	—
Murshidabad ..	47	6	2·2	·3	+
Jessore	2,608	2,697	89·8	92·9	—
Khulna	208	517	4·4	10·9	—
Rajshahi Division—					
Rajshahi	1,264	1,504	48·2	57·4	—
Dinajpur	2,071	2,015	52·5	51·1	+
Jalpaiguri	263	412	9·0	14·1	—
Darjeeling	254	254	21·8	21·8	±
Rangpur	299	505	8·5	14·4	—
Bogra	121	5	8·8	·4	+
Pabna	728	841	43·4	50·1	—
Malda	395	509	21·5	27·8	—
Dacca Division—					
Dacca	125	..	4·6	..	+
Mymensingh.. ..	950	214	15·2	3·4	+
Faridpur	795	861	33·5	36·3	—
Bakarganj	1,331	1	38·1	·03	+
Chittagong Division—					
Chittagong	1,198	103	48·0	4·1	+
Noakhali	177	..	11·7	..	+
Tippera	3	3	·1	·1	±

The table below shows the progress of decadence in the various districts since 1923:—

Districts.	Percentage of decadent areas.						
	1923.	1924.	1925.	1926.	1927.	1928.	1929.
Burdwan ..	21.1	32.6	10.1	8.3	18.5	24.6	15.1
Birbhum ..	..	10.4	14.7	..	.2	..	.2
Bankura ..	8.7	12.4	12.8	5.1	12.1	2.8	4.1
Midnapur ..	15.0	34.5	18.3	27.0	39.7	18.6	3.0
Hooghly ..	39.8	66.9	60.7	28.8	50.6	53.6	22.7
Howrah ..	16.6	19.0	28.1	54.3	50.4	1.7	1.7
24 Parganas ..	15.1	21.3	20.7	31.9	49.3	45.2	.8
Nadia ..	..	23.3	9.7	72.3	16.8	44.3	60.7
Murshidabad ..	3.1	..	11.1	19.7	19.6	2.2	.3
Jessore ..	11.3	40.6	83.9	87.5	75.8	89.8	92.9
Khulna ..	4.3	13.2	9.2	16.1	25.5	4.4	10.9
Rajshahi ..	58.7	55.1	63.3	63.0	23.5	48.2	57.4
Dinajpur ..	31.0	24.9	16.8	58.3	15.5	52.5	51.1
Jalpaiguri ..	13.9	38.5	23.9	31.8	.1	9.0	14.1
Darjeeling ..	35.3	71.6	21.7	21.8	56.9	21.8	21.8
Rangpur ..	48.7	56.1	60.1	54.5	19.0	8.5	14.4
Bogra ..	60.6	60.6	6.6	24.4	26.2	8.8	.4
Pabna ..	52.7	83.4	31.1	46.7	63.0	43.4	50.1
Malda ..	11.0	15.9	..	33.7	27.2	21.5	27.8
Dacca ..	7.3	18.7	..	..	..	4.6	..
Mymensingh ..	32.7	25.2	22.2	15.9	30.3	15.2	3.4
Faridpur ..	..	13.7	22.6	19.4	12.2	33.5	36.3
Bakarganj ..	33.9	44.9	27.6	.2	35.4	38.1	.03
Chittagong ..	8.6	4.6	..	.06	20.1	48.0	4.1
Noakhali ..	21.5	21.6	..	..	29.2	11.7	..
Tippera ..	..	..	..	4.45	6.7	.1	.1

6. **Registration and verification of vital occurrences.**—As has already been stated in a previous report, the registration of births and deaths has been transferred in rural areas from the thana officers to presidents of union boards wherever the latter have been established, while in the non-union board areas it still remains in the hands of the police. Registrars have been appointed for all such areas. Railway settlements too have been included in the scheme and station masters have been declared registrars for railway areas. The Births and Deaths Registration Act, 1873, has, therefore, now been applied to the whole of Bengal, towns as well as rural areas with the exception of the Chittagong Hill Tracts. The administration is thus complete, but the results have not been satisfactory so far. In rural areas, the chaukidars report to the local registrars, who in their turn report to the Subdivisional Officers; these latter consolidate the returns of the various local registrars in their respective jurisdiction and submit them to the District Health Officer who finally compiles the district return and submits it to the Public Health Department. The Presidents of the union boards being new to the task, their returns are extraordinarily delayed, with the consequence that the Director's monthly returns of vital statistics are submitted long after they are due, so much so that four clerks from the vital statistical branch of the head office along with the Assistant Director of Public Health in charge had to be deputed during the year under review to a defaulting

district to collect about six months' outstanding returns. It is expected that affairs will straighten themselves in course of time as soon as these Presidents have become used to their newly imposed duties. Some of the municipalities who cannot be said to be fresh to this business, also number among the list of the defaulters.

So far as the registration itself is concerned, the results are still more disquieting and the municipalities are the chief delinquents in this respect. Their default is being noticed in these reports practically every year but no improvement has yet taken place. Out of the 118 municipalities in the province, only 30 instituted proceedings against 222 defaulting guardians with the result that 125 persons were convicted, 6 acquitted, 65 cases were withdrawn and 26 were pending at the end of the year. How perfunctorily this work is performed is shown by the fact that in Chittagong Municipality, out of 72 cases started during the course of the year, 52 were withdrawn.

Verification of vital occurrences by the Vaccination Inspecting Staff during 1929.

Districts.	Births.		Deaths.	
	Number examined.	Number of omissions detected.	Number examined.	Number of omissions detected.
Burdwan	10,848	188	7,228	79
Birbhum	174	1	184	1
Bankura	188	Nil	220	Nil
Midnapur	1,844	88	992	5
Hooghly	5,837	188	4,761	133
Howrah	1,768	129	1,173	36
24 Parganas	4,842	297	2,003	67
Nadia	2,569	27	1,573	15
Murshidabad	Nil	Nil	Nil	Nil
Jessore	890	10	978	9
Khulna	1,412	82	1,044	44
Rajshahi	206	Nil	169	Nil
Dinaipur	424	Nil	123	Nil
Jalpaiguri	35	Nil	16	Nil
Darjeeling	515	19	319	Nil
Rangpur	2,228	116	1,707	66
Bogra	2,296	24	1,725	23
Pabna	961	59	1,429	31
Malda	144	17	112	21
Dacca	2,679	2	720	Nil
Mymensingh	2,576	48	2,084	35
Faridpur	2,227	153	1,214	73
Bakarganj	7,294	160	4,150	93
Chittagong	587	3	419	1
Noakhali	2,409	49	1,756	14
Tippera	2,325	147	1,656	79

In rural areas the work of verification has been entrusted to the vaccination inspecting staff for the last 30 years or so, and they discharge this duty during the vaccination recess. Since 1924 intensive campaigns of vaccination have been performed in every district throughout the year to meet the quinquennial outbreak. In 1929, however, the

smallpox epidemic had practically subsidised in most of the districts, yet the vaccination staff failed to carry on verification as they should have done in spite of the fact that since the new village health reorganisation staff came into existence, the duties of the former had been very much lightened. The above statement shows the births and deaths omission detected by the vaccination inspecting staff during the year.

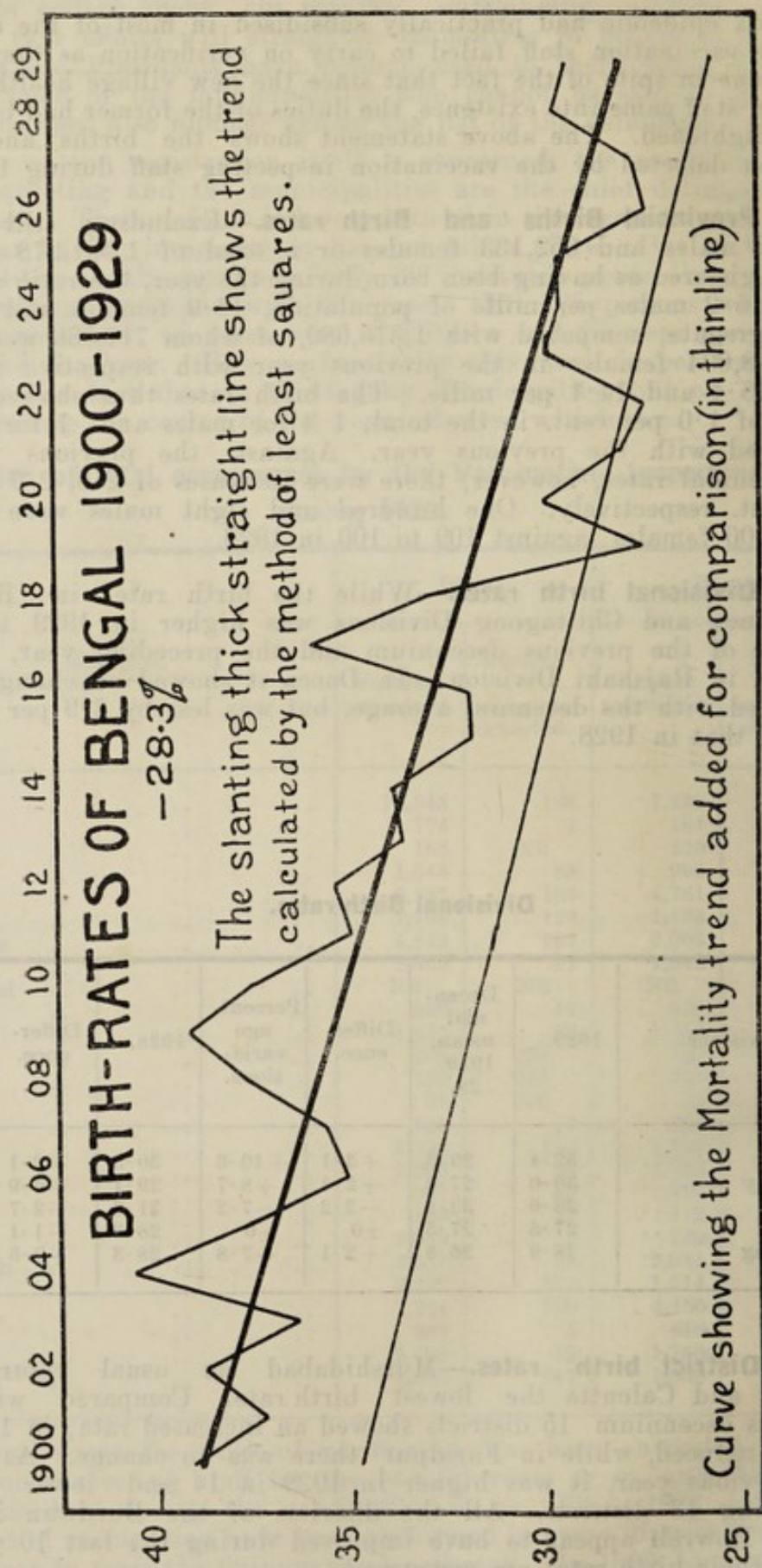
7. Provincial Births and Birth rates.—Excluding still births, 709,145 males and 652,133 females or a total of 1,361,278 children were registered as having been born during the year, the ratio of births being 15·2 males per mille of population, 14·0 females and 29·3 in the aggregate, compared with 1,375,680, of whom 717,586 were males and 658,094 females in the previous year with respective ratios of 29·6, 15·4 and 14·1 per mille. The birth rates thus showed a decrease of 1·0 per cent. in the total, 1·3 for males and ·7 for females compared with the previous year. Against the previous average quinquennial rates, however, there were increases of 2·0, 2·0 and 1·4 per cent. respectively. One hundred and eight males were born to every 100 females against 109 to 100 in 1928.

8. Divisional birth rates.—While the birth rate in Burdwan, Presidency and Chittagong Divisions was higher in 1929 than the average of the previous decennium and the preceding year, it was reduced in Rajshahi Division. In Dacca it showed no change when compared with the decennial average, but was less by 3·9 per cent. as against that in 1928.

Divisional Birth rates.

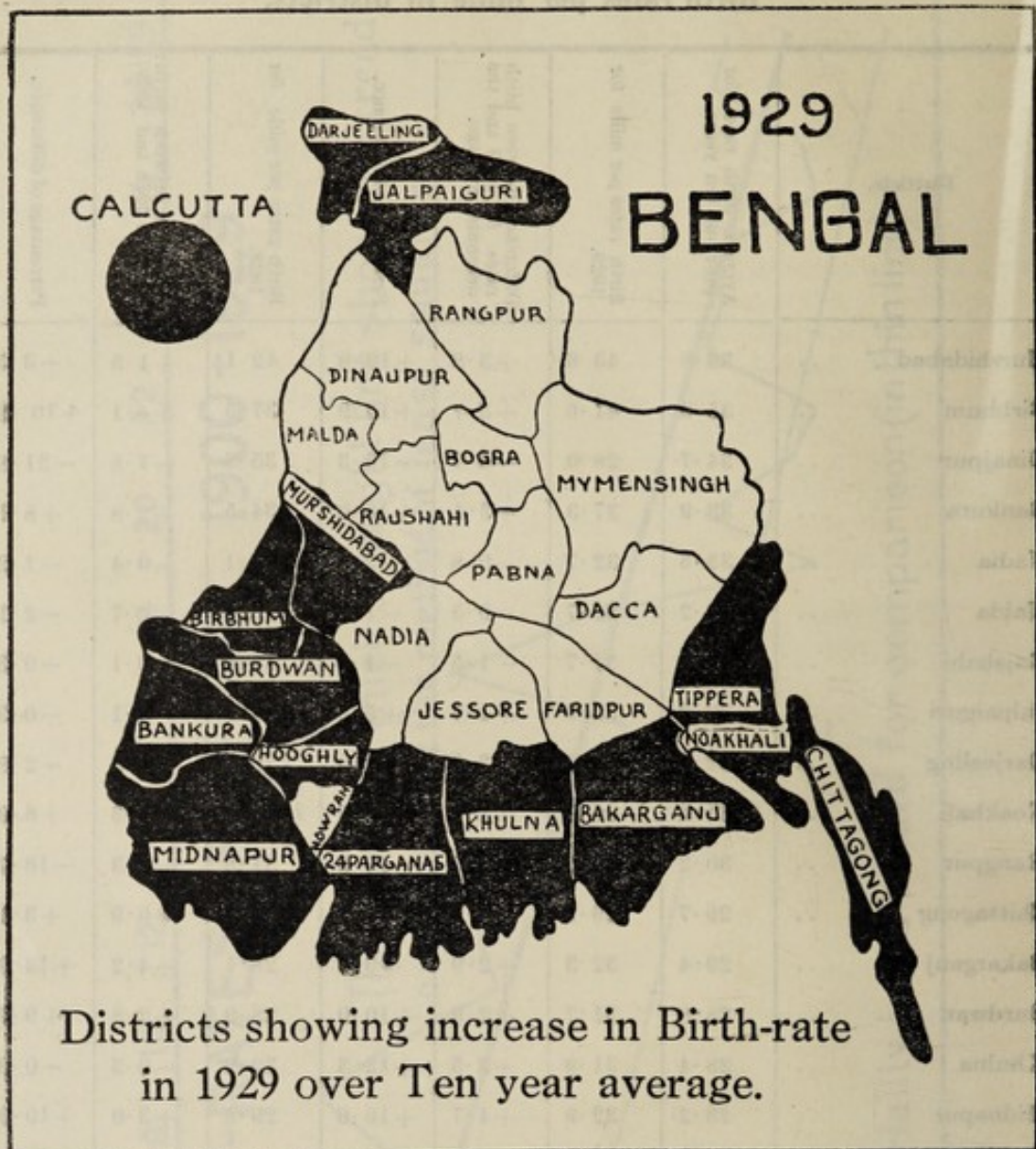
Divisions.	1929.	Decennial mean, 1919-28.	Difference.	Percentage variations.	1928.	Difference.	Percentage variations.
Burdwan ..	32·4	29·3	+3·1	+10·6	30·3	+2·1	+6·9
Presidency ..	30·0	27·6	+2·4	+8·7	29·1	+0·9	+3·1
Rajshahi ..	28·6	30·8	-2·2	-7·2	31·3	-2·7	-8·6
Dacca ..	27·5	27·5	±0	±0	28·6	-1·1	-3·9
Chittagong ..	28·9	26·8	+2·1	+7·8	28·3	+0·6	+2·1

9. District birth rates.—Murshidabad as usual returned the highest and Calcutta the lowest birth rate. Compared with the previous decennium 15 districts showed an increased rate; in 11 others it was reduced, while in Faridpur there was no change. As against the previous year, it was higher in 1929 in 14 and lower in the remaining 13 districts. All the districts of the Burdwan Division except Howrah appear to have improved during the last 10 years so far as their birth rates are concerned.



Birth rates per mille in districts.

Districts.	Average birth rates for previous ten years.	Birth rates per mille for 1929.	Difference between birth rates for 1929 and the decennial average.	Percentage of difference.	Birth rates per mille for 1928.	Difference between birth rates of 1928 and 1929.	Percentage of difference.
Murshidabad ..	39.8	43.6	+3.8	+10.9	42.1	+1.5	+3.5
Birbhum ..	35.9	41.6	+5.7	+15.9	37.5	+4.1	+10.9
Dinajpur ..	34.7	28.0	-6.7	-19.3	35.8	-7.8	-21.8
Bankura ..	33.9	37.3	+3.4	+10.0	34.5	+2.8	+8.1
Nadia ..	33.5	32.7	-0.8	-2.4	33.1	-0.4	-1.2
Malda ..	33.2	32.7	-0.5	-1.5	33.4	-0.7	-2.1
Rajshahi ..	33.2	31.7	-1.5	-4.5	31.6	+0.1	+0.3
Jalpaiguri ..	32.2	33.9	+1.7	+5.3	34.0	-0.1	-0.3
Darjeeling ..	32.0	35.5	+3.5	+10.9	36.5	-1.0	-2.8
Noakhali ..	31.4	35.5	+4.1	+13.0	33.2	+2.3	+6.9
Rangpur ..	30.2	26.5	-3.7	-12.2	31.8	-5.3	-16.7
Chittagong ..	29.7	29.9	+0.2	+0.7	29.0	+0.9	+3.1
Bakarganj ..	29.4	32.3	+2.9	+9.8	28.1	+4.2	+14.9
Burdwan ..	28.8	31.7	+2.9	+10.0	28.9	+2.8	+9.7
Khulna ..	28.4	31.9	+3.5	+12.3	32.2	-0.3	-0.9
Midnapur ..	28.2	32.9	+4.7	+16.6	29.9	+3.0	+10.0
Faridpur ..	28.2	28.2	±0	±0	30.5	-2.3	-7.6
Dacca ..	27.8	27.7	-0.1	-0.4	30.3	-2.6	-8.6
Howrah ..	27.1	27.0	-0.1	-0.4	27.8	-0.8	-2.9
Pabna ..	26.1	24.8	-1.3	-5.0	22.6	+2.2	+9.7
Mymensingh ..	26.0	24.3	-1.7	-6.6	26.9	-2.6	-9.7
Hooghly ..	25.4	25.6	+0.2	+0.8	25.5	+0.1	+0.4
Jessore ..	25.4	23.2	-2.2	-8.7	22.9	+0.3	+1.3
Bogra ..	25.0	24.3	-0.7	-2.8	28.5	-4.2	-14.8
24-Parganas ..	23.7	28.7	+5.0	+21.1	26.4	+2.3	+8.7
Tippera ..	22.7	24.6	+1.9	+8.4	25.2	-0.6	-2.4
Calcutta ..	16.9	21.1	+4.2	+24.8	20.4	+0.7	+3.4



10. **Birth rates in towns.**—The aggregate birth rate in towns, viz., 21·5 per mille in 1929, exceeded the previous year's rate (20·4) by 5·4 per cent. Noakhali, which has been returning a rate below 20·0 per mille during the last 10 years (vide table below) suddenly jumped to record a rate of 49·5 per mille in 1929, which is highly suspicious and requires a thorough investigation:—

Birth rates in Noakhali Municipality.

Per mille.			Per mille.		
1920	..	15·1	1925	..	11·3
1921	..	14·5	1926	..	10·9
1922	..	13·3	1927	..	6·0
1923	..	11·1	1928	..	9·1
1924	..	11·4	1929	..	49·5

Kurseong which has always been heading the list stood second, its birth rate being 44·2 per mille. Eighteen others registered rates between 30 and 40 per mille, 37 between 20 and 30 and 53 between 10 and 20 per mille, while the following 8 towns returned rates below 10 per mille, which is obviously absurd:—

			1929.	1928.
(1) Kotehandpur	..	..	9·8	7·6
(2) Comilla	..	..	9·6	9·6
(3) Burdwan	..	..	9·2	9·3
(4) Barrackpur	..	..	9·0	8·3
(5) Gauripur	..	..	7·7	6·7
(6) Bogra	..	..	5·4	9·1
(7) Dum Dum	..	..	3·6	..
(8) Dinajpur	..	..	3·1	6·5

Of the towns returning absurd rates in the previous year Jaynagar, Jhalakati, Budge Budge and Gobardanga, appear to have made some improvement in their birth registration.

11. **Birth rate in rural areas.**—The aggregate birth rate in rural areas was 29·8 per mille as against 30·2 in 1928, showing a decrease of 1·3 per cent. Four circles returned rates above 60 per mille; these were Sainthia and Muhammad Bazar in Birbhum district (93·7 and 62·1 per mille, respectively); Nachol in Malda district (74·9) and Jaypur in Bankura district (63·3 per mille); 8 others returned rates between 50 and 60, 63 between 40 and 50, 178 between 30 and 40, 239 between 20 and 30, 28 between 10 and 20 and 2 below 10 per mille (Bauria in Howrah district 8·9 and Noapara in the 24-Parganas 5·1). Of the above list, Sainthia and Jaypur stood second and third in the previous year, while Noapara has always recorded the lowest rate.

12. **Seasonal incidence of births.**—The provincial birth rate as in the previous year was highest in December and lowest in August. It exceeded the previous year's rate in February, March, June, August and December, was reduced in January, May, July and October and remained stationary in April, September and November.

Seasonal Incidence of Births.

Months.	1928.	1929.	Difference.	Percentage of difference.
January	3·0	2·7	-0·3	-10·0
February	2·5	2·6	+0·1	+4·0
March	2·8	2·9	+0·1	+3·5
April	2·8	2·8	±0	±0
May	2·3	2·1	-0·2	-8·7
June	1·9	2·0	+0·1	+5·2
July	2·0	1·9	-0·1	-5·0
August	1·7	1·8	+0·1	+5·9
September	2·1	2·1	±0	±0
October	2·6	2·5	-0·1	-3·9
November	2·8	2·8	±0	±0
December	3·0	3·1	+0·1	+3·3

13. **Still Births.**—53,886 still births were registered during the year under review compared with 56,530 in the previous year. 3·81 per cent. of the total births in the province were still births against 3·94 in 1928. Their district distribution is shown below, from which it would appear that the proportion of still births to total births was greater in the year under review than in the previous one in all the districts but 12, in which it was reduced—

Districts.	Proportion of still births to total births, per cent.		Increase + or decrease—.
	1928.	1929.	
Noakhali	6·64	6·40	—
Rangpur	6·21	5·52	—
Calcutta	6·04	7·37	+
Chittagong	5·78	6·48	+
Bogra	5·66	6·58	+
Mymensingh	5·66	4·45	—
Jalpaiguri	5·60	6·25	+
Jessore	5·58	5·24	—
Rajshahi	5·39	5·75	+
Pabna	5·32	5·84	+
Dinajpur	5·11	3·62	—
Darjeeling	4·73	5·42	+
Tippera	4·60	4·64	+
Murshidabad	4·11	4·12	+
Dacca	4·09	3·64	—
Khulna	3·38	3·88	+
Malda	3·21	1·79	—
Midnapur	2·93	2·91	—
Faridpur	2·80	3·82	+
Birbhum	2·23	1·92	—
Bakarganj	2·08	2·06	—
Nadia	1·61	2·27	+
24-Parganas	1·29	0·94	—
Burdwan	0·89	1·24	+
Bankura	0·46	0·34	—
Hooghly	0·23	0·41	+
Howrah	0·21	2·19	+
Total average for the province	3·94	3·81	—

The following table shows the number of still births recorded in the province since 1911:—

Years.			Still births registered.	Proportion of still births to total births (per cent.).
1911	..	..	64,542	3·91
1912	..	..	67,806	4·06
1913	..	..	69,218	4·33
1914	..	..	72,327	4·50
1915	..	..	70,193	4·64
1916	..	..	65,326	4·32
1917	..	..	75,996	4·46
1918	..	..	75,173	4·80
1919	..	..	59,527	4·56
1920	..	..	64,713	4·54
1921	..	..	60,091	4·41
1922	..	..	53,296	4·01
1923	..	..	62,075	4·26
1924	..	..	64,159	4·47
1925	..	..	62,281	4·33
1926	..	..	59,571	4·46
1927	..	..	58,579	4·35
1928	..	..	56,530	3·94
1929	..	..	53,886	3·81

Deaths and Death rates.

14. **Provincial death rate.**—The total number of deaths in the province during the year under review was 1,094,263 consisting of 560,834 males and 533,429 females against 1,189,015 including 613,394 males and 575,621 females, showing a decrease of 94,752 made up of 52,560 males and 42,192 females. The death rate 23·5 per mille was the lowest on record since 1911. It was less by 7·8 per cent. compared with the previous year and by 7·1 per cent. against the average rate during the previous quinquennium. The death rate for cholera was 1·7 per mille, smallpox ·4, fever 15·3, dysentery and diarrhoea ·8, respiratory diseases 1·1, injury ·4 and all other causes 3·6 against 2·9, ·9, 16·1, 7, ·9, ·4 and 3·5 per mille, respectively, in the previous year showing a decrease in cholera rate by 41·4 per cent., smallpox by 55·5 and fever by 4·9; dysentery and diarrhoea rate however increased by 14·3 per cent., respiratory diseases by 22·2 and all other causes by 2·9, injury returning the same rate during both the years.

15. **Divisional death rates.**—Presidency Division recorded the highest death rate 27·5 per mille, closely followed by Rajshahi 26·4, Dacca and Chittagong were again at the bottom of the list with rates of 20·6 and 19·0, respectively. Compared with the average of the previous decennium and the previous year, the death rate appears to have undergone an appreciable decrease in all the Divisions except

Presidency, which showed a rate slightly higher than the preceding year but lower than the decennial mean.

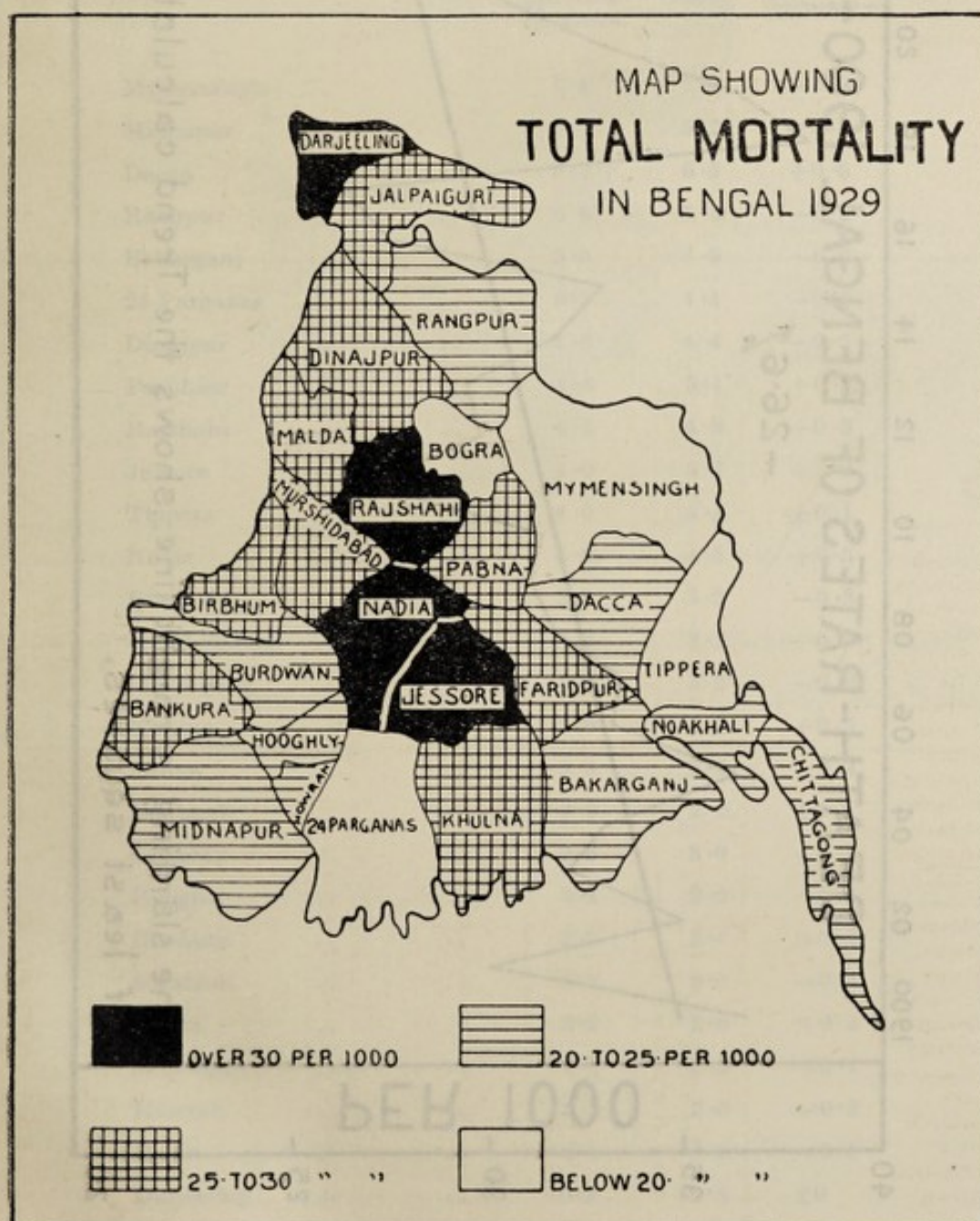
Divisions.	Death rates for the previous 10 years.	Death rates per mille, 1929.	Difference.	Percentage of difference.	Death rate per mille, 1928.	Difference.	Percentage of difference.
Burdwan ..	29.4	23.0	-6.4	-21.8	25.4	-2.4	-9.5
Presidency ..	29.8	27.5	-2.3	-7.7	26.9	+0.6	+2.2
Rajshahi ..	30.5	26.4	-4.1	-13.4	28.6	-2.2	-7.7
Dacca ..	24.3	20.6	-3.7	-15.2	23.6	-3.0	-12.7
Chittagong ..	22.5	19.0	-3.5	-15.6	22.5	-3.5	-15.6

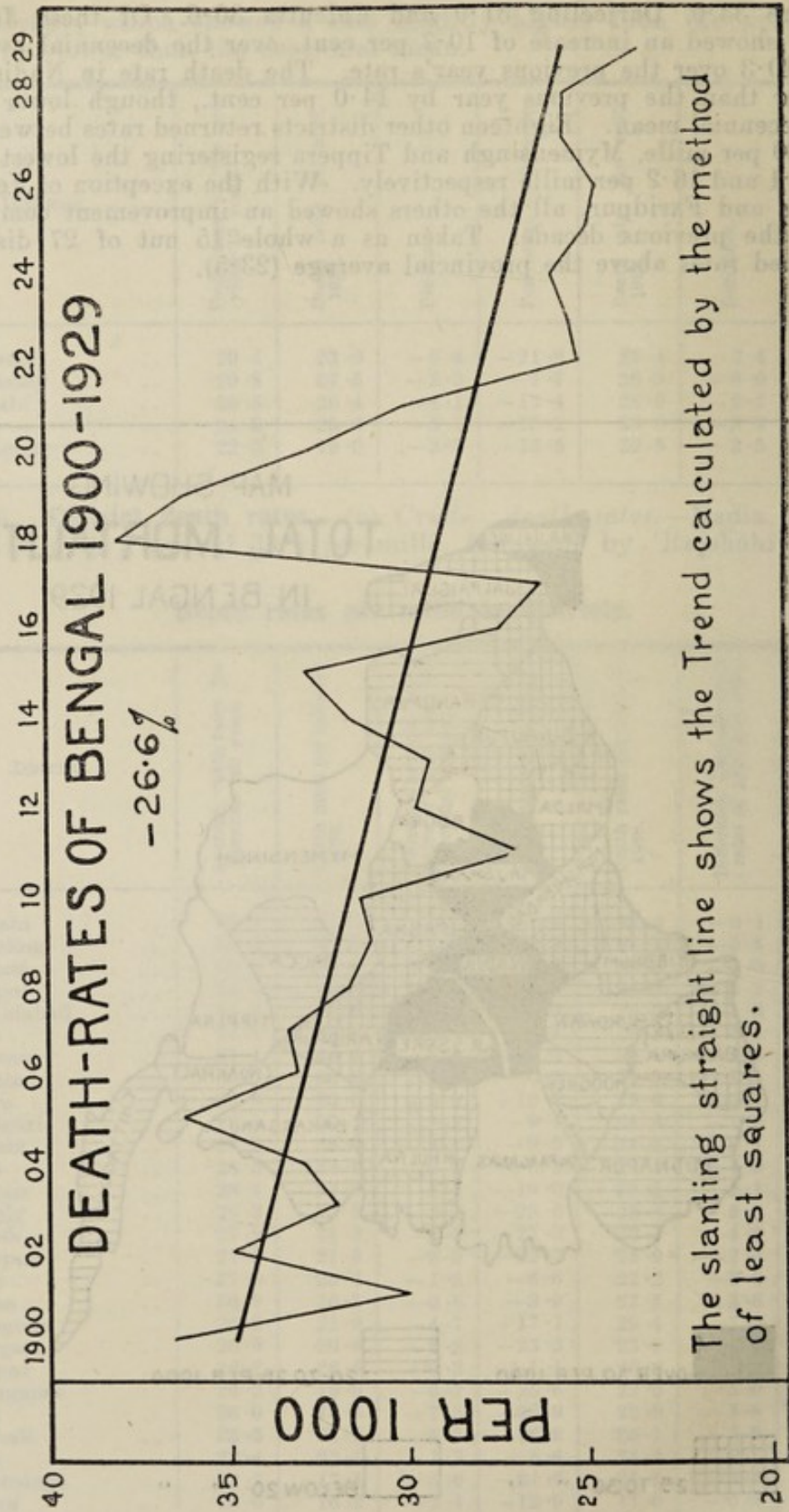
16. **District death rates.**—(a) *Crude death rates.*—Nadia headed the list with a rate of 33.3 per mille, followed by Rajshahi 33.1,

Death rates per mille in districts.

Districts.	Average death rates for previous ten years.	Death rates per mille for 1929.	Difference between death rates of 1929 and the decennial average.	Percentage of difference.	Death rates per mille for 1928.	Difference between death rates of 1928 and 1929.	Percentage of difference.
Rajshahi ..	36.1	33.1	-3.0	-8.3	33.2	-0.1	-0.3
Darjeeling ..	35.8	31.0	-4.8	-13.4	31.4	-0.4	-1.3
Birbhum ..	35.0	25.6	-9.4	-26.9	29.6	-4.0	-13.5
Dinajpur ..	34.7	28.3	-6.4	-18.5	34.5	-6.2	-18.0
Murshidabad ..	34.3	28.0	-6.3	-18.4	29.3	-1.3	-4.4
Nadia ..	34.1	33.3	-0.8	-2.4	29.2	+4.1	+14.0
Burdwan ..	31.1	24.5	-6.6	-21.2	26.1	-1.6	-6.1
Calcutta ..	30.7	30.6	-0.1	-0.3	31.7	-1.1	-3.5
Jessore ..	29.8	33.0	+3.2	+10.7	29.9	+3.1	+10.3
Jalpaiguri ..	29.8	27.1	-2.7	-9.1	28.4	-1.3	-4.6
Bankura ..	29.3	26.6	-2.7	-9.2	23.5	+3.1	+13.2
Malda ..	28.5	28.6	+0.1	+0.3	27.6	+1.0	+3.6
Rangpur ..	28.4	23.0	-5.4	-19.0	28.1	-5.1	-18.2
Hooghly ..	28.3	20.2	-8.1	-28.6	25.8	-5.6	-21.7
Howrah ..	27.9	21.9	-6.0	-21.5	26.1	-4.2	-16.1
Midnapur ..	27.8	21.5	-6.3	-22.7	23.9	-2.4	-10.1
Pabna ..	27.5	25.7	-1.8	-6.6	22.2	+3.5	+15.7
Khulna ..	26.9	26.1	-0.8	-3.0	22.5	+3.6	+16.0
Chittagong ..	26.6	21.9	-4.7	-17.7	29.4	-7.5	-25.5
Bakarganj ..	26.6	20.4	-6.2	-23.3	23.9	-3.5	-14.7
Faridpur ..	26.2	26.5	+0.3	+1.1	26.8	-0.3	-1.1
24 Parganas ..	26.2	19.5	-6.7	-25.6	22.5	-3.0	-13.3
Bogra ..	26.0	18.5	-7.5	-28.9	22.3	-3.8	-17.0
Noakhali ..	25.3	21.2	-4.1	-16.2	25.1	-3.9	-15.6
Dacca ..	23.4	22.1	-1.3	-5.6	24.4	-2.3	-9.4
Mymensingh ..	22.7	17.1	-5.6	-24.7	21.5	-4.4	-20.5
Tippera ..	18.6	16.2	-2.4	-12.9	17.0	-0.8	-4.7

Jessore 33·0, Darjeeling 31·0 and Calcutta 30·6. Of these Jessore alone showed an increase of 10·7 per cent. over the decennial average and 10·3 over the previous year's rate. The death rate in Nadia was higher than the previous year by 14·0 per cent., though lower than the decennial mean. Eighteen other districts returned rates between 20 and 30 per mille, Mymensingh and Tippera registering the lowest rates of 17·1 and 16·2 per mille respectively. With the exception of Jessore, Malda and Faridpur, all the others showed an improvement compared with the previous decade. Taken as a whole 15 out of 27 districts returned rates above the provincial average (23·5).

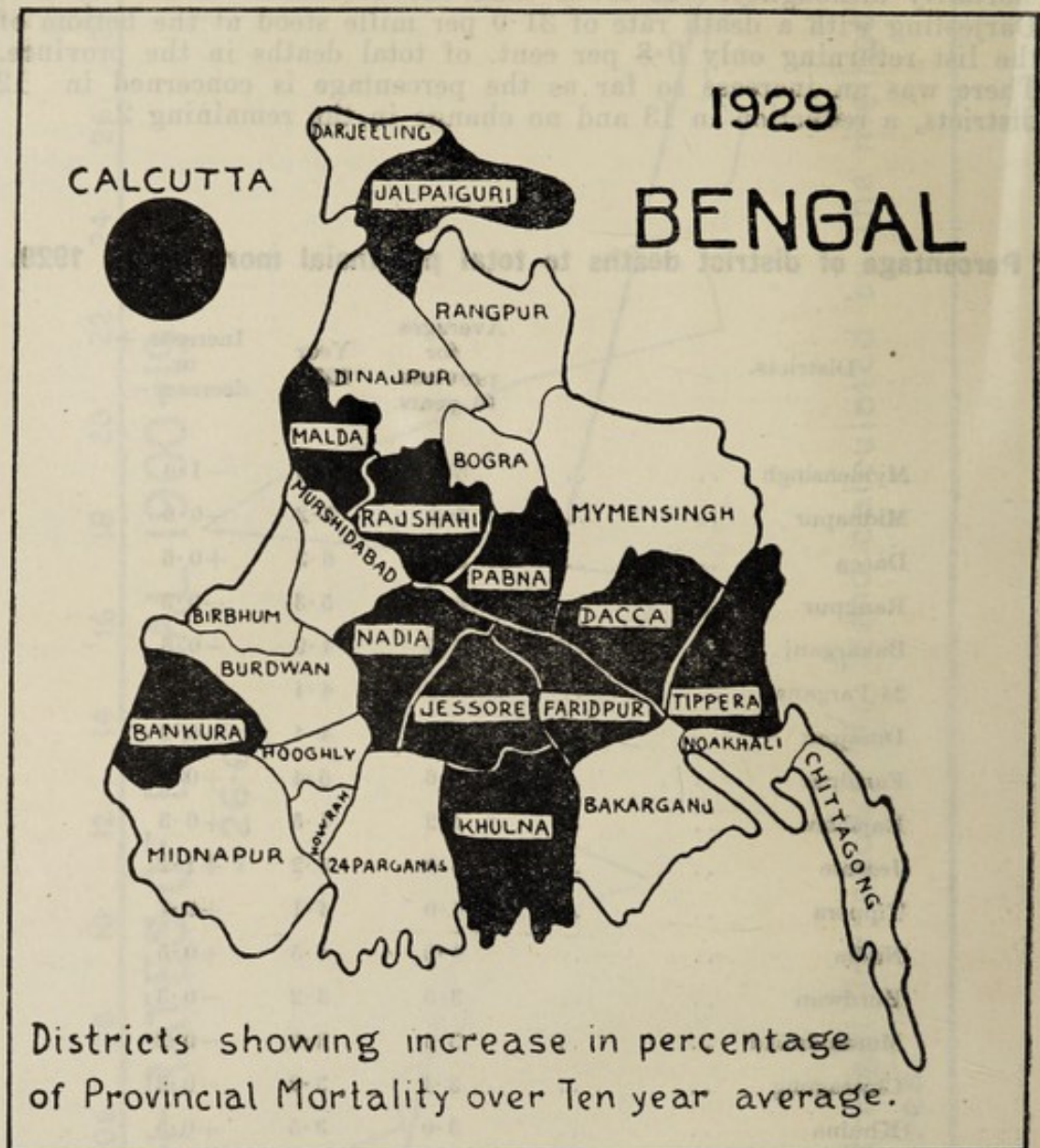




(b) *Percentage of district deaths to total provincial mortality.*—Mymensingh as usual returned the highest percentage of total mortality although it was lower than the decennial mean by 1·0, Darjeeling with a death rate of 31·0 per mille stood at the bottom of the list returning only 0·8 per cent. of total deaths in the province. There was an increase so far as the percentage is concerned in 12 districts, a reduction in 13 and no change in the remaining 2.

Percentage of district deaths to total provincial mortality in 1929.

Districts.	Averages for previous 10 years.	Year 1929.	Increase + or decrease—.
Mymensingh	8·6	7·6	—1·0
Midnapur	5·8	5·2	—0·6
Dacca	5·7	6·3	+0·6
Rangpur	5·6	5·3	—0·3
Bakarganj	5·5	4·9	—0·6
24-Parganas	5·0	4·4	—0·6
Dinajpur	4·6	4·4	—0·2
Faridpur	4·6	5·4	+0·8
Rajshahi	4·2	4·5	+0·3
Jessore	4·0	5·2	+1·2
Tippera	4·0	4·1	+0·1
Nadia	4·0	4·5	+0·5
Burdwan	3·5	3·2	—0·3
Murshidabad	3·4	3·2	—0·2
Chittagong	3·4	3·2	—0·2
Khulna	3·0	3·5	+0·5
Pabna	3·0	3·3	+0·3
Noakhali	2·9	2·9	±0
Calcutta	2·6	3·0	+0·4
Hooghly	2·4	2·0	—0·4
Bankura	2·3	2·5	+0·2
Birbhum	2·3	2·0	—0·3
Malda	2·2	2·6	+0·4
Jalpaiguri	2·2	2·3	+0·1
Howrah	2·2	2·0	—0·2
Bogra	2·1	1·8	—0·3
Darjeeling	0·8	0·8	±0



17. **Death rates in towns.**—73,361 deaths with an aggregate death rate of 23·6 per mille occurred in towns in 1929 compared with a total of 75,066 and 24·1 respectively in 1928 showing a reduction of 1,705 deaths in the total and of 2·1 per cent. in the death rate. 23 towns recorded rates above and the remaining 95 below the provincial average; Kurseong as usual returned the highest death rate 38·0, 6 others registered rates between 30 and 40, 32 between 20 and 30, 64 between 10 and 20 and the following 15 absurd rates below 10 per mille. Compared with the previous year, there seems to have been a nominal improvement in the death registration in Comilla, Barasat and Patuakhali. In the rest the pace has been further slackened.

Death rates.

Towns.	1928.	1929.	Increase + or decrease —	
Dum Dum	..	5.4	..	
Gauripur	8.9	5.5	—	
Barrackpur	6.6	5.7	—	
Comilla	5.6	6.1	+	
Dinajpur	11.8	6.9	—	
Nalchiti	14.5	7.5	—	
Bhola	9.3	7.9	—	
Kishoreganj	8.2	8.1	—	
Muktagacha	11.2	9.0	—	
Bogra	11.4	9.1	—	
Gaibandha	12.7	9.2	—	
Champdani	12.3	9.4	—	
Barasat	8.6	9.5	+	
Baruipur	12.7	9.6	—	
Patuakhali	9.4	9.9	+	

18. **Death rates in rural areas.**—The total number of deaths registered in rural areas was 1,020,902 and the death rate 23.5 per mille against 1,113,949 and 25.7, respectively, in 1928. There was thus a decrease of 93,047 in total and 8.6 per cent. in the death rate in 1929. Three circles returned death rates of 60 per mille and upwards (Nachole 65.4 in Malda district, Sainthia 61.3 in Birbhum and Jaypur 61.2 in Bankura district), one, a rate between 50 and 60, 17 between 40 and 50, 102 between 30 and 40, 256 between 20 and 30, 140 between 10 and 20, and 3 below 10 per mille (Bauria 5.7 in Howrah district, Noapara 6.2 in 24-Parganas and Boalia 7.7 in Rajshahi), the latter being evidently absurd rates. The death rates in 283 registering circles were above the average rate for the province and in the others below it.

19. **Comparison of death rates in towns with those in rural areas.**—The death rate from all causes was practically the same in both urban and rural areas. Smallpox and fevers as usual prevailed more in rural than in urban areas.

Causes.	During 1929.		
	Urban.	Rural.	Combined.
Cholera	2.0	1.7	1.7
Smallpox	0.3	0.4	0.4
Plague	..	..	..
Fevers	5.2	16.1	15.3
Dysentery and Diarrhoea ..	2.6	0.7	0.8
Respiratory diseases ..	5.4	0.8	1.1
Injuries	0.6	0.4	0.4
Other causes	7.5	3.4	3.6
All causes	23.6	23.5	23.5

20. **Comparison of Calcutta death rates with those of other Bengal towns and rural areas.**—The Calcutta death rate exceeded that of other Bengal towns and the rural areas by 54·5 and 30·2 per cent., respectively. Calcutta returned a higher rate than other Bengal towns and rural areas from all individual causes other than fevers, except that the rate from smallpox in Calcutta was the same as in rural areas.

Causes.			Calcutta (1929).	Bengal towns (1929).	Bengal rural areas (1929).
Death rate	..	..	30·6	19·8	23·5
Cholera	..	..	2·4	1·8	1·7
Small pox	..	..	0·4	0·3	0·4
Plague	..	..	..	..	..
Fevers	..	..	3·7	5·9	16·1
Dysentery and Diarrhoea	..	..	3·0	2·3	0·7
Respiratory diseases	..	..	9·6	3·2	0·8
Injuries	..	..	0·8	0·5	0·4
Other causes	..	..	10·7	5·8	3·4

Turning to subsidiary heads, enteric fever, measles, kala-azar, dysentery, diarrhoea, influenza, pneumonia, phthisis and other respiratory diseases appeared to be more prevalent in Calcutta than either in other Bengal towns or rural areas, perhaps due to better registration in the former, while malaria and other fevers were less. There was no relapsing fever in Calcutta. Deaths from child birth in Calcutta were a little less than one-third of those in either of the other areas, urban or rural, due to the greater facilities in the former place of getting medical aid.

Causes.			Death rates per mille in 1929.		
			Calcutta.	Other Bengal towns.	Rural areas.
Malaria	..	..	·86	1·38	7·64
Enteric fever	..	..	·71	·26	·21
Measles	..	..	·08	·07	·05
Relapsing fever	..	..	..	·02	·09
Kala-azar	..	..	·38	·25	·23
Other fevers	..	..	1·69	3·95	7·84
Dysentery	..	..	1·52	1·36	·38
Diarrhoea	..	..	1·49	·98	·29
Influenza	..	..	·44	·06	·05
Pneumonia	..	..	3·89	1·56	·37
Phthisis	..	..	2·40	·50	·17
Other respiratory diseases	..	..	2·90	1·10	·23
Child birth	..	..	·09	·24	·21

21. **Deaths from maternal causes.**—9,770 deaths were registered in 1929 due to maternal causes acting within 14 days of child birth

showing an increase of 2,544 over the previous year. Such deaths are being registered in the province since 1921 and the increase within the last 9 years is probably due more to a better registration than any actual increase in the number.

Deaths from maternal causes.

Years.	Deaths.
1929	9,770
1928	7,226
1927	4,397
1926	3,228
1925	2,790
1924	1,972
1923	1,185
1922	2,567
1921	1,656

The following table shows that a little less than a third of these deaths occurred in Rajshahi Division, where they amounted to 9·7 per 1,000 births. In Chittagong Division, however, only 807 such deaths were registered indicating faulty registration. The total death rate from this cause in the province was 7·2 per 1,000 births against 5·2 in the previous year:—

Divisions.	Deaths.	Rates per 1,000 births, 1929.	Rates per 1,000 births, 1928.	Increase+ or decrease—.
Burdwan	1,864	7·1	5·9	+
Presidency	1,978	7·0	4·4	+
Rajshahi	2,877	9·7	6·2	+
Dacca	2,244	6·4	4·8	+
Chittagong	807	4·8	4·8	±
Total	9,770	7·2	5·2	+

22. **Mortality according to sex.**—560,834 males and 533,429 females died in the province against 613,394 males and 575,621 females in 1928. The death rate for males was 23·3 and for females 23·7 per mille against 25·5 and 25·6 per mille, respectively, in the previous year, and 25·7 and 24·9—the mean ratio during the previous five years, showing a reduction by 8·6 and 9·3 per cent., respectively, for these two periods in the male and 7·4 and 4·8 per cent. in the female rate. On an average 105 males died for every 100 females. The number of male deaths exceeded the female ones in every district except Nadia and Noakhali. The highest death rate among males was returned by Rajshahi (34·2) and among females by Calcutta (44·6), the lowest by Tippera for both sexes (17·4 and 16·3 respectively).

23. **Mortality according to class.**—Apart from "other classes," the highest number of deaths occurred as usual among the two great communities with very slight difference. The death rate among all classes except Christians was reduced compared with the previous year. Christians however returned a higher rate, the increase in their case amounting to 19·7 per cent.

Deaths among classes.

Classes.				Ratio of deaths per mille, 1928.	Ratio of deaths per mille, 1929.	Difference.	Percentage of difference.
Christians	..	..	..	16·7	20·0	+3·3	+19·7
Hindus	..	..	..	25·3	23·1	-2·2	-8·7
Musalman	..	..	..	25·6	23·6	-2·0	-7·8
Buddhists	..	..	..	21·1	20·4	-0·7	-3·3
Other classes	..	..	..	33·2	31·9	-1·3	-3·9
Total				25·5	23·5	-2·0	-7·9

Their divisional distribution shows that the highest death rates among both the communities were obtained in Presidency and Rajshahi Divisions and the lowest in Chittagong. With the exception of Dacca, the death rate among Musalmans was higher than that among Hindus in all the other divisions, especially so in the Presidency.

Divisional Death Rates.

Divisions.				Hindus.	Musalman.	Difference.	Percentage.
Burdwan	..	..	..	22·6	23·1	+0·5	+2·2
Presidency	..	..	..	25·5	29·9	+4·4	+17·2
Rajshahi	..	..	..	25·0	26·4	+1·4	+5·6
Dacca	..	..	..	20·8	20·6	-0·2	-1·0
Chittagong	..	..	..	18·8	19·1	+0·3	+1·

From the following table showing the provincial death rate among the two sister communities since 1911, it appears that the Hindu death rate exceeded the Musalman rate 10 times during this period.

Deaths and Death rates among Hindus and Musalmans in Bengal since 1911.

Years.				Deaths registered among—			
				Hindus.		Musalmans.	
				No.	Rates per mille of population.	No.	Rates per mille of population.
1911	..	..	..	561,518	27.6	632,161	26.3
1912	..	..	..	633,176	31.1	685,996	28.6
1913	..	..	..	617,687	30.3	684,775	28.5
1914	..	..	..	647,342	31.8	752,427	31.4
1915	..	..	..	655,123	32.2	801,006	33.4
1916	..	..	..	565,847	27.8	644,747	26.9
1917	..	..	..	538,879	26.5	620,379	25.9
1918	..	..	..	772,895	38.0	913,752	38.1
1919	..	..	..	759,105	37.3	845,372	35.2
1920	..	..	..	664,710	32.6	785,363	32.7
1921	..	..	..	616,948	30.6	745,925	29.6
1922	..	..	..	504,392	25.0	634,576	25.2
1923	..	..	..	498,128	24.7	653,801	25.9
1924	..	..	..	511,586	25.4	655,437	26.0
1925	..	..	..	495,253	24.5	630,167	25.0
1926	..	..	..	510,596	25.3	608,446	24.1
1927	..	..	..	519,880	25.7	636,600	25.3
1928	..	..	..	510,019	25.3	645,152	25.6
1929	..	..	..	466,538	23.1	594,523	23.6

An analysis of these years shows that in Presidency and Rajshahi Divisions this excess was recorded in each of these years, in Burdwan in 7, in Chittagong in 6 and in Dacca only in 4 years. An investigation into the causes that led to this increase in the various districts in the above mentioned particular years will be highly interesting.

(Per mille of population.)

Divisions.	1915.		1918.		1920.		1922.	
	Hindus.	Musal-mans.	Hindus.	Musal-mans.	Hindus.	Musal-mans.	Hindus.	Musal-mans.
Burdwan	33.3	35.7	43.6	46.0	36.4	37.9	25.7	25.5
Presidency	31.9	36.8	36.2	41.6	34.3	35.5	25.6	28.4
Rajshahi	34.2	40.1	37.8	40.5	29.5	35.4	25.8	27.5
Dacca ..	30.6	30.0	30.8	33.0	28.1	30.1	22.8	23.0
Chittagong	25.9	25.1	34.8	38.6	27.6	29.0	23.0	22.6

Divisions.	1923.		1924.		1925.		1928.		1929.	
	Hindus.	Musal-mans.	Hindus.	Musal-mans.	Hindus.	Musal-mans.	Hindus.	Musal-mans.	Hindus.	Musal-mans.
Burdwan	24.4	24.3	25.3	25.4	23.7	24.7	24.9	27.5	22.6	23.1
Presidency	23.8	27.1	24.9	28.2	26.1	30.4	26.5	27.6	25.5	29.9
Rajshahi	29.3	31.4	29.1	30.6	28.8	30.1	27.4	28.6	25.0	26.4
Dacca ..	23.4	23.7	24.3	24.2	21.9	21.3	23.8	23.6	20.8	20.6
Chittagong	21.1	21.5	20.4	20.9	19.7	19.6	21.9	22.7	18.7	19.1

24. **Mortality according to age.**—(a) From the subjoined table showing the death rates at the various age periods it appears that the highest death rate occurred among infants under one year, especially among those under one month, persons 60 years of age and above stood next on the list, while those between 10 and 15 years of age had the lowest rate as usual. Compared with the previous year, the rate was less for all age periods except for infants under one year and those under a month, in both of which cases it showed an excess:—

Mortality according to age.

Age periods.			1928 per mille.	1929 per mille.	Difference.	Percentage variation.
Under one month*	..	..	98.6	103.2	+4.6	+4.6
1—6 months*	..	..	47.5	46.3	-1.2	-2.6
6—12 months*	..	..	32.0	30.4	-1.6	-5.0
Under one year*	..	..	178.1	179.9	+1.8	+1.0
1—5 years	..	..	35.2	33.9	-1.3	-3.7
5—10 years	..	..	11.9	10.3	-1.6	-13.5
10—15 years	..	..	9.5	7.6	-1.9	-20.0
15—20 years	..	..	15.4	13.1	-2.3	-15.0
20—30 years	..	..	17.3	14.8	-2.5	-14.5
30—40 years	..	..	18.9	16.6	-2.3	-12.2
40—50 years	..	..	22.6	20.3	-2.3	-10.2
50—60 years	..	..	34.1	31.7	-2.4	-7.1
60 years and above	..	..	67.5	65.4	-2.1	-3.1

* Per 1,000 births.

(b) The statement below again proves the general rule that a little over half of the total deaths occur among the two communities under the age of 5 and above 50 years which form a little more than one-fifth of the total population, while a little less than half of the total deaths take place among those between 5 and 50 years of age which constitute less than four-fifths of the entire population:—

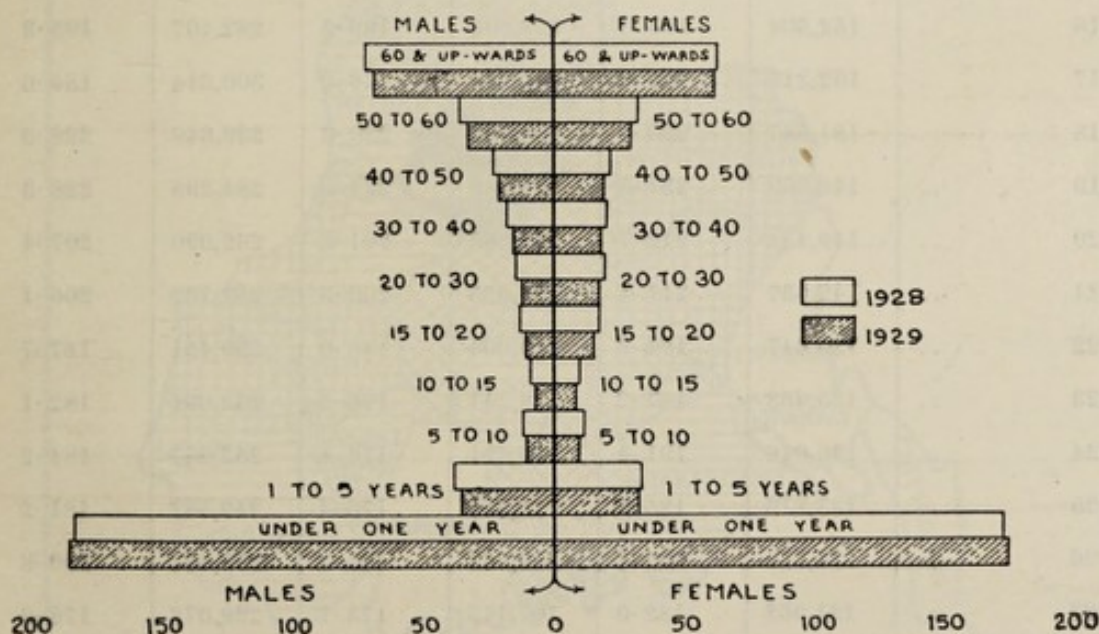
Age periods.			Popu- lation.	Percentage of total population.	Deaths at each age, 1929.	Percentage of total deaths, 1929.
Under one year	..	..	1,370,066	3.0	244,864	22.4
1—5 years	..	..	4,606,461	9.9	156,110	14.3
5—10 years	..	..	7,318,153	15.7	75,313	6.9
10—15 years	..	..	5,322,228	11.4	40,675	3.7
15—20 years	..	..	4,484,329	9.6	58,659	5.4
20—30 years	..	..	8,536,967	18.3	126,427	11.5
30—40 years	..	..	6,453,782	13.9	106,889	9.8
40—50 years	..	..	4,136,614	8.9	83,861	7.7
50—60 years	..	..	2,355,751	5.1	74,612	6.8
60 and above	..	..	1,937,942	4.2	126,853	11.6

(c) Sex distribution of deaths shows that as usual more males than females died at ages below 10 and above 40, while the age periods between 10 and 40 were more risky in general for the female sex:—

Age periods.	Death rate per 1,000 living at various ages.			
	Males.	Females.	Difference.	Percentage.
Infants*	185.0	174.3	+10.7	+6.1
1—5 years	35.5	32.4	+3.1	+9.5
5—10 years	10.8	9.7	+1.1	+11.3
10—15 years	7.4	8.0	-0.6	-7.5
15—20 years	10.9	15.1	-4.2	-27.8
20—30 years	12.4	17.1	-4.7	-27.5
30—40 years	15.6	17.8	-2.2	-12.4
40—50 years	20.9	19.5	+1.4	+7.1
50—60 years	33.5	29.6	+3.9	+13.2
Over 60 years	69.6	61.3	+8.3	+13.5

* Per 1,000 births.

DEATH RATE AT EACH AGE PERIOD



25. **Provincial Infant Mortality.**—(a) 244,864 infants under one year of age died during the year under review giving a death rate of 179.9 per mille of births against 245,045 deaths with a rate of 178.1 in the previous year, showing an increase of about 1 per cent. 185.0 male and 174.3 female infants per mille of births died against 183.2 and 172.6 respectively in 1928. Infant deaths accounted for 22.4 per cent. of the total mortality. About 116 male infants died to every 100 females. 57.3 per cent. of the total infantile mortality

occurred among infants under one month of age, 25·7 per cent. in those from 1 to 6 months and the remaining 17·0 per cent. at age periods between 6 and 12 months against 55·4, 26·7 and 17·9 per cent., respectively, in the previous year.

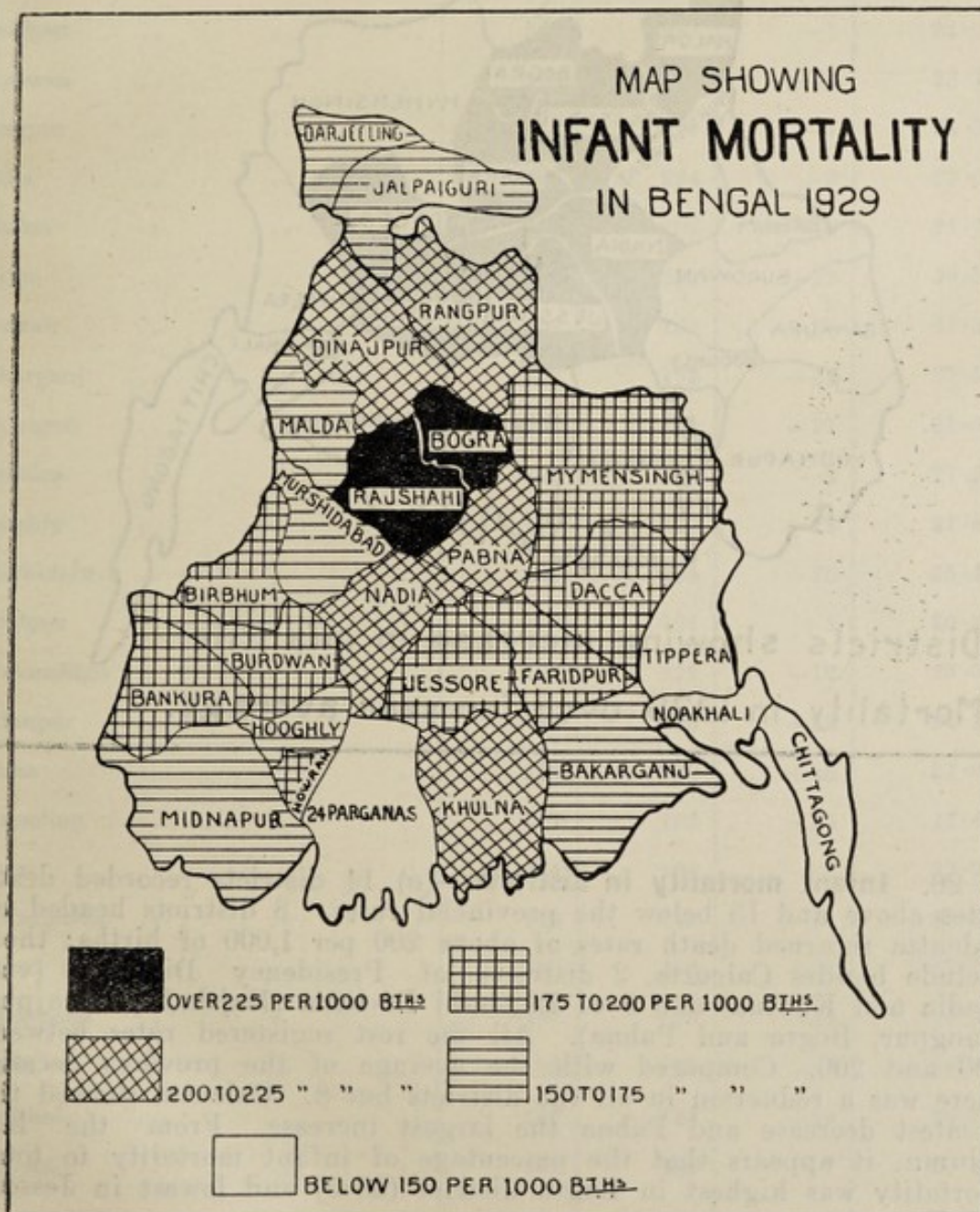
(b) The total infantile mortality since 1911 is compared in the following table:—

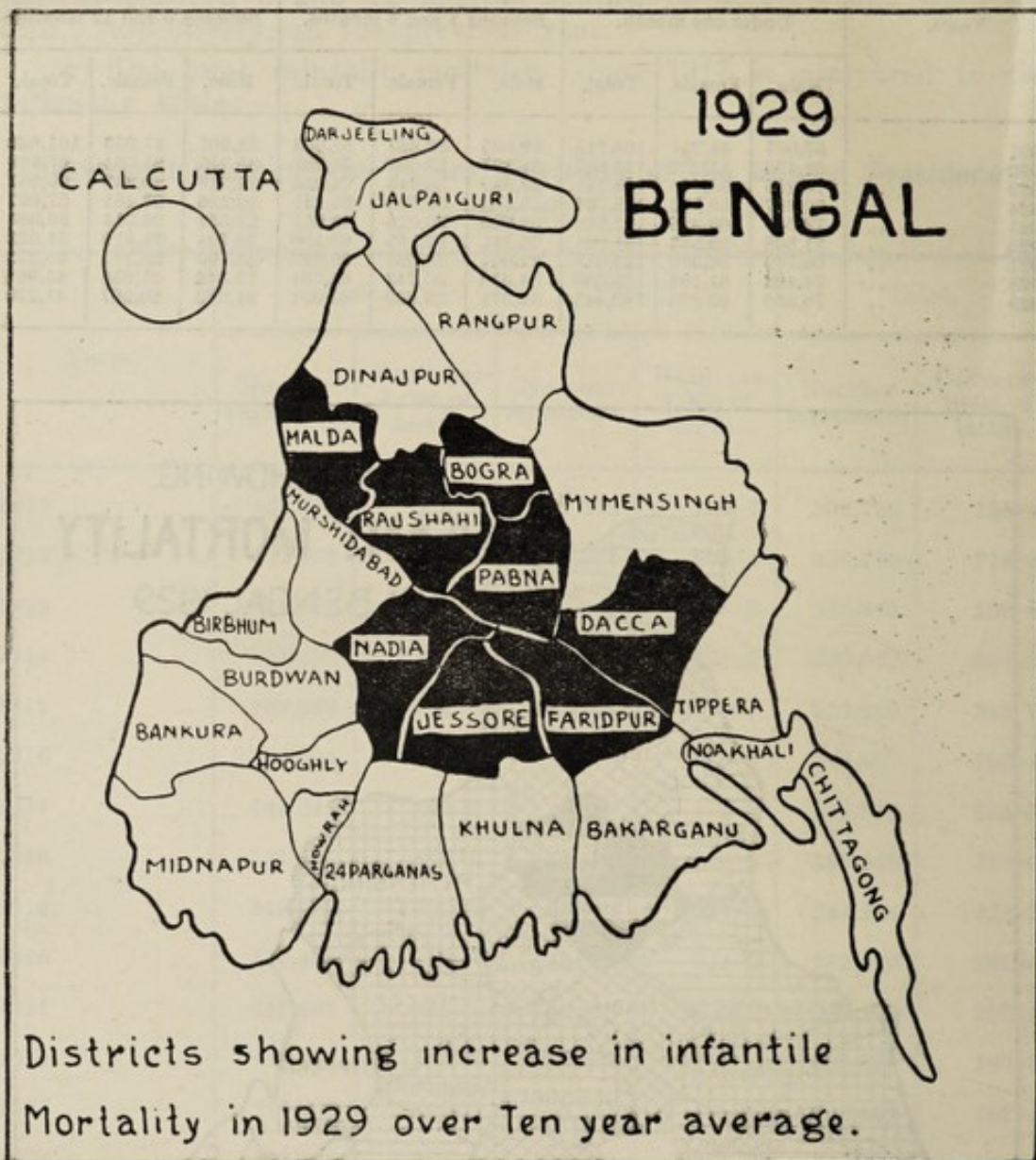
Statement showing the Infant Mortality of the Bengal Presidency since 1911.

Years.	Male.		Female.		Total.	
	Number registered.	Ratio per 1,000 of birth.	Number registered.	Ratio per 1,000 of birth.	Number registered.	Ratio per 1,000 of birth.
1911	167,737	205·4	142,013	184·7	309,750	195·4
1912	182,258	220·6	157,521	203·4	339,779	212·3
1913	171,819	217·4	148,843	201·2	320,662	209·5
1914	180,769	227·2	159,243	215·2	340,012	221·4
1915	167,687	224·4	148,013	213·7	315,700	218·9
1916	152,504	203·5	129,903	186·5	282,407	195·3
1917	162,215	192·6	138,299	176·0	300,514	184·6
1918	181,547	235·4	158,102	220·3	339,649	228·0
1919	149,609	231·5	134,689	224·9	284,298	228·3
1920	149,434	212·7	132,656	201·8	282,090	207·4
1921	142,637	211·4	125,525	200·5	268,162	206·1
1922	129,447	194·8	110,004	180·0	239,451	187·7
1923	135,453	187·2	118,241	176·5	253,694	182·1
1924	136,046	191·4	116,291	176·4	252,337	184·2
1925	133,213	185·7	116,369	176·4	249,582	181·2
1926	134,523	202·7	116,661	190·4	251,184	196·8
1927	121,963	182·0	107,115	173·7	229,078	178·0
1928	131,453	183·2	113,592	172·6	245,045	178·1
1929	131,209	185·0	113,655	174·3	244,864	179·9

An analysis of these deaths since 1921—the year since which the registration of such classification has been started, shows that while deaths at age periods below one month and between 1 and 6 months have been gradually increasing ever since, those among infants between 6 and 12 months of age have steadily been on the decline.

Years.		Deaths.								
		Under one month.			Between 1 and 6 months.			Between 6 and 12 months.		
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
1921	..	57,005	48,314	108,218	29,835	26,667	58,005	52,667	47,953	101,939
1922	..	62,475	51,222	113,697	31,197	27,088	58,285	35,775	31,694	67,469
1923	..	70,295	58,446	128,741	33,840	30,446	64,286	31,318	29,349	60,667
1924	..	70,397	58,312	128,709	35,413	30,518	65,931	30,236	27,461	57,697
1925	..	72,640	60,326	132,966	33,022	30,029	63,051	27,551	26,014	53,565
1926	..	71,508	59,573	131,081	36,311	32,169	68,480	26,704	24,919	51,623
1927	..	66,769	56,309	123,078	32,004	28,623	60,627	23,190	22,183	45,373
1928	..	74,493	61,193	135,686	34,618	30,743	65,361	22,342	21,656	43,998
1929	..	76,565	63,878	140,443	33,371	29,680	63,051	21,273	20,097	41,370



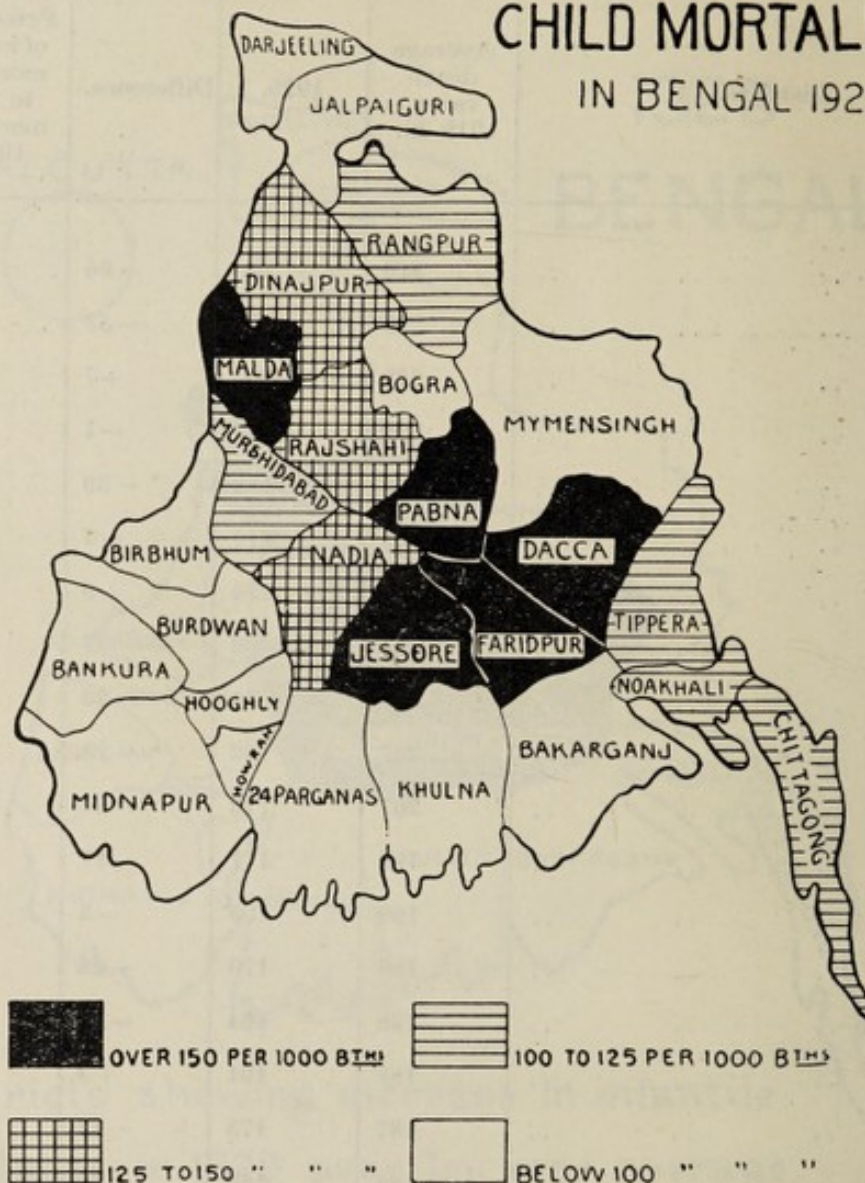


26. **Infant mortality in districts.**—(a) 14 districts recorded death rates above and 13 below the provincial rates. 8 districts headed by Calcutta returned death rates of above 200 per 1,000 of births; these include besides Calcutta, 2 districts of Presidency Division (viz., Nadia and Khulna) and 5 of Rajshahi Division (Rajshahi, Dinajpur, Rangpur, Bogra and Pabna). All the rest registered rates between 100 and 200. Compared with the average of the previous decade, there was a reduction in all the districts but 8. Calcutta showed the greatest decrease and Pabna the largest increase. From the last column, it appears that the percentage of infant mortality to total mortality was highest in Bogra district (30·5) and lowest in Jessore (13·7).

Infant death rates in districts.

Districts.				Average death rates, 1919-28.	1929.	Difference.	Percentage of infant mortality to total mortality, 1929.
Calcutta	..	..	..	326	260	-66	17.9
Birbhum	..	..	..	228	175	-53	28.4
Rajshahi	..	..	..	223	230	+7	22.0
Dinajpur	..	..	..	223	222	-1	21.9
Burdwan	..	..	..	222	183	-39	23.7
Rangpur	..	..	..	218	211	-7	24.3
Nadia	..	..	..	216	224	+8	22.0
Khulna	..	..	..	209	202	-7	24.7
Bogra	..	..	..	208	231	+23	30.5
Howrah	..	..	..	207	182	-25	22.5
Bakarganj	..	..	..	207	173	-34	27.5
Jalpaiguri	..	..	..	198	171	-27	21.5
Bankura	..	..	..	198	195	-3	27.3
Hooghly	..	..	..	198	170	-28	21.6
Murshidabad	..	..	..	190	164	-26	25.4
Faridpur	..	..	..	188	191	+3	20.3
Mymensingh	..	..	..	187	175	-12	25.0
Midnapur	..	..	..	184	159	-25	24.3
Pabna	..	..	..	182	217	+35	21.0
Darjeeling	..	..	..	177	152	-25	17.4
Dacca	..	..	..	174	182	+8	22.9
24-Parganas	..	..	..	173	145	-28	21.4
Jessore	..	..	..	170	194	+24	13.7
Chittagong	..	..	..	157	128	-29	17.5
Malda	..	..	..	155	161	+6	18.4
Noakhali	..	..	..	147	124	-23	20.7
Tippera	..	..	..	141	134	-7	20.4

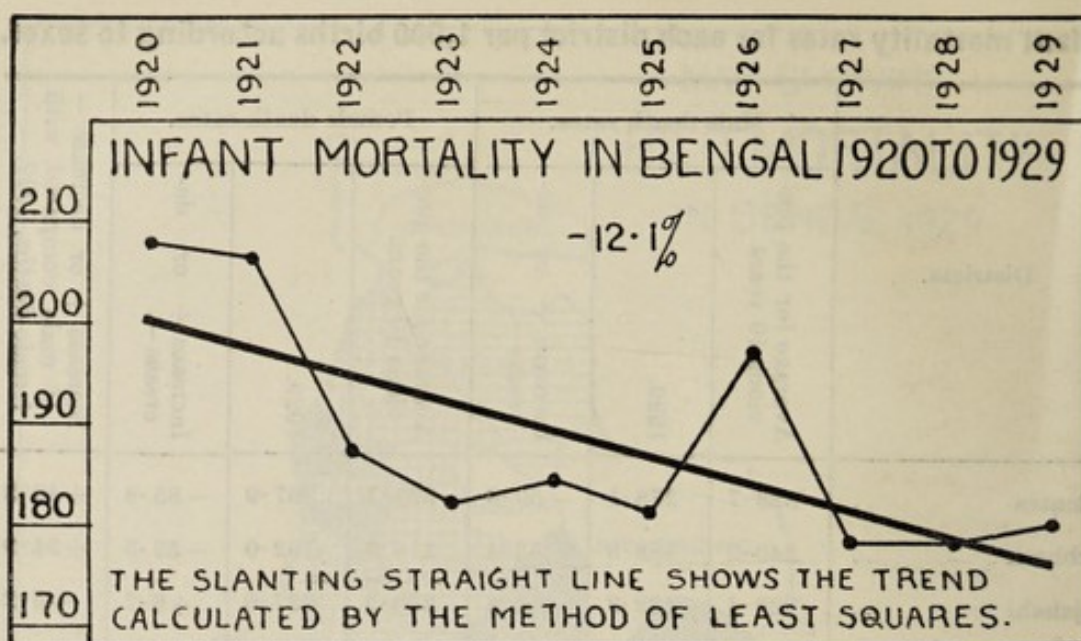
MAP SHOWING CHILD MORTALITY IN BENGAL 1929



(b) Sex distribution of infantile mortality in the various districts of the province is shown in the following table. Compared with the average decennial rate there was a decrease in both the male and female death rate in 1929 in 18 districts and an increase in 7. Of the remaining, while Dinajpur showed a reduction in male and an increase in female deaths, in Faridpur on the other hand the situation was just the reverse. Male deaths exceeded the female ones in all the districts except 5, 2 of which Nadia and Jessore are situated in Presidency Division, 2 others Bogra and Jalpaiguri in Rajshahi Division and Chittagong in Chittagong Division.

Infant mortality rates for each district per 1,000 births according to sexes.

Districts.	Male death rates.			Female death rates.			Increase + or decrease — of male compared with female deaths, 1929.
	Average for the previous 10 years.	1929.	Increase + or decrease —.	Average for the previous 10 years.	1929.	Increase + or decrease —.	
Calcutta ..	328.7	278.1	—50.6	323.7	237.9	—85.8	+40.2
Birbhum ..	240.3	186.9	—53.4	214.3	162.0	—52.3	+24.9
Rajshahi ..	226.4	232.2	+5.8	220.3	227.0	+6.7	+5.2
Dinajpur ..	229.9	226.7	—3.2	215.4	216.9	+1.5	+9.8
Burdwan ..	231.4	192.3	—39.1	212.7	173.9	—38.8	+18.4
Rangpur ..	227.2	219.5	—7.7	208.1	202.2	—5.9	+17.3
Nadia ..	219.2	222.3	+3.1	213.2	226.0	+12.8	—3.7
Khulna ..	214.5	210.0	—4.5	203.8	193.6	—10.2	+16.4
Bogra ..	212.4	229.2	+16.8	203.8	233.5	+29.7	—4.3
Howrah ..	215.1	192.4	—22.7	198.5	170.3	—28.2	+22.1
Bakarganj ..	216.5	183.6	—32.9	196.4	161.9	—34.5	+21.7
Jalpaiguri ..	205.4	169.8	—35.6	190.8	173.2	—17.6	—3.4
Bankura ..	208.6	204.6	—4.0	186.8	185.0	—1.8	+19.6
Hooghly ..	203.4	174.0	—29.4	191.5	166.1	—25.4	+7.9
Murshidabad ..	196.2	168.6	—27.6	183.3	158.4	—24.9	+10.2
Faridpur ..	191.7	197.8	+6.1	184.1	183.2	—0.9	+14.6
Mymensingh ..	193.2	180.2	—13.0	180.6	170.2	—10.4	+10.0
Midnapur ..	186.1	162.8	—23.3	182.8	154.8	—28.0	+8.0
Pabna ..	182.9	217.3	+34.4	181.2	216.7	+35.5	+0.6
Darjeeling ..	182.4	160.8	—21.6	170.4	142.6	—27.8	+18.2
Dacca ..	180.2	187.8	+7.6	167.8	176.4	+8.6	+11.4
24-Parganas ..	176.3	151.9	—24.4	169.4	138.5	—30.9	+13.4
Jessore ..	168.5	194.2	+25.7	171.0	194.9	+23.9	—0.7
Chittagong ..	158.8	127.3	—31.5	155.0	128.9	—26.1	—1.6
Malda ..	156.3	161.3	+5.0	153.4	160.5	+7.1	+0.8
Noakhali ..	148.5	125.1	—23.4	146.5	122.4	—24.1	+2.7
Tippera ..	148.9	140.2	—8.7	132.8	126.7	—6.1	+13.5



27. **Infant death rates in towns and rural areas.**—13,509 infants yielding a death rate of 201.5 per mille of births died in towns against 12,957 with a rate of 204.1 in 1928 showing a decrease of 1.3 per cent. In rural areas, however, there was a slight increase of 1.1 per cent. The rural death rate was less than that in the towns by 11.3 per cent., against a similar decrease of 13.4 in the previous year.

Infant death rates in towns and rural areas.

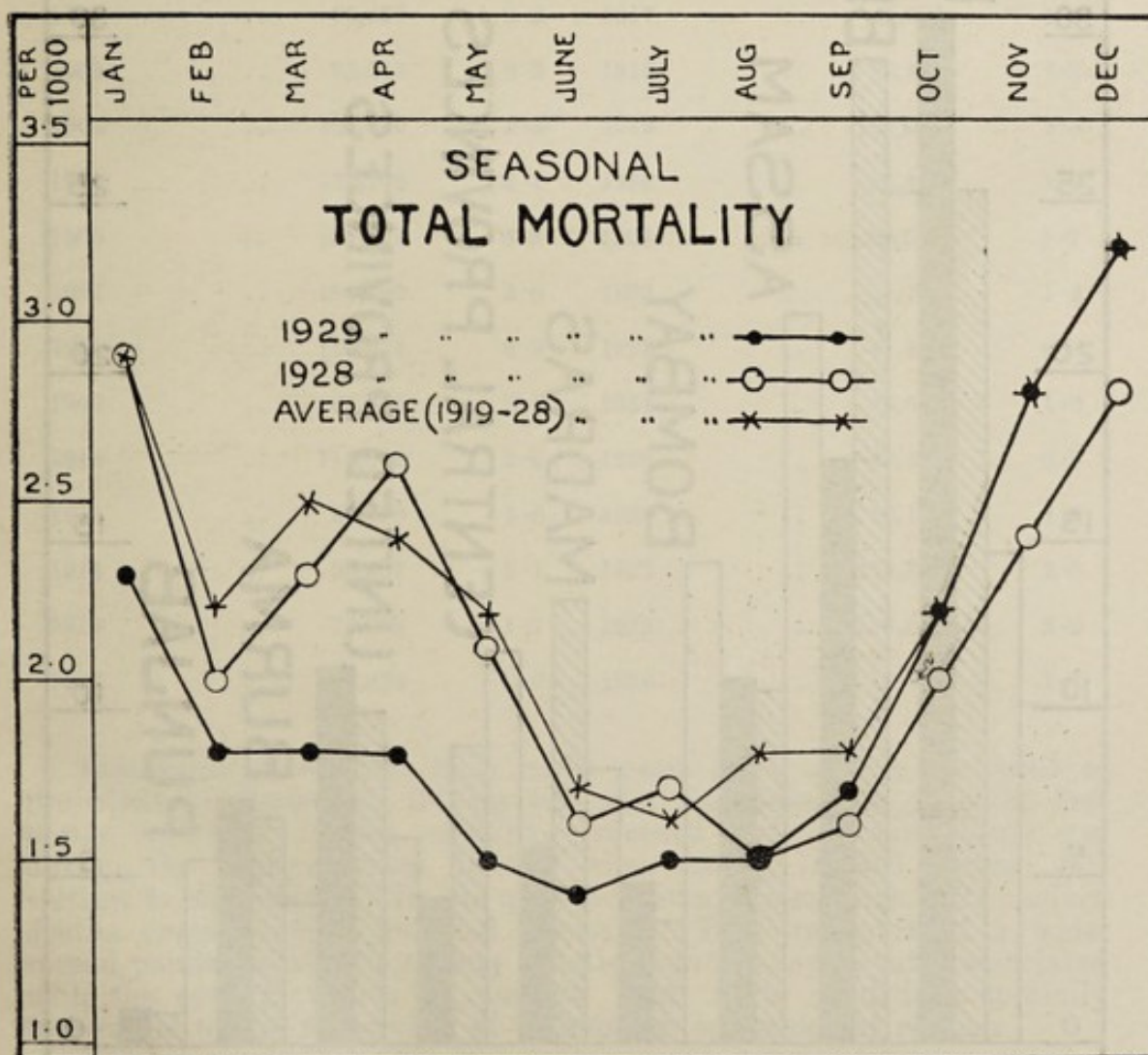
Years.		Towns.	Difference.	Percentage.
1928	..	204.1	-2.6	-1.3
1929	..	201.5		

Years.		Rural areas.	Difference.	Percentage.
1928	..	176.8	+1.9	+1.1
1929	..	178.7		

Years.	Towns.	Rural areas.	Difference.	Percentage.
1928	204.1	176.8	-27.3	-13.4
1929	201.5	178.7	-22.8	-11.3

28. **Seasonal incidence of mortality.**—The following table shows the seasonal incidence of mortality in 1929 compared with the previous year and the decennial average. The highest proportion of deaths occurred in December and the lowest in June. Compared with the previous year, the first 7 months recorded a decrease, the last four an increase while August showed no change. As against the average of the previous 10 years the incidence was less in every month of the year except October, November and December when it was the same as during the decennium.

Months.			Decennial average, 1919-28.	Year 1928.	Year 1929.
January	..	..	2.9	2.9	2.3
February	..	..	2.2	2.0	1.8
March	..	..	2.5	2.3	1.8
April	..	..	2.4	2.6	1.8
May	..	..	2.2	2.1	1.5
June	..	..	1.7	1.6	1.4
July	..	..	1.6	1.7	1.5
August	..	..	1.8	1.5	1.5
September	..	..	1.8	1.6	1.7
October	..	..	2.2	2.0	2.2
November	..	..	2.8	2.4	2.8
December	..	..	3.2	2.8	3.2

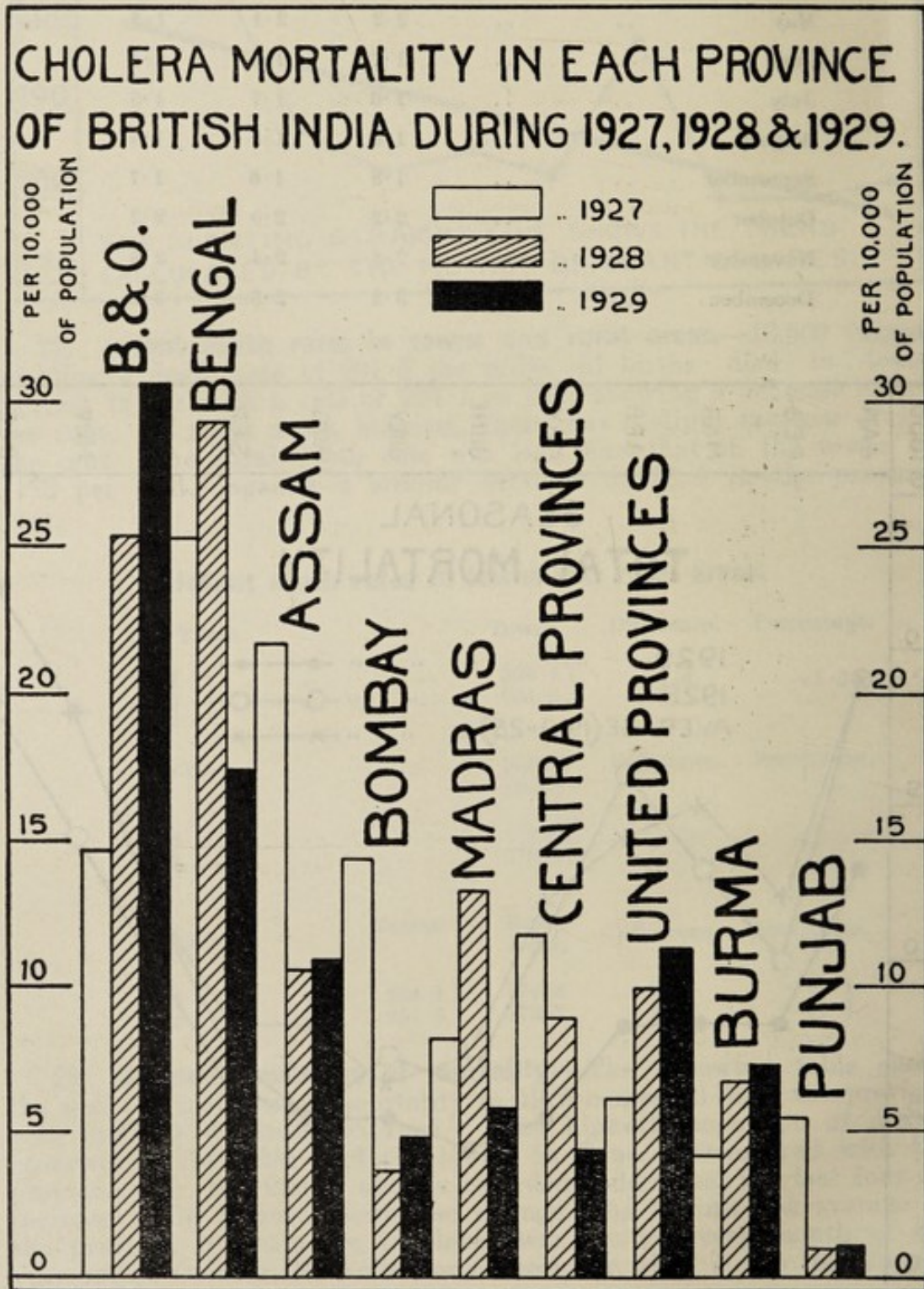


SECTION VI.

History of the Chief Diseases.

Cholera.

29. **General Prevalence.**—Cholera caused 81,090 deaths giving a death-rate of 1·7 per mille compared with a total of 136,245 deaths



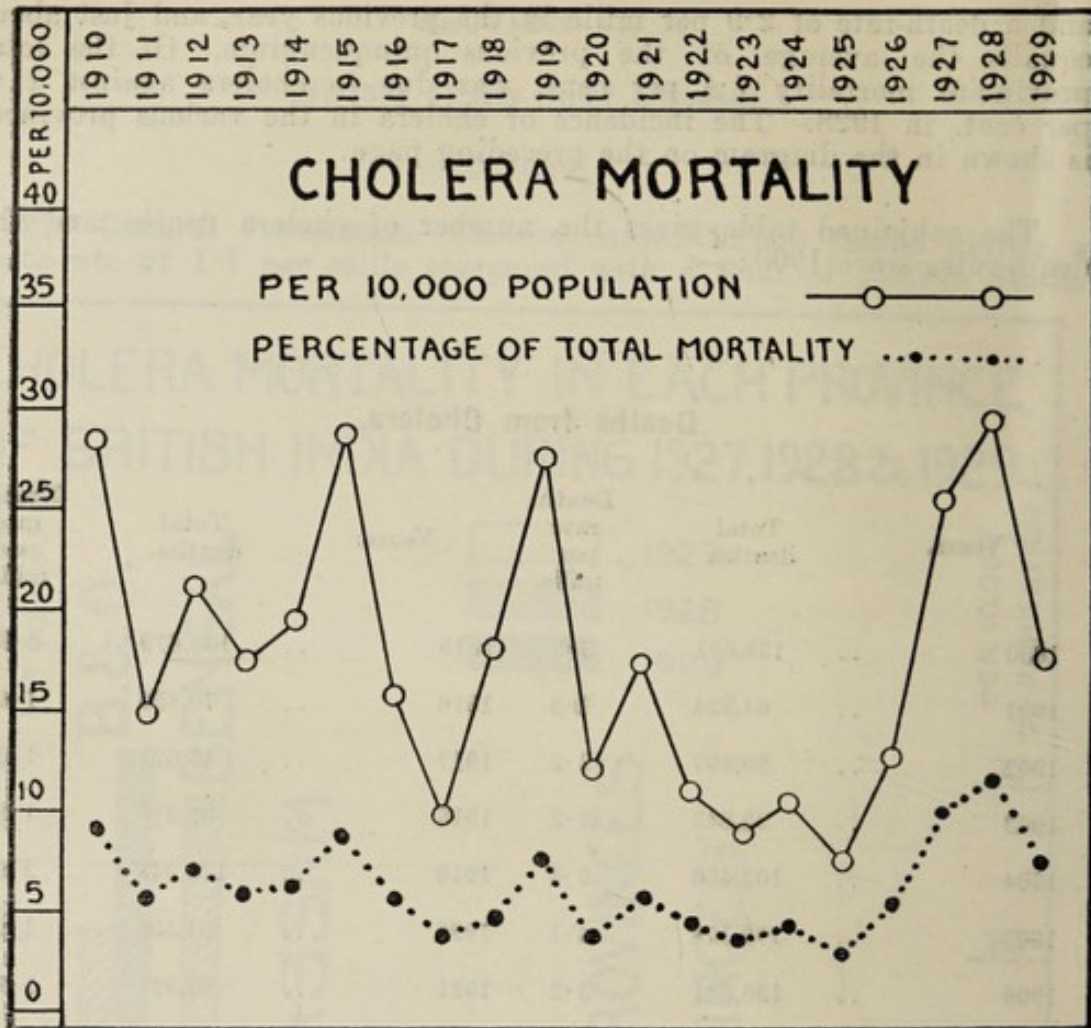
and a death-rate of 2·9 per mille in the previous year, and just about equally the average of the previous quinquennium. Of the total provincial mortality 7·4 per cent. was due to cholera against 11·5 per cent. in 1928. The incidence of cholera in the various provinces is shown in the diagram on the preceding page.

The subjoined table gives the number of cholera deaths and the death-rates since 1900:—

Deaths from Cholera.

Years.	Total deaths.	Death-rate per mille.	Years.	Total deaths.	Death-rate per mille.
1900	.. 138,671	3·5	1915	.. 130,679	2·9
1901	.. 64,324	1·5	1916	.. 70,836	1·6
1902	.. 90,497	2·2	1917	.. 45,021	1·0
1903	.. 93,845	2·2	1918	.. 82,379	1·8
1904	.. 102,460	2·4	1919	.. 124,949	2·8
1905	.. 172,178	4·1	1920	.. 54,199	1·2
1906	.. 135,621	3·2	1921	.. 80,547	1·7
1907	.. 158,190	3·8	1922	.. 51,712	1·1
1908	.. 123,471	2·9	1923	.. 41,483	0·9
1909	.. 88,356	2·1	1924	.. 48,514	1·0
1910	.. 119,686	2·8	1925	.. 34,276	0·7
1911	.. 67,750	1·5	1926	.. 59,106	1·3
1912	.. 95,467	2·1	1927	.. 118,377	2·5
1913	.. 78,898	1·7	1928	.. 136,245	2·9
1914	.. 89,224	2·0	1929	.. 81,090	1·7

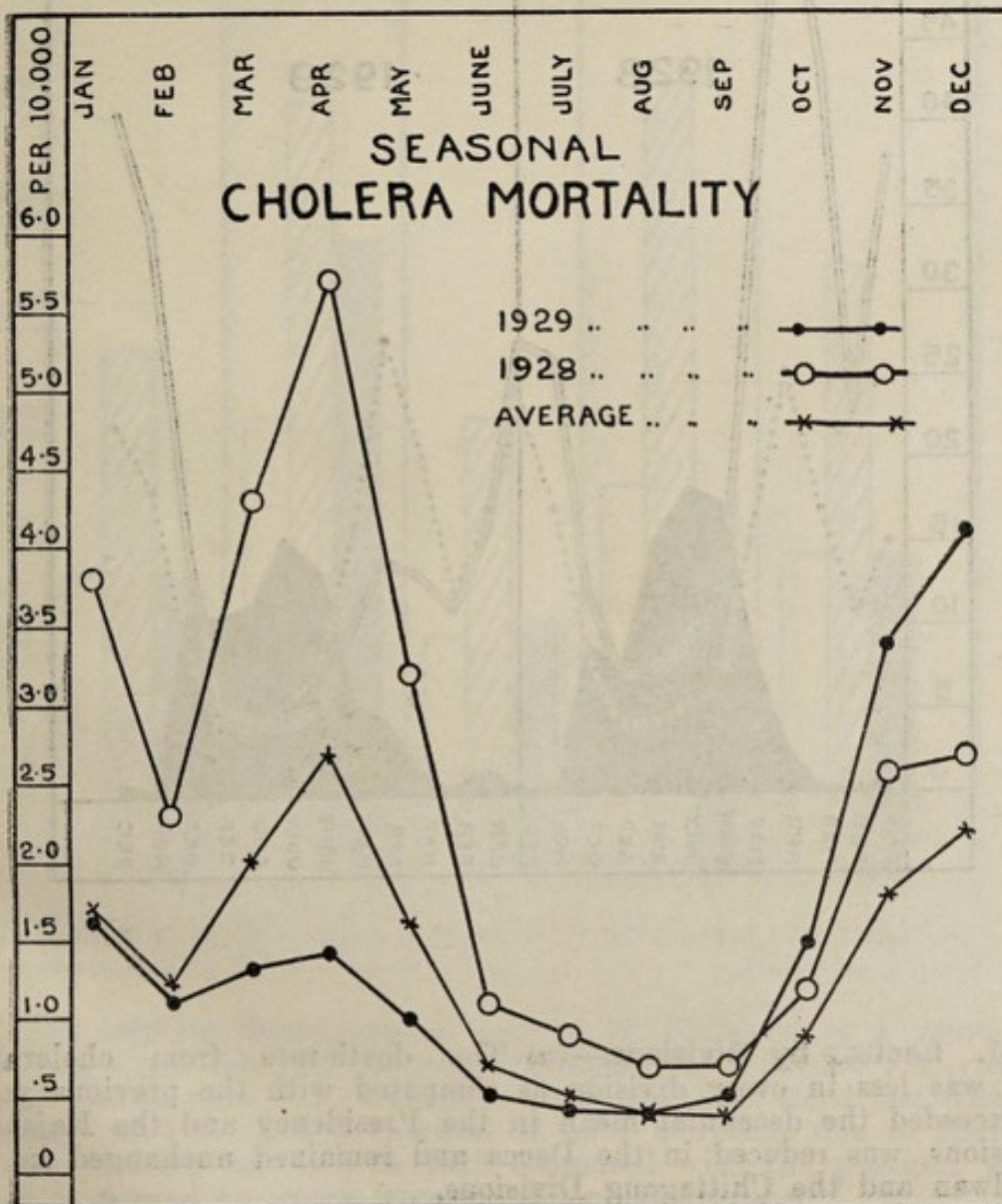
This table shows that it is many years since cholera has been so prevalent in Bengal as during the past triennium; in fact the last period in which cholera mortality exceeded that of recent years was during the quinquennium 1904-08 when nearly 700,000 persons fell victims to the disease. In the quinquennium ending with 1929 cholera deaths exceeded four hundred thousand. This was part of a widespread pandemic affecting many Asiatic countries, apparently associated with the cyclical return of climatic and other conditions specially favourable to the recurrence of widespread epidemics of cholera.



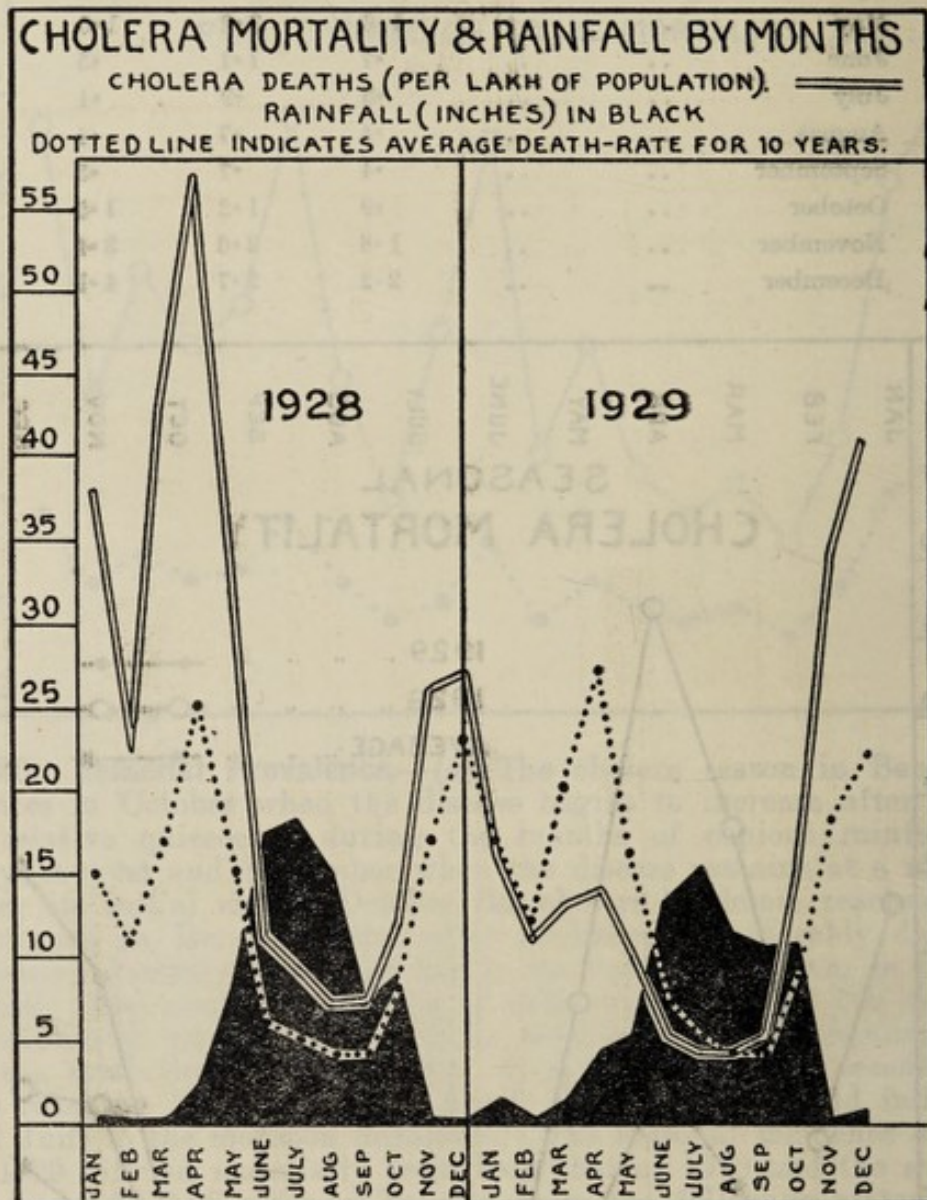
30. **Seasonal Prevalence.**—(a) The cholera season in Bengal commences in October when the disease begins to increase after a period of relative quiescence during the months of copious rainfall June, July, August and September when the disease remains at a minimum. After its initial rise in October the cholera epidemic reaches its first maximum in December, thereafter declining considerably during the following January and February to its wonted minimum in the latter month. The seasonal reduction of cholera in February has never been satisfactorily explained, but it is associated with a similar decline in the total curve of mortality. It is followed by a second cholera rise reaching its maximum in April, followed by a rapid fall in May and June to the monsoon minimum. The seasonal incidence of cholera in 1929 differed materially from both that of 1928 and the average of the years 1919-28, as may be seen from the following statement. In particular the ordinary April peak underwent a remarkable flattening out, the rise being only about a quarter that of 1928 and half that of the average. On the other hand the December peak exceeded that of 1928 by 50 per cent. and was 86 per cent. above the average of the previous ten years. It is probable that the extensive campaign of cholera inoculation is one of the causes of these changes in the seasonal curve of cholera mortality. Very few inoculations are done in the monsoon when cholera is absent from many areas, but many lakhs of people seek protection during the winter months.

Seasonal Cholera Mortality.

Months.		Average, 1919-28.	1928.	1929.
January	.. ..	1.7	3.8	1.3
February	.. ..	1.2	2.3	1.1
March	.. ..	2.0	4.3	1.3
April	.. ..	2.7	5.7	1.4
May	.. ..	1.6	3.2	1.0
June	.. ..	.7	1.1	.5
July	.. ..	.5	.9	.4
August	.. ..	.4	.7	.4
September	.. ..	.4	.7	.5
October	.. ..	.9	1.2	1.5
November	.. ..	1.8	2.6	3.4
December	.. ..	2.2	2.7	4.1



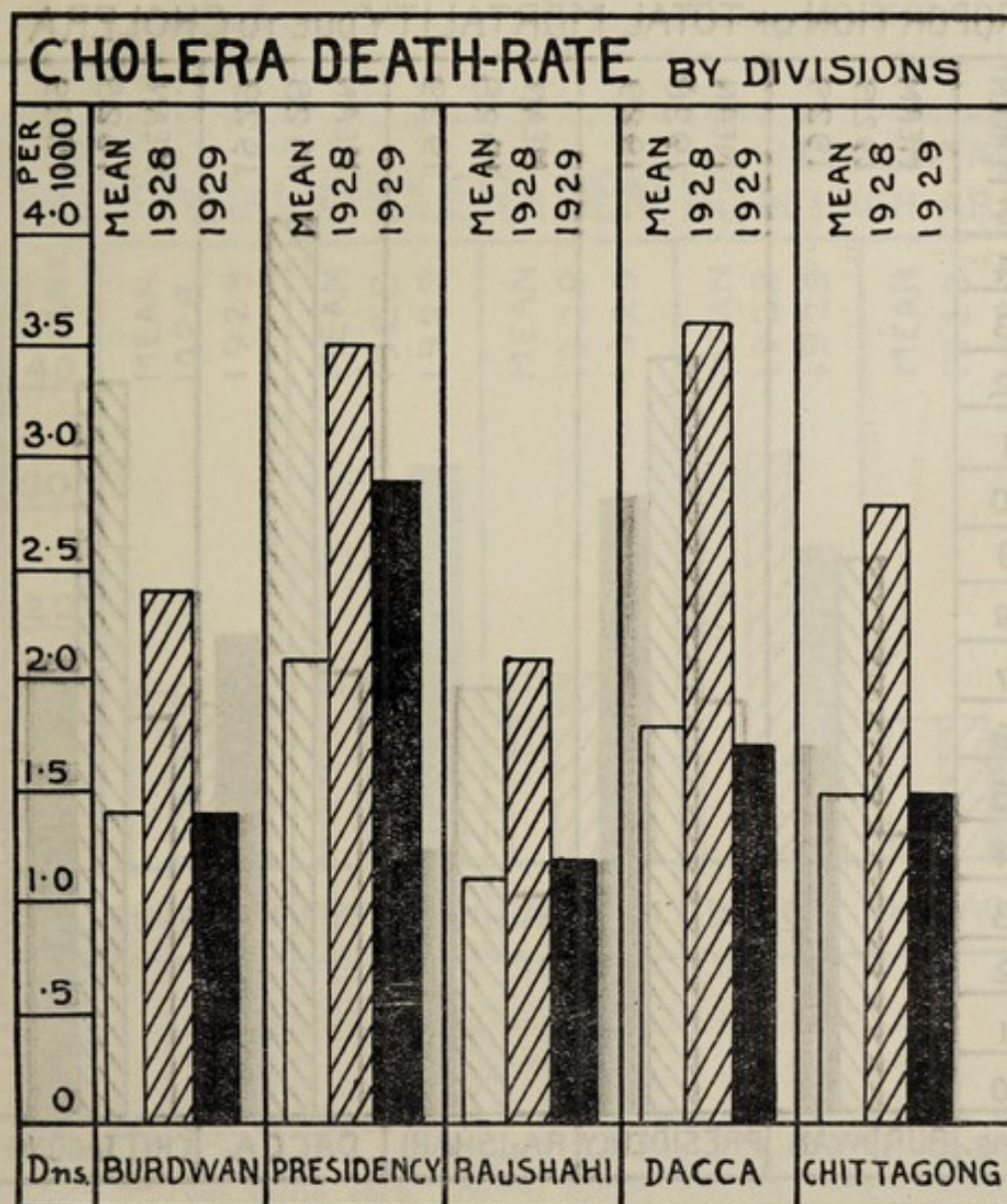
(b) **Cholera mortality and the rainfall.**—The following diagram shows the peculiar relationship between Bengal cholera mortality and the rainfall and the decline of the former with an increase in the latter and vice versa. This is in marked contrast with what happens in many of the more westerly provinces in India, where cholera is usually more prevalent in the wet months than in the dry season.



31. **Cholera by Divisions.**—(a) The death-rate from cholera in 1929 was less in every division as compared with the previous year. It exceeded the decennial mean in the Presidency and the Rajshahi Divisions, was reduced in the Dacca and remained unchanged in the Burdwan and the Chittagong Divisions.

Cholera Death-rates by Divisions per mille of Population.

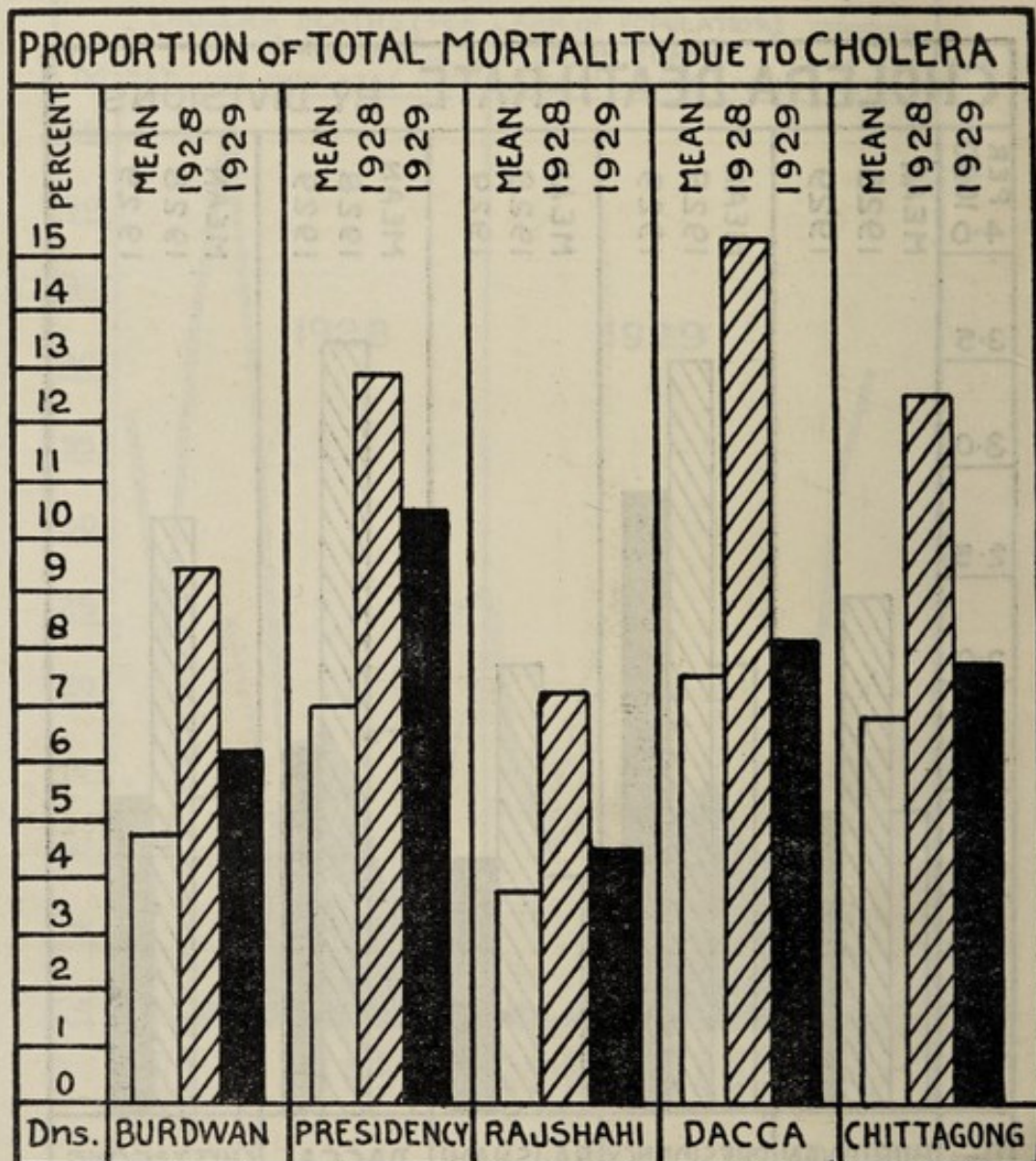
Divisions.			Mean, 1919-28.	1928.	1929.
Burdwan	..	..	1.4	2.4	1.4
Presidency	..	..	2.1	3.5	2.9
Rajshahi	..	..	1.1	2.1	1.2
Dacca	..	..	1.8	3.6	1.7
Chittagong	..	..	1.5	2.8	1.5



(b) The relative importance of cholera in Divisions as a cause of death.—10.4 per cent. of the total deaths in the Presidency Division from all causes were due to cholera, while Rajshahi stood last with a percentage of 4.6. The proportion of total mortality due to cholera in every division was less in 1929 compared with the previous year though it showed an excess over the decennial average.

Proportion of total mortality due to Cholera.

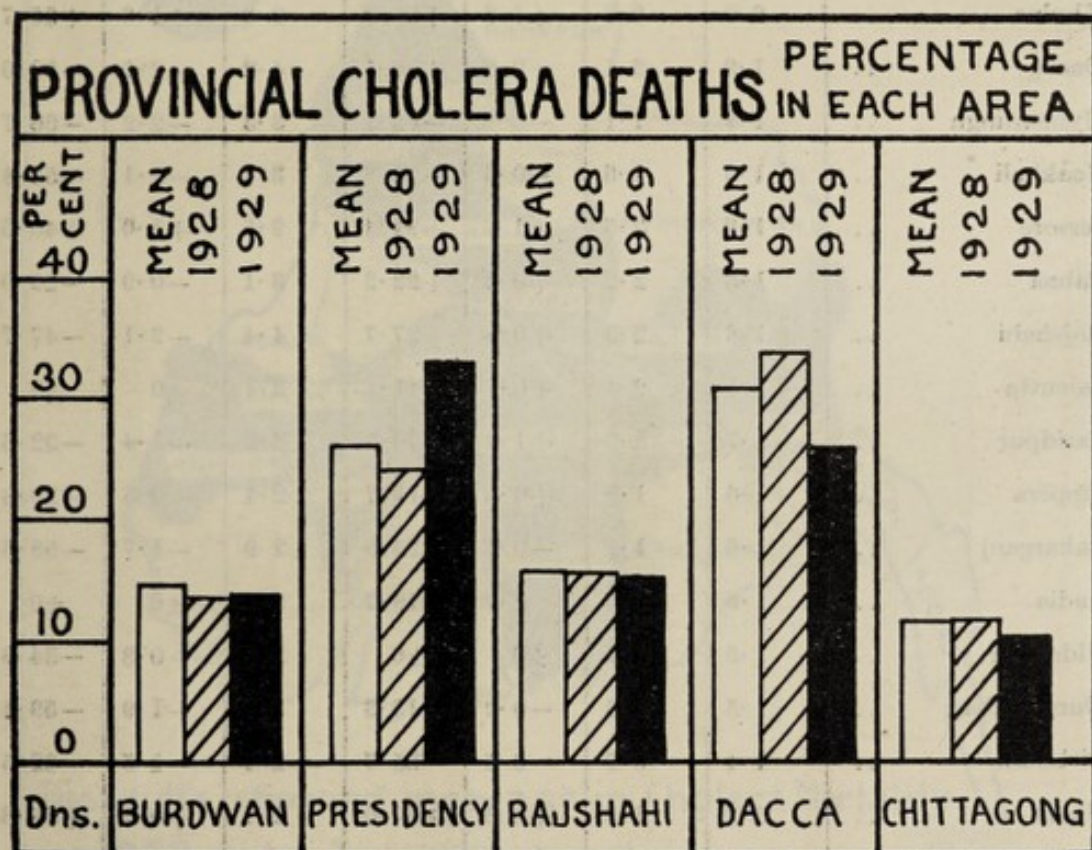
Divisions.	Mean, 1919-28.	1928.	1929.
Burdwan	4.7	9.4	6.2
Presidency	7.0	12.9	10.4
Rajshahi	3.7	7.2	4.6
Dacca	7.5	15.3	8.1
Chittagong	6.8	12.5	7.7



(c) The following statement shows that 33.4 per cent. or about one-third of the total cholera deaths occurred in the Presidency and only 10.5 or one-tenth in the Chittagong Division. Compared with the average percentage for the previous 10 years, all the Divisions except the Presidency record an improvement. As against the previous year, while there was an increase in the Burdwan and the Presidency Divisions, the others showed a reduction.

Percentages of the total Provincial Cholera Deaths.

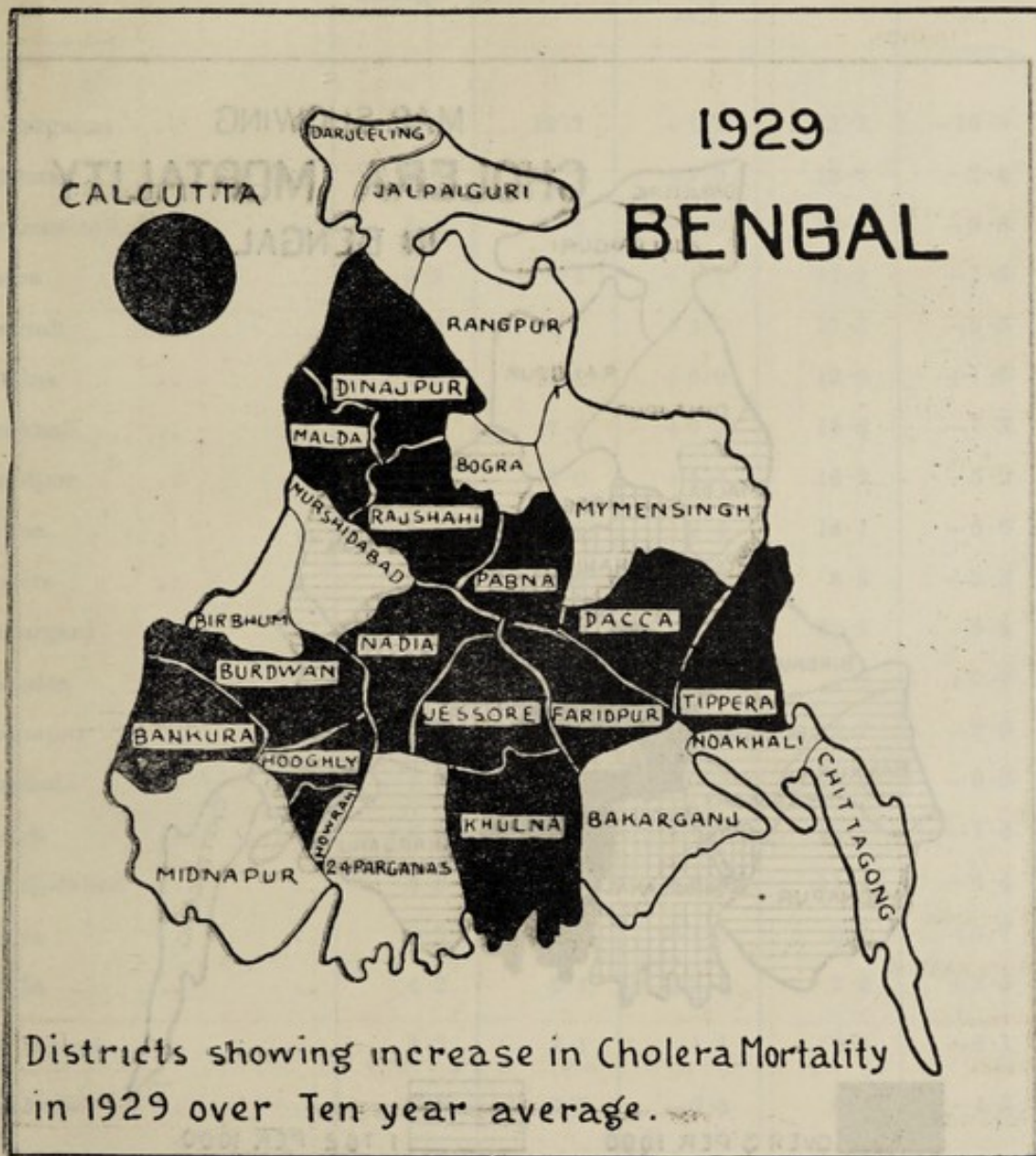
Divisions.			Mean, 1919-28.	1928.	1929.
Burdwan	..	..	14.8	14.1	14.2
Presidency	..	..	26.4	24.1	33.4
Rajshahi	..	..	15.7	15.6	15.5
Dacca	..	..	31.2	34.1	26.4
Chittagong	..	..	11.9	12.0	10.5



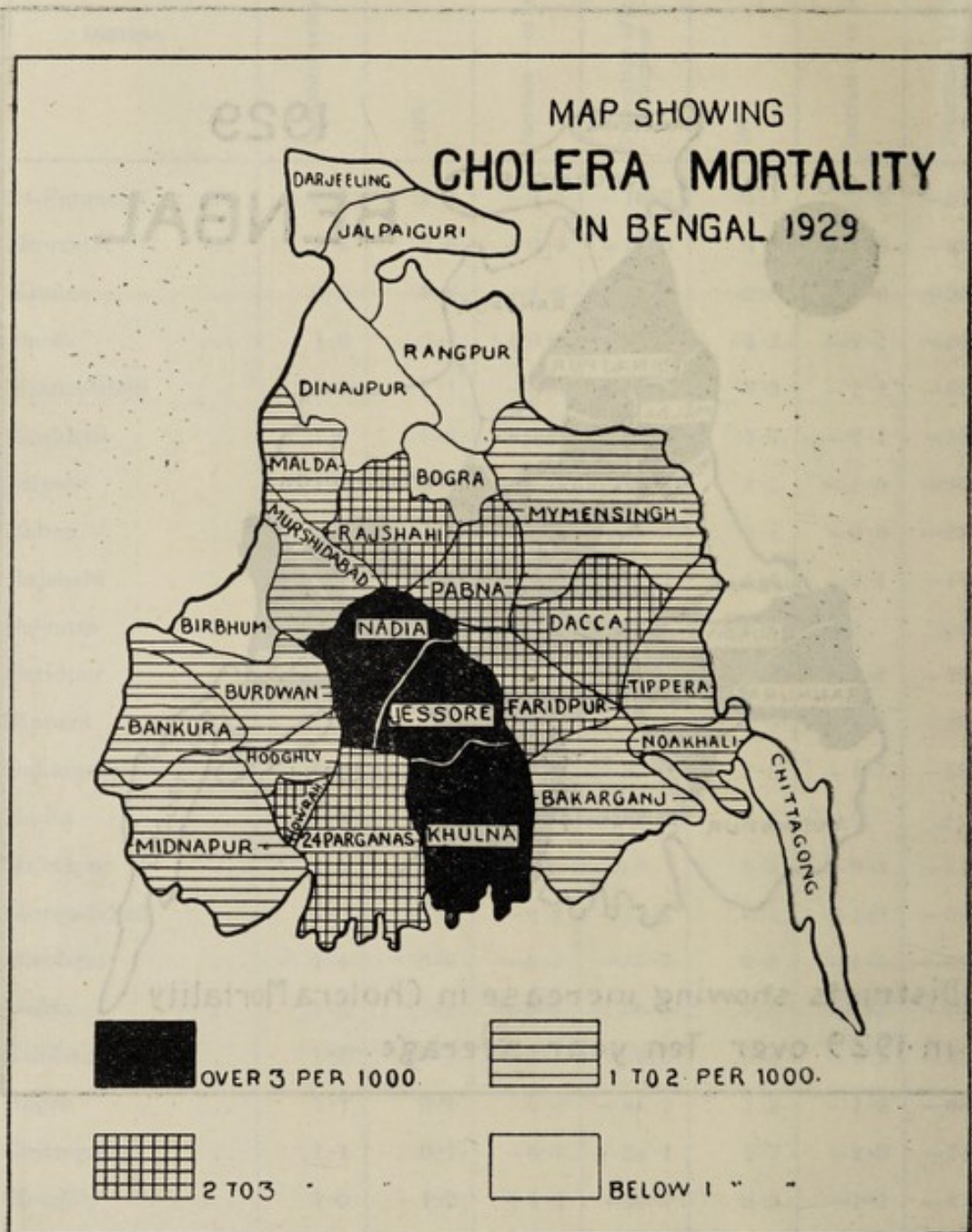
32. **Cholera in districts.**—(a) *Crude death-rates.*—Khulna with a death-rate of 3.8 per mille headed the list, followed by Jessore and Nadia, 3.5 per mille each. Seven others returned rates between 2.0 and 3.0 per mille, 10 between 1.0 and 2.0 per mille and the remaining 7 below 1.0 per mille, Darjeeling standing at the bottom of the list with a rate of 0.1 per mille. Twelve districts registered rates above the provincial average and the remaining 15 below it. Compared with the decennial mean, 11 districts showed an improvement, 15 others a retrogression, while in 1 there was no change. As against the previous year, cholera was less prevalent in all the districts but 6.

Cholera Death-rate per mille.

Districts.	Decennial average.	1929.	Increase + or decrease -	Percentage of increase + or decrease -	1928.	Increase + or decrease -	Percentage of increase + or decrease -
24-Parganas ..	3.0	2.5	-0.5	-16.7	5.1	-2.6	-51.0
Howrah ..	2.3	2.6	+0.3	+13.0	4.5	-1.9	-42.2
Khulna ..	2.0	3.8	+1.8	+90.0	2.8	+1.0	+35.7
Dacca ..	1.9	2.1	+0.2	+10.5	4.2	-2.1	-50.0
Mymensingh ..	1.9	1.1	-0.8	-42.1	3.3	-2.2	-66.7
Noakhali ..	1.9	1.6	-0.3	-15.8	3.7	-2.1	-56.8
Jessore ..	1.8	3.5	+1.7	+94.4	2.5	+1.0	+40.0
Pabna ..	1.8	2.2	+0.4	+22.2	3.1	-0.9	-29.0
Rajshahi ..	1.8	2.3	+0.5	+27.7	4.4	-2.1	-47.7
Calcutta ..	1.7	2.4	+0.7	+41.1	2.4	±0	±0
Faridpur ..	1.7	2.9	+1.2	+70.5	4.3	-1.4	-32.6
Tippera ..	1.6	1.9	+0.3	+18.7	2.4	-0.5	-20.8
Bakarganj ..	1.6	1.2	-0.4	-25.0	2.9	-1.7	-58.6
Nadia ..	1.6	3.5	+1.9	+118.7	3.5	±0	±0
Midnapur ..	1.5	1.5	±0	±0	2.3	-0.8	-34.8
Murshidabad ..	1.5	1.3	-0.2	-13.3	3.2	-1.9	-59.4
Birbhum ..	1.4	0.9	-0.5	-35.7	2.4	-1.5	-62.5
Malda ..	1.2	1.8	+0.6	+50.0	1.1	+0.7	+63.6
Burdwan ..	1.2	1.3	+0.1	+8.3	2.4	-1.1	-45.8
Bogra ..	1.1	0.6	-0.5	-45.5	1.9	-1.3	-68.4
Chittagong ..	1.1	0.7	-0.4	-36.4	2.7	-2.0	-74.1
Hooghly ..	1.0	1.2	+0.2	+20.0	2.3	-1.1	-47.8
Rangpur ..	1.0	0.9	-0.1	-10.0	2.0	-1.1	-55.0
Jalpaiguri ..	0.8	0.2	-0.6	-75.0	0.5	-0.3	-60.0
Bankura ..	0.6	1.2	+0.6	+100.0	0.5	+0.7	+140.0
Darjeeling ..	0.5	0.1	-0.4	-80.0	0.4	-0.3	-75.0
Dinajpur ..	0.5	0.7	+0.2	+40.0	0.9	-0.2	-22.2



(b) *The relative importance of cholera as a cause of death.*—One in 7 deaths was due to cholera in Khulna, whereas this ratio was one in 500 in Darjeeling. Other districts showed varying proportions. In Calcutta, Khulna, Jessore, Malda and Bankura, cholera accounted for more deaths as compared with the previous year. Twenty districts showed an excess in this proportion over the decennial mean and 7 a reduction.

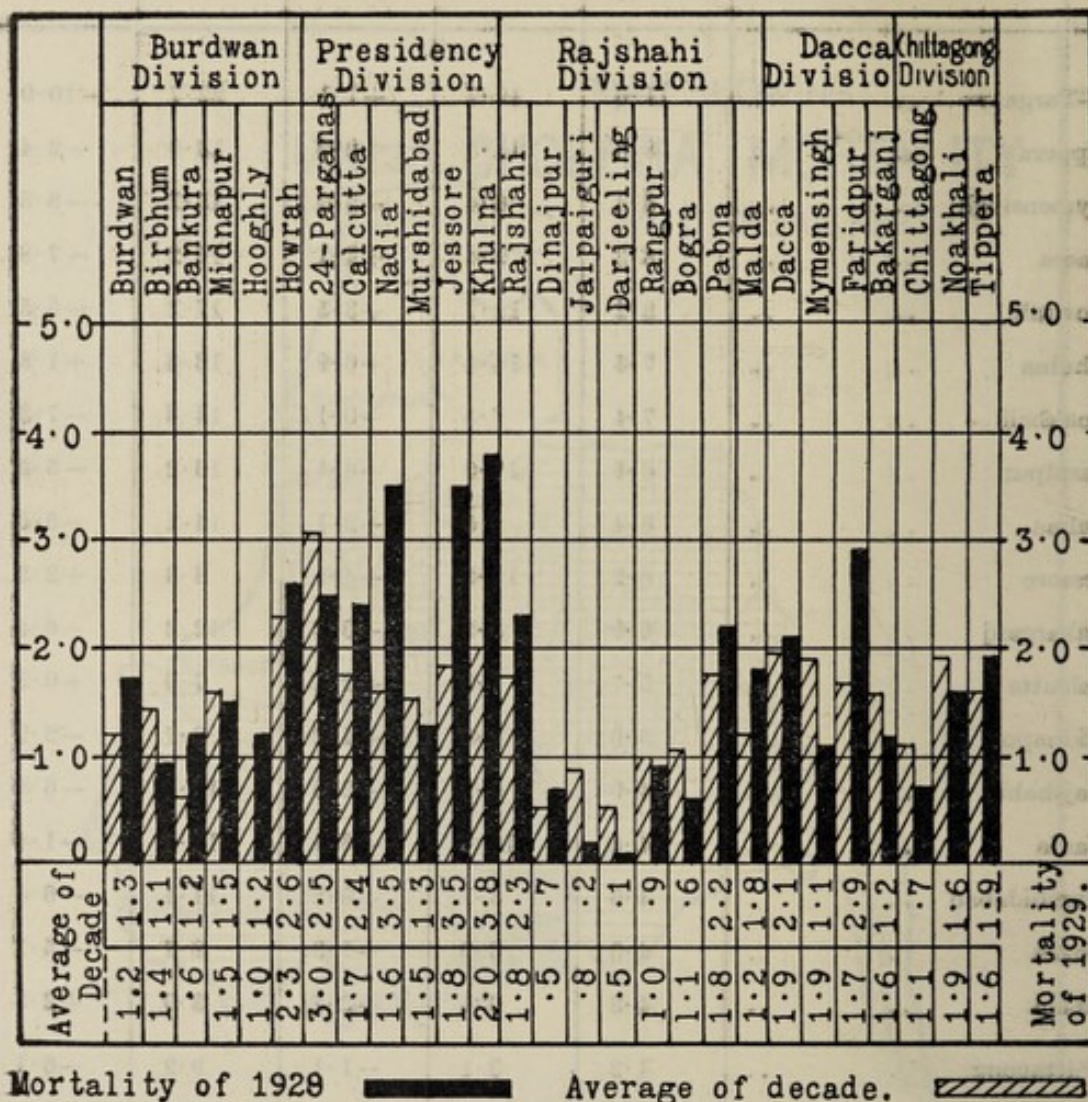


(6) The relative importance of cholera as a cause of deaths in 1929 was due to cholera in Khulna, where this ratio was one in 1000. Other districts showed varying proportions. In 1929, Khulna, Jessore, Malda and Pabna were recognized for more deaths as compared with the previous year. Twenty districts showed an excess in this proportion over the decennial mean and a reduction.

Cholera as a percentage of total mortality.

Districts.	Decennial average.	1929.	Increase+ or decrease —.	1928.	Increase+ or decrease —.
24-Parganas	11.6	12.7	+1.1	22.7	-10.0
Tippera	8.6	11.5	+2.9	13.9	-2.4
Mymensingh	8.4	6.4	-2.0	15.2	-8.8
Dacca	8.3	9.4	+1.1	17.2	-7.8
Howrah	8.2	11.7	+3.5	17.2	-5.5
Khulna	7.5	14.4	+6.9	12.6	+1.8
Noakhali	7.4	7.5	+0.1	14.8	-7.3
Faridpur	6.6	11.0	+4.4	16.2	-5.2
Pabna	6.4	8.5	+2.1	14.1	-5.6
Jessore	6.2	10.6	+4.4	8.3	+2.3
Bakarganj	6.0	5.8	-0.2	12.2	-6.4
Calcutta	5.7	7.8	+2.1	7.6	+0.2
Midnapur	5.6	6.8	+1.2	9.7	-2.9
Rajshahi	4.9	6.9	+2.0	13.4	-6.5
Nadia	4.6	10.7	+6.1	12.1	-1.4
Murshidabad	4.5	4.7	+0.2	11.1	-6.4
Bogra	4.3	3.0	-1.3	8.7	-5.7
Malda	4.3	6.4	+2.1	3.9	+2.5
Chittagong	4.2	3.1	-1.1	9.2	-6.1
Birbhum	4.1	3.7	-0.4	8.0	-4.3
Burdwan	3.8	5.2	+1.4	9.2	-4.0
Hooghly	3.6	5.8	+2.2	9.0	-3.2
Rangpur	3.5	4.1	+0.6	7.1	-3.0
Jalpaiguri	2.8	0.9	-1.9	1.9	-1.0
Bankura	2.1	4.4	+2.3	2.3	+2.1
Dinajpur	1.4	2.4	+1.0	2.7	-0.3
Darjeeling	1.4	0.2	-1.2	1.3	-1.1

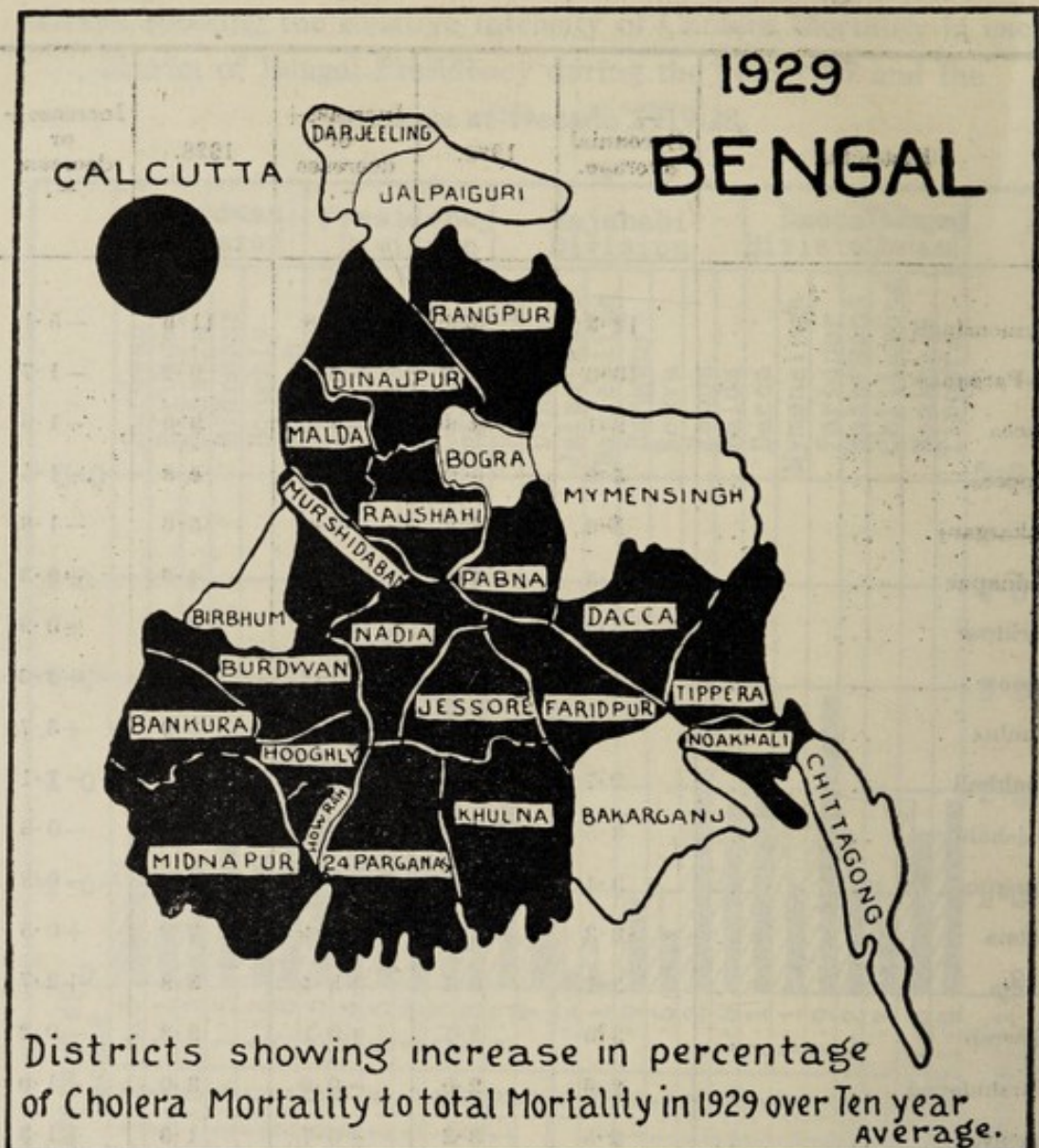
Graph showing the Relative Intensity of Cholera Mortality in each district of Bengal Presidency during the year 1929 and the average of Decade 1919-28.



(c) *Districts as cholera centres.*—During 1929, 8.1 per cent. of the total provincial mortality from cholera occurred in Faridpur, 8.0 in Dacca and 7.5 in 24-Parganas. At the other end of the list stood Darjeeling, Jaipauri and Bogra with corresponding percentages of 0.02, 0.3 and 0.7 respectively. Compared with both the previous decennium and the preceding year, 13 districts showed an improvement so far as cholera was concerned, while 10 others became worse; in 3 other districts, this percentage showed an increase over the decennial mean and a reduction as against that in the previous year, the reverse being the case in Midnapur alone.

Percentage of Provincial Cholera Mortality in each district.

Districts.	Decennial average.	1929.	Increase + or decrease —.	1928.	Increase + or decrease —.
Mymensingh	12.3	6.5	—5.8	11.6	—5.1
24-Parganas	10.0	7.5	—2.5	9.2	—1.7
Dacca	8.1	8.0	—0.1	9.6	—1.6
Tippera	5.9	6.2	+0.4	4.8	+1.5
Bakarganj	5.6	3.8	—1.8	5.6	—1.8
Midnapur	5.5	4.8	—0.7	4.5	+0.3
Faridpur	5.2	8.1	+2.9	7.2	+0.9
Jessore	4.2	7.4	+3.2	3.1	+4.3
Khulna	3.9	6.7	+2.8	3.0	+3.7
Noakhali	3.7	2.9	—0.8	4.0	—1.1
Rajshahi	3.5	4.2	+0.7	4.8	—0.6
Rangpur	3.4	2.9	—0.5	3.7	—0.8
Pabna	3.3	3.7	+0.4	3.2	+0.5
Nadia	3.1	6.5	+3.4	3.8	+2.7
Howrah	3.0	3.1	+0.1	3.3	—0.2
Murshidabad	2.6	2.0	—0.6	3.0	—1.0
Calcutta	2.5	3.2	+0.7	1.9	+1.3
Chittagong	2.4	1.3	—1.1	3.2	—1.9
Burdwan	2.3	2.2	—0.1	2.5	—0.3
Birbham	1.6	1.0	—0.6	1.5	—0.5
Malda	1.6	2.2	+0.6	0.8	+1.4
Bogra	1.6	0.7	—0.9	1.5	—0.8
Hooghly	1.5	1.6	+0.1	1.8	—0.2
Dinajpur	1.1	1.4	+0.3	1.2	+0.2
Jalpaigori	1.1	0.3	—0.8	0.4	—0.1
Bankura	0.8	1.5	+0.7	0.4	+1.1
Darjeeling	0.2	0.02	—0.18	0.1	—0.08



33. **Extent of Cholera in the various districts as reported by the District Health Officers.**—Cholera raged in an epidemic form in almost all the thanas in the district of *Burdwan*. It was spread from village to village by contacts, although many cases were imported from fairs and festivals held outside the district. Railway stations were watched to detect suspects among the pilgrims. Prompt mass inoculation arrested the progress of the disease. In *Birbhum*, thanas Rampurhat, Nalhati, Ilambazar, Muraroi, Khayrasole, Suri, Mayureswar and Muhammad Bazar suffered most. The disease first made its appearance in Suri, Muhammad Bazar, Bolpur and Khayrasole during the early part of April just after the Patharchapuri mela was over. It was also imported from Nabadwip during the latter part of the year. Sporadic cases, mostly of enteritis due to scarcity of drinking water, occurred throughout *Bankura* district. There were mild cases in Chhatna,

Suntapal, Raniband, Taldangra and in Bankura thana elakas. The disease was, however, controlled within a short time by timely disinfection, inoculation, reservation of tanks, sinking of temporary wells, isolation and treatment of cholera cases and propaganda by magic lantern lectures and distribution of pamphlets and posters. Among the causes may be mentioned want of good drinking water, infection of foul water of dried up tanks and dobas, the indiscriminate throwing of cholera corpses and their soiled clothes in rivers and other water courses. In *Midnapur* district, there were epidemics of cholera in thanas Kharagpur, Dantan, Narayangarh, Salbani and Mahishadal after Puri Rath Mela in August. In Ghatal and Tamluk subdivisions the disease was imported from towns of those names in October. In thanas Chandrakona, Salbani, Garhbeta, Ghatal, Keshpur and Daspur the epidemic was due to contamination of rivers by excreta of cholera patients. In *Hooghly* district cholera was prevalent in Dhaniakhali and Haripal thanas in June and in Khanakul thana in October.

In *24-Parganas* the disease continued in some thanas from the previous year, in others it appeared at the end of the year under report. Cholera appeared in an epidemic form in Magrahat, Mathurapur, Kakdwip, Kulpi and Diamond Harbour in Diamond Harbour subdivision, Baruipur, Bhangar, Bistupur, Jaynagar and Canning thanas in Sadar subdivision, Sarupnagar, Hasnabad, Baduria and Basirhat in Basirhat subdivision. Sanitary inspectors helped by epidemic doctors wherever necessary attended the cholera affected villages. In *Nadia*, it was prevalent from October to December in all the thanas of Kushtia and Chuadanga subdivisions and also in police-stations of Sadar and Tehatta of Meherpur subdivisions. The seasonal variation coincided with that of malaria, which was very virulent during the latter part of the year. In village Bethberia in Chapra thana, the epidemic of cholera lasted over a fortnight in spite of anti-cholera inoculation and disinfection and did not subside until general quininisation was carried out. In *Murshidabad*, it prevailed in all the circles throughout the year. The highest death rate in towns was recorded in Dhulian and Murshidabad and the lowest in Berhampur; in rural areas Raghunathganj police-station stood at the top and Shamsheganj the lowest on the list. The highest number of deaths occurred during December followed by November, April and October, and the lowest in June. In *Khulna* district, the most serious epidemic prevailed in the village of Katepara in Paikgacha thana of Sadar subdivision; the first information was received when about 22 attacks and 11 deaths had already occurred; the epidemic did not subside in spite of hard and sustained action until 35 deaths had taken place, the lower classes stubbornly refusing to take inoculation. Except in a few remote villages in the Iswaripur and Kaliganj thanas, the disease could not get a firm grip over any village due to the untiring activities of sanitary inspectors in charge of rural health circles.

In *Rajshahi*, epidemic broke out in several thanas and was attended to by medical officers of 32 medico-sanitary centres and sanitary inspectors of 20 rural public health centres, with their health assistants as well as by kala-azar doctors. Prophylactic inoculations had marvellous success in reducing the mortality and checking the spread of the disease. The disease took an epidemic form from January to June and then October to December. The highest number of deaths—356 occurred in police-station Baraigram, 301 in

Charghat, 288 in Bagmara, 244 in Mahadebpur, 209 in Manda and 208 in Singra. In *Pabna* the epidemic was less severe than in the previous year; the first outbreak affected mainly the thanas Bera, Shazadpur, Taras and Raiganj and was responsible for about 800 attacks and 600 deaths. It yielded more promptly to preventive measures than the second outbreak in September to December which was much more severe and affected mainly thanas Pabna, Sara, Sujanagar, Ullapara, Shazadpur, Chouhali and Taras and caused 2,800 attacks and 1,800 deaths. Delay in the receipt of information and opposition to wholesale inoculation frequently militated against the success of preventive measures. Only 20 deaths and all in Siliguri subdivision occurred in *Darjeeling* district, the travelling sub-assistant surgeon visiting many affected areas and distributing medicines. Sporadic cases particularly within the Adamdighi and Gabtali police-stations occurred in *Bogra* district; these were quickly brought under control by vigorous disinfection and inoculation. In Gabtali, it was traced to fakirs and it disappeared as soon as a few of them were prosecuted. In *Malda*, cholera broke out in an epidemic form in November, mainly in the south-west area of the district and was quickly brought under control. Mortality rate amongst those attacked was very high, majority of deaths according to District Health Officer occurring among those who had suffered for months with malaria without sufficient and proper quinine treatment. In many villages intensive quinine distribution alone stopped the occurrence of the so-called cholera when the most systematic inoculation of the whole village and disinfection of infected houses and water-supplies had failed to check it. It was therefore inferred that most of the cases with the symptoms of cholera were really not true cholera but were the after-effects of malaria. Cholera epidemic was prevalent in *Dinajpur* district more or less throughout the year, being the most serious in the first two months. All the thanas were affected except those of Hemtabad, Dhamoirhat, Haripur and Atwari. The largest number of deaths, 152 was in Porsha, and the second largest in Phulbari. Thanas Porsha, Phulbari, Parbatipur and Nawabganj were responsible for 562 deaths out of 1,147. The disease was imported last year in Porsha from Malda and in Phulbari by up-country coolies who came to work in brickfields in a village within the thana. Eleven doctors, 21 sanitary inspectors and one sub-inspector of vaccination were deputed to cope with the epidemic. Dispensary doctors also helped. Inoculation was very popular. Dr. Tomb's mixture was distributed to patients. Pamphlets and leaflets about cholera were distributed freely. Lectures were delivered in hâts and in important places. Muhammadan females could be inoculated only in a few places on account of the purdah system. Arrangements were made to inoculate intending pilgrims for Puri Rathajatra and Snanjatra festivals and also to keep watch over passengers returning from Ganga Sagar and Kumbh melas at Parbatipur, Raiganj, Dinajpur, Phulbari and Chorkai railway stations. The largest number of deaths occurred in the months of January, February, June, October and November, the total being 857 out of 1,147 in the whole year. The disease was mainly imported from outside, especially Gaya, Puri and up-country districts and the spread was due to the running away of the infected persons from one village to another without making any arrangement for the treatment, nursing and dieting of patients which made the death-roll very heavy. The duration of the epidemic was prolonged by the refusal of female contacts as well as other females of

the locality to get themselves inoculated. In *Rangpur*, there was an outbreak under Jaldhaka and Domar police-stations in November; very prompt action taken checked the epidemic in the beginning.

In *Bakarganj*, the maximum number of deaths occurred in December. Baranadi, Gournadi, Mehendiganj and Mathbaria thanas were badly affected. Pollution of tanks and water courses by carriers and by washing of soiled clothes and contact infection propagated the disease.

A mild epidemic prevailed in the district of *Chittagong* from January to July, started in police-station Patiya and Raojan in January and gradually spread to thanas Fatikchari, Banskali, Mirsarai, Pachalais, Hathazari, Anwara, Maheshkali and Chakaria and continued up to July. The highest mortality occurred in April. Inoculations, disinfection of tanks and wells, of infected clothings, latrines and vomited matters and stools, treatment of patients by epidemic doctors and propaganda by lectures and magic lantern demonstrations checked the further spread of the disease. In *Noakhali* district, the highest mortality, 458 occurred in Lakshmipur and the lowest 47 in Sandwip thana. During August and September considerable number of cases occurred in Ramganj thana, all the first cases being imported there from Chandpur by boatmen and other persons visiting Chandpur for dealing in jute; thence the disease spread to Raipur and Lakshmipur. Incidence remained high in Begamganj throughout the whole of the rainy season. Constant congestion of jute dealers in Chaumohani and other small markets in the thana helped to maintain the epidemic during the rainy season, when the incidence of the disease was very low in other parts of the district. From Begamganj it spread to Sadar, Senbag and Bamni. Feni had different foci of infection in different parts of the thana and the infection there was partly brought from Begamganj and partly from the Chittagong Hill Tracts.

34. Cholera in towns and rural areas.—A total of 6,264 deaths occurred in towns from cholera giving a death-rate of 2·0 per mille against 74,826 in rural areas with a death-rate of 1·7, compared with 7,288 and 2·3 and 128,957 and 3·0, respectively, in 1928. It is noticeable that towns continue to suffer more severely from cholera than rural areas. In towns also it is more difficult to get the population to adopt precautions. In the year under review the reduction of cholera mortality amounted to 1,024 deaths and 13·04 per cent. in the death-rate in towns against 54,131 deaths and 43·3 per cent. in rural areas. No cholera deaths were reported from 7 towns. The highest death-rate 6·6 per mille was returned from Kushtia in Nadia district.

35. Preventive measures.—The following preventive measures against cholera were taken during the year:—

(a) *Inoculation.*—1,718,610 c. cs. of anti-cholera vaccine were issued during the year against 2,304,457 c. cs. in 1928; and 1,566,150 inoculations were reported from the various districts against 1,941,023 in 1928. The issues of cholera vaccine (A), the inoculations reported (B), the ratio of the latter to the former and the issues of cholera vaccine and inoculations performed for each cholera death reported have been as follows during the past three years.

Years.	A Cholera vaccine c. cs.	B Inocula- tions reported.	C Ratio of B to A.	D Cholera deaths.	E Issues of vaccine for each death c. cs.	F Number of inocula- tions to each cholera death.
			Per cent.			
1927 ..	1,299,630	781,872	60.1	118,377	10.9	6.6
1928 ..	2,304,457	1,941,023	84.6	136,245	16.9	14.2
1929 ..	1,718,610	1,566,150	91.2	81,090	21.1	19.3

The details regarding inoculations in the various districts are given in the following table:—

Districts.	Inoculations reported.		Cholera deaths.		Inoculations per cholera death.	
	1928.	1929.	1928.	1929.	1928.	1929.
Noakhali ..	157,473	101,429	5,472	2,358	29	43
Midnapur ..	152,641	148,577	6,202	3,917	25	38
Dacca ..	144,275	86,966	13,140	6,498	11	13
24-Parganas ..	118,620	101,712	12,597	6,065	9	16
Mymensingh ..	112,266	66,536	15,870	5,252	7	12
Burdwan ..	109,463	49,363	3,458	1,825	31	27
Bakarganj ..	108,231	90,280	7,692	3,095	14	29
Tippera ..	102,725	132,892	6,498	5,113	16	26
Rajshahi ..	102,593	71,174	6,616	3,389	15	21
Faridpur ..	97,183	84,200	9,777	6,535	10	13
Nadia ..	85,525	81,761	5,233	5,293	16	15
Jessore ..	74,241	97,591	4,261	6,032	17	16
Murshidabad ..	71,180	48,127	4,103	1,655	17	29
Birbhum ..	69,333	17,651	1,994	794	35	22
Howrah ..	64,334	32,851	4,473	2,552	14	13
Chittagong ..	62,904	35,097	4,379	1,080	14	32
Pabna ..	57,247	30,753	4,358	3,040	13	10
Khulna ..	56,098	114,249	4,133	5,447	13	21
Rangpur ..	40,081	27,491	5,000	2,347	8	11
Dinaajpur ..	38,225	23,036	1,591	1,147	24	20
Bogra ..	33,162	12,167	2,044	592	16	20
Hooghly ..	22,457	24,086	2,509	1,262	9	19
Jalpaiguri ..	21,686	8,068	521	221	41	37
Malda ..	16,022	39,868	1,074	1,800	15	22
Bankura ..	3,417	25,193	549	1,188	6	21
Darjeeling ..	1,333	..	117	20	11	..

(b) *Disinfection of Water-supplies.*—28,027 tanks and 57,808 wells in addition to 1,978 dobas, 393 latrines, 9,253 infected houses, 1,467 ghats were disinfected, besides 8,262 tanks, wells, river ghats and houses in the Midnapur district.

(c) The intending pilgrims to the Kumbh Mela, Ganga Sagar and Puri Rathjatra Melas were inoculated against cholera, and so were the Haj pilgrims.

Lieutenant-Colonel H. Suhrawardy, Chief Medical Officer of the Eastern Bengal Railway, arranged for inoculation centres for Kumbh Mela pilgrims travelling by that line at Sealdah, Diamond Harbour and some other stations. The Ram Krishna Mission greatly assisted in this work on river steamers in Eastern Bengal and at Howrah Station.

(d) Intensive propaganda was carried on in the province by means of lantern lectures and magic lantern demonstrations and by distribution of leaflets and posters.

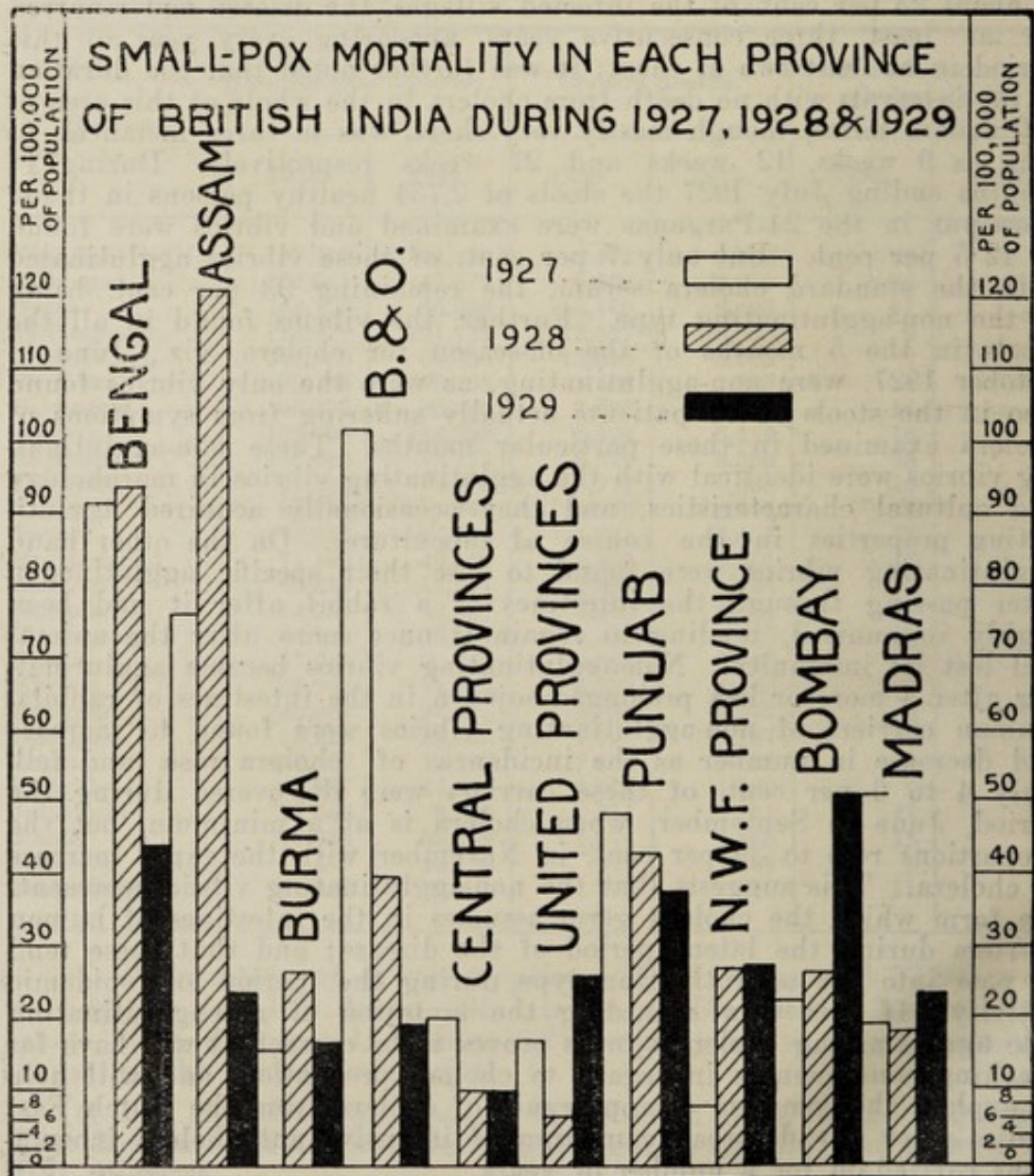
(e) The local authorities were assisted whenever possible by the Government staff of medical officers under the Bengal Public Health Department.

36. **Research Work on Cholera.**—A short summary of the research work undertaken by Dr. B. B. Brahmachari, Assistant Director of Public Health, and financed by the Indian Research Fund Association, is given below:—

Analysis of deaths from cholera in the villages of three adjoining thanas in the district of Khulna for a period of six years showed that in about 23 per cent. of the infected villages, the disease had recurred for at least three consecutive years, appearing every year of this period in at least two of them; it was further noted that the duration of the intervals with no death from cholera in the whole of this area of 150 square miles, though mostly very short, was in three instances, as long as 9 weeks, 12 weeks and 27 weeks respectively. During 14 months ending July 1927 the stools of 2,734 healthy persons in thana Baruipur in the 24-Parganas were examined and vibrios were found in 12.5 per cent. But only 7 per cent. of these vibrios agglutinated with the standard cholera serum, the remaining 93 per cent. being of the non-agglutinating type. Further, the vibrios found in all the stools in the 5 months of the off-season for cholera, viz., June to October 1927, were non-agglutinating, as were the only vibrios found also in the stools of 70 patients actually suffering from symptoms of cholera examined in these particular months. These non-agglutinating vibrios were identical with the agglutinating vibrios in morphology and cultural characteristics, and they occasionally acquired agglutinating properties in the course of subcultures. On the other hand agglutinating vibrios were found to lose their specific agglutininogen after passing through the intestines of a rabbit after it had been highly immunised, tending to regain it once more after the animal had lost its immunity. Non-agglutinating vibrios became agglutinating after a more or less prolonged sojourn in the intestines of rabbits. Human carriers of non-agglutinating vibrios were found to increase and decrease in number as the incidence of cholera rose and fell. Only 4 to 6 per cent. of these carriers were discovered during the period, June to September, when cholera is at a minimum, but the proportions rose to 39 per cent. in November with the rapid increase of cholera. This suggests that the non-agglutinating vibrio represents the form which the cholera germ assumes in the intestines of human carriers during the latent period of the disease; and that these tend to pass into the agglutinating type during the period of epidemic activity. If this view regarding the mutation of non-agglutinating into agglutinating cholera vibrios proves to be correct, it will have far reaching consequences in regard to cholera prevention, and will help to explain the complete disappearance of cholera from the Dutch East Indies after a widespread campaign of intensive anti-cholera inoculations carried on for a number of years.

Smallpox.

37. **General Prevalence.**—The total number of deaths registered as due to smallpox in the province during the year under review was 20,407 with a death-rate of 0·4 per mille, compared with 43,558 deaths with a rate of 0·9 per mille in the previous year, ·6 the quinquennial and ·5 the decennial average. The outbreak that started towards the close of 1924 and showed more than ordinary virulence during 1927 and 1928 waned during 1929, but there is a likelihood that the next recurrence which may be expected in 2 or 3 years time may be still more severe unless the local bodies persist in their efforts to carry on intensive vaccination and revaccination campaigns. During the year 1929, as will be shown subsequently in this report, about one-ninth of the total population were vaccinated. But this proportion must be raised to one-seventh annually for the province to be safeguarded against any possible outbreak of smallpox. During 1929 smallpox accounted



for 1·9 per cent. of the total provincial mortality compared with 3·7 per cent. in the previous year. The following table compares the deaths and death-rates from smallpox in the province since 1900:—

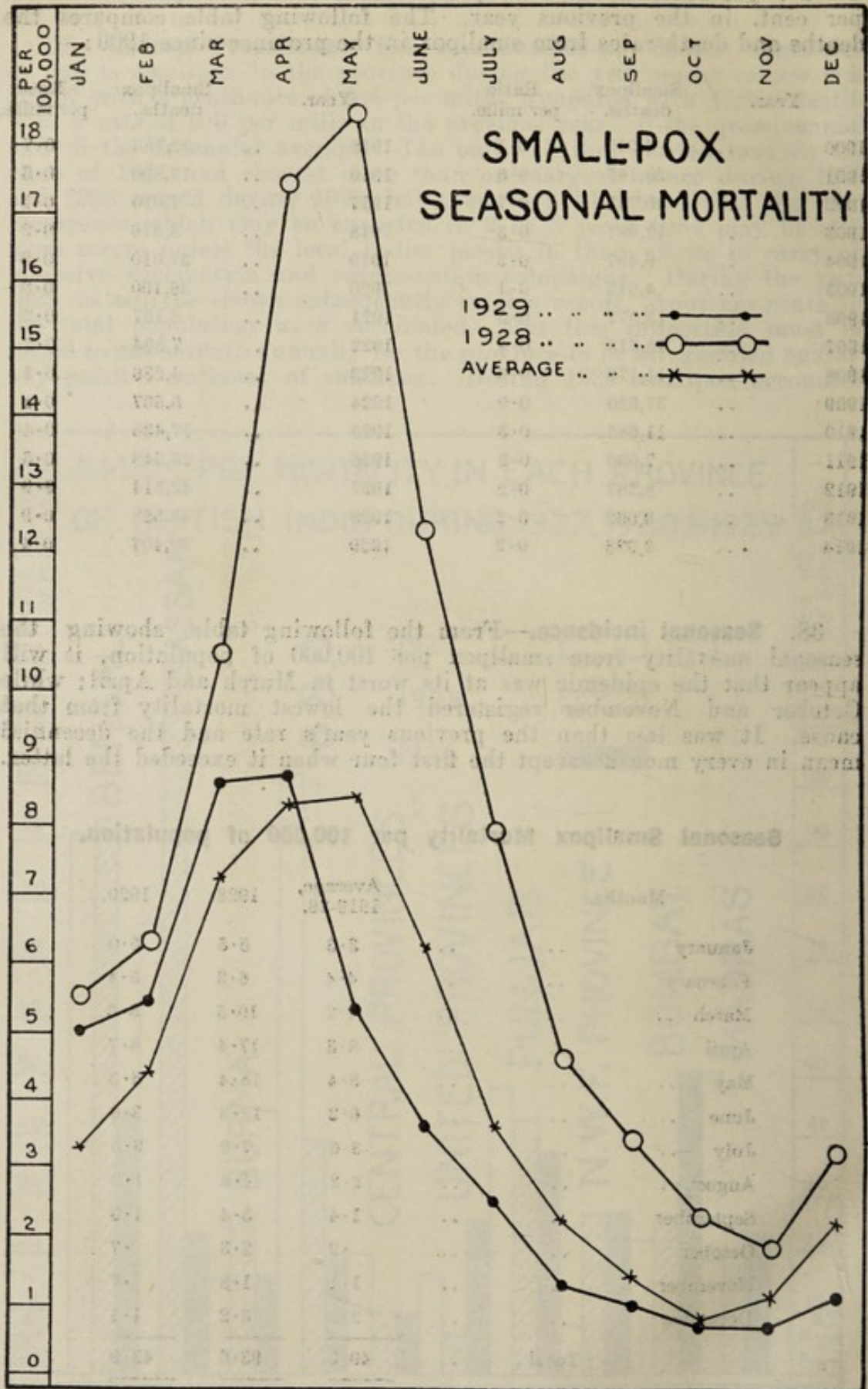
Year.	Smallpox deaths.	Ratio per mille.	Year.	Smallpox deaths.	Ratio per mille.
1900	4,019	0·1	1915	32,785	0·7
1901	20,187	0·5	1916	13,890	0·3
1902	30,737	0·7	1917	7,010	0·1
1903	12,987	0·3	1918	8,576	0·2
1904	9,497	0·2	1919	37,010	0·8
1905	4,513	0·1	1920	36,190	0·8
1906	13,577	0·3	1921	8,157	0·2
1907	15,315	0·4	1922	7,864	0·2
1908	11,173	0·3	1923	4,236	0·1
1909	37,620	0·9	1924	5,567	0·1
1910	11,685	0·3	1925	17,436	0·4
1911	7,930	0·2	1926	25,548	0·5
1912	8,287	0·2	1927	42,514	0·9
1913	9,062	0·2	1928	43,558	0·9
1914	9,935	0·2	1929	20,407	0·4

38. **Seasonal incidence.**—From the following table showing the seasonal mortality from smallpox per 100,000 of population, it will appear that the epidemic was at its worst in March and April; while October and November registered the lowest mortality from that cause. It was less than the previous year's rate and the decennial mean in every month except the first four when it exceeded the latter.

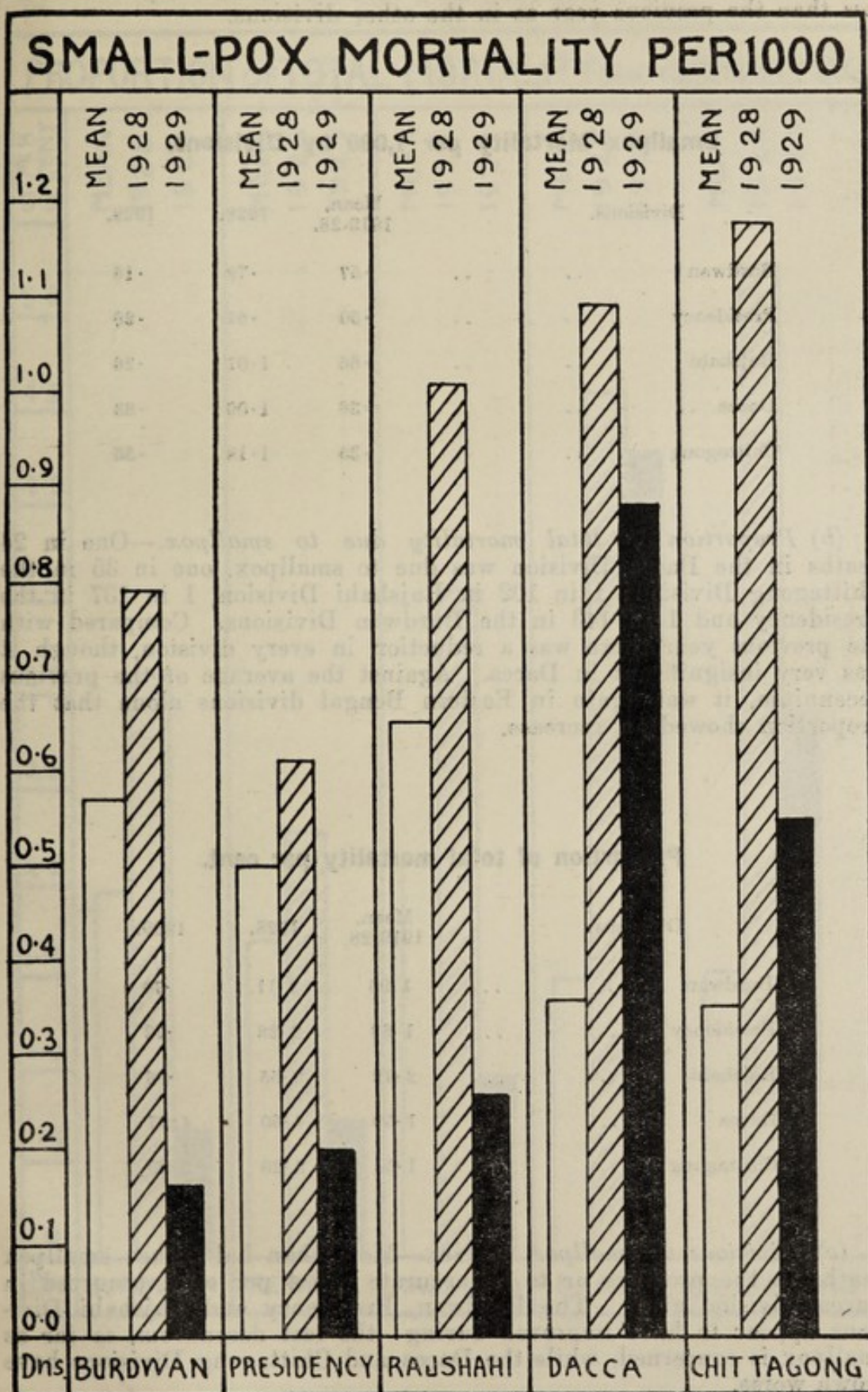
Seasonal Smallpox Mortality per 100,000 of population.

Months.	Average, 1919-28.	1928.	1929.
January	3·3	5·5	5·0
February	4·4	6·3	5·4
March	7·2	10·5	8·6
April	8·3	17·4	8·7
May	8·4	18·4	5·3
June	6·2	12·3	3·6
July	3·6	7·9	2·5
August	2·2	4·6	1·3
September	1·4	3·4	1·0
October	·9	2·3	·7
November	1·1	1·8	·7
December	2·2	3·2	1·1
Total	49·0	93·6	43·9

SMALL-POX SEASONAL MORTALITY



39. **Smallpox by divisions.**—(a) *Crude death-rates.*—The highest death-rates, as was forecasted in the last Annual Vaccination Report,



were returned by Eastern Bengal divisions of Dacca and Chittagong, though even there while exceeding the decennial mean they were much less than the previous year as in the other divisions.

Smallpox Mortality per 1,000 by Divisions.

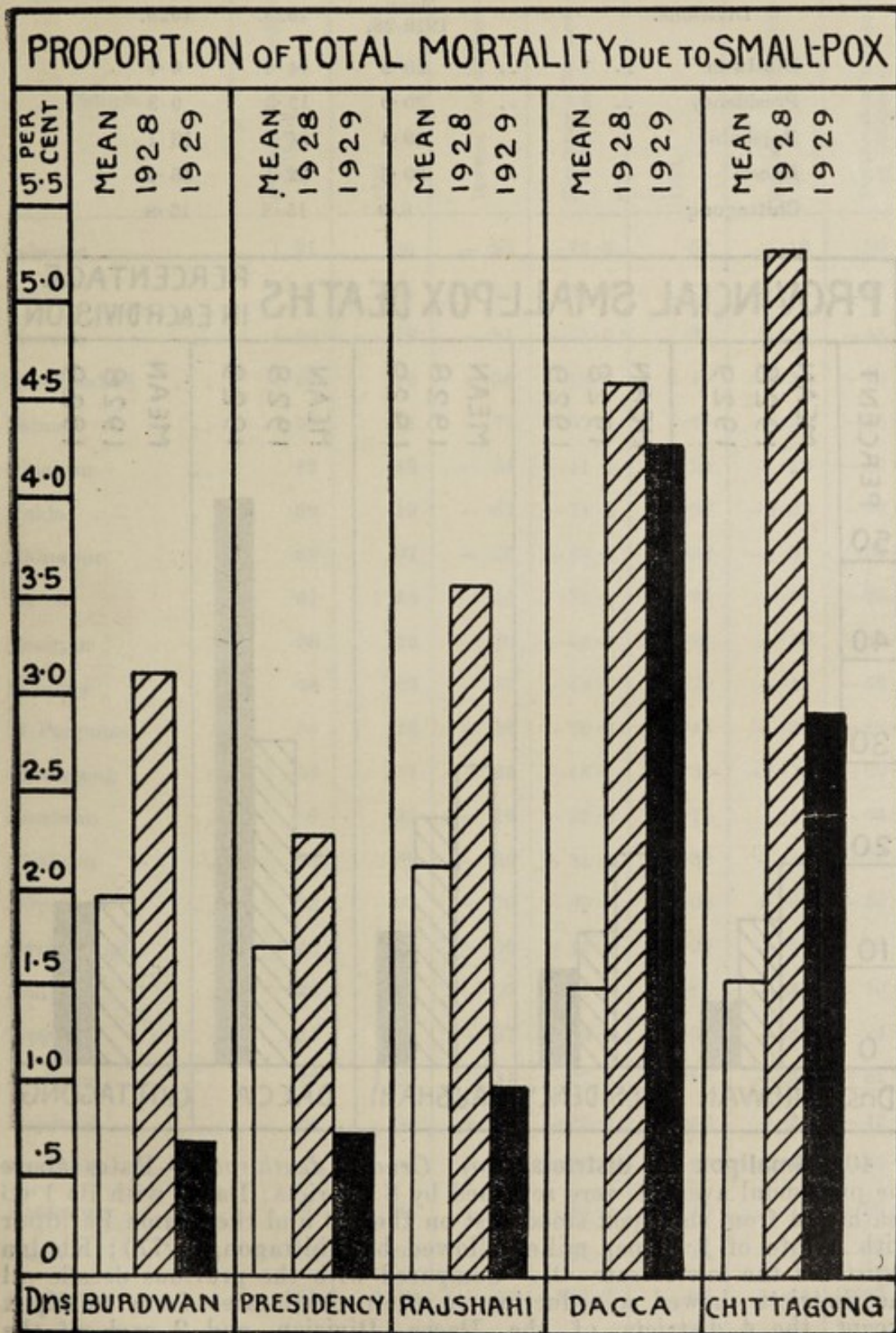
Divisions.			Mean, 1919-28.	1928.	1929.
Bardwan	..	..	·57	·79	·16
Presidency	..	..	·50	·61	·20
Rajshahi	..	..	·65	1·01	·26
Dacca	..	..	·36	1·09	·88
Chittagong	..	..	·35	1·18	·55

(b) *Proportion of total mortality due to smallpox.*—One in 24 deaths in the Dacca Division was due to smallpox, one in 35 in the Chittagong Division; 1 in 102 in Rajshahi Division, 1 in 137 in the Presidency and 1 in 143 in the Burdwan Divisions. Compared with the previous year there was a reduction in every division, though it was very insignificant in Dacca. Against the average of the previous decennium, it was again in Eastern Bengal divisions alone that the proportion showed an increase.

Proportion of total mortality per cent.

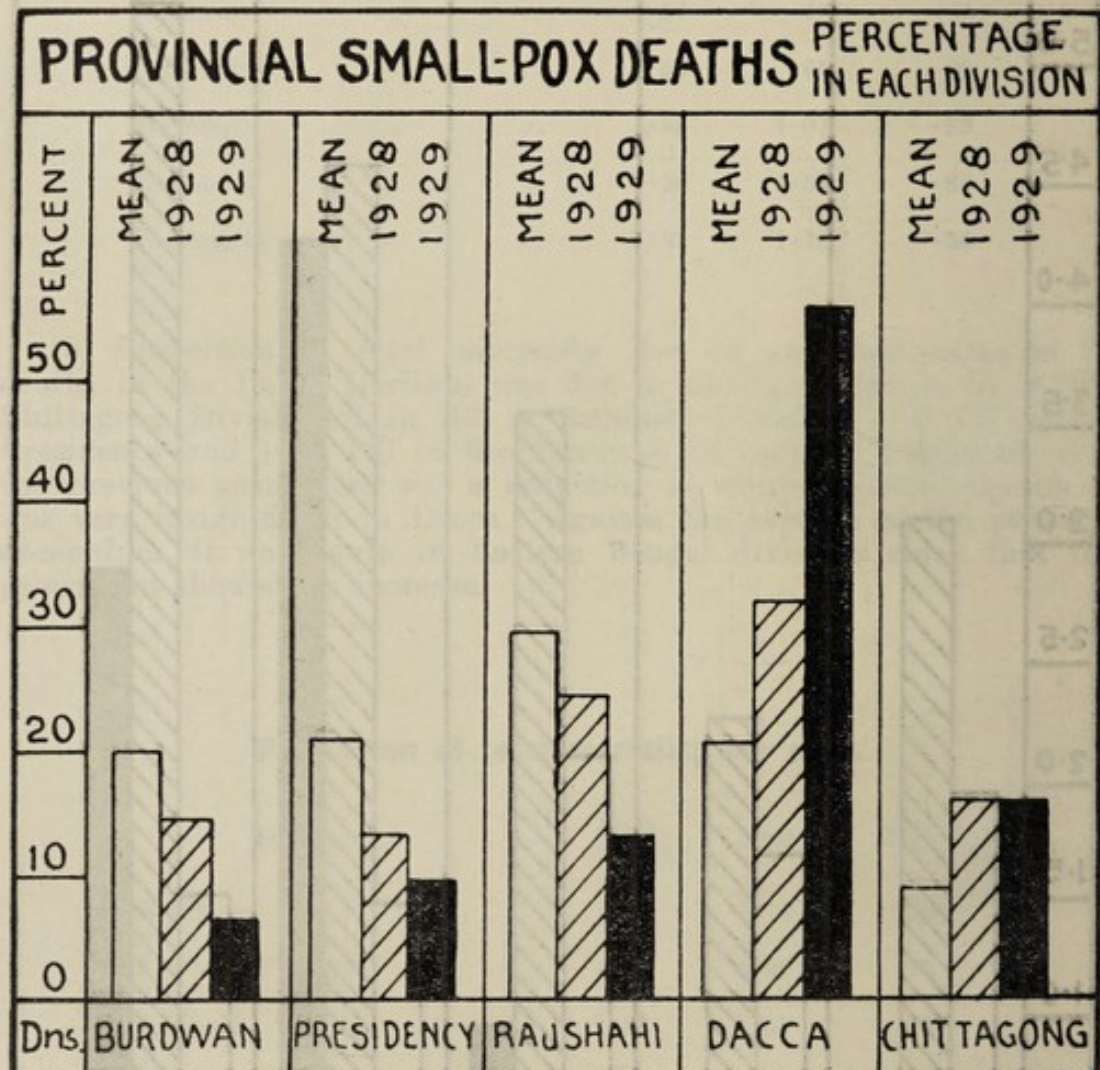
Divisions.			Mean, 1919-28.	1928.	1929.
Burdwan	..	..	1·95	3·11	·70
Presidency	..	..	1·69	2·28	·73
Rajshahi	..	..	2·12	3·55	·98
Dacca	..	..	1·50	4·60	4·27
Chittagong	..	..	1·54	5·26	2·90

(c) *Divisions as smallpox centres.*—More than half the smallpox deaths in the province or to be accurate 55·4 per cent. occurred in Dacca Division alone. The Burdwan, Presidency and Rajshahi Divisions appear to have improved during the last decennium, so far as smallpox is concerned, while the Dacca and Chittagong Divisions have grown worse.



Provincial Smallpox Mortality per cent.

Divisions.			Mean, 1919-28.	1928.	1929.
Burdwan	..	..	20.3	14.6	6.4
Presidency	..	..	20.9	13.3	9.3
Rajshahi	..	..	29.4	24.1	13.1
Dacca	..	..	20.5	32.1	55.4
Chittagong	..	..	8.9	15.8	15.8

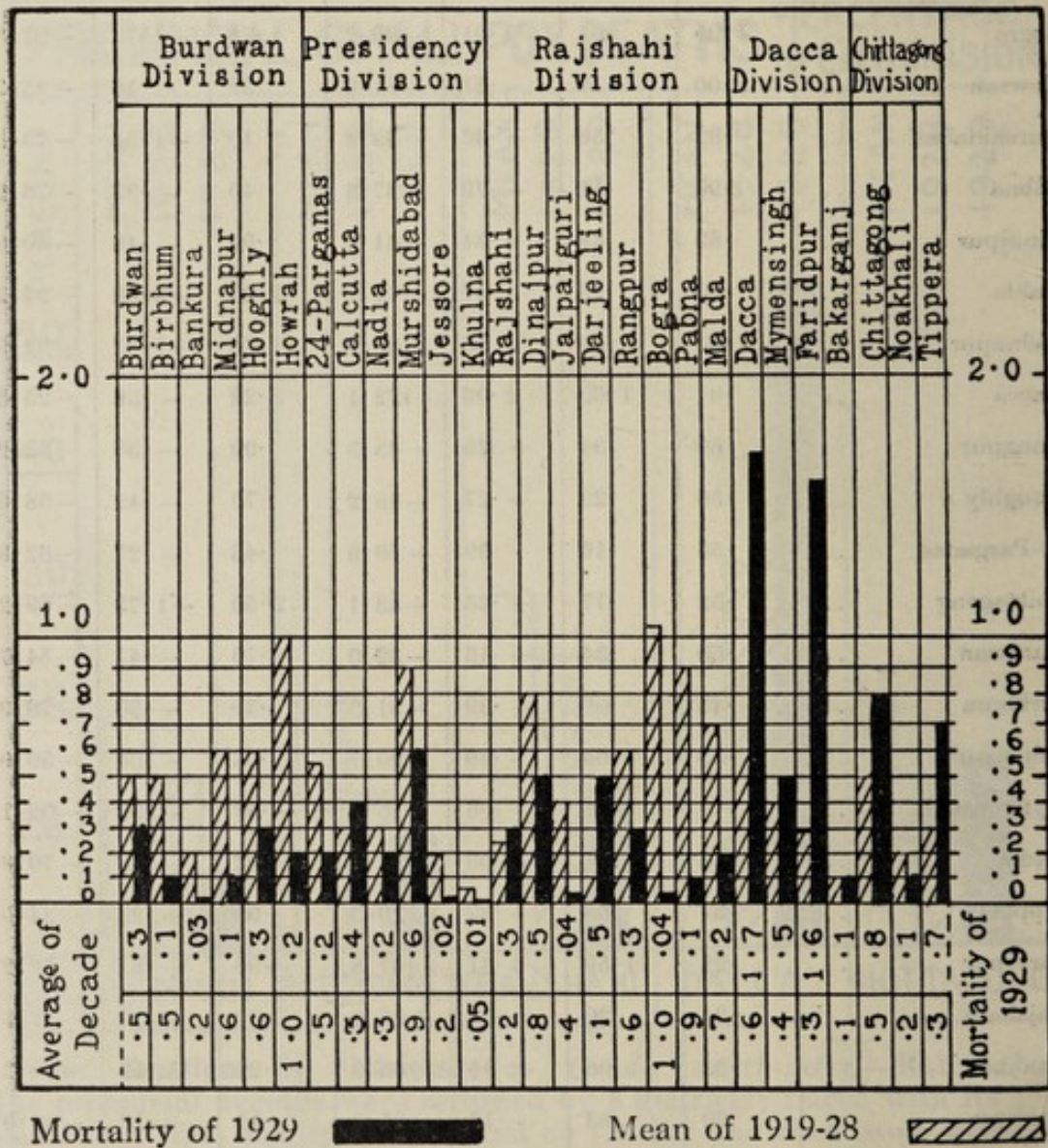


40. **Smallpox by districts.**—(a) *Crude death-rates.*—Rates above the provincial average were returned by 8 districts; Dacca with its 1.66 death-rate from smallpox stood first on the list and then came Faridpur with a rate of 1.59 per mille followed by Chittagong (.77); Khulna registered the lowest rate .01. Compared with the previous decade all the districts showed a reduction in their death-rates from smallpox except the 4 districts of the Dacca Division and 2 each of the Chittagong and Rajshahi Divisions. As compared with the previous year, smallpox deaths increased in Darjeeling district by 683.3 per cent., Bakarganj by 100 per cent. and Faridpur by 62.2 per cent.

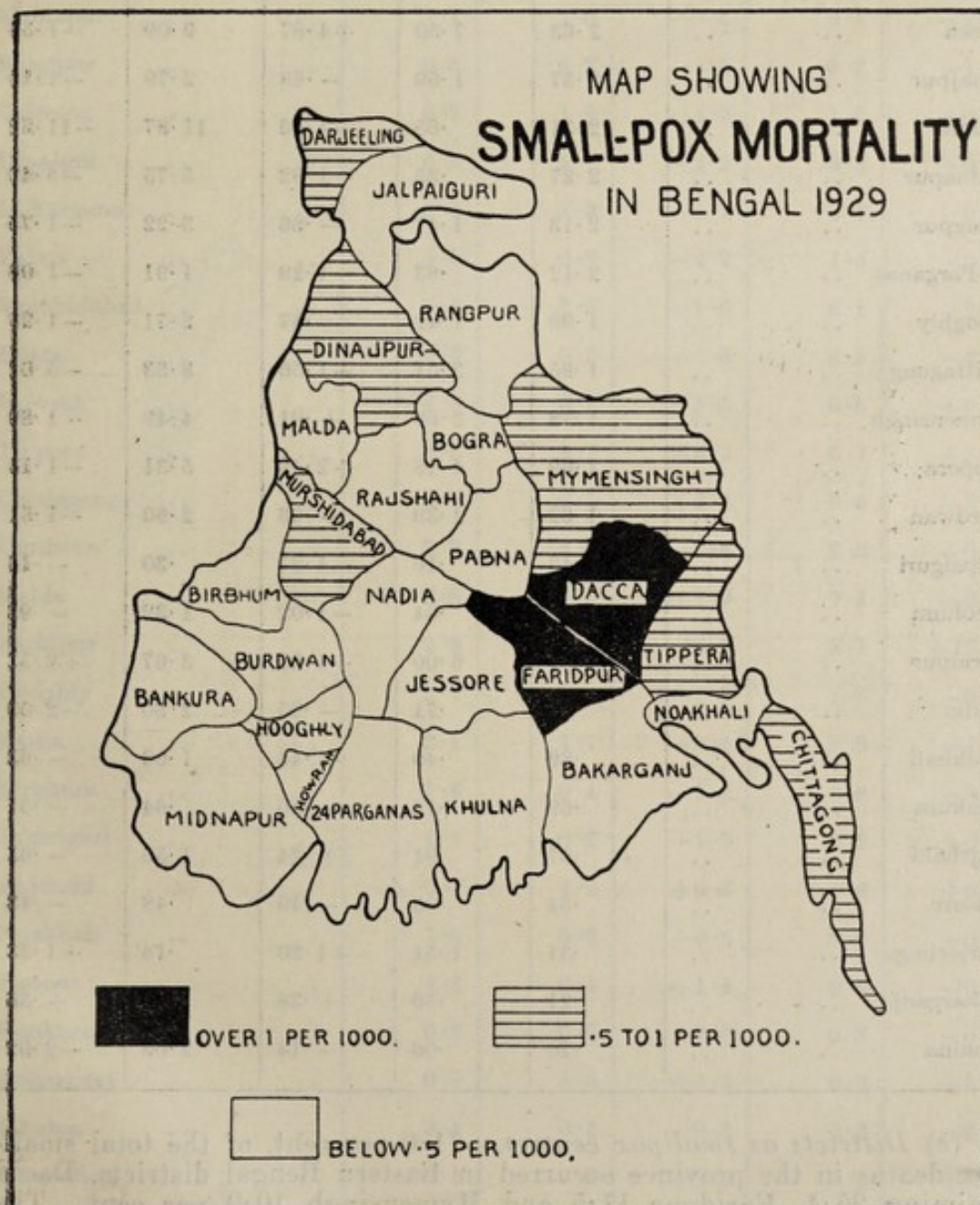
Smallpox death-rates per mille.

Districts.	Average of decade, 1919-28.	1929.	Increase + or decrease -.	Percentage of Increase + or decrease -.	1928.	Increase + or decrease -.	Percentage of Increase + or decrease -.
Calcutta ..	1.31	.36	— .95	— 72.5	.52	— .16	— 30.8
Bogra ..	1.05	.04	— 1.01	— 96.2	1.78	— 1.74	— 97.8
Howrah ..	1.00	.19	— .81	— 81.0	.35	— .16	— 45.7
Murshidabad ..	.92	.56	— .36	— 39.2	2.10	— 1.54	— 73.3
Pabna ..	.90	.11	— .79	— 87.8	.46	— .35	— 76.1
Dinajpur ..	.82	.48	— .34	— 41.5	.96	— .48	— 50.0
Malda ..	.66	.19	— .47	— 71.2	3.27	— 3.08	— 94.2
Midnapur ..	.63	.07	— .56	— 88.9	1.38	— 1.31	— 94.9
Dacca ..	.61	1.66	+ 1.05	+ 172.1	2.22	— .56	— 25.2
Rangpur ..	.60	.34	— .26	— 43.3	.90	— .56	— 62.2
Hooghly ..	.56	.29	— .27	— 48.2	.70	— .41	— 58.6
24-Parganas ..	.55	.16	— .39	— 70.9	.43	— .27	— 62.8
Chittagong ..	.52	.77	+ .25	+ 48.1	2.50	— 1.73	— 69.2
Burdwan ..	.50	.34	— .16	— 32.0	.75	— .41	— 54.7
Birbhum ..	.48	.09	— .39	— 81.3	.39	— .30	— 76.9
Jalpaiguri ..	.43	.04	— .39	— 90.7	.08	— .04	— 50.0
Mymensingh ..	.40	.46	+ .06	+ 15.0	.96	— .50	— 52.1
Nadia ..	.33	.24	— .09	— 27.3	.82	— .58	— 70.8
Tippera ..	.31	.68	+ .37	+ 119.3	.90	— .22	— 24.5
Faridpur ..	.28	1.59	+ 1.31	+ 467.8	.98	+ .61	+ 62.2
Rajshahi ..	.24	.30	+ .06	+ 25.0	.52	— .22	— 42.3
Noakhali ..	.22	.08	— .14	— 63.6	.26	— .18	— 69.2
Bankura ..	.20	.03	— .17	— 85.0	.15	— .12	— 80.0
Jessore ..	.16	.02	— .14	— 87.5	.14	— .12	— 85.7
Darjeeling ..	.11	.47	+ .36	+ 327.2	.06	+ .41	+ 683.3
Bakarganj ..	.06	.12	+ .06	+ 100.0	.06	+ .06	+ 100.0
Khulna ..	.05	.01	— .04	— 80.0	.05	— .04	— 80.0

Graph showing the Relative Intensity of Smallpox Mortality in each district of Bengal Presidency during the year 1929 and the average of the decade 1919-28.



(b) *The relative importance of smallpox as a cause of death.*—The virulence of the epidemic was greatest this year in Dacca and Faridpur where 1 in 13 and 1 in 17 of the total deaths, respectively, occurred from smallpox. Tippera and Chittagong, both Eastern Bengal districts, came next. The disease was mildest in Khulna and Jessore where it claimed as its victims only 1 in 1,666 and 1 in 2,000 of the total deaths, respectively. With the exception of Faridpur, Darjeeling and Bakarganj the proportion of smallpox mortality was reduced in all the other districts compared with the previous year. As against the previous decennium, most of the districts showed better results with the exception of 6 out of 7 Eastern Bengal districts and 2 others in Rajshahi Division.



Smallpox as a percentage of the total mortality. (d)

Districts.	Average, 1919-28.	1929.	Increase+ or decrease—.	1928.	Increase+ or decrease—.
Calcutta	4.25	1.19	—3.06	1.63	— .44
Bogra	4.04	.23	—3.81	8.00	—7.77
Howrah	3.58	.89	—2.69	1.34	— .45
Pabna	3.26	.44	—2.82	2.08	—1.64
Murshidabad	2.69	2.01	— .68	7.15	—5.14
Dacca	2.63	7.50	+4.87	9.09	—1.59
Dinajpur	2.37	1.69	— .68	2.79	—1.10
Malda	2.31	.65	—1.66	11.87	—11.22
Midnapur	2.27	.35	—1.92	5.75	—5.40
Rangpur	2.13	1.47	— .66	3.22	—1.75
24 Parganas	2.12	.83	—1.29	1.91	—1.08
Hooghly	1.99	1.42	— .57	2.71	—1.29
Chittagong	1.95	3.51	+1.56	8.53	—5.02
Mymensingh	1.78	2.69	+ .91	4.49	—1.80
Tippera	1.69	4.18	+2.49	5.31	—1.13
Burdwan	1.62	1.39	— .23	2.90	—1.51
Jalpaiguri	1.43	.16	—1.27	.30	— .14
Birbhum	1.36	.34	—1.02	1.32	— .98
Faridpur	1.09	6.00	+4.91	3.67	+2.33
Nadia	.96	.71	— .25	2.80	—2.09
Noakhali	.86	.40	— .46	1.03	— .63
Bankura	.69	.13	— .56	.64	— .51
Rajshahi	.67	.91	+ .24	1.56	— .65
Jessore	.54	.05	— .49	.48	— .43
Darjeeling	.31	1.51	+1.20	.18	+1.33
Bakarganj	.21	.59	+ .38	.23	+ .36
Khulna	.20	.06	— .14	2.08	—2.02

(c) Districts as smallpox centres.—71.0 per cent. of the total smallpox deaths in the province occurred in Eastern Bengal districts, Dacca claiming 25.4, Faridpur 17.5 and Mymensingh 10.9 per cent. The

decennial mean was exceeded in 8 districts and the previous year's proportion in 10. In all the other districts there was a proportionate reduction. From every point of view therefore the Eastern Bengal districts bore the brunt of the smallpox outbreak of 1929.

Percentages of Provincial Smallpox Mortality in each district.

Districts.	Average, 1919-28.	1929.	Increase + or decrease —.	1928.	Increase + or decrease —.
Mymensingh	8.6	10.9	+2.3	10.7	+0.2
Dacca	8.4	25.4	+17.0	15.9	+9.5
Midnapur	7.4	1.0	-6.4	8.4	-7.4
Rangpur	6.6	4.2	-2.4	5.2	-1.0
Calcutta	6.2	1.9	-4.3	1.3	+0.6
Dinajpur	6.2	4.0	-2.2	3.8	+0.2
24 Parganas	6.0	1.9	-4.1	2.4	-0.5
Pabna	5.5	0.8	-4.7	1.5	-0.7
Murshidabad	5.1	3.5	-1.6	6.1	-2.6
Bogra	4.8	0.2	-4.6	4.3	-4.1
Howrah	4.4	0.9	-3.5	0.8	+0.1
Tippera	3.8	9.1	+5.3	5.7	+3.4
Chittagong	3.7	6.1	+2.4	9.3	-3.2
Burdwan	3.2	2.4	-0.8	2.5	-0.1
Malda	2.8	0.9	-1.9	7.4	-6.5
Faridpur	2.8	17.5	+14.7	5.1	+12.4
Hooghly	2.7	1.5	-1.2	1.7	-0.2
Nadia	2.1	1.7	-0.4	2.8	-1.1
Birbhum	1.8	0.4	-1.4	0.8	-0.4
Jalpaiguri	1.7	0.2	-1.5	0.2	±0
Rajshahi	1.6	2.2	+0.6	1.8	+0.4
Noakhali	1.4	0.6	-0.8	0.9	-0.3
Jessore	1.2	0.1	-1.1	0.6	-0.5
Bankura	0.9	0.2	-0.7	0.3	-0.1
Bakarganj	0.7	1.5	+0.8	0.3	+1.2
Khulna	0.3	0.1	-0.2	0.2	-0.1
Darjeeling	0.1	0.6	+0.5	0.04	+0.56



41. Extent of Smallpox in districts as reported by the District Health Officers.—In *Burdwan* district, smallpox prevailed epidemically in almost all the thanas and was spread from village to village by contacts, although many cases were imported from fairs and festivals held outside the district. Prompt vaccination checked the progress of the epidemic. Muraroi, Rampurhat and Dubrajpur thanas in *Birbhum* district suffered most, while Suri town, Khoyrasole, Nanoor and Mayureswar thanas were free from the disease. In *Hooghly*, it was prevalent in Bhadreswar, Jangipur and Balagarh thanas from January to April. The disease was not epidemic in *Midnapur*.

In *Nadia*, it prevailed during the first half of the year. Fifty per cent. of the total deaths occurred in Karimpur police-station where 34 villages were affected. Besides other measures, Xylene treatment was administered to 240 patients of whom 200 were cured. Stray cases occurred in some thanas of Meherpur subdivision and parts of Kushtia; Sadar, Ranaghat and Chuadanga subdivisions were free. A female vaccinator worked permanently and gave entire satisfaction. In *Murshidabad* district, Bhagwangola recorded the highest number of

deaths (179), followed by Lalgola (99) and Murshidabad (65). Only Khargram thana was free. In *Khulna*, the largest epidemic prevailed at Dakshindihi and Baniapukur in Phultala thana where in spite of repeated attempts, revaccination could not be pushed vigorously owing to interference by two small-pox doctors. Only 16 villages reported deaths.

In *Rajshahi* district, smallpox was epidemic in police-stations Bagmara, Naogaon, Manda and Mahadebpur where it caused 133, 73, 68 and 44 deaths respectively due to the unwillingness of the people to get themselves and their children vaccinated. In *Pabna*, it prevailed to a much less extent than last year, occurred in an epidemic form for a short period only during April and May and affected mainly the thanas Serajganj, Kamarkhandi, Kazipur, Bera and Chauhali, where it was responsible for about 300 attacks and 80 deaths. In *Darjeeling*, most of the cases were imported from Nepal; temporary vaccinators were appointed to vaccinate and re-vaccinate people of affected localities and all the labour force of tea gardens. In *Malda* district, the intensive vaccination campaign, started in 1928, was carried on during the year with great success, with the result that only 185 deaths occurred in 1929 against 3,165 in 1928, 766 in 1927 and 555 in 1926. 1,068,951 persons have been protected during 1925-29. In *Dinajpur*, the mortality from smallpox has been increasing every year; it however came down very much in the year under review. In *Rangpur*, vaccination was performed in almost all the villages quite systematically and gang system of vaccination was introduced in many places. Death among infants and children from this cause was very much reduced as a result of intensive vaccination, so much so that there were only 15 deaths under one year, 24 between 1 to 5 and 19 between 5 to 10 years in 1929, against 153, 167 and 107 respectively in 1928 and 248, 395 and 268 in 1927.

In *Bakarganj* district, 98 cases were treated with Xylol, with the result that all but 7 were cured. Small-pox as an epidemic prevailed particularly at Mehendiganj, Gournadi and Barisal thana circles. Opposition to take vaccination was met with in various parts of Muladi, Hizla, Babuganj and Gournadi thanas.

A mild epidemic prevailed in January at police-station Raojan, Banskali, Satkania, Chakaria, Rangania, in *Chittagong* district and gradually spread to thanas Mirsarai, Anwara, Fatikchari, Cox's Bazar, Boalkhali and Mohishkhali. The epidemic continued up to May. The highest mortality occurred in April. Twenty-five vaccinators worked during the recess and 45 during season. In *Noakhali* district, the highest mortality (39) occurred in Feni.

42. Smallpox in towns and rural areas.—There were 1,003 small-pox deaths in towns and 19,404 in the rural areas in 1929 against 1,492 and 42,066 respectively, in 1928, the death-rates being .32 and .44 in the former and .48 and .97 in the latter year. The death-rate was thus reduced by 33.3 per cent. in towns and by 54.7 per cent. in rural areas. The rural rate exceeded that of the towns by 37.5 per cent. A little more than one-third of the total deaths in towns occurred in Calcutta alone which is not strange considering that the vast majority of persons coming to the city from other provinces are mostly unvaccinated. No death from smallpox was returned by 55 towns. Uttarpara in Hooghly district returned a rate of 3.0 per mille

and Muktagacha in Mymensingh district 2·4, 4 other towns registered rates between 1·0 and 2·0 per mille and the rest were below 1·0 per mille, Midnapur being at the foot of the list with a rate of ·03. In the rural areas, Dacca stood at the top with a rate of 1·7 and Faridpur 1·6 per mille. The lowest rate ·01 per mille each was returned by Jessore and Khulna.

Smallpox in towns and rural areas.

				1928.	1929.
Total number of deaths—					
Province	..	..	..	43,558	20,407
Towns	..	..	..	1,492	1,003
Calcutta	..	..	..	558	393
Rural areas	..	..	..	42,066	19,404
* Death-rate per mille of population—					
Province	..	..	..	·93	·44
Towns	..	..	..	·48	·32
Calcutta	..	..	..	·52	·36
Rural areas	..	..	..	·97	·44

From the following table showing the divisional distribution of smallpox deaths in towns it appears (1) that 62·1 per cent. of towns in Burdwan, 43·7 per cent. in Presidency, 53·3 per cent. in Rajshahi, 36·6 per cent. in Dacca and 66·6 per cent. in Chittagong were affected with smallpox, (2) that excluding Calcutta 38·0 per cent. of the total town smallpox deaths occurred in the Dacca Division, 26·6 in the Burdwan, 22·6 in the Presidency, 11·0 in the Rajshahi and 1·8 in the Chittagong Division and (3) that the average number of deaths per town was highest in the Dacca and lowest in the Chittagong Division.

Divisions.	Total number of towns.	Number of towns infected.	Number of deaths.	Percentage of deaths.	Average deaths per town.
Burdwan	29	18	162	26·6	9·0
Presidency	48	21*	138	22·6	6·6
Rajshahi	15	8	67	11·0	8·4
Dacca	30	11	232	38·0	21·1
Chittagong	6	4	11	1·8	2·7
Total	118	62	610	100	9·8

* Excluding Calcutta.

43. **Deaths from smallpox among infants below one year and children between one and 10 years of age.**—One thousand eight hundred and seventy-one infants under one year of age and 5,009 children between the ages of 1 and 10 succumbed to smallpox against 4,312 and 10,970, respectively, in the previous year. This represents a percentage of 9·1 and 24·5 of total deaths from smallpox against 9·9 and 25·2, respectively, among the two communities in 1928 and 6·9 and 18·9 in 1927. This obviously points to an extreme negligence in enforcing primary vaccination by the local authorities to which attention was drawn in my previous report.

Divisions.	Number of small-pox deaths.		Total number of smallpox deaths at all ages.
	Under 1 year.	Between 1 and 10 years.	
Burdwan	53	73	1,306
Presidency (including Calcutta)	158	371	1,908
Rajshahi	84	200	2,676
Dacca	1,305	3,644	11,298
Chittagong	271	721	3,219
Total	1,871	5,009	20,407

Among the delinquent districts may be mentioned Dacca, Bakarganj, Chittagong and Noakhali where this proportion exceeded the previous year's and Burdwan, Midnapur, Dinajpur and Faridpur among others, where though there has been a reduction, it is so insignificant as scarcely to deserve mention.

Statement showing percentages of smallpox deaths among infants and children between 1 and 10 years of age to total deaths from smallpox at all ages.

Districts.	Infants.		Children between 1 and 10 years of age.	
	1928.	1929.	1928.	1929.
Burdwan	8.6	8.5	14.6	5.7
Birbhum	9.4	..	16.3	..
Bankura	4.5	..	7.1	..
Midnapur	5.5	5.0	21.0	17.0
Hooghly	2.6	.3	14.9	3.5
Howrah	.8	..	2.3	..
24 Parganas	10.2	4.8	33.9	17.7
Calcutta	10.9	10.2	23.6	26.7
Nadia	17.1	..	28.8	.3
Murshidabad	19.6	13.9	35.6	27.4
Jessore	..	..	.4	..
Khulna	..	..	..	..
Rajshahi	.8	.9	3.5	.7
Dinajpur	7.6	6.5	29.1	15.9
Jalpaiguri	2.5	..	2.5	..
Darjeeling	..	..	..	..
Rangpur	6.6	1.8	12.4	5.8
Bogra	3.5	..	16.0	..
Pabna	5.4	3.1	24.8	5.0
Malda	7.1	3.8	13.1	5.4
Dacca	10.7	16.0	28.1	42.5
Mymensingh	14.7	9.4	33.6	22.2
Faridpur	9.0	6.1	26.7	25.9
Bakarganj	..	15.5	..	6.0
Chittagong	17.3	19.8	44.0	45.0
Noakhali	2.6	4.8	11.2	6.4
Tippera	4.3	1.0	18.4	8.3

44. **Anti-smallpox measures.**—Besides intensive campaigns of mass vaccination in practically every affected district which will be detailed subsequently in this report, ordinary measures of disinfection of infected houses, propaganda work by the Government and local health staff, active help and advice by the Bengal Public Health Department besides others were freely resorted to. The local Government helped the district boards with their usual contribution of Rs. 50,000 for free vaccination.

45. **Admission of smallpox patients to hospitals in Bengal.**—The following statement shows the number, the vaccinal condition, the type of the disease and the age distribution of smallpox patients admitted to the various medical institutions in Bengal during the year 1929 :—

Statement showing the vaccinal condition of smallpox patients treated at the various medical institutions during 1929.

Districts.	Total number of admissions from smallpox.	Number vaccinated as shown by presence of one or more vaccinated cicatrices.	Number stated to have been successfully vaccinated but bearing no vaccination cicatrices.	Number stated to be unvaccinated or vaccinated unsuccessfully bearing no vaccination mark.	Number previously unvaccinated but vaccinated during incubation of smallpox.	Number stated to have been successfully revaccinated.	Type of smallpox.					Vaccination according to age.				
							Modified.	Discrete.	Confluent.	Semi-confluent.	Hæmorrhagic.	Under 1 year.	1 year and under 10.	10 years and under 20.	20 years and under 30.	Upwards.
Burdwan ..	13	3	7	3	..	..	..	6	6	..	1	..	12	2	4	5
Birbhum ..	6	..	..	5	..	1	6	..	..	..	..	..	5	1	..	..
Bankura ..	2	..	..	2	..	..	1	..	1	..	..	..	..	..	2	..
Midnapur ..	1	..	..	1	..	..	..	..	1	..	..	..	..	..	1	..
Hooghly ..	1	..	..	..	..	..	..	..	..	..	1	..	..	..	..	1
Howrah ..	9	..	6	3	..	..	..	1	8	..	..	..	..	1	4	4
24-Paraganas ..	34	7	8	19	..	..	17	5	8	4	..	..	14	10	8	2
Calcutta ..	124	61	10	53	..	..	12	21	62	21	8	1	10	25	53	35
(Campbell Hospital).																
Nadia ..	Nil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Murshidabad ..	3	3	..	..	..	..	..	2	1	..	..	..	..	..	3	..
Jessore ..	Nil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Khulna ..	5	3	1	1	..	..	4	..	1	..	..	..	..	..	4	1
Rajshahi ..	1	1	..	..	..	..	1	..	..	..	..	..	..	..	..	1
Dinaipur ..	16	..	15	1	..	..	15	..	..	..	1	..	..	1	15	..
Jalpaiguri ..	2	1	1	..	..	..	..	2	..	..	..	..	..	1	1	..
Darjeeling ..	Nil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Rangpur ..	Nil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Bogra ..	Nil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Pabna ..	Nil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Malda ..	Nil	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Dacca ..	13	6	2	4	..	1	3	1	6	..	3	..	..	1	9	3
Mymensingh ..	32	8	1	22	..	..	9	6	8	1	8	..	..	2	27	3
Faridpur ..	6	6	..	..	..	..	2	3	1	..	..	..	..	..	4	2
Bakarganj ..	1	..	..	1	..	..	..	..	1	..	..	..	..	1	..	..
Chittagong ..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Noakhali ..	1	..	..	1	..	..	..	1	..	..	..	..	..	..	1	..
Tippera ..	4	4	..	..	..	..	2	2	..	..	..	..	..	1	2	1
Total ..	274	103	51	116	..	2	72	50	104	26	22	1	31	46	138	58

Fevers.

46. **General Prevalence.**—Fevers were responsible for 713,531 deaths in 1929 against 752,003 in 1928, showing a reduction of 38,472 in the total number. The death-rate from this cause was 15·3 per mille

against 16.1 in the previous year—a falling off by about 5 per cent. Again the decrease was 14.0 per cent. against the quinquennial and 24.3 per cent. against the decennial rate. Malaria and other fevers decreased while there was an increase in the number of deaths from measles, enteric, relapsing fever and kala-azar. Fevers accounted for 65.2 per cent. of the total deaths from all causes.

Analysis of Fever Deaths in 1928 and 1929.

Causes.	Number.		Per-centage of in-crease + or de-crease—	Percentage of total fever mor-tality.		Death rates per mille.	
	1928.	1929.		1928.	1929.	1928.	1929.
Malaria fever ..	368,691	335,414	—9.0	49.0	47.0	7.9	7.2
Enteric fever ..	9,297	10,487	+12.8	1.2	1.5	0.20	0.22
Relapsing fever ..	3,859	3,955	+2.5	0.5	0.6	0.08	0.08
Measles ..	1,884	2,582	+37.0	0.2	0.4	0.04	0.06
Kala-azar ..	10,746	10,820	+0.7	1.4	1.5	0.23	0.23
Other fevers ..	357,526	350,273	—2.1	47.5	49.0	7.7	7.5

From the following table giving the number of fever deaths since 1911, it appears that the death-rate from fevers in 1929 has been the lowest on record within the last 19 years and that it has been less by about 50 per cent. than that in 1918—the worst year during this whole period:—

Fever deaths and death-rates.

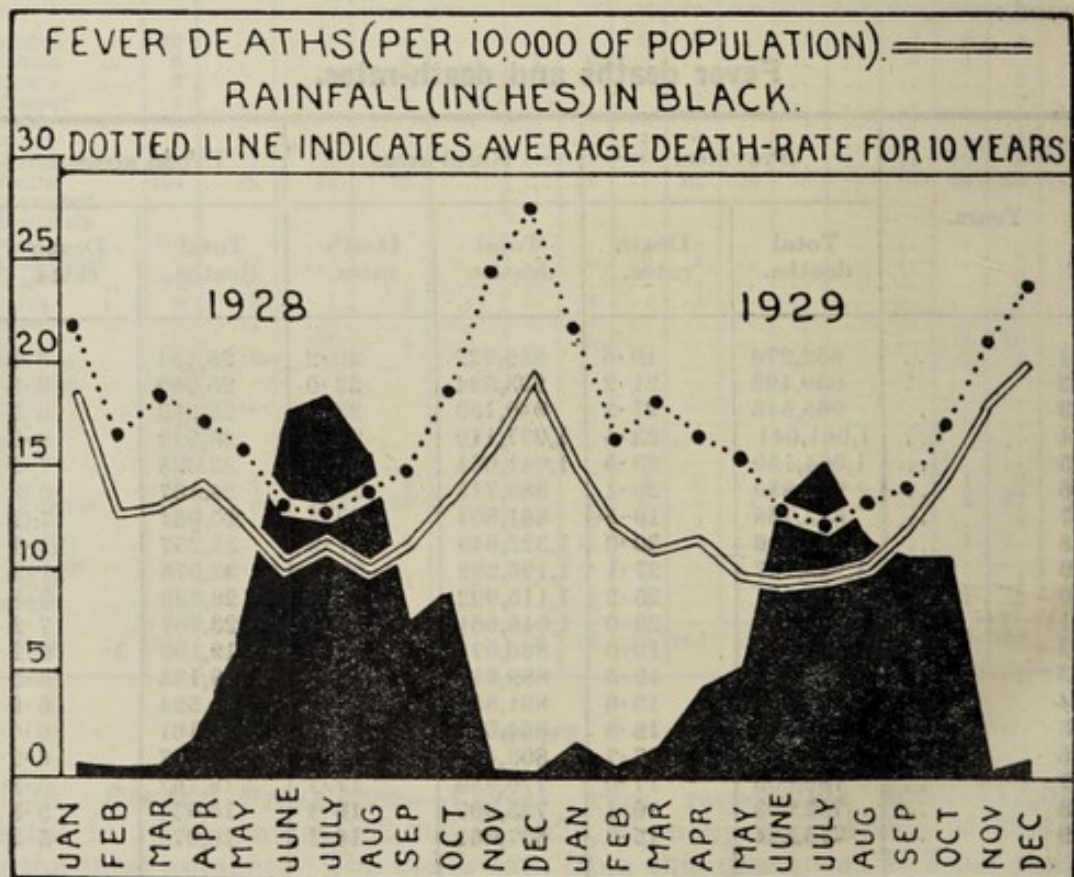
Years.	Province.		Rural areas.		Urban areas.	
	Total deaths.	Death rates.	Total deaths.	Death rates.	Total deaths.	Death rates.
1911 ..	882,276	19.5	856,722	20.2	25,554	8.8
1912 ..	959,193	21.2	933,524	22.0	25,669	8.8
1913 ..	965,546	21.3	940,153	22.2	25,393	8.7
1914 ..	1,061,041	23.4	1,037,119	24.4	23,922	8.2
1915 ..	1,064,159	23.5	1,041,064	24.5	23,095	7.9
1916 ..	909,880	20.1	889,713	21.0	20,167	6.9
1917 ..	882,768	19.5	861,804	20.3	20,964	7.2
1918 ..	1,357,906	30.0	1,322,649	31.2	35,257	12.1
1919 ..	1,229,257	27.1	1,196,282	28.2	32,975	11.3
1920 ..	1,144,421	25.2	1,115,992	26.3	28,429	9.8
1921 ..	1,070,368	23.0	1,046,661	24.1	23,707	7.8
1922 ..	885,268	19.0	866,078	19.9	19,190	6.2
1923 ..	909,795	19.5	889,612	20.5	20,183	6.5
1924 ..	912,408	19.6	891,884	20.5	20,524	6.6
1925 ..	874,228	18.8	854,067	19.7	20,161	6.5
1926 ..	822,774	17.7	803,447	18.5	19,327	6.2
1927 ..	789,006	17.0	770,839	17.7	18,167	5.8
1928 ..	752,003	16.1	735,369	16.9	16,634	5.3
1929 ..	713,531	15.3	697,461	16.1	16,070	5.2

47. **Seasonal Fever Mortality.**—As usual the highest number of deaths occurred in November, December and January, and the lowest from May to August. There was a decrease in the first seven months of the year and an increase in the remaining months when compared with the previous year. As against the decennial mean, there was a reduction all the year round.

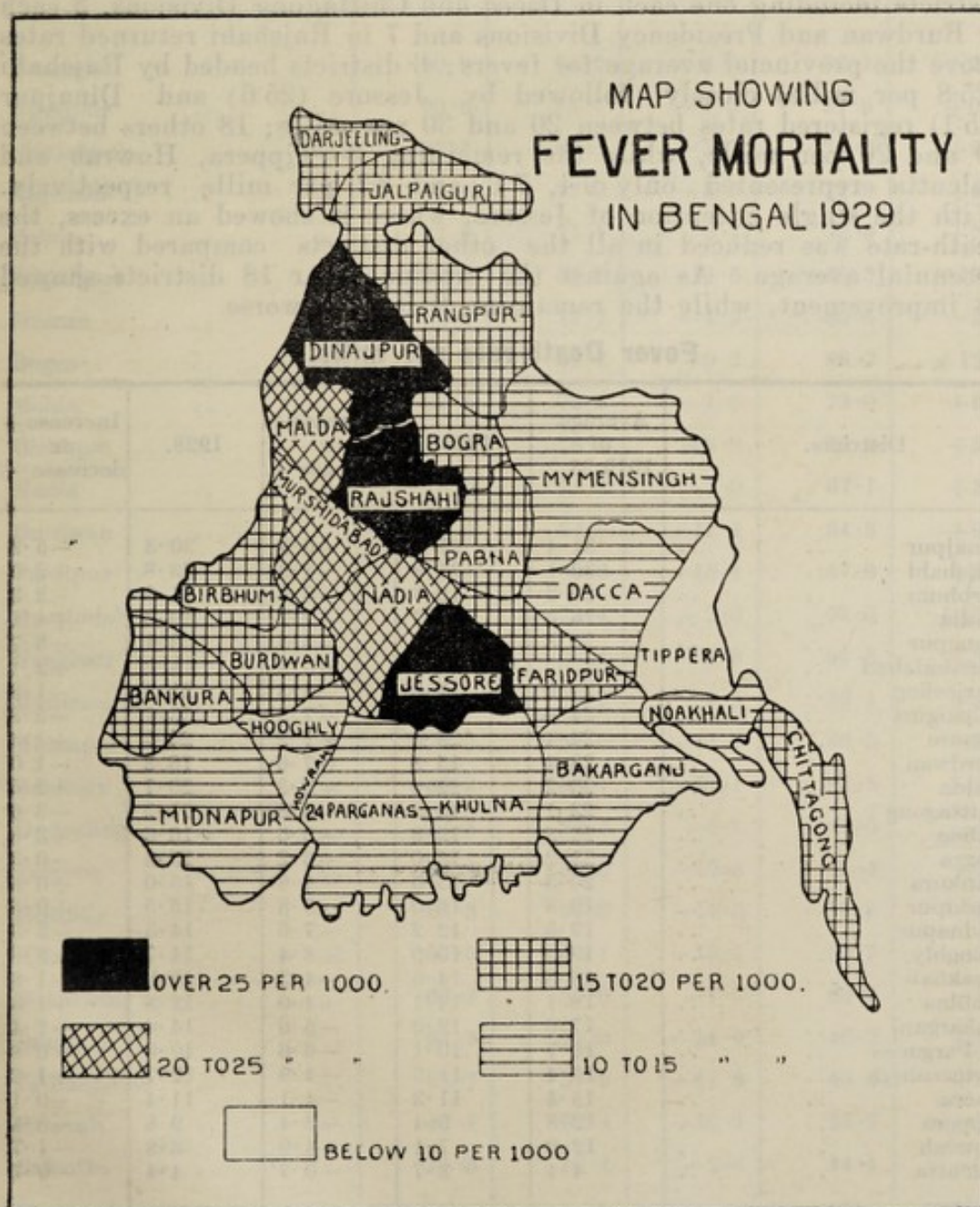
Fever Deaths.

Months.	Average, 1919-28.	1928.	1929.	Percent- age of difference between 1928 and 1929.
January	100,610	86,136	70,019	-18.7
February	75,639	59,121	55,476	-6.2
March	84,442	60,301	51,348	-14.9
April	76,796	65,486	53,965	-17.6
May	71,791	56,950	44,871	-21.2
June	59,051	48,189	44,212	-8.3
July	56,327	52,089	45,757	-12.2
August	61,862	47,527	47,878	+0.7
September	65,380	51,433	55,026	+7.0
October	79,260	62,456	67,813	+8.6
November	97,985	73,189	83,960	+14.7
December	109,810	89,126	93,206	+4.6

The following graph shows the relation between fevers and the rainfall:—



48. **Fever Mortality by Divisions.**—Fever was more prevalent in Rajshahi and least so in the Eastern Bengal divisions of Dacca and Chittagong. While the death-rate in every division was less than the decennial average, it exceeded the previous year's rate in Presidency Division alone. Every 8 out of 10 deaths in Rajshahi, 7 out of 10 in Chittagong and 6 out of 10 in Dacca, Presidency and Burdwan Divisions each were due to fevers. This proportion appears to have increased in all the divisions but Burdwan where it has been reduced against the previous year; compared with the average of the previous 10 years it was reduced in all the divisions, considerably so in Burdwan and Dacca Divisions. Again about one-third of the total fever deaths occurred in Rajshahi, one-fifth each in Presidency and Dacca Divisions, one-seventh in Burdwan and one-tenth in Chittagong.



Divisions.	Fever death-rate per mille.			Proportion of total deaths due to fever (per cent).			Percentage of provincial fever mortality.		
	Average 10 years.	1928.	1929.	Average 10 years.	1928.	1929.	Average 10 years.	1928.	1929.
Burdwan ..	20.4	15.1	13.3	69.2	59.3	57.7	17.5	16.1	15.0
Presidency ..	19.7	15.2	16.3	66.1	56.6	59.2	19.8	19.1	21.6
Rajshahi ..	26.1	22.3	21.0	85.4	78.0	79.7	28.7	30.7	30.5
Dacca ..	17.0	13.2	12.3	70.1	56.0	59.8	23.2	22.6	22.2
Chittagong ..	17.2	14.8	13.2	76.2	65.7	69.1	10.6	11.4	10.7

49. **Fever Death-rate by Districts.**—(a) *Crude death-rate.*—15 districts including one each in Dacca and Chittagong Divisions, 3 each in Burdwan and Presidency Divisions and 7 in Rajshahi returned rates above the provincial average for fevers: 6 districts headed by Rajshahi (25.8 per mille) closely followed by Jessore (25.6) and Dinajpur (25.1) registered rates between 20 and 30 per mille; 18 others between 10 and 20 per mille, while the remaining 3—Tippera, Howrah and Calcutta represented only 9.4, 7.1 and 3.7 per mille respectively. With the single exception of Jessore, where it showed an excess, the death-rate was reduced in all the other districts compared with the decennial average. As against the previous year 18 districts showed an improvement, while the remaining 9 became worse.

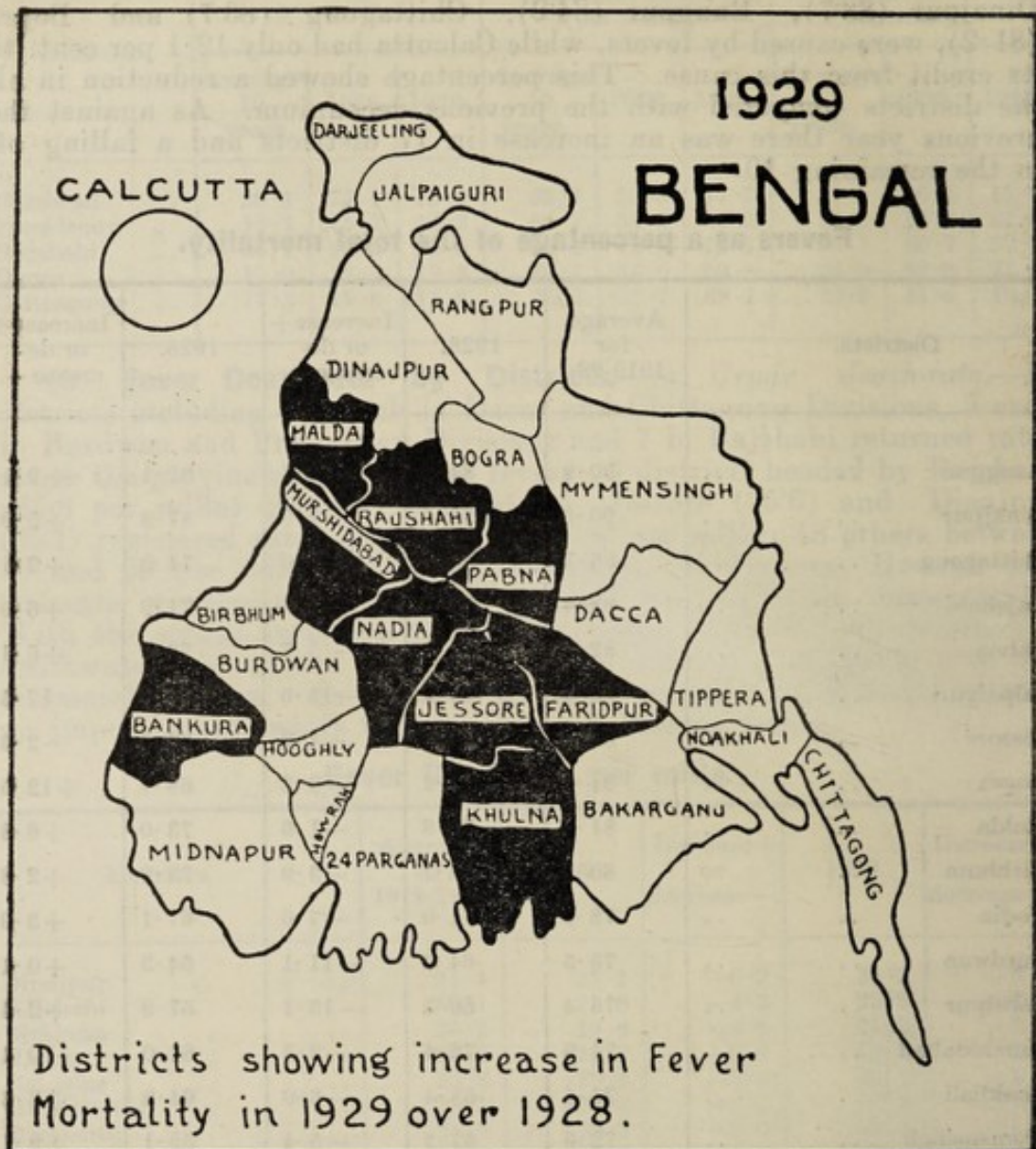
Fever Death-rate per mille.

Districts.	Average of 1919-28.	1929.	Increase + or decrease —.	1928.	Increase + or decrease —.
Dinajpur ..	31.4	25.1	—6.3	30.3	—5.2
Rajshahi ..	30.1	25.8	—4.3	23.8	+2.0
Birbhum ..	28.2	19.6	—8.6	21.9	—2.3
Nadia ..	26.6	23.7	—2.9	19.6	+4.1
Rangpur ..	25.8	19.4	—6.4	23.1	—3.7
Murshidabad ..	25.7	20.3	—5.4	18.2	+2.1
Darjeeling ..	24.6	19.3	—5.3	21.1	—1.8
Jalpaiguri ..	24.6	17.3	—7.3	23.1	—5.8
Jessore ..	24.4	25.6	+1.2	24.2	+1.4
Burdwan ..	23.4	15.8	—7.6	16.8	—1.0
Malda ..	23.2	22.9	—0.3	20.1	+2.8
Chittagong ..	23.1	18.3	—4.8	21.9	—3.6
Pabna ..	22.8	19.8	—3.0	16.0	+3.8
Bogra ..	21.2	15.0	—6.2	15.3	—0.3
Bankura ..	20.3	15.5	—4.8	15.0	+0.5
Faridpur ..	19.8	16.0	—3.8	15.5	+0.5
Midnapur ..	19.8	12.2	—7.6	14.5	—2.3
Hooghly ..	19.3	10.9	—8.4	14.7	—3.8
Noakhali ..	18.8	14.5	—4.3	16.3	—1.8
Khulna ..	18.1	14.1	—4.0	12.8	+1.3
Bakarganj ..	17.6	12.0	—5.6	14.4	—2.4
24 Parganas ..	16.7	10.1	—6.6	10.9	—0.8
Mymensingh ..	16.4	11.5	—4.9	12.7	—1.2
Dacca ..	15.4	11.3	—4.1	11.4	—0.1
Tippera ..	12.8	9.4	—3.4	9.8	—0.4
Howrah ..	12.0	7.1	—4.9	8.8	—1.7
Calcutta ..	4.4	3.7	—0.7	4.4	—0.7

(b) *Relative importance of fever as a cause of death.*—Between 80 and 90 per cent. of the total deaths in each of the four districts—Dinajpur (88·7), Rangpur (84·2), Chittagong (83·7) and Bogra (81·2), were caused by fevers, while Calcutta had only 12·1 per cent. to its credit from this cause. This percentage showed a reduction in all the districts compared with the previous decennium. As against the previous year there was an increase in 17 districts and a falling off in the remaining 10.

Fevers as a percentage of the total mortality.

Districts.	Average for 1919-28.	1929.	Increase + or de- crease —.	1928.	Increase + or de- crease —.
Rangpur	90·9	84·2	—6·7	82·1	+2·1
Dinajpur	90·6	88·7	—1·9	87·8	+0·9
Chittagong	86·7	83·7	—3·0	74·6	+9·1
Rajshahi	83·4	77·9	—5·5	71·9	+6·0
Pabna	82·8	77·1	—5·7	72·0	+5·1
Jalpaiguri	82·4	63·8	—18·6	81·3	—17·5
Jessore	82·0	77·7	—4·3	80·6	—2·9
Bogra	81·4	81·2	—0·2	68·7	+12·5
Malda	81·4	79·8	—1·6	73·0	+6·8
Birbhum	80·6	76·7	—3·9	73·9	+2·8
Nadia	78·0	71·0	—7·0	67·1	+3·9
Burdwan	75·5	64·4	—11·1	64·3	+0·1
Faridpur	75·4	60·3	—15·1	57·9	+2·4
Murshidabad	74·9	72·4	—2·5	62·0	+10·4
Noakhali	74·4	68·4	—6·0	64·8	+3·6
Mymensingh	72·6	67·2	—5·4	59·1	+8·1
Midnapur	71·0	57·0	—14·0	60·5	—3·5
Bankura	69·2	58·1	—11·1	63·8	—5·7
Darjeeling	68·8	62·4	—6·4	67·0	—4·6
Tippera	68·8	58·0	—10·8	57·4	+0·6
Hooghly	68·3	54·0	—14·3	56·8	—2·8
Khulna	67·5	54·1	—13·4	56·7	—2·6
Bakarganj	66·3	59·0	—7·3	60·2	—1·2
Dacca	65·9	51·0	—14·9	46·7	+4·3
24 Parganas	63·7	51·9	—11·8	48·4	+3·5
Howrah	43·1	32·4	—10·7	33·7	—1·3
Calcutta	14·5	12·1	—2·4	14·1	—2·0



(c) *Districts as fever centres.*—Four districts alone—Mymensingh, Rangpur, Dinajpur and Jessore among themselves were responsible for more than a quarter of the total deaths due to fevers. Darjeeling and Calcutta on the other hand accounted for '8 and '6 per cent., respectively, of the total fever deaths. Compared with the decennial average and the previous year's percentage 9 districts recorded a distinct improvement and 8 a retrogression in this respect, the remaining 10 showing varying proportions during these periods.

Percentages of Provincial Fever Mortality occurring in each district.

Districts.	Average, 1919-28.	1929.	Increase + or de- crease -.	1928.	Increase + or de- crease -.	Percent- age of total reported malaria deaths, 1929.
Mymensingh ..	8.5	7.8	- .7	8.2	- .4	1.6
Rangpur ..	6.9	6.8	- .1	7.7	- .9	6.7
Dinajpur ..	5.7	6.0	+ .3	6.9	- .9	9.4
Midnapur ..	5.6	4.6	-1.0	5.1	- .5	4.6
Dacca ..	5.1	4.9	- .2	4.7	+ .2	2.2
Bakarganj ..	4.9	4.4	- .5	5.0	- .6	.1
Rajshahi ..	4.8	5.4	+ .6	4.7	+ .7	9.9
Faridpur ..	4.7	5.0	+ .3	4.6	+ .4	5.1
Jessore ..	4.5	6.2	+1.7	5.5	+ .7	11.1
24 Parganas ..	4.4	3.5	- .9	3.6	- .1	1.8
Nadia ..	4.2	4.9	+ .7	3.9	+1.0	8.3
Chittagong ..	4.0	4.1	+ .1	4.7	- .6	.1
Tippera ..	3.7	3.6	- .1	3.6	±0	1.0
Burdwan ..	3.6	3.2	- .4	3.2	±0	2.8
Murshidabad ..	3.4	3.6	+ .2	3.0	+ .6	5.8
Pabna ..	3.4	3.9	+ .5	2.9	+1.0	5.8
Noakhali ..	2.9	3.0	+ .1	3.2	- .2	.1
Birbhum ..	2.5	2.3	- .2	2.5	- .2	1.6
Khulna ..	2.8	2.9	+ .1	2.5	+ .4	3.7
Jalpaiguri ..	2.4	2.3	- .1	2.9	- .6	3.6
Malda ..	2.4	3.2	+ .8	2.6	+ .6	5.9
Bogra ..	2.4	2.2	- .2	2.1	+ .1	2.7
Huoghly ..	2.2	1.6	- .6	2.1	- .5	1.9
Bankura ..	2.2	2.2	±0	2.0	+ .2	2.4
Howrah ..	1.3	1.0	- .3	1.2	- .2	.6
Darjeeling ..	.7	.8	+ .1	.8	±0	.7
Calcutta ..	.5	.6	+ .1	.6	±0	.3

50. **Fever Mortality in towns and rural areas.**—16,070 deaths in towns and 697,461 in rural areas were due to fevers against 16,634 and 735,369 in 1928, with death-rates of 5.2 and 16.1 against 5.3 and 16.9, respectively, in the previous year. There was thus a reduction in the death-rates of 1.9 per cent. in the former and 4.7 per cent. in the latter. 21.9 per cent. of the total deaths in towns and 68.3 per cent. in rural areas were accounted for by fevers against 22.1 and 66.0, respectively, in the previous year. 2.3 per cent. of the total provincial fever mortality occurred in towns and the remaining 97.7 per cent. in rural areas. 16 towns returned fever death-rates of 10.0 per mille and above, Kurseong heading the list with 18.9 per mille. Champdani, Muktagacha and Barrackpur each with a rate of 1.6 and Comilla and Panihati with that of 1.5 each stood at the foot. All the rest had rates intervening between these two extremes.

						Municipal area.	Rural area.
Fever deaths per mille—							
1928	..	..	..	..	..	5.3	16.9
1929	..	..	..	..	..	5.2	16.1
Proportion of total deaths due to fever (per cent.)—							
1928	..	..	..	..	..	22.1	66.0
1929	..	..	..	..	..	21.9	68.3
Percentage of provincial fever mortality—							
1928	..	..	..	..	..	2.2	97.8
1929	..	..	..	..	..	2.3	97.7

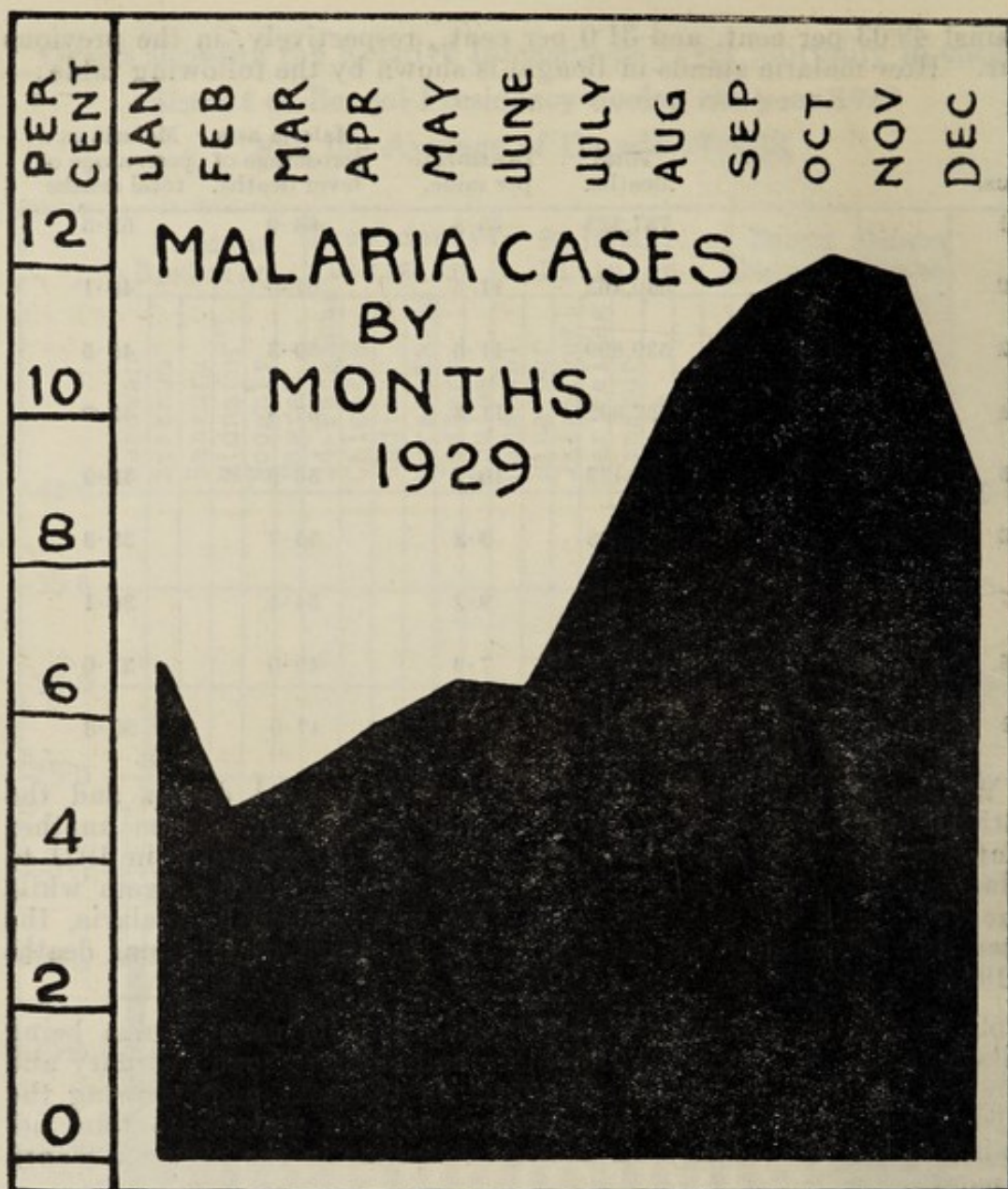
against 49·03 per cent. and 31·0 per cent., respectively, in the previous year. How malaria stands in Bengal is shown by the following table:—

Years.		Total deaths.	Death-rate per mille.	Malaria as a percentage of fever deaths.	Malaria as a percentage of total deaths
1921	.. ..	737,223	15·8	68·9	52·5
1922	.. ..	540,463	11·6	61·0	46·1
1923	.. ..	539,899	11·6	59·3	45·5
1924	.. ..	527,902	11·3	57·8	43·9
1925	.. ..	497,473	10·7	56·9	42·9
1926	.. ..	458,208	9·8	55·7	39·8
1927	.. ..	429,143	9·2	54·4	36·1
1928	.. ..	368,691	7·9	49·0	31·0
1929	.. ..	335,414	7·2	47·0	30·6

Within the last nine years, the number of total deaths and the death-rates from malaria have been reduced by half. From another point of view while 68·9 per cent. of fever deaths were due in 1921 to malaria, in 1929 this proportion was only 47·0 per cent. Again while more than half the total deaths in 1921 were caused by malaria, the latter was responsible for even less than one-third of the total deaths in 1929.

52. **Seasonal incidence.**—Malaria followed its usual course being at its height from August to December and ebbing about February and March, as is obvious from the diagram on the next page showing the proportional percentage of new admissions from malaria to total admission to the various dispensaries and hospitals in the province month by month.

53. **Malaria by divisions.**—Malaria, as in recent years, returned the highest death-rates from Rajshahi and Presidency Divisions, a lower rate from Burdwan and comparatively insignificant figures from the other two divisions. The rate increased slightly in the Presidency and Dacca Divisions and fell in others during the year under review as compared with the previous year. Nearly 70 per cent. of the total fever deaths in the Presidency and Rajshahi Divisions respectively and nearly 44 per cent. in the Burdwan Division were ascribed to malaria, while only 19 and 5 per cent. of the fever deaths in the Eastern Bengal Divisions of Dacca and Chittagong were reported as due to this cause; and while about 45 per cent. of the provincial total deaths from malaria occurred in the Rajshahi Division, only 10 per cent. of these deaths were registered in the two latter divisions. Thus so far as the crude death-rates go, an area embracing Central Bengal from north to south now appears to be badly affected with malaria, while the whole of East Bengal is much less affected and Western Bengal holds an intermediate position.



Divisions.	Malaria deaths per mille of population.		Proportion of fever deaths due to malaria (per cent.).		Percentages of provincial malaria mortality.	
	1928.	1929.	1928.	1929.	1928.	1929.
Burdwan ..	6.8	5.8	45.2	43.8	14.9	13.9
Presidency ..	10.5	11.0	69.2	67.4	27.0	31.0
Rajshahi ..	17.8	14.5	79.7	69.2	49.9	44.9
Dacca ..	1.9	2.3	14.7	19.0	6.7	9.0
Chittagong ..	.9	.7	6.3	5.0	1.5	1.2

But crude death-rates tend to be misleading owing to the ignorance of the village chaukidars in the more backward districts who persist in reporting almost all fever deaths as due to malaria. When we come to examine the fever indices of the several divisions which relate to the proportion of fever patients among the cases admitted for treatment at dispensaries and which are based upon the diagnosis of qualified medical men, different results are apparent.

54. **Fever indices by divisions.**—Fever indices show that the Burdwan Division is still the most malarious area in Bengal with the Rajshahi Division a close second and the Presidency Division third, while Dacca and Chittagong Divisions are only slightly malarious.

Fever indices in divisions.

Divisions.	1920.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
Burdwan ..	48·2	48·5	48·1	47·3	40·6	44·1	43·4	45·1	44·2	41·7
Presidency ..	45·9	44·7	41·8	29·2	27·4	31·8	29·6	27·9	24·8	28·6
Rajshahi ..	34·6	36·8	33·0	37·1	32·9	38·2	33·4	32·8	31·8	37·3
Dacca ..	17·5	19·4	16·8	17·4	16·3	15·7	12·9	11·9	12·1	11·6
Chittagong ..	13·1	14·9	14·3	16·3	13·2	11·6	11·2	9·7	10·8	11·0
Total for the Province ..	34·8	35·4	33·1	28·7	26·0	29·2	26·7	25·2	24·5	26·3

Since 1920 the aggregate fever index of the province has fallen by nearly 27 per cent. There has been a general though unequal decline in every division during this period as follows:—

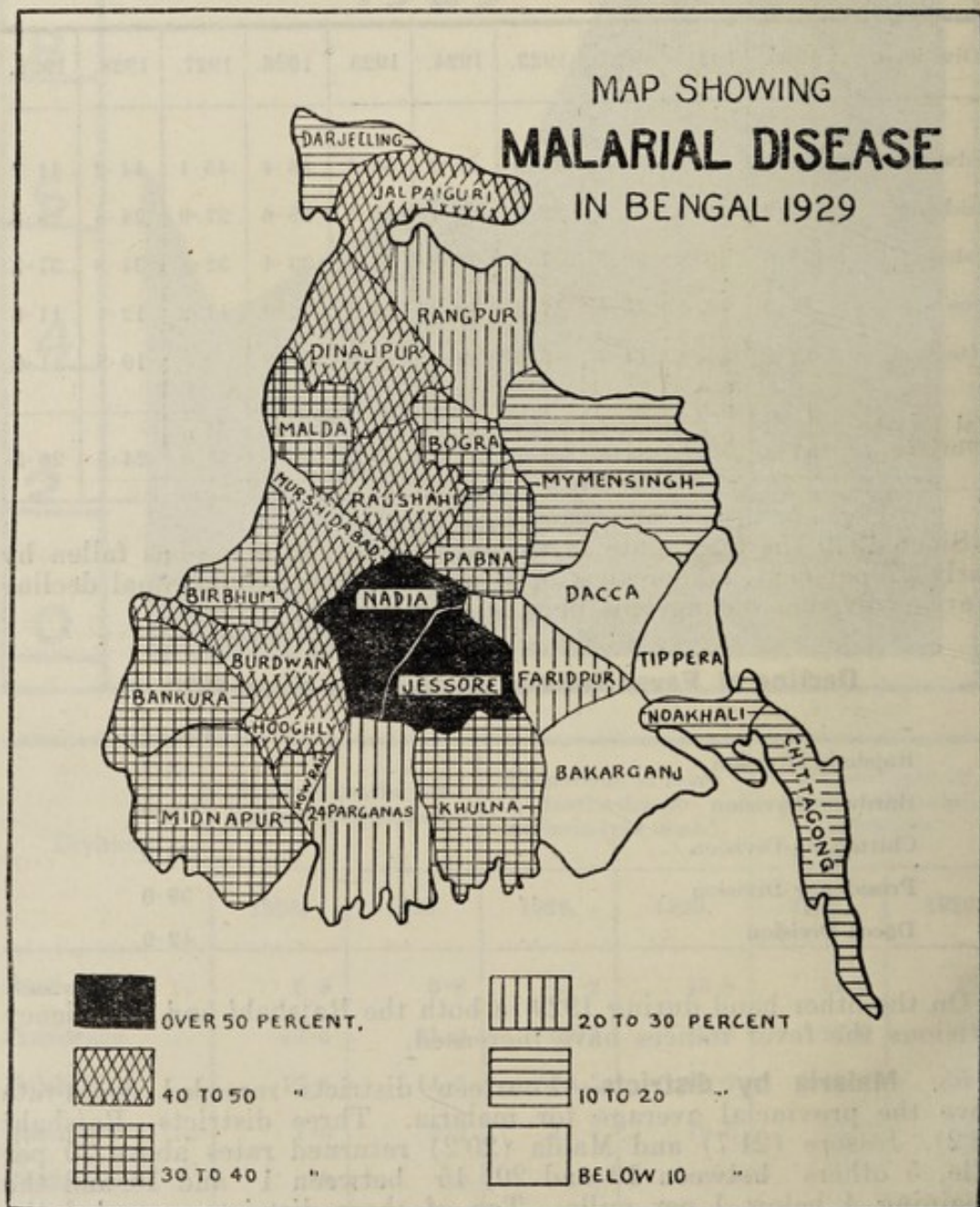
Decline of Fever Indices of divisions since 1920.

	Per cent.
Rajshahi Division	2·7
Burdwan Division	11·0
Chittagong Division	36·0
Presidency Division	39·0
Dacca Division	42·0

On the other hand during 1929 in both the Rajshahi and Presidency Divisions the fever indices have increased.

55. **Malaria by districts.**—Fourteen districts recorded death-rate above the provincial average for malaria. Three districts—Rajshahi (22·2), Jessore (21·7) and Malda (20·2) returned rates above 20 per mille, 5 others between 10 and 20, 15 between 1 and 10 and the remaining 4 below 1 per mille. Ten of these districts exceeded the

previous year's rate. Taking fever indices as a more trustworthy guide to malaria incidence it will be observed that Nadia with an index of 55.0, Hooghly with 54.5 and Jessore with 50.5 were the worst districts; in 8 the fever index stood between 40 and 50, in 7 between 30 and 40, in one between 20 and 30, in 4 between 10 and 20 and in the remaining 4 below 10. They showed an excess over the previous year in 19 out of 27 districts. Comparing the crude death-rates with fever indices, it appears that both were increased in 1929 as against the previous year in 7 and reduced in 5 districts; in 11 while the crude death-rates pointed to a reduction, the fever indices rose, the reverse being the case in 3.



Death-rates from Malaria per mille.

Districts.	1928.	1929.	Increase + or decrease —	Fever indices.		Increase + or decrease —
				1928.	1929.	
Dinajpur ..	25·8	18·6	—7·2	38·1	40·6	+
Rajshahi ..	23·0	22·2	—0·8	25·8	43·4	+
Jalpaiguri ..	22·4	12·9	—9·5	46·2	42·1	—
Jessore ..	21·2	21·7	+0·5	44·3	50·5	+
Malda ..	19·8	20·2	+0·4	28·3	40·0	+
Murshidabad ..	16·1	15·4	—0·7	38·5	45·2	+
Nadia ..	15·8	18·7	+2·9	43·5	55·0	+
Rangpur ..	13·9	9·0	—4·9	30·0	31·2	+
Pabna ..	13·5	14·1	+0·6	31·7	41·3	+
Darjeeling ..	9·7	8·5	—1·2	17·1	17·9	+
Hooghly ..	9·3	5·8	—3·5	53·7	54·5	+
Bogra ..	8·8	8·8	±0	37·9	38·3	+
Burdwan ..	8·2	6·5	—1·7	51·0	47·1	—
Khulna ..	7·7	8·5	+0·8	23·2	31·5	+
Faridpur ..	7·1	7·5	+0·4	23·9	23·8	—
Bankura ..	7·1	8·0	+0·9	39·4	41·6	+
Midnapur ..	6·5	5·7	—0·8	37·9	34·7	—
Birbhum ..	6·0	6·4	+0·4	39·9	37·9	—
Howrah ..	3·2	2·1	—1·1	36·1	32·6	—
24 Parganas ..	2·7	2·5	—0·2	28·3	30·3	+
Tippera ..	1·6	1·2	—0·4	7·1	7·2	+
Dacca ..	1·6	2·3	+0·7	8·1	8·3	+
Calcutta ..	1·2	0·9	—0·3	8·5	8·0	—
Mymensingh ..	0·6	1·1	+0·5	12·6	11·8	—
Chittagong ..	0·4	0·2	—0·2	16·5	16·7	+
Noakhali ..	0·3	0·1	—0·2	12·5	12·6	+
Bakarganj ..	0·3	0·2	—0·1	9·5	9·6	+

56. **Malaria in towns and rural areas.**—During 1929, towns registered 3,740 deaths and a death-rate of 1·2 from malaria and the rural areas 331,674 and 7·6 against 4,267, 1·4 and 364,424, 8·4, respectively, in the previous year, showing a reduction of 14·3 per cent. in the towns and of 9·5 per cent. in rural areas. The rural rate was a little more than six times as high as that in the towns. Twenty towns did not register any death from malaria, five towns returned rates between 10 and 20 per mille, Chakdaha and Kumarkhali, both in Nadia district (15·7 each), Dhulian in Murshidabad (14·3) and Maheshpur and Kotchandpur, both in Jessore district (12·5 and 10·6 respectively); 39 between 1 and 10 per mille and the rest below 1 per mille, of which Asansol, Mymensingh and Brahmanbaria registered ·04 each and Narayanganj ·03 per mille. In rural areas, Rajshahi with a rate of 22·6, Jessore 21·8 and Malda 20·8 headed the list, while Bakarganj and Chittagong returned rates of ·2 per mille each and Noakhali ·1.

57. **Quinine Consumption.**—8,994·9 lbs. of quinine were consumed in Bengal in 1929 against 6,741·3 lbs. in 1928 showing an increase of 33·4 per cent. This increase was proportionately shared by all divisions; it was highest in Presidency and nominal in Burdwan and Chittagong.

Total quantity of quinine consumed by Divisions.

Divisions.	Total quantities in lbs.		Increase + or decrease —.
	1928.	1929.	
Burdwan	786.6	849.3	+ 62.7
Presidency	1,289.9	2,323.2	+ 1,033.3
Rajshahi	1,112.5	1,850.6	+ 738.1
Dacca	1,949.0	2,289.7	+ 340.7
Chittagong	1,603.3	1,682.1	+ 78.8
Total	6,741.3	8,994.9	+ 2,253.6

With the exception of Birbhum, Midnapur, Howrah, Bakarganj and Darjeeling there was an increased consumption in every district, especially Malda, Murshidabad, Pabna, Nadia and Khulna, where the increase amounted to 216.9, 148.8, 125.3, 121.6 and 102.2 per cent. compared with the previous year. Of the five districts that reduced their consumption fever indices were slightly higher than the previous year in Darjeeling alone, in others they were reduced.

Quinine Statement, 1929.

Districts.	Total quinine consumed in lbs.		In-crease + or de-crease — per cent.	Grains of quinine consumed per head of the population.		In-crease or de-crease in grain per head.	Fever Indices.		In-crease + or de-crease —.
	1928.	1929.		1928.	1929.		1928.	1929.	
Mymensingh	841.7	896.0	+ 6.5	1.2	1.3	+ 0.1	12.6	11.8	— 0.8
Jessore ..	506.2	832.0	+ 64.4	2.0	3.4	+ 1.4	44.3	51.2	+ 6.9
Chittagong	729.7	748.5	+ 2.6	3.2	3.3	+ 0.1	16.5	16.9	+ 0.4
Pabna ..	280.5	632.0	+ 125.3	1.4	3.2	+ 1.8	31.7	38.9	+ 7.2
Tippera ..	589.1	606.8	+ 3.0	1.5	1.5	± 0	7.1	7.3	+ 0.2
Faridpur ..	433.7	600.0	+ 38.3	1.3	1.9	+ 0.6	23.9	24.8	+ 0.9
Nadia ..	262.2	581.1	+ 121.6	1.2	2.7	+ 1.5	43.5	54.7	+ 11.2
Dacca ..	349.1	544.0	+ 55.8	0.8	1.2	+ 0.4	8.1	8.5	+ 0.4
Khulna ..	171.4	346.8	+ 102.2	0.8	1.7	+ 0.9	23.2	31.3	+ 8.0
Noakhali ..	284.5	326.8	+ 14.9	1.3	1.6	+ 0.3	12.5	11.6	— 0.9
Rajshahi ..	195.4	296.5	+ 51.7	0.9	1.4	+ 0.5	25.8	46.3	+ 20.5
Murshidabad	106.8	265.7	+ 148.8	0.6	1.5	+ 0.9	38.5	43.7	+ 5.2
Rangpur ..	208.8	265.7	+ 27.3	0.6	0.8	+ 0.2	30.0	29.1	— 0.9
Burdwan ..	227.4	253.7	+ 11.6	1.1	1.2	+ 0.1	51.0	47.3	— 3.7
Malda ..	78.8	249.7	+ 216.9	0.6	1.8	+ 0.2	28.3	38.9	+ 10.6
Bakarganj ..	324.5	249.7	— 23.0	0.9	0.7	— 0.2	9.5	9.3	— 0.2
24 Parganas	161.1	210.8	+ 30.9	0.4	0.6	+ 0.2	28.3	27.6	— 0.7
Bogra ..	152.0	190.2	+ 25.1	1.0	1.3	+ 0.3	37.9	36.8	— 1.1
Midnapur ..	191.4	183.4	— 4.1	0.5	0.5	± 0	37.9	31.3	— 6.6
Bankura ..	114.2	151.1	+ 32.3	0.8	1.1	+ 0.3	39.4	39.7	+ 0.3
Hooghly ..	121.7	149.7	+ 23.0	0.8	1.0	+ 0.2	53.7	41.6	— 12.1
Dinajpur ..	115.4	131.4	+ 13.9	0.5	0.5	± 0	38.1	40.1	+ 2.0
Calcutta ..	82.2	86.8	+ 5.6	0.5	0.6	+ 0.1	8.5	8.0	— 0.5
Jalpaiguri ..	62.2	67.4	+ 8.4	0.5	0.5	± 0	46.2	40.9	— 5.3
Birbhum ..	73.1	60.0	— 17.9	0.6	0.5	— 0.1	39.9	38.4	— 1.5
Howrah ..	58.8	51.4	— 12.6	0.4	0.4	± 0	36.1	32.1	— 4.0
Darjeeling ..	19.4	17.7	— 8.7	0.5	0.4	— 0.1	17.1	17.9	+ 0.8
Total ..	6,741.3	8,994.9	+ 48.3						

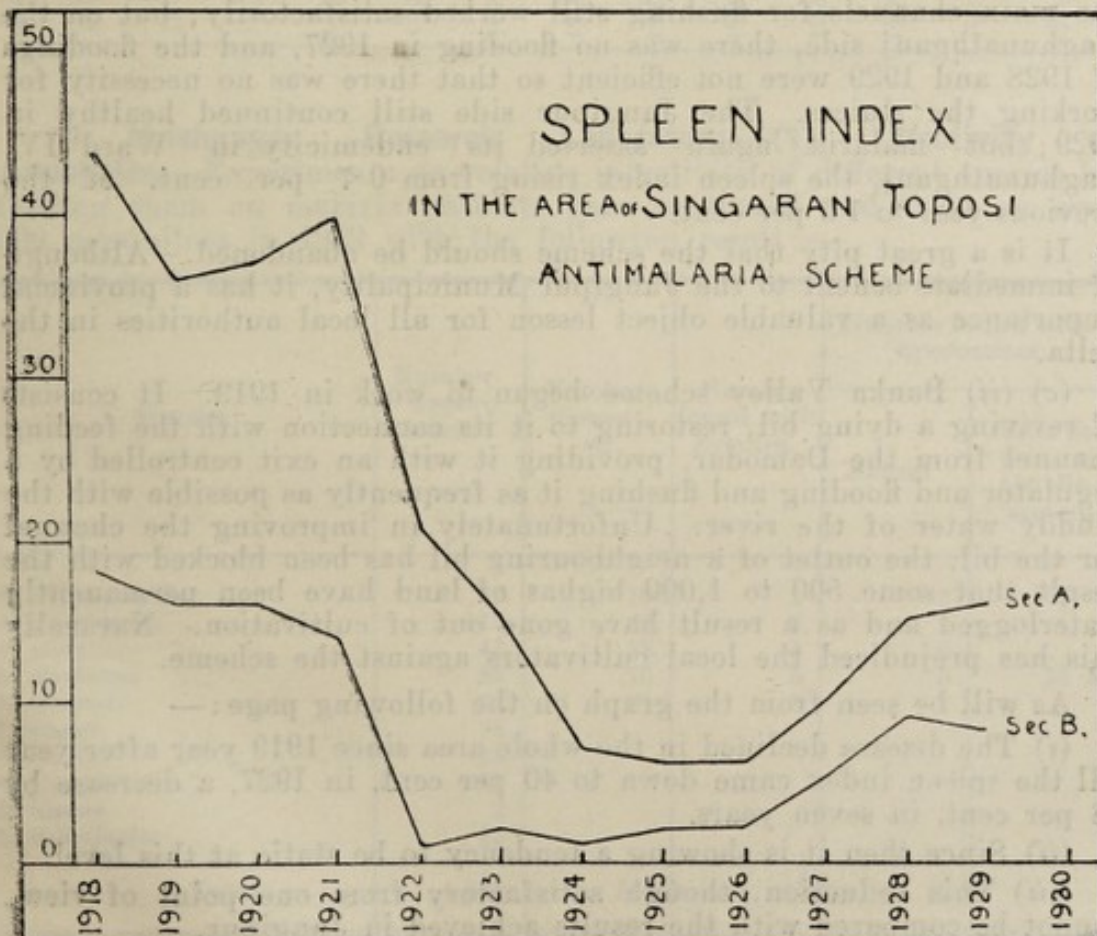
58. **Experimental Anti-malarial Schemes.**—The working of the schemes for prevention of malaria under different physiographical condition in the province, viz.—

- (a) in the submontane region at Meenglas,
- (b) in the coal fields of the Damodar series of the Gondwana system at Singaran Toposi, and
- (c) in the recent alluvial deposits—
 - (i) of the Bhagirathi at Jangipur,
 - (ii) of the Damodar at the Banka valley

was continued through the year of report. They have now been tried sufficiently long to have passed the experimental stage and to prove that the results are not merely accidental.

(a) *Meenglas Scheme.*—The scheme has answered its purpose and shown that malaria can be greatly reduced by systematic measures for the reduction of anopheles mosquitoes at a cost within the means of tea gardens in the submontane tracts. The Managing Agents of the garden are convinced of the enormous benefit that has accrued to the health and efficiency of the staff and labour of the estate and are now carrying on the control work themselves.

(b) *Singaran Toposi Scheme.*—It came into operation in 1919. It consists of an arrangement for flushing the river Singaran, draining low lands and kerosining collections of water during the season. This year the river was flushed from 14th August to 11th December eighteen times, the interval being from 3 to 9 days, and collections of water were kerosined from 9th August to 29th November at interval of 3 to 11



days. As will be seen from the graph, the spleen index dropped precipitately with the trend almost perpendicular to the base line; within the area actually drained and kerosined, it came down from 13 to 1 in 1922, and in the surrounding area from 40 to 6 in 1925, since which years the ratios are again tending upwards.

Within the drained and kerosined area the disease has disappeared as an endemic except in some limited spots with recently abandoned coal pits in and near them which account for the upward movement of the curve.

(c) (i) Jangipur Scheme also came into operation about nine years ago. The town is on either side of the Bhagirathi and the scheme consists of channels to flush all low lands as well as most of the tanks and pools with the silt-laden river water during the monsoon. The scheme has been a complete success. In 1918, malaria was hyper-endemic in Ward V and of high endemicity in the other two wards of Raghunathganj, the rates of the splenic enlargement having been over 60 per cent. in the former and over 30 per cent. in the latter. In Jangipur, i.e., on the east side of the river though comparatively healthy, the endemicity of malaria was moderate with spleen rate ranging between 14 and 20 per cent.; in 1928, i.e., *after 10 years of working of the scheme, the whole town was almost free from endemic malaria*. The spleen rate was 1 per cent. in three wards and between 2.5 and 4.4 per cent. in the other three wards.

The working of the scheme by the Government was discontinued from 1929-30; neither was it taken up by the municipality, with the result that it was definitely neglected in 1929. In the Jangipur side the main channels for flushing still worked satisfactorily; but on the Raghunathganj side, there was no flooding in 1927, and the floodings of 1928 and 1929 were not efficient so that there was no necessity for working the sluices. The Jangipur side still continued healthy in 1929; but malaria again asserted its endemicity in Ward IV, Raghunathganj, the spleen index rising from 0.7 per cent. of the previous year to 7.6 per cent.

It is a great pity that the scheme should be abandoned. Although of immediate benefit to the Jangipur Municipality, it has a provincial importance as a valuable object lesson for all local authorities in the delta.

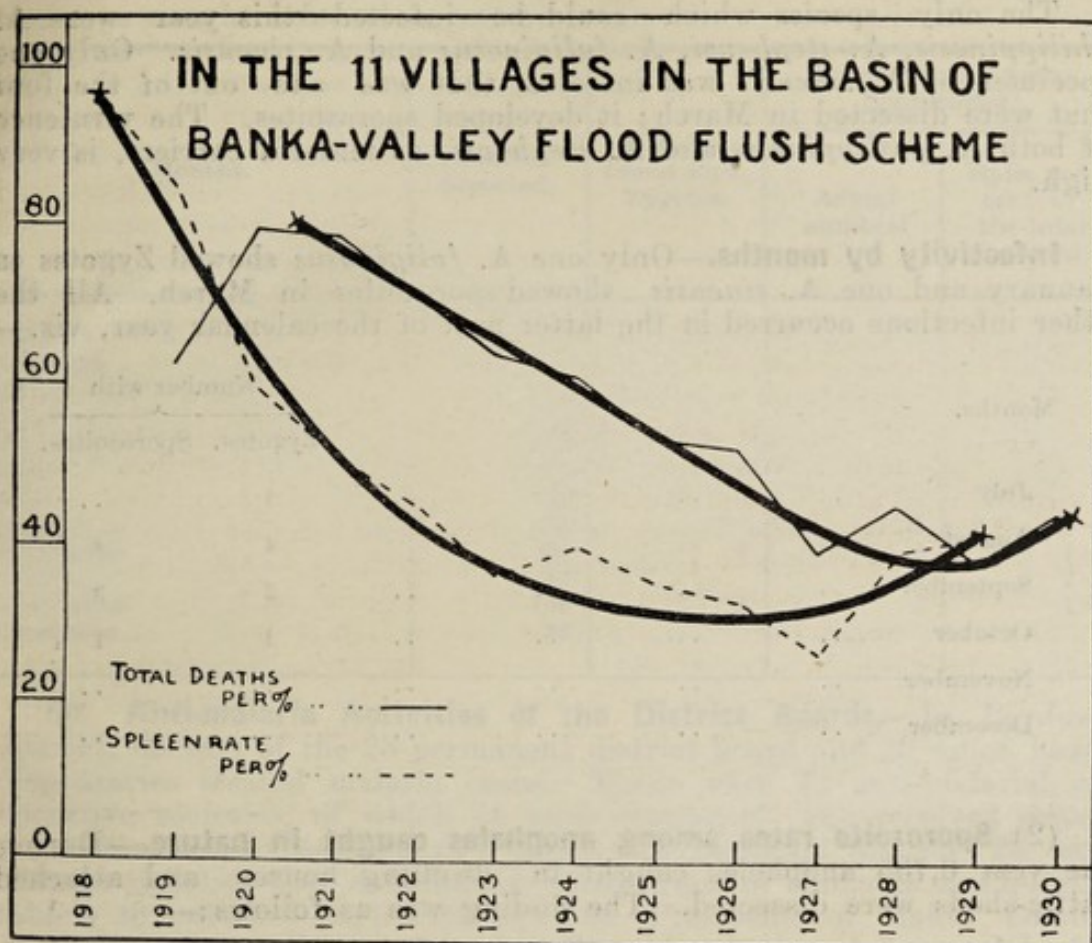
(c) (ii) Banka Valley scheme began to work in 1919. It consists of reviving a dying bil, restoring to it its connection with the feeding channel from the Damodar, providing it with an exit controlled by a regulator and flooding and flushing it as frequently as possible with the muddy water of the river. Unfortunately in improving the channel for the bil, the outlet of a neighbouring bil has been blocked with the result that some 500 to 1,000 bighas of land have been permanently waterlogged and as a result have gone out of cultivation. Naturally this has prejudiced the local cultivators against the scheme.

As will be seen from the graph on the following page:—

(i) The disease declined in the whole area since 1919 year after year till the spleen index came down to 40 per cent. in 1927, a decrease by 68 per cent. in seven years.

(ii) Since then it is showing a tendency to be static at this level.

(iii) This reduction, though satisfactory from one point of view, cannot be compared with the results achieved in Jangipur.



59. Krishnagar Research Laboratory.—(1) Infectivity of Anopheles.—Experiments on relative infectivity of different species by feeding them on malaria patients were continued and tried on over 300 mosquitoes in 1929 with the following result:—

Species.	Number experimented on.	Number dissected.	Number found with Zygotes.	Number found with Sporozoites.	
				Actual	Ratio per cent. of the dissected.
<i>A. philippinesis</i> ..	32	10	1	3	30
<i>A. fuliginosus</i> ..	115	46	3	1	..
<i>A. pallidus</i> ..	42	18	0	0	..
<i>A. stephensi</i> ..	23	15	5	5	33.3
<i>A. sinensis</i> ..	57	21	0	1	..
<i>A. vagus</i> ..	18	..	..	..	..
<i>A. rossi</i> ..	28	..	..	..	..
<i>A. jamesi</i> ..	11	..	..	..	..
<i>A. listoni</i> ..	2	..	..	..	..
<i>A. culicifacies</i> ..	15	..	..	..	..
Total ..	343	110	9	10	..

The only species which could be infected this year were *A. philippinensis*, *A. stephensi*, *A. fuliginosus* and *A. sinensis*. Only one specimen of *A. sinensis* was infected, that was one out of the four that were dissected in March; it developed sporozoites. The virulence of both *A. philippinensis* and *A. stephensi*, as malaria carriers, is very high.

Infectivity by months.—Only one *A. fuliginosus* showed Zygotes in January and one *A. sinensis* showed sporozoites in March. All the other infections occurred in the latter part of the calendar year, viz.—

Months.	Number with					
					Zygotes.	Sporozoites.
July	..	..	..	..	1	..
August	..	..	..	..	4	4
September	..	..	..	..	2	3
October	..	..	..	..	1	1
November	..	..	..	..	..	..
December	..	..	..	..	..	..

(2) **Sporozoite rates among anopheles caught in nature.**—During the year 6,735 anopheles caught in dwelling houses and attached cattle-sheds were dissected. The finding was as follows:—

Species.				Number found with Sporozoites.	
				Actual number.	Ratio per cent. of those examined.
<i>A. fuliginosus</i>	..	..	2,247	....	....
<i>A. pallidus</i>	..	..	1,139	....	....
<i>A. philippinensis</i>	..	..	513	3	6
<i>A. rossi</i>	..	..	1,339	....	....
<i>A. vagus</i>	..	..	471	....	....
<i>A. sinensis</i>	..	..	127	....	....
<i>A. minimus</i>	..	..	154	....	....
<i>A. culicifacies</i>	..	..	27	....	....
<i>A. pseudo jamesi</i>	..	..	717	....	....
<i>A. stephensi</i>	..	..	1	....	....

Thus in the year of report *A. philippinensis* was the only anopheles that was caught infected in nature, viz.—

Months.	Number dissected.	Number found with Zygotes.	Number found with Sporozoites.	
			Actual number.	Ratio per cent. of the total dissected.
January	7	....	....	....
February .. ..	....	....	....	....
March	2	....	....	....
April	20	....	....	....
May	41	....	....	....
June	15	1	....	....
July	14	....	....	....
August	69	....	1	1.4
September	67	1	1	1.5
October	87	....	2	2.3
November	159	1	2	1.3
December	32	....	....	....

60. **Anti-malaria Activities of the District Boards.**—In *Burdwan* district, doctors of the 23 permanent district board and 20 union board dispensaries treated malaria cases. There were 72 anti-malarial co-operative societies, of which 54 were registered and received grants from Government and district board. In *Birbhum* district, 28 anti-malaria societies were established, distribution of cinchona and quinine tablets to affected parts through the Presidents of union boards, vaccination inspecting staff and officers in charge of 6 rural health circles, deputation of doctors to affected localities for free treatment and advice, cutting jungles, kerosining tanks and ditches for larvæ destruction, filling up pools of water and magic lantern demonstrations were the measures taken to combat malaria. In *Bankura*, malaria patients were treated by the Health Officer and kala-azar doctors; quinine and cinchona were distributed through Presidents of union boards and Circle Officers throughout the district; this was done in affected areas through the Health Officer and his staff including Sanitary Inspectors in charge of rural public health circles. In *Midnapur*, 25 anti-malaria societies worked during the year; 41 doctors were engaged for the treatment of malaria patients in malaria centres, besides Sanitary Inspectors and Health Assistants who distributed quinine. In *Hooghly*, anti-malarial operations were carried on by 85 co-operative anti-malaria societies, 9 sanitary inspectors, 2 peripatetic sub-assistant surgeons and several other voluntary societies and several union boards. In *Howrah*, a few anti-malaria societies were organised in 1929 and two of these were registered.

In the 24 *Parganas*, anti-malarial work was carried on in 14 dispensaries and 26 sub-centres under them and 47 kala-azar centres and 95 sub-centres. In *Nadia*, minor anti-malarial operations were carried out in selected villages by rural health staff, union boards and anti-malaria societies. 1,670 tanks were thus kerosined and 2,871 children quininised. The anti-malaria societies also cleared 700 acres of jungles, filled up 77 dobas and cut 38 furlongs of drain. In *Jessore*, distribution of quinine and other measures were carried out through district board

staff, union committees, union boards and anti-malaria societies, both registered and unregistered, generally helped by sanitary inspectors of the health circles concerned. In *Khulna*, minor works were undertaken by anti-malaria or health societies in their respective jurisdictions and some drainage works by some union boards. The number of registered health or anti-malaria societies was increased by 3, making up a total of 157. Free distribution of quinine and cinchona febrifuge was made through the various societies, kala-azar doctors and other district board staff. A severe epidemic visited Udaipur and Garfa in the near vicinity of Mollahat thana, known to be one of the healthiest places in the district; a malaria survey was conducted by the Public Health Department at the request of the district board and an anti-malarial campaign with doctors and one sanitary inspector was conducted to bring the situation under control; house to house treatment by sufficient doses of quinine, magic lantern lectures and kerosinisation of tanks and dobhas were systematically carried on.

In *Rajshahi*, there was no epidemic of malaria. Malaria patients were generally treated at district board dispensaries and by doctors of 12 groups of special kala-azar centres and quinine was distributed. Eight anti-malaria societies worked during the year. In *Pabna*, minor anti-malarial operations including quinine distribution were carried out by some anti-malaria societies, union boards and district board. Malaria prevailed in very severe epidemic form during September, October, November and to a less extent in December due to defective seasonal rainfall and the annual flood this year. Thanas Pabna, Sara, Atgharia, Chatmohur, Faridpur and Sujanagar in Sadar subdivision and Ullapara, Shazadpur, Kamarkhonda and Belkuchi in Serajganj subdivision were mostly affected. Treatment of patients by opening centres in badly affected areas and by quinine distribution were among the measures resorted to. In *Jalpaiguri*, quinine tablets were distributed free through the staff of rural public health centres, supernumerary doctors and medical officers of the board and aided dispensaries, the staff of the Chaklajat estates of Cooch Behar and the inspecting officers of the Education Department. In *Darjeeling*, deaths were highest in Siliguri subdivision. In *Bogra*, tanks and dobhas were filled up or kerosinised, jungles cleared, drains levelled and quinine distributed free by the anti-malaria societies who also treated malaria patients within their jurisdiction. In *Malda*, 15 registered anti-malaria societies worked during the year against 11 in 1928 and 9 in 1927. Their work consisted chiefly in jungle cutting, kerosinising, filling in and draining of dobhas and regular quininisation of all malaria cases, free distribution of quinine, cinchona and other medicines. Five travelling dispensaries were opened in August and September with 2 epidemic doctors, 2 kala-azar doctors, and one compounder. These moved over the badly affected areas and distributed quinine and other medicines to the patients. Besides the regular distribution through the district board dispensaries, co-operative anti-malaria societies and peripatetic dispensaries, quinine was distributed through the rural public health staff. In *Dinajpur*, free distribution of quinine, and propaganda by lantern lectures were the only anti-malarial measures. One anti-malaria co-operative society was formed at Raiganj and registered. In *Rangpur*, quinine was distributed through kala-azar centres, anti-malaria and health societies, union boards, and subordinate public health staff, e.g., circle sanitary officers, vaccination inspecting staff, health assistants and vaccinators; malaria patients were treated

at all hospitals and dispensaries in the district and all kala-azar treatment centres in out-of-the-way places. Minor operations were carried on by 3 anti-malaria societies and some union boards. Propaganda work by lantern lectures, distribution of leaflets and practical anti-mosquito demonstration in villages constituted other measures.

In *Dacca*, 5 registered anti-malaria societies and 16 kala-azar centres worked during the year; quinine and cinchona were distributed at these centres. Malaria patients were also treated in 25 district board dispensaries. In *Mymensingh*, quinine was distributed free. In *Bakarganj*, distribution of quinine and cinchona by sanitary inspectors, epidemic and kala-azar doctors and a compounder on epidemic duty, drainage of water-logged areas when water level went down, re-excavation and draining of some areas in Nalchiti and Mathbaria thanas by one anti-malaria society and union boards and treatment of patients by dispensary doctors were the chief measures carried out to cope with malaria which was prevalent in many thanas, particularly Lalmohan, Tazumaddin, Galachipa and Gournadi.

In *Chittagong*, anti-malarial operations were carried out through 18 union boards; Jaliakhali khal, Sakarda nala and Sital jharna were re-excavated, some village drains were repaired, jungles were cut, tanks were cleared, and some dobas and insanitary tanks were kerosinised and some ditches filled up. In *Noakhali*, 9 anti-malaria societies were organised and registered during the year against 16 in the last year, making up a total of 49 registered societies. Jungle cutting, kerosinising, filling up of dobas and ditches, removal of jungles from near the tank edges and treatment of patients with quinine pills were the anti-malarial measures undertaken.

Kala-azar.

61. **General Prevalence.**—The following table compares the deaths and death-rates from kala-azar in the province, all Bengal towns, Calcutta and rural areas during 1929 and the previous year:—

Deaths and death-rates from Kala-azar.

Years.	Number of deaths.			
	Bengal Presidency.	All Bengal towns.	Calcutta.	Rural areas.
1928	10,746	1,163	514	9,583
1929	10,820	916	405	9,904
	Ratio per mille.			
1928	·22	·37	·48	·22
1929	·23	·29	·38	·23

The death rate rose in 1929 by 4·5 per cent. each in the province as a whole and the rural areas and fell by 21·6 per cent. in all towns and by 20·8 per cent. in Calcutta. It was higher than the rural areas by 26·1 per cent. in all towns and by 65·2 per cent. in Calcutta. In

all the rural areas, except those in Midnapur, Bankura and Murshidabad districts the death rate was higher than 1 per mille, though it was above the provincial average in only 8 districts. The highest rate 7 per mille was returned by the rural areas of 24-Parganas and the lowest '03 by Bankura. No death was reported from 38 towns, Satkhira in Khulna district returned a rate of 2·8 per mille, Kalna in Burdwan district 2·1, Chandrakona in Midnapur district 1·5, Joynagar in 24-Parganas, Gaibandha in Rangpur and Dacca in Dacca 1·1 each, Nator in Rajshahi and Noakhali in Noakhali district 1·0 each, 54 between 1 and 1 per mille and 9 below 1 per mille. The lowest rate '01 was recorded in Bhatpara in 24-Parganas and Barisal in Bakarganj district. 1·5 per cent. of the fever deaths and 9 per cent. of the total provincial mortality was due to kala-azar against 1·4 and 9 per cent., respectively, in the previous year.

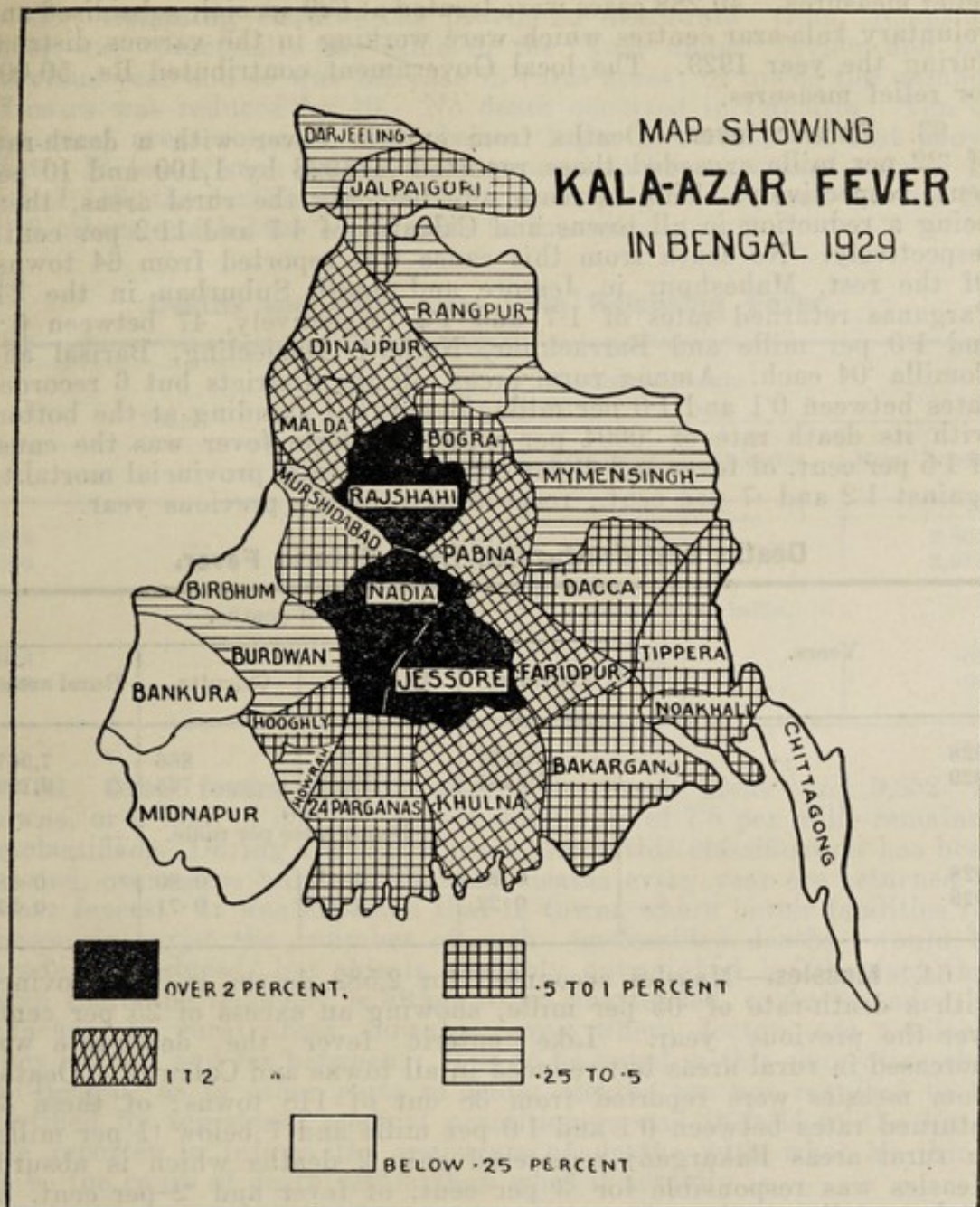
The following table shows the deaths and death-rates from kala-azar in the province since 1921:—

Years.	Kala-azar.	
	Deaths.	Death rate.
1921	1,552	·03
1922	1,531	·03
1923	4,565	·1
1924	9,997	·2
1925	16,766	·4
1926	14,275	·3
1927	11,855	·2
1928	10,746	·2
1929	10,820	·2

62. **Kala-azar by districts.**—The following table showing the number of cases admitted for treatment in the various districts gives a better idea of the relative distribution of kala-azar in Bengal than that afforded by the mortality figures:—

Number of Kala-azar cases admitted for treatment.

Districts.	1921.	1922.	1923.	1924.	1925.	1926.	1927.	1928.	1929.
24-Parganas ..	167	1,558	15,350	18,324	27,950	24,709	25,584	20,789	14,384
Rajshahi ..	685	300	1,287	10,891	15,820	18,076	19,001	12,039	11,921
Calcutta ..	1,981	2,876	5,599	8,133	11,228	9,947	13,278	12,218	10,640
Nadia ..	269	841	1,549	8,206	7,596	5,653	8,815	8,075	7,485
Dacca ..	186	332	1,060	4,977	7,559	9,021	7,617	8,100	6,098
Bakarganj ..	485	786	2,256	5,941	13,518	12,859	9,293	6,456	6,008
Jessore ..	126	272	946	5,553	8,641	6,580	17,741	7,008	5,563
Rangpur ..	1,327	1,521	7,399	3,306	5,224	5,385	6,584	5,642	5,436
Mymensingh ..	211	269	1,323	8,690	16,939	9,774	7,452	6,590	5,325
Tippura ..	276	1,052	4,595	14,270	19,544	9,579	8,734	8,310	4,849
Faridpur ..	42	171	1,410	3,718	6,911	6,296	6,418	6,063	4,318
Pabna ..	58	126	578	892	1,194	2,981	3,726	3,499	3,752
Dinajpur ..	132	323	1,127	2,016	2,984	3,046	3,311	4,493	3,703
Hooghly ..	126	195	1,534	7,445	5,031	3,896	4,388	5,532	3,622
Malda ..	175	587	2,083	5,596	4,890	4,304	5,119	3,340	3,494
Khulna ..	64	53	901	3,594	8,450	9,404	6,861	4,903	3,183
Murshidabad ..	222	469	920	1,377	2,296	3,721	2,876	2,063	2,696
Burdwan ..	194	437	3,411	1,513	2,033	2,294	3,234	3,078	2,648
Noakhali ..	734	712	1,393	13,563	9,437	6,274	4,964	3,012	2,419
Howrah ..	1	20	709	5,675	4,327	2,558	3,632	2,738	1,808
Chittagong ..	19	15	98	523	1,328	1,754	2,429	1,578	1,401
Midnapur ..	42	30	123	193	440	438	2,716	1,453	1,217
Bogra ..	14	66	1,070	3,971	4,897	4,868	3,080	2,341	1,167
Jalpaiguri ..	43	35	154	204	325	833	818	1,992	1,148
Darjeeling ..	84	242	4,342	398	278	247	308	571	450
Bankura ..	13	8	52	37	60	165	2,048	46	66
Birbhum ..	13	21	33	79	44	34	47	41	44
Total ..	7,689	13,317	51,740	139,085	188,944	164,696	180,074	141,970	114,845



The registration of these statistics was started in 1921 and the first 3 years appear to have been taken up with setting the machinery in motion; the arrangement seems to have been complete in 1924, when 139,085 admissions to the various dispensaries and special centres started by the district boards were registered. Since then the admissions have been regularly going on though their number has been fluctuating, the maximum within this period reaching in 1925, when the number amounted to 188,944 since when the decline began except in 1927. This reduction has been shared by all the districts proportionately except Pabna, Malda and Murshidabad where the admissions exceeded those of the previous year. The fall from 2,048 admissions in 1927 to 46 in 1928 and 66 in 1929 in Bankura district is absurd, but then it is a district which generally non-co-operates with Government

relief measures. 40,288 cases were treated at 629 special, subsidised and voluntary kala-azar centres which were working in the various districts during the year 1929. The local Government contributed Rs. 50,000 for relief measures.

63. **Enteric fever.**—Deaths from enteric Fever with a death-rate of .22 per mille exceeded those reported in 1928 by 1,190 and 10 per cent. respectively. This increase affected only the rural areas, there being a reduction in all towns and Calcutta of 4.7 and 11.2 per cent., respectively. No death from this cause was reported from 64 towns. Of the rest, Maheshpur in Jessore and South Suburban in the 24 Parganas returned rates of 1.7 and 1.2 respectively, 47 between 0.1 and 1.0 per mille and Barrackpur, Naihati, Darjeeling, Barisal and Comilla .04 each. Among rural areas, all the districts but 6 recorded rates between 0.1 and 1.0 per mille, Bakarganj standing at the bottom with its death rate of .0004 per mille. Enteric fever was the cause of 1.5 per cent. of fever and .9 per cent. of the total provincial mortality against 1.2 and .7 per cent., respectively, in the previous year.

Deaths and death-rates from Enteric Fever.

Years.	Number of deaths.			
	Province.	All towns.	Calcutta.	Rural areas.
1928	9,297	1,330	866	7,967
1929	10,487	1,288	765	9,199
Death rates per mille.				
1928	0.20	0.43	0.80	0.18
1929	0.22	0.41	0.71	0.21

64. **Measles.**—Measles accounted for 2,582 deaths in the province with a death-rate of .05 per mille, showing an excess of 25 per cent. over the previous year. Like enteric fever the death-rate was increased in rural areas but reduced in all towns and Calcutta. Deaths from measles were reported from 38 out of 118 towns; of these 31 returned rates between 0.1 and 1.0 per mille and 7 below .1 per mille. In rural areas Bakarganj registered only 2 deaths which is absurd. Measles was responsible for .3 per cent. of fever and .2 per cent. of total mortality against .25 and .16 per cent., respectively, in 1928.

Deaths and death-rates per mille from Measles.

Years.	Number of deaths.			
	Province.	All towns.	Calcutta.	Rural areas.
1928	1,884	371	277	1,513
1929	2,582	230	82	2,352
Death rates per mille.				
1928	.04	.1	.3	.03
1929	.05	.07	.08	.05

65. **Relapsing Fever.**—The provincial death-rate from relapsing fever was practically the same in the year under review and the previous year and so was the case in rural areas; in towns the number of cases was reduced by 10. No death occurred in Calcutta. Ten of the rural areas returned rates below 1 per mille and the rest above that. In towns such deaths were reported to have occurred only in 15 out of 118, the death-rates being 1·5 in Jalpaiguri, between 0·1 and 1·0 in 8 others and below 1 per mille in the remaining 6.

Deaths and death-rates from Relapsing Fever.

Years.			Number of deaths.			
			Province.	All towns.	Calcutta.	Rural areas.
1928	..	..	3,859	54	....	3,805
1929	..	..	3,955	44	....	3,911
			Death rates per mille.			
1928	..	..	·08	·02	....	·09
1929	..	..	·08	·01	....	·09

66. **Other fevers.**—340,421 deaths in rural areas and 9,852 in towns, or a total of 350,273 with a death-rate of 7·5 per mille remained unclassified. During the last 9 years, since this classification has been started, over three hundred thousand deaths every year are returned as other fevers. It was expected that in towns where better facilities for diagnosis exist the number of such unclassified deaths would be gradually reduced, but this is probably outweighed by the fact that even there the tendency is either to go unattended, or be attended by quacks. In rural areas, however, even where doctors are available they are few and far between. It is to be noted in this connection that in Bengal, as in other parts of India, deaths are not required to be certified by registered medical practitioners and it falls to the lot of the reporter to inform the registrars of deaths with what he thinks to be the cause of death rather than what it actually is.

Years.		Province.		Towns.		Rural areas.	
		No.	Rate per mille.	No.	Rate per mille.	No.	Rate per mille.
1921	..	317,565	6·8	9,662	3·1	307,903	7·1
1922	..	331,265	7·1	9,007	2·9	322,258	7·4
1923	..	350,887	7·5	10,264	3·3	340,623	7·8
1924	..	363,359	7·8	10,348	3·3	353,011	8·1
1925	..	347,930	7·5	10,118	3·3	337,812	7·8
1926	..	340,416	7·3	9,936	3·2	330,480	7·6
1927	..	338,612	7·3	9,651	3·1	328,961	7·6
1928	..	357,526	7·7	9,449	3·0	348,077	8·0
1929	..	350,273	7·5	9,852	3·2	340,421	7·8

67. A comparative table showing the incidence of enteric fever, measles and relapsing fevers since 1921—the year since these deaths are being registered, is given below. Considering the wide-spread sources of infection there is every reason to believe that typhoid and measles are even more common in rural areas and small towns than in Calcutta. It is inconceivable that their incidence can be anything like as low as is represented in this table, and it can be safely said that as matters stand at present, these figures are extremely unreliable.

As regards relapsing fever on the other hand enquiry shows the vast majority of these deaths are reported in error, true relapsing fever being rare in Bengal.

Years.	Enteric fever.		Measles.		Relapsing fever.	
	No.	Rate.	No.	Rate.	No.	Rate.
1921 ..	5,693	·1	1,537	·03	6,798	·1
1922 ..	5,564	·1	1,160	·02	5,285	·1
1923 ..	6,680	·1	1,424	·03	6,340	·1
1924 ..	5,574	·1	1,542	·03	4,034	·1
1925 ..	7,752	·2	1,146	·02	3,161	·1
1926 ..	5,368	·1	1,432	·03	3,075	·1
1927 ..	5,077	·1	1,425	·03	2,894	·1
1928 ..	9,297	·2	1,884	·04	3,859	·1
1929 ..	10,487	·2	2,582	·1	3,955	·1

Plague.

68. No death from this cause was reported in the province during the year under review.

Dysentery and Diarrhœa.

69. **General Prevalence.**—37,156 deaths from dysentery and diarrhœa composed of 21,052 dysentery and 16,104 diarrhœa deaths occurred in 1929, the corresponding figures for 1928 being 33,419, 18,515, 14,904, respectively. The increase in the death-rate was thus 11·1 per cent. for dysentery and diarrhœa combined against the previous year and 60·0 per cent. against the decennial average. Dysentery and diarrhœa rates taken separately were practically the same (·4 and ·3 per mille respectively) as in 1928, though 2,537 more deaths from dysentery and 1,200 more from diarrhœa occurred in 1929. 3·39 per cent. of total deaths were due to these two causes against 2·81 in the previous year.

	1928.	1929.
Deaths	33,419	37,156
Death rate per mille	·72	·80
Percentage of dysentery and diarrhœa deaths to total mortality ..	2·81	3·39

The following table gives the deaths and death-rates from dysentery and diarrhoea in the province, rural and urban areas since 1911. It shows that (1) while deaths from these two causes increased by 67·0 per cent. in the province, 79·5 per cent. in rural and 33·2 per cent. in urban areas within the last 19 years, the increase in death-rates during the same period was 60·0, 75·0 and 23·8 per cent. respectively and (2) that while the urban rate was about five times as much as rural rate in 1911, it was only a little less than four times in 1929.

Deaths from dysentery and diarrhoea.

Years.	Province.		Rural areas.		Urban areas.	
	No.	Rates.	No.	Rates.	No.	Rates.
1911	22,246	·5	16,229	·4	6,017	2·1
1912	27,335	·6	20,564	·5	6,771	2·3
1913	33,195	·7	24,181	·6	9,014	3·1
1914	30,167	·7	21,813	·5	8,354	2·9
1915	28,919	·6	21,102	·5	7,817	2·7
1916	26,211	·6	18,740	·4	7,471	2·6
1917	25,000	·5	17,410	·4	7,590	2·6
1918	29,150	·6	20,945	·5	8,205	2·8
1919	28,874	·6	19,753	·5	9,121	3·1
1920	24,340	·5	15,732	·4	8,608	3·0
1921	25,258	·5	16,689	·4	8,569	2·8
1922	23,411	·5	16,219	·4	7,192	2·3
1923	21,519	·5	14,384	·3	7,135	2·3
1924	22,470	·5	15,185	·3	7,285	2·3
1925	21,836	·5	14,680	·3	7,156	2·3
1926	24,978	·5	16,223	·4	8,755	2·8
1927	29,358	·6	19,986	·5	9,372	3·0
1928	33,419	·7	24,737	·6	8,682	2·8
1929	37,156	·8	29,140	·7	8,016	2·6

70. **Seasonal incidence.**—Reaching its minimum in June, the number of deaths began to rise till it reached its maximum in 5,339. It was in excess of the previous year in every month except the first 5 when it was less.

71. **Dysentery and diarrhoea by divisions.**—The death-rate was highest in Burdwan and lowest in Rajshahi. The greatest increase 112·0 per cent. against the previous decennium occurred in Rajshahi Division and the lowest 22·6 in Burdwan. 1 in every 16 deaths in Burdwan, 1 in 25 in Dacca, 1 in every 33 in Presidency and Chittagong each, and 1 in 50 in Rajshahi was caused by dysentery and diarrhoea. This proportion presented the highest increase against the decennial and previous year's percentage in Burdwan and the lowest in Presidency. Again the maximum 28·17 per cent. of these deaths occurred in Burdwan and the minimum 8·96 per cent. in Chittagong.

Divisions.	Death rate per mille.			Proportion of total mortality due to dysentery and diarrhoea.			Percentage of total provincial mortality.		
	Average, 1919-28.	1928.	1929.	Average, 1919-28.	1928.	1929.	Average, 1919-28.	1928.	1929.
Burdwan ..	1·06	1·18	1·30	3·59	4·65	5·65	33·3	28·45	28·17
Presidency ..	·65	·74	·83	2·20	2·77	3·01	24·2	21·11	21·10
Rajshahi ..	·25	·34	·53	·84	1·18	2·01	10·4	10·44	14·79
Dacca ..	·46	·77	·78	1·89	3·27	3·79	23·0	29·71	26·97
Chittagong ..	·40	·59	·57	1·76	2·62	3·00	9·0	10·28	8·96

Taking these diseases separately, the provincial death-rates were ·4 and ·3 for dysentery and diarrhoea respectively. So far as the divisional rates were concerned, the highest rate from dysentery occurred in Dacca and from diarrhoea in Burdwan and lowest in Rajshahi and Chittagong, respectively. Diarrhoea rate was higher than dysentery in Burdwan Division alone, while it was less than the latter in the other four Divisions.

Divisions.	Death rates per mille.	
	Dysentery.	Diarrhoea.
Burdwan ..	·46	·84
Presidency ..	·48	·35
Rajshahi ..	·32	·21
Dacca ..	·56	·22
Chittagong ..	·39	·18

72. **Dysentery and diarrhoea by districts.**—(a) *Combined Dysentery and Diarrhoea rates.*—Howrah and Calcutta as usual had the highest death-rate, though the former showed a reduction of ·34 per mille against the average of the decade and ·19 per mille against the previous year and the latter of ·06 and ·35 respectively. Six other districts returned rates between 1 and 2 per mille and the rest below 1 per mille. In 11 districts the death-rate was above the provincial average. With the exception of Howrah, Calcutta, Darjeeling and Hooghly, there was an increase in all the other districts against the

decennial mean. As against the previous year there was a reduction in 9 districts and an increase in the others except Bakarganj where there was no change.

Dysentery and diarrhoea death-rates per mille.

Districts.	Average of decade.	1929.	Increase + or decrease —.	1928.	Increase + or decrease —.
Howrah ..	3.49	3.15	— .34	3.34	— .19
Calcutta ..	3.07	3.01	— .06	3.36	— .35
Darjeeling ..	2.34	1.97	— .37	1.92	+ .05
Hooghly ..	1.50	1.49	— .01	1.67	— .18
Jalpaiguri ..	1.09	1.87	+ .78	.98	+ .89
Bankura ..	.88	1.50	+ .62	1.10	+ .40
Dacca ..	.78	1.49	+ .71	1.27	+ .22
24-Parganas ..	.75	.83	+ .08	.80	+ .03
Burdwan ..	.65	.86	+ .21	.95	— .09
Tippera ..	.56	.68	+ .12	.64	+ .04
Midnapur ..	.55	.97	+ .42	.60	+ .37
Faridpur ..	.43	1.04	+ .61	1.06	— .02
Mymensingh ..	.33	.41	+ .08	.59	— .18
Bakarganj ..	.33	.39	+ .06	.39	±0
Bogra ..	.25	.32	+ .07	.39	— .07
Chittagong ..	.25	.32	+ .07	.43	— .11
Noakhali ..	.25	.65	+ .40	.66	— .01
Nadia ..	.24	.47	+ .23	.34	+ .13
Khulna ..	.22	.60	+ .38	.40	+ .20
Birbhum ..	.14	.40	+ .26	.32	+ .08
Murshidabad ..	.14	.21	+ .07	.12	+ .09
Pabna ..	.11	.26	+ .15	.17	+ .09
Jessore ..	.10	.40	+ .30	.12	+ .28
Rangpur ..	.10	.52	+ .42	.41	+ .11
Rajshahi ..	.09	.25	+ .16	.09	+ .16
Malda ..	.07	.41	+ .34	.06	+ .35
Dinajpur ..	.06	.21	+ .15	.08	+ .13

(b) *Dysentery and diarrhoea rates taken separately.*—Four districts headed by Calcutta (1·52) returned death-rates above 1·0 per mille from dysentery and the rest below it. Howrah had the highest rate (2·13) from diarrhoea, 3 others between 1 and 2 per mille and the remaining below 1 per mille. The rates for both these diseases were reduced in 6 and increased in 12 districts; in the remaining 9 while death-rate from one disease increased, that for the other was less or vice versa.

Dysentery and diarrhoea death-rates per mille shown separately for each district.

Districts.	Dysentery.			Diarrhoea.		
	1928.	1929.	Increase + or de- crease —.	1928.	1929.	Increase + or de- crease —.
Calcutta ..	1·67	1·52	—·15	1·69	1·49	—·20
Darjeeling ..	1·33	1·39	+·06	·59	·58	—·01
Howrah ..	1·11	1·02	—·09	2·23	2·13	—·10
Dacca ..	·93	1·11	+·18	·34	·38	+·04
Faridpur ..	·65	·73	+·08	·42	·31	—·11
Hooghly ..	·49	·45	—·04	1·17	1·04	—·13
24 Parganas ..	·45	·45	±0	·35	·38	+·03
Tippera ..	·44	·48	+·04	·20	·20	±0
Jalpaiguri ..	·42	·94	+·52	·57	·93	+·36
Noakhali ..	·40	·43	+·03	·25	·22	—·03
Mymensingh ..	·36	·25	—·11	·15	·16	+·01
Bankura ..	·34	·47	+·13	·75	1·03	+·28
Bakarganj ..	·33	·34	+·01	·07	·05	—·02
Burdwan ..	·33	·28	—·05	·62	·58	—·04
Midnapur ..	·32	·43	+·11	·28	·54	+·26
Chittagong ..	·28	·19	—·09	·15	·13	—·02
Rangpur ..	·25	·32	+·07	·16	·20	+·04
Khulna ..	·23	·39	+·16	·17	·21	+·04
Nadia ..	·21	·34	+·13	·13	·13	±0
Bogra ..	·19	·16	—·03	·20	·16	—·04
Birbhum ..	·19	·19	±0	·13	·21	+·08
Pabna ..	·10	·16	+·06	·06	·10	+·04
Murshidabad ..	·09	·15	+·06	·04	·06	+·02
Jessore ..	·08	·30	+·22	·04	·10	+·06
Rajshahi ..	·06	·18	+·12	·03	·07	+·04
Dinajpur ..	·04	·15	+·11	·04	·06	+·02
Malda ..	·03	·33	+·30	·02	·08	+·06

73. **Dysentery and diarrhoea in towns and rural areas.**—Compared with the previous year the number of deaths was reduced by 666 in all towns including 379 in Calcutta and the death-rate by 7·9 and 10·7 per cent. respectively. In rural areas on the other hand there was an increase of 4,403 in the number of deaths and 17·5 per cent. in the death-rate. The highest death-rate in towns 7·2 per mille was returned from Nawabganj in Malda district and the lowest ·1 each from Asansol in Burdwan district, Suri in Birbhum and Dinajpur in Dinajpur. Twenty-seven towns returned death-rates below 1·0 per mille and the remaining above it. In rural areas in 7 districts, the death-rate was above 1·0 per mille, being the highest in Howrah 2·7; in the others it was below 1·0, the lowest ·2 each being registered in no less than 6 districts.

Dysentery and diarrhoea.

Years.					Number of deaths.		
					All towns.	Calcutta.	Rural areas.
1928	..	..	..	..	8,682	3,627	24,737
1929	..	..	..	..	8,016	3,248	29,140
					Death-rates per mille.		
1928	..	..	..	..	2.79	3.37	.57
1929	..	..	..	..	2.57	3.01	.67

Respiratory Diseases.

74. **General Prevalence.**—The number of deaths from respiratory diseases exceeded those in 1928 by 10,601 and the death-rate by 25.3 per cent. The death-rate was practically twice as much as the decennial average. Influenza rate increased by 20 per cent., pneumonia by 25, phthisis by 15 and other respiratory diseases by about 27 per cent. 4.83 per cent. of total provincial mortality was due to respiratory diseases compared with 3.55 in the previous year. Again, pneumonia accounted for 44.45 per cent., phthisis for 20.76, influenza for 5.68 and other respiratory diseases for 29.11 per cent. of the total deaths from respiratory diseases.

					1928.	1929.
Deaths	..	..	..	..	42,242	52,843
Death-rates	..	..	..	..	.91	1.14
Percentage of deaths from respiratory diseases to total mortality					3.55	4.83

Diseases.		Number.		Percentage of increase + or decrease —.	Death-rates per mille.		Percentage of total deaths from respiratory diseases.	
		1928.	1929.		1928.	1929.	1928.	1929.
Influenza	..	2,242	3,003	+33.9	.05	.06	5.31	5.68
Pneumonia	..	18,557	23,491	+26.6	.40	.50	43.93	44.45
Phthisis	..	9,166	10,969	+19.6	.20	.23	21.70	20.76
Other respiratory diseases	..	12,277	15,380	+25.2	.26	.33	29.06	29.11

The following table representing the deaths and death-rates from respiratory diseases in the province and rural and urban areas since 1911 shows that such deaths have been gradually increasing within the last 19 years and that this increase has been about 5 times as much in the province, about 10 times in rural areas and more than double of what it was in 1911 in the towns:—

Deaths from respiratory diseases.

Years.	Province.		Rural areas.		Urban areas.	
	No.	Rates.	No.	Rates.	No.	Rates.
1911 ..	10,088	·2	3,397	·1	6,691	2·3
1912 ..	10,352	·2	3,497	·1	6,855	2·3
1913 ..	12,063	·3	3,962	·1	8,101	2·8
1914 ..	12,389	·3	3,859	·1	8,530	2·9
1915 ..	11,733	·2	3,574	·1	8,159	2·8
1916 ..	11,675	·2	3,673	·1	8,002	2·7
1917 ..	11,510	·2	3,407	·1	8,103	2·8
1918 ..	20,901	·5	5,086	·1	15,815	5·4
1919 ..	22,117	·5	5,354	·1	16,763	5·8
1920 ..	22,609	·5	6,341	·1	16,268	5·6
1921 ..	32,367	·7	14,566	·3	17,801	5·8
1922 ..	26,371	·6	11,833	·3	14,538	4·7
1923 ..	26,655	·6	12,191	·3	14,464	4·7
1924 ..	26,649	·6	11,118	·2	15,531	5·0
1925 ..	27,325	·6	11,571	·3	15,754	5·1
1926 ..	30,589	·6	13,130	·3	17,459	5·6
1927 ..	32,911	·7	16,356	·4	16,555	5·3
1928 ..	42,242	·9	25,130	·6	17,112	5·5
1929 ..	52,843	1·1	35,895	·8	16,948	5·4

75. **Seasonal mortality.**—Attaining its minimum in June, the number of deaths began to increase till it reached its summit in December. Every month of the year recorded an increase both against the decennial average and the previous year. The greatest increase (48·4 per cent.) against the previous year occurred in November and the lowest (2·2) in May.

Seasonal Mortality from Respiratory Diseases.

Months.	Average, 1919—28.	1928.	1929.	Percentage of difference between 1928 and 1929.
January	2,964	3,972	4,627	+16·5
February	2,741	3,471	4,201	+21·0
March	3,133	4,106	4,768	+16·1
April	2,470	3,536	4,201	+18·8
May	2,169	3,262	3,335	+ 2·2
June	1,814	2,917	3,293	+12·9
July	1,857	2,947	3,647	+23·7
August	2,015	2,999	3,701	+23·4
September	1,970	3,011	4,091	+35·7
October	2,248	3,469	4,434	+27·8
November	2,670	4,022	5,969	+48·4
December	2,934	4,530	6,576	+45·1

76. **Respiratory diseases by divisions.**—While the death-rate in every division was in excess of that of the decennial average and the previous year, the greatest increase within the last 10 years appears to have occurred in Burdwan Division. 1 in 10 and 1 in 14 of the total deaths occurring in Burdwan and Presidency Divisions, respectively, were due to respiratory diseases, while in Rajshahi and Dacca the proportion was about 1 in 35 and in Chittagong 1 in 62. A little over one-third of such deaths occurred in Presidency and as many more in Burdwan Division, while the remaining one-third was registered in the other three divisions taken together.

Divisions.	Deaths from res- piratory diseases per mille.			Proportion of total deaths due to respiratory diseases.			Percentage of pro- vincial mortality from respiratory diseases.		
	Ten years.	1928.	1929.	Ten years.	1928.	1929.	Ten years.	1928.	1929.
Burdwan	1·0	1·7	2·1	3·5	6·8	9·2	28·3	33·0	32·4
Presidency	1·5	1·8	2·0	5·1	6·6	7·2	49·4	39·6	35·5
Rajshahi	0·3	0·4	0·8	0·9	1·3	2·9	9·5	9·1	15·0
Dacca	0·2	0·5	0·6	0·9	2·1	2·8	9·3	14·9	13·8
Chittagong	0·2	0·2	0·3	0·8	1·1	1·6	3·4	3·4	3·3

77. **Respiratory diseases by districts.**—Calcutta with a death-rate of 9·6 per mille stood highest on the list and Chittagong and Bakarganj (·1 per mille each) the lowest. Between these were 12 districts having death-rates between 1·0 and 4·0 and another 12 with rates above 1 but below 1·0 per mille. The death-rate was reduced against both the average of the decade and the previous year's rate in Bogra; it was also reduced in Calcutta and Howrah against the latter, while it showed an excess in both these districts compared with the former. In Chittagong too there was a reduction against the previous year, but no change against the decennial mean. In Bakarganj it was stationary, while in others it exceeded both.

Death-rates from Respiratory Diseases per mille.

Districts.	Average of decade.	1929.	Increase + or decrease —.	1928.	Increase + or decrease —.
Calcutta ..	9.0	9.6	+ .6	9.9	— .3
Howrah ..	2.9	3.6	+ .7	3.9	— .3
Darjeeling ..	2.2	3.1	+ .9	1.9	+ 1.2
Hooghly ..	1.2	2.8	+ 1.6	2.4	+ .4
24-Parganas ..	1.0	1.7	+ .7	1.2	+ .5
Jalpaiguri ..	1.0	3.1	+ 2.1	1.3	+ 1.8
Bankura ..	.9	2.4	+ 1.5	1.8	+ .6
Burdwan ..	.8	2.0	+ 1.2	1.8	+ .2
Nadia ..	.6	1.1	+ .5	1.0	+ .1
Midnapur ..	.6	1.5	+ .9	.8	+ .7
Bogra ..	.4	.3	— .1	.4	— .1
Dacca ..	.3	1.0	+ .7	.8	+ .2
Murshidabad ..	.3	.3	± 0	.2	+ .1
Birbhum ..	.3	1.3	+ 1.0	.9	+ .4
Tippera ..	.3	.4	+ .1	.3	+ .1
Khulna ..	.2	.8	+ .6	.6	+ .2
Faridpur ..	.2	1.1	+ .9	1.1	± 0
Jessore ..	.2	.5	+ .3	.2	+ .3
Mymensingh ..	.2	.3	+ .1	.2	+ .1
Dinajpur ..	.1	.5	+ .4	.2	+ .3
Chittagong ..	.1	.1	± 0	.2	— .1
Bakarganj ..	.1	.1	± 0	.1	± 0
Malda ..	.1	.2	+ .1	.1	+ .1
Pabna ..	.1	.6	+ .5	.2	+ .4
Rajshahi ..	.09	.3	+ .21	.1	+ .2
Rangpur ..	.08	.6	+ .52	.3	+ .3
Noakhali ..	.05	.2	+ .15	.1	+ .1

78. **Respiratory diseases in towns and rural areas.**—A little less than one-third of the total deaths due to respiratory diseases occurred in all towns and a little over two-thirds in rural areas. Calcutta again was responsible for more than 61 per cent. of all town deaths. Compared with the previous year, while the death-rate in rural areas was in excess of the former by 33.3 per cent., it was reduced in all towns by 1.8 and in Calcutta by 3.0 per cent. Eleven rural areas returned death-rates above 1.0 per mille and 15 below it. Khirpai town returned the highest rate 11.2 per mille; 95 others between 10 and 1 per mille and the remaining 22 below 1 per mille. Baduria and Titagarh both in the 24-Parganas returned the lowest rate .1 per mille each.

Deaths and death-rates from Respiratory Diseases.

Years.				Number of deaths.		
				All towns.	Calcutta.	Rural areas.
1928	..	..	..	17,112	10,633	25,130
1929	..	..	..	16,948	10,391	35,895
Death-rates per mille.						
1928	..	..	..	5.5	9.9	.6
1929	..	..	..	5.4	9.6	.8

Influenza.

79. **General Prevalence.**—Influenza claimed 3,003 victims against 2,242 in 1928 and against 20,901 in 1918—the influenza pandemic year. The death-rate was increased by 20 per cent. The number of deaths was practically the same in all towns and Calcutta as in the previous year. Calcutta, however, was responsible for more than 80 per cent. of deaths in all towns. In rural areas the death-rate increased by 50 per cent. Eleven of the rural areas returned death-rates between $\cdot 1$ and $1\cdot 0$ per mille, 14 between $\cdot 01$ and $\cdot 1$ per mille and one—Bakarganj $\cdot 002$ per mille. No death from this cause was reported from 80 out of 118 towns. Of the towns that registered deaths from this cause, 29 had death-rates between $\cdot 1$ and $1\cdot 0$ per mille and the rest below $\cdot 1$ per mille.

Deaths and death-rates from Influenza.

Years.	Number of deaths.			
	Province.	All towns.	Calcutta.	Rural areas.
1918	20,901	..	..	..
1928	2,242	598	481	1,644
1929	3,003	591	478	2,412
Death-rates per mille.				
1928	$\cdot 05$	$\cdot 19$	$\cdot 45$	$\cdot 04$
1929	$\cdot 06$	$\cdot 19$	$\cdot 44$	$\cdot 06$

80. **Influenza by divisions.**—The crude death-rate was highest in Presidency and lowest in Dacca and Chittagong Divisions. It exceeded the previous year's rate in Presidency, Rajshahi and Chittagong, but showed no change in the remaining two. Influenza was responsible for 1 in 9 deaths from respiratory diseases in Chittagong, 1 in 10 in Rajshahi, 1 in 20 in Presidency, 1 in 21 in Dacca and 1 in 25 in Burdwan. Again the highest number, i.e., about one-third of the total deaths from Influenza were registered in Presidency and one-sixteenth in Chittagong.

Influenza by Divisions.

Divisions.	Influenza deaths per mille of population.		Proportion of total mortality from respiratory diseases due to influenza.		Percentage of provincial influenza mortality.	
	1928.	1929.	1928.	1929.	1928.	1929.
Burdwan ..	$\cdot 08$	$\cdot 08$	4.7	4.0	29.5	22.9
Presidency ..	$\cdot 08$	$\cdot 10$	4.3	5.2	32.2	32.8
Rajshahi ..	$\cdot 04$	$\cdot 08$	10.0	10.1	17.2	26.5
Dacca ..	$\cdot 03$	$\cdot 03$	5.5	4.7	15.5	11.4
Chittagong ..	$\cdot 02$	$\cdot 03$	8.7	11.0	5.6	6.4

81. **Influenza by districts.**—Eight districts returned death-rates above the provincial average, of which Calcutta had '44 per mille, the same as in the previous year. Jalpaiguri, which recorded a rate of '19 per mille in 1928, had '45 to its credit in 1929. In Bankura, 24-Parganas, Nadia and Burdwan, the rate was increased by '09, '07, '03 and '01 per mille, respectively, against the previous year. In the districts that returned rates below the provincial average, it was increased in all but 6 in which it was reduced, while there was no change in one. Chittagong returned the lowest rate '006 per mille.

Death-rates from Influenza per mille.

Districts.	1928.	1929.	Increase + or decrease —.
Calcutta	·44	·44	±0
Jalpaiguri	·19	·45	+ ·26
Howrah	·18	·09	— ·09
Darjeeling	·17	·16	— ·01
Bankura	·12	·21	+ ·09
Hooghly	·10	·06	— ·04
Bogra	·09	·04	— ·05
Burdwan	·09	·10	+ ·01
Nadia	·08	·11	+ ·03
Dacca	·06	·05	— ·01
24-Parganas	·04	·11	+ ·07
Tippera	·04	·06	+ ·02
Faridpur	·04	·03	— ·01
Birbhum	·04	·05	+ ·01
Midnapur	·03	·04	+ ·01
Bakarganj	·02	·001	— ·019
Khulna	·01	·01	±0
Chittagong	·01	·006	— ·004
Dinajpur	·01	·03	+ ·02
Pabna	·01	·03	+ ·02
Mymensingh	·01	·02	+ ·01
Rangpur	·01	·05	+ ·04
Jessore	·005	·02	+ ·015
Murshidabad	·004	·01	+ ·006
Rajshahi	·003	·04	+ ·037
Noakhali	·003	·01	+ ·007
Malda	..	·01	+ ·01

Pneumonia.

82. **General Prevalence.**—4,934 more deaths from this cause were reported in 1929 than the previous year raising the death-rate in the province by 25 per cent. While the death-rate was reduced by 2·5 per cent. in all towns and 3·9 in Calcutta, it exceeded the rural rate by 48·0 per cent. The all towns' rate was about 6 times as high as in the rural areas. Four of the rural areas returned rates between 1 and 2 per mille, the highest being 1·9 in Hooghly; 19 others between '1 and 1 per mille and the remaining 3—Malda, Bakarganj and Noakhali '04, '03 and '01 per mille respectively. With the exception of Titagarh, Murshidabad, Debhata, Kishorganj, Bajitpur and Noakhali, all the

others reported deaths from pneumonia, the highest rate 8·5 per mille being returned from Khirpai and the lowest 1 per mille each from Baduria, Pabna, Netrakona, Gauripur, Pirojpur, Patuakhali and Brahmanbaria.

Deaths and death-rates from Pneumonia.

Years.			Number of deaths.			
			Province.	All towns.	Calcutta.	Rural areas.
1928	..	..	18,557	7,560	4,370	10,997
1929	..	..	23,491	7,373	4,195	16,118
			Death-rates per mille.			
1928	..	..	·40	2·43	4·05	·25
1929	..	..	·50	2·37	3·89	·37

83. **Pneumonia by divisions.**—The crude death-rate from pneumonia was highest in Burdwan (1·07 per mille) followed by Presidency (·77). Eastern Bengal districts had the lowest death-rate. The rate was lowered in Presidency, but increased in others, especially in Rajshahi. About half of the total respiratory deaths in Burdwan were due to pneumonia and a little less than that in Rajshahi and Presidency Divisions, about a third in Dacca and a little more than one-fourth in Chittagong. Again 72 per cent. of total pneumonia deaths occurred in Burdwan and Presidency Divisions, while the remaining 28 per cent. in the other three divisions, Chittagong recording only 2 per cent. of such deaths.

Pneumonia by Divisions.

Divisions.	Pneumonia deaths per mille of population.		Proportion of total mortality from respiratory diseases due to pneumonia.		Percentage of provincial pneumonia mortality.	
	1928.	1929.	1928.	1929.	1928.	1929.
Burdwan ..	·91	1·07	52·4	50·3	39·4	36·6
Presidency ..	·78	·77	44·2	44·3	39·8	35·4
Rajshahi ..	·15	·35	40·4	46·3	8·4	15·6
Dacca ..	·15	·19	31·7	33·0	10·8	10·2
Chittagong ..	·05	·08	21·1	28·5	1·6	2·1

84. **Pneumonia by districts.**—Ten districts returned death-rates above the provincial average for pneumonia. Calcutta stood at the top with a death-rate of 3·89 per mille; 5 registered rates between 1 and 2 per mille, 16 between ·1 and 1 per mille, and 5 below ·1 per mille. Noakhali had the lowest rate ·007 per mille. Compared with the previous year the death-rates were increased in all the districts but 5 in which they were reduced. The greatest excess ·99 per mille was noticed in Jalpaiguri.

Death-rates from Pneumonia per mille.

Districts.	1928.	1929.	Increase + or decrease—.
Calcutta	4·05	3·89	—·16
Hooghly	1·54	1·77	+·23
Howrah	1·53	1·35	—·18
Burdwan	1·16	1·06	—·10
Bankura	·83	·96	+·13
Darjeeling	·74	1·24	+·50
24-Parganas	·65	·85	+·20
Jalpaiguri	·63	1·62	+·99
Midnapur	·53	·94	+·41
Nadia	·51	·56	+·05
Faridpur	·41	·40	—·01
Birbhum	·24	·38	+·14
Dacca	·22	·36	+·14
Khulna	·22	·36	+·14
Murshidabad	·12	·15	+·03
Rangpur	·12	·22	+·10
Jessore	·10	·27	+·17
Chittagong	·09	·10	+·01
Bogra	·09	·11	+·02
Dinaipur	·07	·32	+·25
Pabna	·07	·25	+·18
Tippera	·06	·12	+·06
Bakarganj	·06	·04	—·02
Rajshahi	·05	·08	+·03
Malda	·04	·08	+·04
Mymensingh	·04	·06	+·02
Noakhali	·003	·007	+·004

Phthisis.

85. **General Prevalence.**—The number of deaths from this cause increased by 1,803 in the province and the death-rate by 10 per cent. In all towns this number was reduced by 33, of which Calcutta claimed 9; in rural areas the deaths exceeded the previous year's number by 1,836 and the death-rate by 30·8 per cent. The death-rate in towns was about seven times as high as in rural areas. The highest death-rate in rural areas 1·1 per mille was returned from Darjeeling; with the exception of 5, all the other rural areas registered rates between ·1 and 1 per mille. Noakhali had the lowest rate of ·003 per mille. Fourteen towns did not report any death from phthisis. Nine towns returned rates above 1·0, Darjeeling standing highest (3·0) followed by Calcutta (2·4); 92 others between ·1 and 1 per mille, the lowest being registered in Kishorganj (·05), Rajbari and Mymensingh (·04 each).

Years.			Number of deaths.			
			Province.	All towns.	Calcutta.	Rural areas.
1928	..	..	9,166	3,646	2,600	5,520
1929	..	..	10,969	3,613	2,591	7,356
			Death-rates per mille.			
1928	..	..	·20	1·17	2·41	·13
1929	..	..	·22	1·16	2·40	·17

86. **Phthisis by divisions.**—The crude death-rates were highest in Presidency and Burdwan Divisions—·45 and ·38 per mille respectively, Chittagong returning the lowest rate ·05 per mille. Compared with the previous year they exceeded in all the divisions except Chittagong where there was no change. About one in 4 or 5 of the total deaths occurring in Presidency, Rajshahi and Dacca Divisions from respiratory causes were due to phthisis and about one in 6 in Burdwan and Chittagong Divisions. Again, about two-fifths of the total deaths from phthisis were registered in Presidency Division, about three-tenths in Burdwan, leaving the remaining about one-third for the other three divisions taken together.

Phthisis by Divisions.

Divisions.	Phthisis deaths per mille of population.		Proportion of total mortality from respiratory diseases due to phthisis.		Percentage of provincial phthisis mortality.	
	1928.	1929.	1928.	1929.	1928.	1929.
Burdwan ..	·31	·38	18·0	17·9	27·4	28·0
Presidency ..	·41	·45	23·3	22·7	42·6	38·8
Rajshahi ..	·10	·17	26·5	22·1	11·1	16·0
Dacca ..	·11	·12	22·6	21·9	15·5	14·6
Chittagong ..	·05	·05	21·7	16·4	3·4	2·6

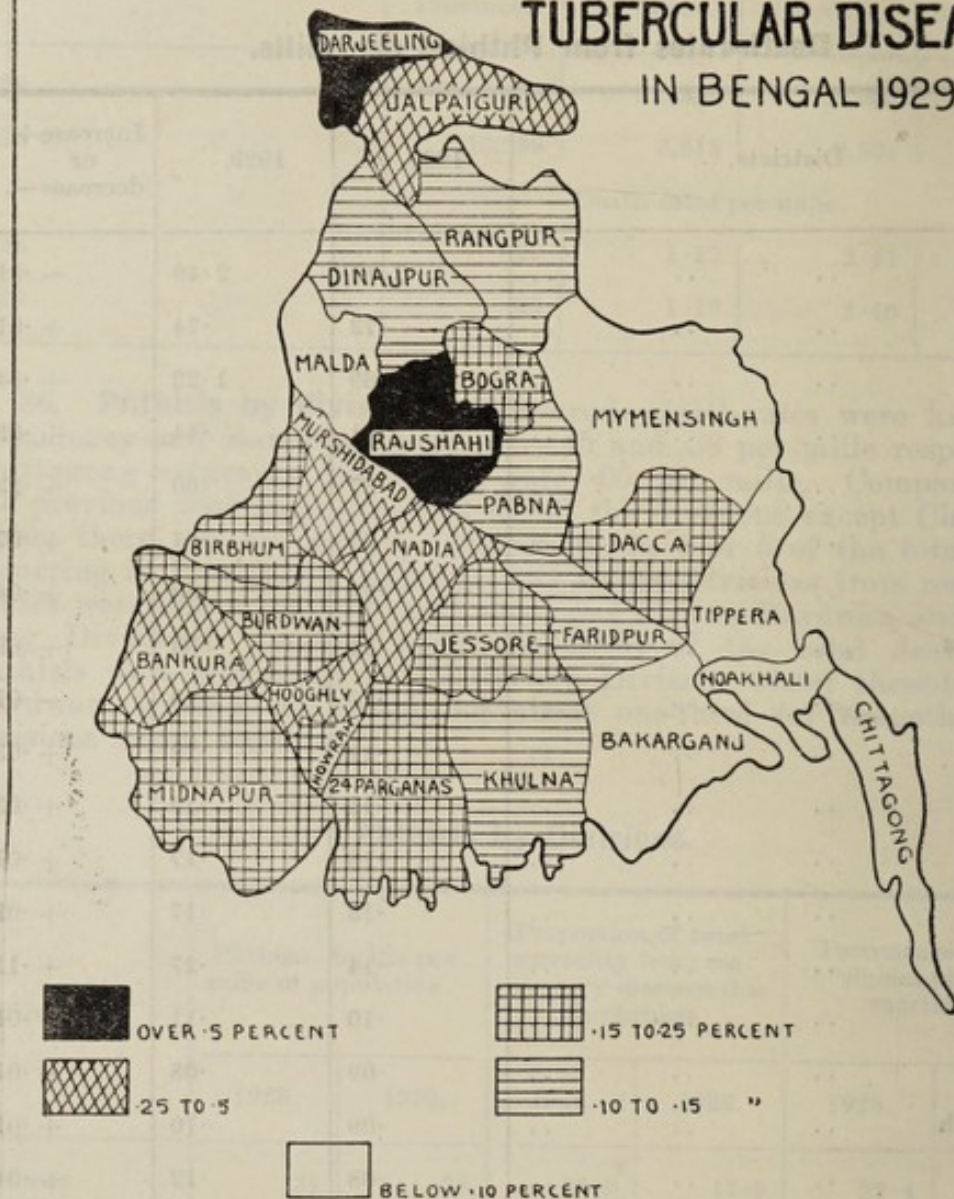
87. **Phthisis by districts.**—In 9 districts, the death-rate from phthisis was above the average rate for the province. The death-rate from this cause in common with other respiratory diseases was highest in Calcutta (2·40 per mille). Darjeeling stood next (1·23 per mille). Seventeen others returned rates between ·1 and 1 per mille and the remaining 8 below ·1 per mille, Noakhali being placed at the bottom of the list with a rate of ·005 per mille. Compared with the

previous year, an increase was reported from all the districts except 4 in which there was a reduction and 2 in which the rates continued the same.

Death-rates from Phthisis per mille.

Districts.				1928.	1929.	Increase + or decrease —.
Calcutta	..	..	..	2.41	2.40	— .01
Howrah	..	..	..	.73	.74	+ .01
Darjeeling	..	..	..	.69	1.23	+ .54
Hooghly	..	..	..	.41	.44	+ .03
Jalpaiguri	..	..	..	.37	.60	+ .23
Bankura	..	..	..	.37	.44	+ .07
Burdwan	..	..	..	.29	.33	+ .04
24-Parganas	..	..	..	.24	.33	+ .09
Nadia	..	..	..	.20	.19	— .01
Birbhum	..	..	..	.19	.22	+ .03
Dacca	..	..	..	.16	.19	+ .03
Faridpur	..	..	..	.16	.17	+ .01
Khulna	..	..	..	.15	.17	+ .02
Midnapur	..	..	..	.14	.27	+ .13
Bogra	..	..	..	.10	.11	+ .01
Tippera	..	..	..	.09	.08	— .01
Mymensingh	..	..	..	.09	.10	+ .01
Jessore	..	..	..	.08	.12	+ .04
Rangpur	..	..	..	.07	.11	+ .04
Pabna	..	..	..	.06	.15	+ .09
Bakarganj	..	..	..	.04	.04	± 0
Murshidabad	..	..	..	.04	.09	+ .05
Chittagong	..	..	..	.03	.03	+ 0
Dinajpur	..	..	..	.02	.08	+ .06
Rajshahi	..	..	..	.02	.03	+ .01
Malda	..	..	..	.02	.05	+ .03
Noakhali	..	..	..	.01	.005	— .005

MAP SHOWING TUBERCULAR DISEASE IN BENGAL 1929



88. **Other Respiratory Diseases.**—These were responsible for 10,009 deaths in rural areas and 5,371 in towns or a total of 15,380 against 6,969, 5,308 and 12,277, respectively, in 1928. The death-rates, however, remained the same during the two years.

89. From the following statement showing the deaths and death-rates from influenza, pneumonia, phthisis and other respiratory diseases in the province since 1921, it appears that deaths from pneumonia have been practically doubled, with phthisis approaching three times as much within the last nine years. No reliance can, however, be placed on these numbers and it will be many years perhaps before any accuracy in registration is to be expected. Taking Calcutta as a guide where such occurrences are more carefully reported and registered these

numbers are certainly understated. It is, however, expected now that the rural health organisation is complete in the province, that deaths from these causes as well as from others will in future be registered more carefully, accurately and truthfully.

Bengal Presidency.

Years.	Influenza.		Pneumonia.		Phthisis.		Other respiratory diseases.	
	Deaths.	Death-rates.	Deaths.	Death-rates.	Deaths.	Death-rates.	Deaths.	Death-rates.
1921 ..	4,751	0·1	11,567	0·2	4,055	0·1	11,994	0·3
1922 ..	2,408	0·05	10,615	0·2	4,477	0·1	8,871	0·2
1923 ..	1,906	0·04	10,767	0·2	4,942	0·1	9,040	0·2
1924 ..	1,676	0·03	11,490	0·2	5,577	0·1	7,906	0·2
1925 ..	1,901	0·04	11,259	0·2	6,079	0·1	8,086	0·2
1926 ..	1,817	0·03	11,294	0·3	7,032	0·1	9,446	0·2
1927 ..	1,836	0·04	13,718	0·3	7,689	0·2	9,668	0·2
1928 ..	2,242	0·05	18,557	0·4	9,166	0·2	12,277	0·3
1929 ..	3,003	0·1	23,491	0·5	10,969	0·2	15,380	0·3

Injuries.

90. **General Prevalence.**—The total number of injuries was reduced by 300. Suicides and snake bites were less by 420 and 287, respectively, but there were 334 more deaths from wounds and accidents and 73 more from rabies. Injuries were responsible for 1·8 per cent. of the total provincial mortality.

					1928.	1929.
Deaths from injuries—						
Suicides	..	..	..	..	3,190	2,770
Wounds and accidents	..	..	..	..	12,103	12,437
Snake-bites and attacks of wild animals	..	..	..	..	4,542	4,255
Rabies	..	..	..	..	467	540
Total					20,302	20,002
Death-rates per mille—						
Suicides	..	..	..	..	·07	·06
Wounds and accidents	..	..	..	..	·26	·27
Snake-bites and attacks of wild animals	..	..	..	..	·10	·09
Rabies	..	..	..	..	·01	·01
Total					·44	·43

91. **Deaths due to injuries in towns and rural areas.**—1,818 deaths occurred in towns, of which 848 were in Calcutta alone and 18,184 in rural areas, against 1,636, 694 and 18,666, respectively, in 1928. There was thus an increase of 182 deaths in all towns, including 154 in Calcutta and a reduction of 482 in rural areas. Compared with the previous year, suicides were reduced by 16 in all towns, 3 in Calcutta and 404 in rural areas and snake-bites by 8 in all towns and 279 in rural areas; on the other hand wounds and accidents increased by 185 in all towns, 148 in Calcutta and 149 in rural areas and rabies by 21 in all towns and 9 in Calcutta and 52 in rural areas.

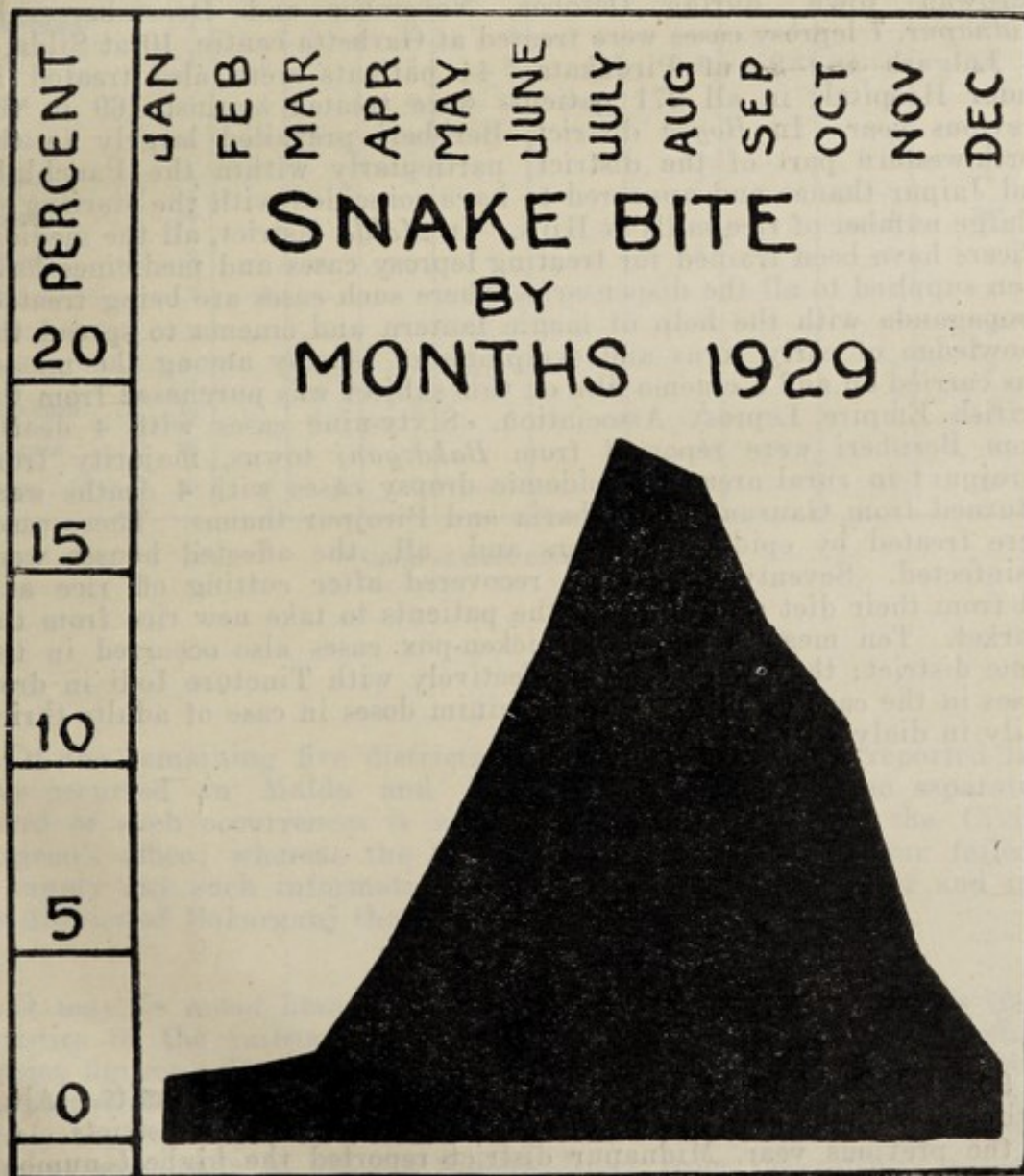
Causes.	Deaths.			Death-rates per mille.		
	All towns.	Calcutta.	Rural areas.	All towns.	Calcutta.	Rural areas.
Suicides ..	159	22	2,611	·05	·02	·06
Wounds and accidents ..	1,491	796	10,946	·48	·74	·25
Snake-bites and attacks from wild animals	106	..	4,149	·03	..	·09
Rabies ..	62	30	478	·02	·03	·01
Total—						
1929 ..	1,818	848	18,184	·58	·79	·42
1928 ..	1,636	694	18,666	·53	·64	·43

92. **Deaths due to injuries by districts.**—The highest death-rate from suicide (·17 per mille) was returned from Jessore, from wounds and accidents (·74) from Calcutta, from snake-bites (·22) from Murshidabad and from rabies (·03) from Calcutta, the lowest ·01 each from Tippera and Chittagong, ·13 from Dinajpur, ·02 from Tippera, and ·002 from Bakarganj, respectively, for these diseases. Calcutta reported no death from snake-bite, and Darjeeling and Chittagong nil from rabies.

Districts.	Suicides.		Wounds and accidents.		Snake-bites.		Rabies.	
	Deaths.	Death-rates.	Deaths.	Death-rates.	Deaths.	Death-rates.	Deaths.	Death-rates.
Burdwan ..	96	·07	385	·27	188	·13	18	·01
Birbhum ..	65	·08	205	·24	83	·10	16	·02
Bankura ..	70	·07	280	·27	132	·13	8	·008
Midnapur ..	82	·03	1,028	·38	376	·14	54	·02
Hooghly ..	80	·07	302	·28	150	·14	12	·01
Howrah ..	138	·14	360	·36	80	·08	20	·02
24-Parganas	348	·14	759	·31	273	·11	31	·01
Calcutta ..	22	·02	796	·74	..	..	30	·03
Nadia ..	174	·12	318	·21	217	·14	32	·02
Murshidabad	92	·07	303	·24	285	·22	19	·01
Jessore ..	288	·17	321	·18	251	·14	16	·009
Khulna ..	189	·13	511	·35	235	·16	30	·02
Rajshahi ..	146	·10	356	·24	315	·21	14	·009
Dinajpur ..	76	·04	223	·13	159	·09	7	·004
Jalpaiguri ..	27	·03	184	·20	65	·07	10	·01
Darjeeling ..	21	·07	58	·20	19	·07	..	..
Rangpur ..	72	·03	371	·15	164	·06	37	·01
Bogra ..	65	·06	245	·23	73	·07	10	·009
Pabna ..	78	·06	353	·25	171	·12	28	·02
Malda ..	44	·04	148	·15	174	·18	14	·01
Dacca ..	127	·04	682	·22	92	·03	25	·008
Mymensingh	131	·03	798	·16	161	·03	34	·007
Faridpur ..	96	·04	396	·18	172	·08	52	·02
Bakarganj ..	150	·06	1,064	·40	201	·08	6	·002
Chittagong ..	23	·01	782	·48	85	·05	..	..
Noakhali ..	35	·02	826	·56	80	·05	7	·005
Tippera ..	35	·01	383	·14	54	·02	10	·004

(a) *Suicide*.—In rural areas the female suicides exceeded the males by 467; this increase occurred in all the districts except 7; in towns, however, it was the males that increased by 11, giving a total increase of 456 females over male suicides in the province.

(b) *Snake-bites*.—105 cases of snake-bites were reported as having been treated in the various hospitals and dispensaries in 12 districts; of these, details of treatment have been given only for a few cases and even these are unsatisfactory. Thirty-five are reported to have been treated with potassium permanganate and 1 with antivenéne; 27 of the former and the latter are said to have been cured and 8 died. No information whatever has been furnished by Burdwan, Howrah, 24-Parganas and Dacca. The following diagram shows snake-bites by months:—



93. **All other causes.**—169,234 deaths were reported from all other causes, of which 23,242 occurred in towns and 145,992 in rural areas, against 161,240, 22,218 and 139,022 respectively. The death-rates were 3·6, 7·5 and 3·4 per mille against 3·5, 7·1 and 3·2, respectively, in the previous year.

94. **Other epidemic diseases.**—Leprosy cases were very frequent in *Bankura* district and the disease appears to be spreading. There is one leper home under the Wesleyan Mission in *Bankura* town and 3 treatment centres were opened by the District Board. The District Magistrate notes that the attendance was quite large and cures wonderful, but more such centres are required. There was an epidemic of Beri-beri in some villages of Indas police-station in the same district. Beri-beri was also prevalent in many parts of *Burdwan* district in an epidemic form and the death-rate from this cause was appalling in *Burdwan* town during October, November and December. In *Midnapur*, 7 leprosy cases were treated at Garbetta centre, 10 at Silda, 4 at Lalgah and 25 at Pirdakata. 44 patients were also treated in Sadar Hospital; in all 271 patients were treated against 169 in the previous year. In *Bogra* district, Beri-beri prevailed largely in the north-western part of the district, particularly within the Panchbibi and Jaipur thanas and appeared to have coincided with the starting of a large number of rice mills at Hilli. In *Malda* district, all the medical officers have been trained for treating leprosy cases and medicines have been supplied to all the dispensaries where such cases are being treated. Propaganda with the help of magic lantern and cinema to spread the knowledge of early signs and symptoms of leprosy among the masses was carried on and a cinema film on this subject was purchased from the British Empire Leprosy Association. Sixty-nine cases with 4 deaths from Beri-beri were reported from *Bakarganj* towns, majority from Pirojpur; in rural areas 82 epidemic dropsy cases with 4 deaths were returned from Gaurnadi, Mathbaria and Pirojpur thanas. These cases were treated by epidemic doctors and all the affected houses were disinfected. Seventy-eight cases recovered after cutting off rice and oil from their diet and allowing the patients to take new rice from the market. Ten measles and 143 chicken-pox cases also occurred in the same district; they were treated effectively with Tincture Iodi in drop doses in the case of children and 5 minim doses in case of adults thrice daily in dialysed form in milk.

Miscellaneous.

95. **Registration of births and deaths in railway limits.**—Altogether 868 births and 954 deaths were reported from 21 districts. As in the previous year, *Midnapur* district reported the highest number of births and deaths, namely, 710 and 735 respectively. The following table shows the distribution of the railway statistics among those districts.

Districts.	Births.	Deaths.								
		Cho- lera.	Small- pox.	Fever.	Dysen- tery.	Diar- rhœa.	Respi- ratory diseases.	In- juries.	Other causes.	Total.
Burdwan ..	3	1	..	1	..	..	..	..	1	3
Birbhum ..	6	..	..	1	..	..	..	1	..	2
Bankura ..	1	..	..	..	..	..	..	..	..	..
Midnapur ..	710	25	5	47	31	..	110	12	505	735
Hooghly ..	4	..	..	..	..	..	..	1	2	3
Howrah ..	24	9	1	15	3	..	7	..	20	55
24-Parganas ..	8	..	..	..	..	..	1	..	..	1
Nadia ..	4	..	..	..	..	..	..	..	..	..
Murshidabad ..	4	..	..	3	..	..	..	1	..	4
Jessore ..	4	2	..	2	3	..	3	2	..	12
Khulna ..	6	1	..	5	..	..	..	..	1	7
Rajshahi ..	5	1	..	4	..	..	..	..	1	6
Dinajpur ..	4	..	..	3	..	..	1	..	..	4
Jalpaiguri ..	19	..	..	..	..	..	..	..	1	70*
Rangpur ..	2	..	..	..	..	..	1	1	1	3
Bogra ..	3	2	..	..	..	..	..	1	4	7
Pabna ..	7	..	..	..	..	..	..	..	..	8*
Dacca ..	..	..	..	..	..	..	..	..	1	1
Mymensingh ..	14	..	..	5	1	..	1	..	1	8
Chittagong ..	20	..	..	3	..	1	1	..	1	6
Tippera ..	20	3	5	2	..	..	8	..	1	19

* Causes of death not specified.

Of the remaining five districts, no birth or death was reported to have occurred in Malda and Noakhali; in Darjeeling no separate record of such occurrences is said to have been kept in the Civil Surgeon's office; whereas the railway authorities of Faridpur failed to supply any such information to the District Health Officer and in the district of Bakarganj there is no railway area.

It may be noted here that according to the current procedure the statistics of the railway areas are supposed to be included in the district figures. But in the district annual public health reports for the year under review majority of the district health officers could not supply separate figures for their respective railway areas. Hence an attempt was made to get the figures direct from the railway authorities. From the records received it appears that the registration of vital statistics within railway limits for the present leaves much that is to be desired.

96. Asansol Mining Settlement.—

	1928.	1929.	Percentage of differences.
Births	9,225	8,934	-3·05
Birth rate	28	27	-3·6
Infant deaths	1,283	1,296	+1·01
Infant death rate (per 1,000 of births)	139	145	+4·3
Child deaths (1—5)	643	742	+15·4
Child death rate (per mille)	70	83	+18·5
Total deaths	6,896	7,644	+10·8
Death rate—			
Cholera	292	518	+77·4
Smallpox	13	42	+223·08
Fever (malaria)	1,151	1,351	+17·4
Dysentery and Diarrhoea	310	190	-38·7
Plague	1	..	-100·0
Influenza	4	2	-50·0
Respiratory diseases	1,581	1,425	-9·2
Snake bite	25	20	-20·0
Other causes	3,519	4,096	+16·4

Births decreased by 291, while deaths showed an increase of 748 over those of the previous year. The total number of deaths was the highest since 1922 ; it rose from 6,048 in 1922 to 7,644 in 1929. Infant deaths and child deaths (1—5 years) increased by 13 and 99, respectively, as compared with the previous year. Infant mortality has been gradually increasing within the last five years with the result that in 1929 it attained exactly the same rate as it had in 1924—145 per 1,000 of births. No explanation has been offered by the Chief Sanitary Officer of this steady rise. The same registering agency was employed during the year as previously. All the vital occurrences are reported to have been systematically verified by the Board's investigating staff. No omission being detected, there was no prosecution. Only 2 deaths are reported to have occurred within the railway limits during the year, but no births. 1,076 cases of cholera with 518 deaths occurred against 537 cases with 292 deaths during the previous year. Routine measures of disinfection and administration of essential oils cholera mixture are said to have kept the disease confined to its local origin. No inoculation is reported to have been performed. Smallpox claimed 42 deaths among its 354 victims against 13 deaths and 143 cases in 1928. Outbreaks of malaria were reported during the year, 1,351 deaths from "fever" being registered against 1,151 during the previous year. The progress of other diseases in the Mining Settlement is shown in the above table. In the collieries under the Board, 128 deaths occurred from cholera, 9 from smallpox, 48 from malaria, 49 from dysentery and diarrhoea, 244 from respiratory diseases and 1 from influenza. Sterilisation of wells in the collieries during the hot and rainy season and of the infected village tanks when occasion required was undertaken as usual.

97. **Sanitation in the Ports of Calcutta and Chittagong.**—

(a) **Port of Calcutta.**—(i) *Inspection of vessels.*—1,503 inward bound and 1,594 outward bound vessels were inspected during the year 1929 against 1,435 and 1,482, respectively, in the previous year. The number of crew and passengers of both inward and outward bound vessels inspected, disinfected and rejected was as follows:—

Vessels.	Crew.		Passengers.	
	Passed.	Rejected.	Passed.	Rejected.
Outward	130,223	116	134,349	283
Inward	123,229	..	106,107	..

The city and port of Calcutta being free from plague, no routine disinfection was done of clothings and beddings of Asiatic and African members of the crew and of third class deck passengers of ships leaving for any port beyond British India. 25,500 European and 97,729 Asiatic seamen on inward bound vessels and 27,553 European and 102,670 Asiatic seamen on outward bound vessels were inspected, in addition to 6,689 boats, lighters, etc. 75 cases of sickness were reported from the harbour against 131 in the previous year.

(ii) *Public Health, European.*—25,694 European seamen arrived in the port in 1929 against 26,645 in 1928. Four deaths (1 from smallpox and 3 from other causes) were reported in hospitals. The admission rate to hospitals for all causes calculated on arrivals was 23·5 per mille and the death rate ·15 per mille. Admissions were classified as follows: 2 from cholera, 2 from smallpox, 18 from malaria, 4 from enteric fever, 22 from diarrhoea, 33 from dysentery, 9 from influenza and 514 from other causes, making a total of 604 against 657 in previous year. 90 cases of venereal diseases were also admitted. Three deaths (1 from heart failure and 2 from injury) were registered at the Shipping Office, the death rate being ·11 per mille on arrivals against ·22 in 1928.

(iii) *Public Health, Asiatic.*—154 deaths (13 from cholera, 2 from bowel complaint, 56 from accidental injuries, 26 from drowning, 1 from electrical shock, 1 by suicide and 55 from natural causes) giving a death rate of 8·35 per mille were reported by the police against 153 with a rate of 8·29 per mille in the previous year. 99 cases were admitted to various hospitals, of which 7 died, 6 from cholera and 1 from influenza. 13 deaths from cholera, 2 from bowel complaints, and 53 from fever occurred amongst the Asiatic floating population.

(iv) *Infectious disease.*—Seven ships with infectious disease on board arrived in the port during the year under review; the patients were removed to hospital and necessary precautionary measures were taken. No case of infectious disease was reported to have occurred on undecked native sea-going crafts. No case of sleeping sickness or leprosy was detected on any vessel entering the port.

(v) *Disinfection and fumigation.*—Twenty-two sea-going vessels, 12 inland steamers, flats and launches and 22 lighters, bhars and dinghis were disinfected and 73 sea-going vessels fumigated with the Clayton Apparatus.

(vi) *Vaccination.*—200 persons amongst the floating population were vaccinated free of charge.

(b) **Port of Chittagong.**—(i) *Inspection of vessels.*—236 inward bound and 65 outward bound vessels were inspected during the year against 257 and 55, respectively, in 1928. The number of crew and passengers inspected are shown below:—

Vessels.	Crew.		Passengers.	
	Passed.	Rejected.	Passed.	Rejected.
Outward	4,574	1	..	..
Inward	20,369	..	93,821	..

(ii) *Public Health, European.*—2,713 seamen arrived at the port against 2,963 in 1928. There was no death in hospital. The admission rate calculated on arrival figure was 5.93 per mille. Sixteen cases (2 suffering from dysentery, 2 from simple fever, 1 from influenza and 11 from other causes) were admitted to the hospitals.

(iii) *Public Health, Asiatic.*—73 Asiatic seamen were admitted in the Chittagong General Hospital, 2 suffering from cholera, 6 from malaria, 20 from simple fever, 10 from diarrhoea and dysentery, 6 from influenza, 1 from chicken pox and 28 from other causes; of these 2 died. Many cases of beri-beri arrived in the port from Burma; some of these proved fatal.

(iv) *Disinfection and fumigation.*—Disinfection of the personal effects of 183 native crew was carried out and 2 ships fumigated in the year.

(v) *Vaccination and Anti-cholera inoculation.*—259 crew were vaccinated and 282 anti-cholera inoculations were performed during the year under review.

Public Health Laboratories.

98. I.—Bengal Public Health Laboratory.—

(a) *Routine Examination—*

	1928.	1929.	Increase + or decrease —.	Percent- age of increase or decrease.
Chemical	3,501	3,681	+180	5.1
Bacteriological	5,501	5,663	+162	2.9
Food	2,422	3,486	+1,064	43.9
Total	11,424	12,830	+1,406	12.3

Of the chemical samples examined, 1,473 were water and 885 septic tank effluents (routine) and the rest special, consisting of 641 water, 599 septic tank effluents and 83 others. The bacteriological samples were made up of 3,617 water and 906 septic tank effluents (routine) and 1,140 special. Of the food samples, 1,116 were received from district boards, 1,687 from municipalities, 529 from the Calcutta Carmichael

Hospital and 154 from other sources. The percentage of adulteration found in the foodstuffs was as follows:—

Foodstuffs.	Percentage of adulteration in District Board samples.	Percentage of adulteration in Municipal samples.	Percentage of adulteration in total samples.
Ghee	58.8	43.8	48.2
Mustard oil	77.7	43.8	62.0
Milk	92.9	73.2	65.2
Wheat flour	26.1	14.4	16.7
Tea*	..	15.1	14.3
Butter†	..	45.5	50.0
Foodstuffs fried in ghee	..	40.9	40.9
Foodstuffs fried in mustard oil	..	30.8	30.8

* Only two samples of genuine tea received.

† Not a single sample received.

Out of 529 samples of milk received from the Calcutta Carmichael Hospital, only 2 were found to be deficient in fat.

The District Boards of Burdwan, Bankura, Rangpur and Rajshahi did not send a single sample of foodstuff. The largest number of samples received was 391 from Murshidabad, 231 from Nadia, 125 from Pabna and 116 from Howrah; Hooghly and Malda sent only one sample each, Khulna 2, Jessore 3 and 24-Parganas 4. Out of the 90 municipalities under the jurisdiction of the Calcutta Laboratory, 44 did not send a single sample, Kamarhati, Murshidabad, Nawabganj and Sonamukhi sent one sample each, while the largest number received was 714 from Howrah, 139 from Nabadwip, 65 from Baranagar, 56 from Budge Budge, 55 from Berhampur, 53 from Bhatpara and 48 from the Krishnagar Municipality.

(b) *Research Work.*—(1) *Applicability of Koser's Citrate Utilisation test in the sanitary analysis of Bengal waters to determine bacteriologically whether organisms of the Colon-aerogenes group are likely to be of faecal origin.* The results so far obtained did not by any means prove the inferiority of Clemesha's method, but when citrate utilisation method was combined with methyl-red and Vosges Proskauer's reactions a more accurate idea of the source of pollution of a particular sample of water was obtained.

(2) *Effect of storage of antiseptics and disinfectants on Rideal Walker value in the tropics.*—This work which was started in the previous year was continued in 1929. The results obtained so far go to show that storage does not seriously affect the Rideal Walker value. Further experiments are being carried out.

(3) *Filtered water of Calcutta Corporation.*—This work was undertaken to find out the nature of the brick red and sometimes black deposit observed in the Calcutta filtered water supply in the month of May. On investigation, a fairly large amount of iron was found in the raw river water, in the settling tank water and in the filtered water at the Palta Waterworks. A crenothrix-like growth was also discovered not only in the settled water but also in filtered water in the collecting wells. Investigation is still going on, but no definite conclusions could yet be drawn from the results of analyses obtained so far.

(4) *Fermentation of sugar in sweet drinks.*—This research was started to find out whether it was possible to obviate the addition of

preservatives in tropical climates to aerated waters prepared in the form of sweet drinks by preparing syrups in the "cold process" in much concentrated form and at the same time keeping its Ph. value slightly over 7 whereby fermentation is much more delayed than if they were prepared by the "boiling process."

(5) *Nutritive value of ghee and vegetable products.*—Observations so far made on young white rats show that the vegetable products are devoid of vitamin and with prolonged use cause much deterioration of body weight and even ultimate death. More work is necessary before definite conclusions can be drawn.

(6) *Elimination of objectionable taste of chlorinated water.*—Experiments were carried on to find out the smallest dose of bleaching powder to sterilise effectively a water containing organic matter without leaving any iodoform taste.

(7) *Stabilisation of hypochlorite solution.*—It was found by experiment that if mercuric oxide was added to hypochlorite solution, the latter retained 35 per cent. of its original strength.

(8) *Radio activity of water.*—This experiment was carried on to test the efficacy of a water jar patented under the name of "Revigorator," which claimed to make any water radio-active if devoid of such a property, by leaving it overnight in the jar. Radio-active water was said to possess the power to eliminate toxins from the human body and stimulate normal healthy metabolism.

II.—Dacca Branch Public Health Laboratory.—(a) *Chemical analysis.*—176 samples of water—155 routine, 12 from jails and 9 special, were examined up to 30th June 1929 against 359 in the previous year. From the 1st July 1929 the analysis work of all the samples of water (excluding those of Dacca Municipality and Dacca Central Jail), alum, bleaching powder and allied substances was transferred to the Central Laboratory at Calcutta. 328 samples of sewage from the Dacca sewerage works were also examined chemically during the year against 338 in 1928, in addition to 9 samples of alum and 10 of bleaching powder.

(b) *Bacteriological analysis.*—435 samples of water including 60 special samples were examined up to the 30th June against 790 in 1928. No sewage sample was examined bacteriologically.

(c) *Food analysis.*—1,339 samples were examined against 973 in the previous year. 1,168 were received from municipalities, 96 from district boards and 5 from private bodies and 70 were analysed for standardisation work. The results of analysis are tabulated as follows:—

Foodstuffs.	Received from District Boards.			Received from Municipalities.			Received from private bodies.		
	Total.	Number found adulterated.	Percentage.	Total.	Number found adulterated.	Percentage.	Total.	Number found adulterated.	Percentage.
Ghee ..	15	11	73·3	360	209	58	..	..	..
Mustard oil ..	73	52	71·2	450	304	67·5	.. 5	.. 4	80
Milk ..	7	7	100·0	240	117	48·7	..	..	..
Wheat flour ..	1	..	..	14	..	..	..	..	..
Tea ..	..	..	..	13	.. 4	30·7	..	..	..

The systematic analysis of cow milk for finding the periodical variation in its composition started during the previous year had to be abandoned in March owing to the heavy rush of work in connection with the routine food samples.

III.—Bengal Excise Laboratory, Calcutta.—The following samples were analysed during the year:—

Medicinal preparations for assay of alcoholic strength	6,913
Special medicinal preparations for determination of spirit strength, drug contents and general quality	80
Water for testing suitability for reduction of spirit ..	30
Distillery samples	359
Illicit liquors (Court case samples)	322
Country spirit	1
Tari (Toddy)	12
Pachwai	13
Brandy, Beer, Gin	26
Weights and measures for testing accuracy ..	10
Instruments for standardisation	209
Special samples for which analytical fees were charged	1
Total ..	7,976

against 7,496 in the previous year.

IV.—Bengal Vaccine Laboratory, Calcutta.—The following statements show monthly accounts of the production and issue of anti-cholera vaccine during the year 1929:—

Statement showing the monthly production of the vaccine.

	Months.				Cubic centimetres.
January	..	..	..	..	290,000
February	..	..	..	..	280,000
March	..	..	..	..	125,200
April	..	..	..	..	120,050
May	..	..	..	..	122,300
June	..	..	..	..	119,700
July	..	..	..	..	104,900
August	..	..	..	..	125,100
September	..	..	..	..	115,500
October	..	..	..	..	95,275
November	..	..	..	..	225,125
December	..	..	..	..	268,090
Total					.. 1,991,240

Statement showing the monthly issue of the vaccine.

Months.	Cubic centimetres.
January	90,800
February	52,100
March	112,860
April	153,160
May	108,630
June	14,620
July	62,745
August	13,400
September	87,590
October	208,800
November	424,645
December	387,060
Total ..	1,716,410

V.—Darjeeling Municipal Laboratory.—The following examinations were conducted at the Darjeeling laboratory in 1929:—

(a) *Water*.—66 samples were examined chemically and 281 bacteriologically against 74 and 232 respectively in 1928-29.

(b) *Sewage effluents*.—24 samples from the Darjeeling Municipality and 30 from Kurseong were examined chemically against nil and 27 in the previous year.

(c) *Food materials*.—

Foodstuffs.	Darjeeling Municipality.	Canton- ment area and other places.	Total, 1929.	Total, 1928.
Milk	411	22	433	311
Butter	9	1	10	14
Ghee	20	27	47	13
Mustard oil	39	13	52	47
Tea	..	3	3	4
Human milk	..	6	6	..
Alcoholic liquors (pachwai)	..	2	2	2
Total ..	479	74	553	391

4·4 per cent. of the samples of milk, 15 per cent. of ghee and 2·5 per cent. of mustard oil were found to be sophisticated.

One thousand eight hundred and thirty-three clinical samples were also examined against 1,070 in the previous year. These consisted of 265 urine, 265 blood, 25 pus, 275 stools, 824 swabs and 179 sputum.

99. **School Hygiene.**—During the year, 172 schools for boys and 13 schools for girls were visited by 34 medical officers, who medically examined 18,488 boys and 434 girls. Dr. G. B. Shom of the Asansol Mines Board of Health visited 74 schools and examined 2,915 boys and 173 girls. Dr. P. C. Sen, Health Officer, Dacca Municipality, examined 2,137 students in four schools. Dr. N. G. Adhikari, Health Officer, Narayanganj Municipality, examined 1,345 students in four schools. Drs. S. Chandra and M. Sen, School Medical Officers of the Scottish Churches Collegiate School, examined 1,072 scholars. Dr. M. C. Ray, School Medical Officer, Calcutta, visited 11 Government and Government-aided schools and examined 2,085 scholars in 141 visits. Dr. S. C. Bose, a second School Medical Officer, Calcutta, visited 8 Government and Government-aided schools and examined 1,989 scholars in 145 visits; Dr. N. Bysak, a third School Medical Officer, Calcutta, visited 9 Government and Government-aided schools and examined 1,009 scholars in 124 visits. The other medical men who carried out school medical inspection work examined less than 1,000 scholars each. The result of these examinations, excluding those of the few girls examined, is stated as follows:—

46 per cent. of the students examined were between 4 and 10 years of age; 38 per cent. between 11 and 15 years and the rest of 16 years and over. 25 per cent. of the students examined, were well nourished, 50 per cent. fairly so and the remaining 25 per cent. ill nourished. 28 per cent. had good clothing, 46 per cent. fairly good and 26 per cent. were ill clad, 31 per cent. had no shoes. As regards height, the students could be compared favourably with anthropometric standard, but their weight was observed to be about 5 to 8 lbs. on an average below the standard for each age. 3·8 per cent. had some kind or other of skin disease and 12 per cent. had dirty skin; 10·7 per cent. had carious teeth, 1·8 per cent. were suffering from nasal diseases; 12 per cent. had enlarged tonsils, 4 per cent. adenoids, and 5 per cent. enlarged lymph glands; 1 per cent. had ear disease chiefly otorrhoea; 1 per cent. had bronchitis, while 25 students had either actual or suspected tuberculosis, 4 per cent. had enlargement of spleen; 5 per cent. had heart troubles; 6 per cent. rickets; 4 per cent. were deformed; 6 per cent. had defective speech, mostly stammering. The majority of the students were suffering from defective vision. 356 students were examined for refractive errors by the Medical Inspector of Schools at the clinic held on Saturday afternoons in the refraction room of the Calcutta Eye Hospital; of these 90 were supplied with free spectacles as follows:—31 for hypermetropia, 19 for myopia, 26 for hypermetropic astigmatism, 12 for myopic astigmatism and 2 for other defects of vision. 73 per cent. were suffering from some kind or other of bodily defect; 53 per cent. of these required immediate notification to their parents or guardians.

4 per cent. had no mark of vaccination. 687 students were suffering from malaria, 1 had kala-azar, 1 beri-beri, 177 measles, 9 diphtheria, 46 smallpox, 81 whooping cough, 273 dysentery and 588 other infectious diseases.

172 schools were visited during the year under review. Out of these 50 had insufficient floor space, 7 were improperly ventilated and 33 insufficiently lighted; 62 had no play ground and 66 had neither privies nor urinals. In the Asansol Mining Settlement area, 11 primary schools had no buildings of their own.

Besides the inspection work, the Assistant Director of Public Health, School Hygiene, examined 106 plans for educational institutions. The school hygiene branch also organised dai training classes throughout Bengal which were inspected from time to time by the Medical Inspector of Schools in his tours. The branch also assisted at the Calcutta Health Exhibition, by opening a stall dealing with school medical inspection work at Visuddhananda Saraswat Marwari School.

100. **Dai training.**—Grants-in-aid amounting to Rs. 15,000 were sanctioned by the local Government in 1929 for conducting dai training classes by local bodies. Out of this amount, Rs. 11,100 were distributed among 19 districts for holding 74 classes at the rate of Rs. 150 per class, Rs. 3,300 among 21 municipalities for 22 similar classes and Rs. 600 were offered to the Saroj Nalini Dutt Memorial Association for four classes. The number of classes held by each local body, the grants made to each and the number of dais trained by them are stated as follows:—

District Boards.	Grants.	Classes held.	Dais trained.
	Rs.		
Burdwan	450	3	35
Birbhum	900	6	72
Midnapur	450	3	30
Hooghly	450	3	20
Howrah	600	5	40
24-Parganas	300	2	26
Murshidabad	750	5	53
Jessore	750	5	53
Khulna	900	5	55
Rajshahi	600	2	33
Jalpaiguri	450	2	20
Rangpur	300	2	21
Bogra	750	5	50
Pabna	600	4	37
Dacca	600	4	46
Faridpur	750	5	77
Bakarganj	750	5	67
Chittagong	600	4	40
Noakhali	150	1	22

In addition to the above, the municipalities of Suri, Bankura, Sonamukhi, Tamluk, Arambagh, Serampur, South Suburban, Tollyganj, North Dum Dum, Naihati, Krishnagar, Nabadwip, Rajshahi, Kishorganj, Pirojpur, Chittagong, Basirhat and Baduria conducted a class each at a cost of Rs. 150 a class and trained 200 dais. The Bally municipality had 2 classes where 20 dais were trained. The Rangpur municipality was granted Rs. 150, but failed to submit its report. The Jamalpur municipality to which a grant of Rs. 150 was made failed to secure pupils and refunded the amount. The Saroj Nalini Dutt Memorial Association held four classes and trained 59 dais. The total number of classes held by all the local bodies during the

year was 95 in which 1,076 dais were trained by 89 local registered medical practitioners. 609 certificates and 809 bags were distributed to trained dais.

101. Educational Propaganda and Publicity.—The post of the Publicity Officer continued to be held by Rai Sahib K. P. Ray, and that of the Assistant Publicity Officer by Babu Srish Chandra Goswami till March 1929. Babu Sambhu Nath Banarji was appointed to officiate from the 1st April 1929. During the year the two officers were on tour for 149 and 101 days, respectively, 396 lectures were delivered with and without the aid of magic lanterns by them. The two publicity assistants also delivered 80 lectures with the aid of lantern slides.

The numerous demands by parties of varied denominations throughout the province for the staff and materials of the publicity branch all the year round clearly indicate the utility and widening popularity of this section. The increasing interest in organising health weeks and baby shows, health exhibitions and demonstrations throughout the province is obviously the result of the extensive propaganda campaign carried out by this branch. The most hopeful feature is the interest taken in the health welfare movement by numerous villages situated in the most interior parts. Almost all the district headquarters, subdivisional centres and some union boards also are participating in this movement.

Charts, pictorial posters and a copious supply of leaflets and pamphlets on various health subjects were invariably supplied to the organisers on every occasion; and where it was possible and safe, departmental models were also lent. The health films prepared by the department, especially those relating to maternity and child welfare were in great request with the result that they have become thoroughly worn out and require renewal. 61 exhibitions and 78 baby shows were organised during the year under review. The Calcutta Health Exhibition Committee again utilised the services of the officers of the publicity branch for over a month and a half in organising their exhibition and have expressed in very commendable terms their appreciation for the help they received.

As in the previous year, this branch fitted up a demonstration car in the Eastern Bengal Railway Exhibition Train and had a very successful itinerary for over 880 miles comprising 17 stations. The public health car was very well patronised, being visited by no less than 36,148 adults, males and females inclusive, children below fourteen years of age being left out of account. Hundreds had to go back disappointed as the car closed after 6 in the evening.

During the cinema shows in the evening about 15 times the above number must have been present. On a rough computation, 5 to 6 lakhs of people gathered at these demonstrations. The utility of such demonstration trains cannot be too strongly emphasised. To the villagers it is both a recreation and an education combined and such a touring exhibition is the surest way of reaching the great illiterate mass in the villages. I would once more like to repeat that such demonstration trains should be run throughout the year instead of its being made an annual function.

The demand for slides having increased enormously, 50 sets of tinted slides were renewed. 40 sets of new slides on foods and vitamins were designed and prepared by this branch. 25 new slides on tuberculosis were also designed and prepared. The department possesses 26 sets of films, comprising 32 reels on various preventable diseases. It is an admitted fact that visual representation is the quickest and surest means of impressing the laity especially in matters of health and it is imperative that the department should proceed with the production of new films on health subjects.

More than 600,000 copies of leaflets and pamphlets on preventable diseases were printed in English, Bengali, Hindi and Urdu, while the total number of those distributed came up to about 500,000. Various new posters on prevention of blindness were also prepared. All the posters were very popular and were in great demand.

As in the previous years, local newspapers and the Indian Broadcasting Company have been utilised as other agencies for publicity work. The need for continued intensive and extensive propaganda on health matters is so very essential that it needs no comment. It is hoped that with better financial conditions effect will be given to the long pending approved scheme for strengthening the branch when there would be sufficient officers to meet the pressing demands which have to be reluctantly refused for paucity of staff year after year.

102. **Fairs and Melas.**—Cases from infectious diseases were reported to have occurred at the following fairs:—

(1) *Ganga Sagar mela.*—This mela was held on the Sagar island in the jurisdiction of the 24-Parganas on the 12th, 13th and 14th January 1929. The pilgrims began to assemble in Calcutta on January 8th and started embarking for the mela grounds on January 11th. All pilgrims were medically inspected at the time of embarkation. There was no sickness on the embarkation ground. On the return journey, Messrs. Hoare Miller & Company's hospital ship brought 6 cases of cholera from the fair, of which one died and 5 were admitted in the Diamond Harbour Hospital. According to Dr. Brahmachari, Assistant Director of Public Health, Presidency Circle, a little over 38,000 pilgrims attended the mela. Sanitary arrangement and administration were on the same line as in the previous year.

Control of Infectious diseases.—Over 76 volunteers patrolled every part of the mela ground, the steamers and the boats searching for suspected cases who were promptly removed to the hospital. Six cases of cholera were thus admitted to the hospital at the mela ground; of these one died in the hospital, another died *en route* to Diamond Harbour, three were taken to Diamond Harbour and one was discharged. Those with suspicious diarrhoea and dysentery were kept in temporary observation sheds; 10 such cases were treated in these sheds. A case of smallpox also occurred in an unvaccinated female child; the mother and other members of the party, 5 in number, were segregated and promptly vaccinated. 1,348 anti-cholera inoculations were performed at the mela ground, 1,083 by Government Public Health Department staff and 265 by the District Board staff. How

the mela affected the province so far as cholera was concerned, will be best judged from a glance at the following table:—

Localities.	Cholera deaths in the week ending—							
	22nd Decem-ber 1928.	29th Decem-ber 1928.	5th January 1929.	12th Janu-ary 1929.	19th Janu-ary 1929.	26th Janu-ary 1929.	2nd Febru-ary 1929.	9th Febru-ary 1929.
24-Parganas	67	93	120	55	26	68	33	41
Sagar	2	..	1	..	..	6	..	3
Kakdwip	..	10	23	..	..	1	5	..
Calcutta	15	13	13	20	13	30	19	23
Midnapur	25	55	16	10	28	12	16	6
Howrah	18	9	23	26	16	36	26	26

(2) One death from cholera was reported to have occurred at Maijbhandar mela in Chittagong district which lasted for six days commencing from the 21st January 1929 and was attended by about 25,000 people. Usual sanitary arrangements were made. A sub-assistant surgeon assisted by a sanitary inspector looked after the medical and sanitary arrangements of the fair.

No death from any infectious disease was reported to have occurred at any other fair held in the province.

103. **Septic Tank Latrines.**—The plans of the following septic tank installations were approved during the year 1929:—

	Users.
Shalimar Paint, Colour and Varnish Works ..	500
Nuddea Jute Mills, Cooly Lines	2,500
Mafatlal Gagalbhai, Sheijbaria	3,000
Bhatpara Power-house	160
Clive Jute Mills, Matiaburj	12
Ishapur Metal and Steel Factory	500

No plan was received for the activated sludge plant at the Lillooah workshop and town although it has been constructed.

1,474 samples of effluent were analysed at the Bengal Public Health Laboratory—431 bacteriologically and 1,043 chemically. Of the former 17 per cent. were found unsatisfactory and 83 per cent. were sterilised on treatment with chloride of lime and other disinfectants. The mill authorities were instructed through the Chief Inspector of Factories in 57 cases to remove unsatisfactory conditions and defects. Samples from Tittagarh sewage works were periodically

collected and examined both chemically and bacteriologically at the Public Health Laboratory. The quality of the effluent was found to be satisfactory chemically, but the bacteriological standard of purity has not yet been reached. Simplex activated sludge plant is being used and another similar plant is under construction. The activated sludge plants at Hooghly jute mills, Gramophone factory at Dum Dum and the unregistered one at Lillooah are giving satisfactory results chemically and bacteriologically after proper treatment with disinfectants.

SECTION VII.

History of Vaccination.

104. This section deals with the vaccination report for the vaccination year 1929-30 and not for the calendar year 1929, which is the period covered by the remaining sections of this provincial public health report. Dr. M. E. Sufi was in charge of the Vaccination and Vital Statistics Bureau throughout the year 1929-30.

105. **Strength of staff.**—The strength of the vaccination staff in the rural and urban areas of the province during the year under review was as follows:—

Strength of staff.				1929-30.	1928-29.	1927-28.
Rural areas—						
Inspectors	..	..	..	95	131	125
Vaccinators	..	..	..	1,967	1,832	1,535
Mufassal Municipalities—						
Inspectors	..	..	..	3	2	5
Vaccinators	..	..	..	161	154	157
Calcutta—						
Inspectors	..	..	..	18	18	16
Vaccinators	..	..	..	60	69	58

The number of vaccinators increased both in the rural areas and the mufassal. In Calcutta, however, it was less than the previous year. The inspecting staff including the Inspectors and Sub-Inspectors of Vaccination according to the present policy of the department is being gradually abolished and this explains the reduction in their number in the rural areas. Besides the work done by the staff mentioned above, vaccination forms one of the main responsibilities of the newly created rural public health organisation.

106. General Vaccination Statistics (Vaccination Statement No. 1).—The Bengal Vaccination Act is in force throughout Bengal except the Chittagong Hill Tracts. The vaccination work done in the province during 1929-30 and the previous year is shown below:—

	1929-30.	1928-29.	Increase + or decrease —
Total number of persons vaccinated	5,529,138	5,276,404	+ 252,734
Total number of vaccinations performed ..	5,533,880	5,281,419	+ 252,461
(a) Primary vaccinations	2,304,461	2,052,217	+ 252,244
Successful	2,149,944	1,896,877	+ 253,067
(b) Re-vaccinations	3,229,419	3,229,202	+ 217
Successful	1,722,399	1,833,310	—110,911
Average number of persons vaccinated by each vac- cinator	2,472	2,579	— 107
Percentage of successful cases in which results were known—			
(a) Primary vaccinations	93·3	92·9	+
(b) Re-vaccinations	53·3	56·5	—
Ratio of successful vaccinations per mille of popula- tion	82·9	79·7	+
Number of children successfully vaccinated—			
(a) Under one year	305,586	262,982	+ 42,604
(b) One year and under six years	1,415,263	1,222,631	+ 192,632
Total number of vaccinations performed during recess	1,041,723	1,139,924	— 98,201
(a) Primary vaccinations	293,486	295,472	— 1,986
(b) Re-vaccinations	748,237	844,452	— 96,215

The above table requires no explanation. The increase of 252,461 vaccinations in 1929-30 over the previous year was made up of 252,244 primary and 217 re-vaccinations, while the latter as a whole exceeded the former by 924,958 compared with 1,176,985 in the previous year. Again the number of vaccinations performed during the recess was reduced by 98,201, composed of 1,986 primary and 96,215 re-vaccinations. This falling off, especially in the case of re-vaccinations, was mainly due to an all-round comparative reduction in the incidence of smallpox, throughout the province. As special causes may be mentioned the

reduced expenditure on vaccination in Birbhum district; the discontinuance of the services of 14 health assistants since July, the late appointment of temporary vaccinators owing to the illness and absence on leave of the Superintendent of Vaccination just before the puja holidays and the difficulty in securing the proper number of vaccinators at the low rate of salary offered, viz., Rs. 15 per mensem in Hooghly district; the financial stringency leading to the employment of a lesser number of vaccinators than necessary in Rajshahi district; the prevalence of malaria in various parts of Rangpur and Pabna districts; the late commencement of seasonal vaccination work in Noakhali district, and the intensive campaigns of vaccinations in Murshidabad, Jessore, Darjeeling, Chittagong and Chittagong Hill Tracts in the previous year, leaving very few to be vaccinated during the year under review. The low rate of success in re-vaccination calculated on known cases was due to the fact that the vaccinators were too busy in performing operations in anticipation of the apprehended epidemic and could not spare sufficient time to inspect the result of each and every case done by them. An increase of 42,604 infants under one year and 192,632 children between one and five years of age vaccinated successfully during the year under review is commendable. Free vaccination was carried on throughout the province and no fees were realised, except in the following districts:—(1) In Rajshahi, a fee of 2 annas for each successful home vaccination was realised and given over to the vaccinators who realised it; (2) In Darjeeling Rs. 46-8 were realised as vaccination fees; (3) In Dacca, fees were realised at the rate of 4 annas for each person vaccinated, but not more than 8 annas if two or more members of the same family were vaccinated at the same time; Rs. 222-8 out of such fees realised were paid to vaccinators and health assistants; and (4) In Faridpur, where Rs. 1,068-5 were realised at the rate of 2 annas for each successful home vaccination (primary), although vaccination was free in all smallpox affected areas. This fee was credited to district board and then re-imbursed to vaccinators as additional remuneration. The progress of vaccination in Bengal since 1869-70 is shown in the following table:—

Years.				Primary vaccina- tions.	Re-vacci- nations.	Total.
1869-70	..	..	..	250,087	9,465	259,552
Average of the decade—						
1870-71 to 1879-80	..	..	..	842,002	23,045	865,047
1880-81 to 1889-90	..	..	..	1,095,542	10,043	1,105,586
1890-91 to 1899-1900	..	..	..	1,192,404	27,690	1,220,094
1900-01 to 1909-10	..	..	..	1,535,098	118,125	1,653,223
1910-11 to 1919-20	..	..	..	1,485,850	415,391	1,901,241
1920-21 to 1929-30	..	..	..	1,723,700	1,467,785	3,191,485

107. **Comparison of the number of vaccinations performed in Bengal with that done in the other provinces.**—The following statement shows the number of smallpox deaths and of vaccinations performed in the various provinces since 1924-25 :—

Smallpox deaths.

Provinces and populations.	1924-25.		1925-26.		1926-27.		1927-28.	
	Number.	Ratio per mille of population.	Number.	Ratio per mille of population.	Number.	Ratio per mille of population.	Number.	Ratio per mille of population.
Bengal (46,522,293)	10,443	·22	18,618	·4	31,936	·68	39,713	·85
United Provinces (45,375,787) ..	4,049	·08	11,223	·24	10,808	·23	6,294	·13
Madras (42,317,013)	20,227	·47	14,498	·34	9,816	·23	7,610	·17
Bihar and Orissa (34,002,189) ..	8,345	·24	22,748	·66	35,626	1·04	26,843	·78
Bombay (20,812,763)	11,152	·53	5,644	·27	3,922	·18	5,091	·24
Punjab (20,650,944)	4,297	·20	11,582	·56	15,307	·74	8,878	·42
Central Provinces (13,912,760) ..	1,911	·13	2,938	·21	3,556	·25	2,175	·15
Burma (13,169,099)	3,067	·23	3,156	·24	2,117	·16	2,331	·18
Assam (7,985,934) ..	1,509	·18	3,595	·45	5,153	·64	9,279	1·16
North-West Frontier Province (3,256,965)	309	·09	816	·25	466	·14	161	·04

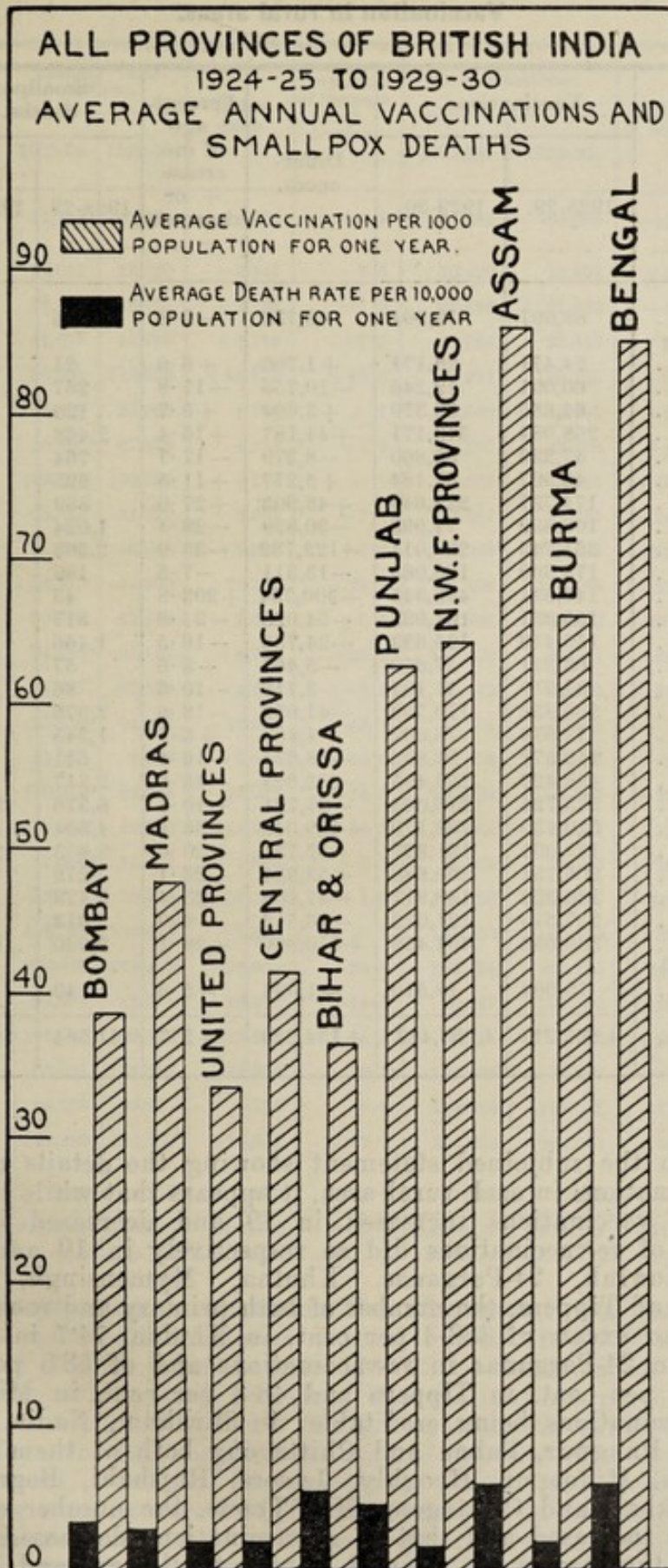
Vaccinations.

Bengal ..	2,661,062	57·19	3,030,178	65·13	3,278,581	70·47	3,975,837	85·46
United Provinces ..	1,339,479	29·5	1,512,167	33·3	1,465,662	32·3	1,505,504	33·2
Madras ..	2,033,997	48·1	1,965,026	46·4	1,948,062	46·0	1,970,707	46·5
Bihar and Orissa ..	1,044,282	30·7	1,297,768	38·1	1,351,084	39·7	1,310,311	38·5
Bombay ..	695,257	33·4	764,029	36·7	739,442	35·5	723,169	34·7
Punjab ..	957,531	46·3	1,203,969	58·3	1,238,069	59·9	1,290,368	62·5
Central Provinces ..	521,116	37·4	563,432	40·5	590,690	42·4	569,430	40·9
Burma ..	806,619	61·25	842,729	63·99	760,551	57·75	870,402	66·09
Assam ..	418,359	52·4	501,351	62·8	656,366	82·2	980,841	122·8
North-West Frontier Province ..	148,474	45·6	227,904	70·0	185,957	57·1	200,632	61·6

Smallpox deaths.

Provinces and populations.	1928-29.		1929-30.		1924-25 to 1929-30.		1924-25 to 1929-30.	
	Number.	Ratio per mille of population.	Number.	Ratio per mille of population.	Total.	Ratio per mille of population.	Annual average.	Ratio per mille of population.
Bengal (46,522,293)	42,020	·94	15,225	·32	157,955	3·39	26,326	·57
United Provinces (45,375,787) ..	4,658	·10	13,087	·29	50,119	1·10	8,353	·18
Madras (42,317,013)	8,756	·20	7,337	·17	68,244	1·61	11,374	·27
Bihar and Orissa (34,002,189) ..	10,775	·31	6,648	·19	110,985	3·26	18,497	·54
Bombay (20,812,763)	5,265	·25	10,635	·51	41,709	2·004	6,951	·33
Punjab (20,650,944)	8,770	·42	7,027	·34	55,861	2·71	9,310	·45
Central Provinces (13,912,760) ..	1,259	·09	3,385	·24	15,224	1·09	2,537	·18
Burma (13,169,099)	2,394	·18	1,527	·12	14,592	1·11	2,432	·18
Assam (7,985,934)	6,873	·86	1,145	·15	27,554	3·45	4,592	·58
North-West Frontier Province (3,256,965)	732	·22	422	·13	2,906	·89	484	·14
Vaccinations.								
Bengal ..	5,281,419	113·5	5,533,880	118·91	23,760,957	510·74	3,960,159	85·12
United Provinces ..	1,594,300	35·1	1,656,553	36·51	9,073,665	199·97	1,512,277	33·33
Madras ..	2,005,803	47·4	2,139,321	50·55	12,062,916	285·06	2,010,486	47·51
Bihar and Orissa ..	1,202,342	35·4	1,191,854	35·05	7,397,641	217·56	1,232,940	36·26
Bombay ..	751,691	36·1	1,144,629	54·99	4,818,217	231·50	803,036	38·58
Punjab ..	1,500,381	72·6	1,588,729	76·93	7,779,047	376·69	1,296,508	62·78
Central Provinces ..	586,025	42·1	613,166	44·08	3,443,859	247·53	573,976	41·26
Burma ..	948,722	72·04	985,244	74·81	5,214,267	395·95	869,044	65·99
Assam ..	871,114	109·1	694,117	86·92	4,122,148	516·18	687,025	86·03
North-West Frontier Province ..	243,953	74·9	246,728	75·75	1,253,648	384·86	208,941	64·15

108. **Vaccination in the rural areas (Vaccination Statement No. I).**—(a) The total number of vaccinations in the rural areas was increased by 132,229, there being an increase of 245,372 primary vaccinations but a falling off in re-vaccinations by 113,143. It was reduced in 17 and increased in the remaining 11 areas. The most notable increase of 203·8 per cent. compared with the previous year occurred in Khulna. The last column shows the number of smallpox deaths. Except in Howrah where 4 more deaths than those in the previous year were recorded and in Asansol Mining Settlement, there was a falling off in the number of such deaths during the year under review in all the other districts and smallpox is the only incentive to vaccination in Bengal. Even Malda, where an intensive campaign of mass vaccination has been going on since 1927, could perform only about half the number of vaccinations it did in the previous year, simply because there were only 95 deaths there in 1929-30 compared with 2,347 in 1928-29.



Vaccination in rural areas.

Districts.	Vaccinations.		Differ- ences.	Percent- age of in- crease + or decrease —.	Smallpox deaths.		In- crease + or de- crease —.
	1928-29.	1929-30.			1928-29.	1929-30.	
Burdwan ..	88,697	79,961	— 8,736	— 9·8	1,094	255	—
Asansol Mining Settlement ..	24,471	26,171	+ 1,700	+ 6·9	21	32	+
Birbhum ..	60,001	49,246	— 10,755	— 17·9	267	85	—
Bankura ..	64,685	68,379	+ 3,694	+ 5·7	120	67	—
Midnapur ..	268,984	313,171	+ 44,187	+ 16·4	2,468	137	—
Hooghly ..	47,239	38,860	— 8,379	— 17·7	764	286	—
Howrah ..	45,907	51,184	+ 5,277	+ 11·5	295	299	+
24-Parganas ..	174,737	223,640	+ 48,903	+ 27·9	859	525	—
Nadia ..	108,892	77,993	— 30,899	— 28·4	1,024	231	—
Murshidabad ..	361,743	239,011	— 122,732	— 33·9	2,363	507	—
Jessore ..	178,399	165,088	— 13,311	— 7·5	189	38	—
Khulna ..	147,591	448,345	+ 300,754	+ 203·8	43	32	—
Rajshahi ..	155,961	101,933	— 54,028	— 34·6	817	344	—
Dinajpur ..	150,419	125,633	— 24,786	— 16·5	1,466	569	—
Jalpaiguri ..	63,311	57,850	— 5,461	— 8·6	57	40	—
Darjeeling ..	34,910	31,194	— 3,716	— 10·6	86	59	—
Rangpur ..	220,858	179,799	— 41,059	— 18·6	2,076	723	—
Bogra ..	73,579	78,067	+ 4,488	+ 6·1	1,345	35	—
Pabna ..	113,572	94,898	— 18,674	— 16·4	541	133	—
Malda ..	498,429	256,405	— 242,024	— 48·6	2,347	95	—
Dacca ..	273,724	246,003	— 27,721	— 10·1	8,376	3,651	—
Mymensingh ..	519,130	708,179	+ 189,049	+ 36·4	4,304	1,603	—
Faridpur ..	159,091	191,827	+ 32,736	+ 20·6	3,653	2,149	—
Bakarganj ..	206,754	260,688	+ 53,934	+ 26·1	278	202	—
Chittagong ..	186,323	138,917	— 47,406	— 25·4	3,429	709	—
Noakhali ..	237,545	221,033	— 16,512	— 6·9	313	105	—
Tippera ..	380,658	491,458	+ 110,800	+ 29·1	2,920	1,186	—
Chittagong Hill Tracts ..	19,604	18,510	— 1,094	— 5·6	49	28	—
Total ..	4,865,214	4,997,443	+ 132,229	+ 2·7	41,564	14,125	—

(b) From the subjoined statement showing the details of primary and re-vaccinations in each rural area, it appears that while the number of primary vaccinations increased in 19 and decreased in 9 rural areas, that of re-vaccinations did so respectively in 10 and 18. In Bankura, Howrah, 24-Parganas, Khulna, Mymensingh, Faridpur, Bakarganj and Tippera, the number of both primary and re-vaccinations increased; an excess of 338·3 per cent. in Khulna, 74·7 in Bakarganj and 74·03 in 24-Parganas in re-vaccinations and of 58·5 per cent. in Bogra, 57·1 per cent. in Tippera and 48·8 per cent. in Midnapur in primary vaccinations being creditable; in Birbhum, Nadia, Dinajpur, Darjeeling, Rangpur, Pabna and Chittagong both of them decreased; in Burdwan, Midnapur, Hooghly, Jessore, Rajshahi, Bogra, Malda, Dacca, Noakhali and Chittagong Hill Tracts, the number of primary vaccinations increased and that of re-vaccinations decreased while the reverse was the case in the Asansol Mining Settlement and Jalpaiguri.

Details of primary and re-vaccinations performed district by district.

Districts.	Primary vaccinations.		Difference.	Percentage of increase + or decrease —.	Re-vaccinations.		Differences.	Percentage of increase + or decrease —.
	1928-29.	1929-30.			1928-29.	1929-30.		
Burdwan ..	47,512	49,675	+2,163	+4.6	41,185	30,286	-10,899	-26.4
Asansol Mining Settlement ..	14,051	12,720	-1,331	-9.5	10,420	13,451	+3,031	+29.09
Birbhum ..	30,535	28,103	-2,432	-7.9	29,466	21,143	-8,323	-28.2
Bankura ..	41,617	44,736	+3,119	+7.5	23,068	23,643	+575	+2.5
Midnapur ..	96,063	142,936	+46,873	+48.8	172,921	170,235	-2,686	-1.5
Hooghly ..	23,699	23,868	+169	+ .7	23,540	14,992	-8,548	-36.3
Howrah ..	26,700	27,478	+778	+2.9	19,207	23,706	+4,499	+23.4
24-Parganas ..	108,916	109,089	+173	+ .16	65,821	114,551	+48,730	+74.03
Nadia ..	55,685	51,722	-3,963	-7.1	53,207	26,271	-26,936	-50.6
Murshidabad ..	55,460	56,558	+1,098	+1.9	306,283	182,453	-123,830	-40.4
Jessore ..	42,713	54,900	+12,187	+28.5	135,686	110,188	-25,498	-18.8
Khulna ..	59,790	63,489	+3,699	+6.2	87,801	384,856	+297,055	+338.3
Rajshahi ..	24,488	33,192	+8,704	+35.5	131,473	68,741	-62,732	-47.7
Dinajpur ..	84,977	82,104	-2,873	-3.4	65,442	43,529	-21,913	-33.5
Jalpaiguri ..	27,010	14,022	-12,988	-48.1	36,301	43,828	+7,527	+20.7
Darjeeling ..	10,034	8,369	-1,665	-16.6	24,876	22,825	-2,051	-8.2
Rangpur ..	110,935	94,914	-16,021	-14.5	109,923	84,885	-25,038	-22.8
Bogra ..	30,915	49,000	+18,085	+58.5	42,664	29,067	-13,597	-31.8
Pabna ..	57,666	55,702	-1,964	-3.4	55,906	39,196	-16,710	-29.9
Malda ..	29,771	30,968	+1,197	+4.0	468,658	225,437	-243,221	-51.9
Dacca ..	142,341	143,575	+1,234	+ .9	131,383	102,428	-28,955	-22.03
Mymensingh ..	269,646	346,450	+76,804	+28.5	249,484	361,729	+112,245	+44.9
Faridpur ..	65,904	82,275	+16,371	+24.8	93,187	109,552	+16,365	+17.5
Bakarganj ..	166,633	190,572	+23,939	+14.4	40,121	70,116	+29,995	+74.7
Chittagong ..	83,091	66,685	-16,406	-19.7	103,232	72,232	-31,000	-30.03
Noakhali ..	89,286	90,021	+735	+ .8	148,259	131,012	-17,247	-11.6
Tippera ..	134,580	211,397	+76,817	+57.1	246,078	280,061	+33,983	+13.8
Chittagong Hill Tracts ..	7,846	8,716	+870	+11.1	11,758	9,794	-1,964	-16.8
Total ..	1,937,864	2,183,236	+245,372	+12.7	2,927,350	2,814,207	-113,143	-3.9

109. **Vaccination in municipalities (Statement No. I).**—Municipal vaccination as a whole showed a total excess of 113,641 operations, composed of 10,619 primary and 103,022 re-vaccinations. It will be possible from next year to compare the vaccinations performed in the individual municipalities with those done in the previous year, the amended form having been introduced for the first time this year only; for the present, I follow the previous year's procedure. Primary vaccinations were in excess of the previous year in municipalities of 12 districts and re-vaccinations in those of 17; in the remaining municipalities, both were, respectively, reduced. Both the primary and

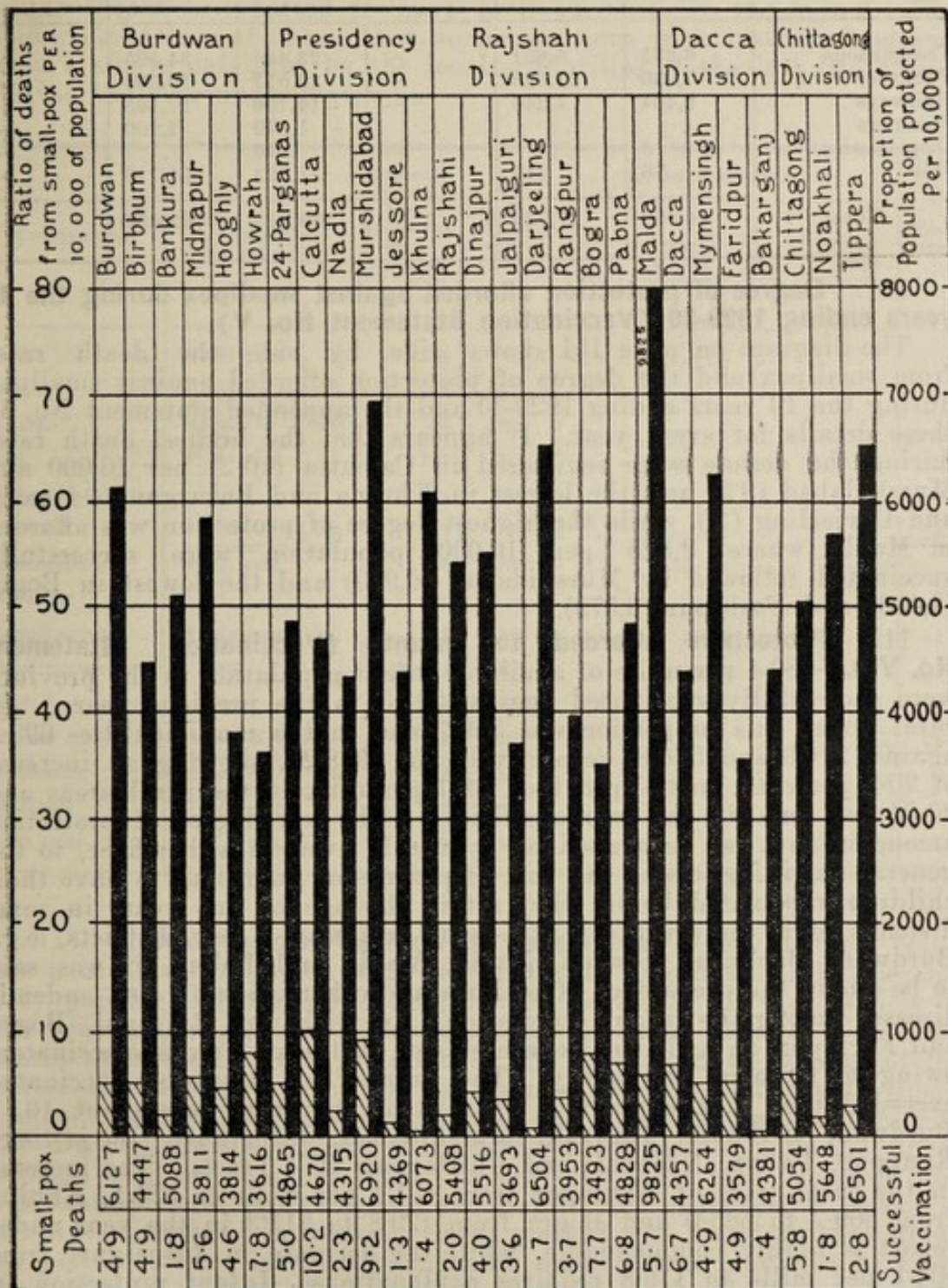
re-vaccinations showed an excess in the municipalities of Midnapur, Howrah, Calcutta, Nadia, Jessore, Jalpaiguri, Dacca, Mymensingh and Noakhali and a reduction in those of Murshidabad, Rajshahi, Dinajpur, Darjeeling, Bogra, Malda and Chittagong. In Hooghly, Pabna and Tippera, while the primary vaccinations increased, there was a decrease in re-vaccinations; in Burdwan, Birbhum, Bankura, 24-Parganas, Khulna, Rangpur, Faridpur and Bakarganj on the other hand, it was the other way about.

Vaccination in Municipalities.

Districts.	Primary vaccinations.		In-crease + or decrease —.	Re-vaccinations.		In-crease + or decrease —.
	1928-29.	1929-30.		1928-29.	1929-30.	
Burdwan ..	3,106	2,763	—	4,611	5,230	+
Birbhum ..	191	44	—	112	373	+
Bankura ..	2,202	2,069	—	1,770	2,113	+
Midnapur ..	1,631	1,712	+	2,125	2,995	+
Hooghly ..	5,545	6,013	+	8,867	7,873	—
Howrah ..	4,683	5,297	+	7,244	9,679	+
24-Parganas ..	14,360	14,303	—	9,866	26,473	+
Calcutta ..	23,877	35,446	+	82,275	192,750	+
Nadia ..	3,004	3,715	+	3,564	5,942	+
Murshidabad ..	2,337	2,181	—	4,235	3,172	—
Jessore ..	440	450	+	286	539	+
Khulna ..	965	703	—	830	3,091	+
Rajshahi ..	1,319	1,008	—	3,230	1,482	—
Dinajpur ..	1,132	411	—	6,470	1,003	—
Jalpaiguri ..	467	849	+	626	2,838	+
Darjeeling ..	1,807	907	—	25,211	4,926	—
Rangpur ..	929	711	—	1,200	1,335	+
Bogra ..	772	350	—	7,057	1,594	—
Pabna ..	2,023	2,047	+	1,930	1,287	—
Malda ..	957	738	—	7,349	1,164	—
Dacca ..	7,129	7,538	+	14,937	21,079	+
Mymensingh ..	2,534	2,951	+	3,857	5,139	+
Faridpur ..	1,683	1,663	—	860	1,049	+
Bakarganj ..	2,074	1,777	—	2,858	3,611	+
Chittagong ..	1,436	1,210	—	4,721	1,986	—
Noakhali ..	382	625	+	606	1,264	+
Tippera ..	1,885	2,008	+	1,836	1,568	—
Total ..	88,870	99,489	+	208,533	311,555	+

110. **Vaccinations performed by other agencies (Vaccination Statement No. I).**—Primary vaccinations performed by other agencies were reduced by 2,357, while re-vaccinations increased by 10,338, giving a net increase of 7,981 operations in 1929-30 over those of the previous year. Both primary and re-vaccinations performed in jails increased, while in dispensaries they were reduced. In tea gardens and railways, while there was a reduction in primary vaccinations, re-vaccinations were in excess of those of the previous year; in factories on the other hand the contrary was the case.

DIAGRAM ILLUSTRATING DEATH RATES FROM SMALLPOX AND DEGREE OF PROTECTION AFFORDED DURING 1920-21 TO 1929-30.



Indicate the death rates from Small-pox.

Indicate the proportion of population protected by Vaccination.

Agencies.	Primary vaccinations.		In-crease + or decrease —.	Re-vaccinations.		In-crease + or decrease —.
	1928-29.	1929-30.		1928-29.	1929-30.	
Tea-gardens ..	9,675	5,651	—	23,415	34,505	+
Factories ..	7,930	11,626	+	22,017	19,069	—
Railways ..	6,404	4,240	—	14,706	17,165	+
Steamers ..	..	..	..	1,879	1,200	—
Dispensaries ..	8	..	—	19	..	—
Jails ..	76	219	+	31,223	31,718	+
Total ..	24,093	21,736	—	93,319	103,657	+

111. Degree of protection afforded against smallpox during the 10 years ending 1929-30 (Vaccination Statement No. V).—

The diagram on page 151 shows side by side the death rates from smallpox and the degree of protection afforded against smallpox during the 10 years ending 1929-30 and the appended statement No. V, these details for every year. It appears that the highest death rates during the decade were registered in Calcutta (10·2) per 10,000 and Murshidabad (9·2) and the lowest in Khulna and Bakarganj (·4 each) and Darjeeling (·7), while the highest degree of protection was afforded in Malda, where 9,825 per 10,000 population were successfully vaccinated followed by Murshidabad (6,920) and the lowest in Bogra (3,493) and Faridpur (3,579).

112. Protection afforded to infants (Vaccination Statement No. VI).—280·4 per mille of available infant population in the province were successfully vaccinated against 233·3 in the previous year. In rural areas, this proportion was 259·7 and in the municipalities 692·4 against 216·9 and 576·8, respectively, in 1928-29, showing an increase of 20·2 per cent. in the province, 19·7 per cent. in the rural areas and 20·04 per cent. in the municipalities. The low degree of protection among infants has been ascribed by nearly every health officer, to the general unwillingness on the part of parents or guardians to have their children vaccinated before they attain the age of one year, in some districts even the fourth or fifth-year; while in a few districts, e.g., Burdwan, Bankura, Howrah, Nadia, Malda and Pabna, it was said to be due to the prevalence of malaria and other epidemic and endemic diseases among the infant population. In Birbhum, Rajshahi, Bogra and Faridpur, an additional cause existed in the paucity of vaccinators owing to financial stringency. The number of infants so vaccinated exceeded that in the previous year in all the rural areas but 10,—Burdwan, Birbhum, Howrah, Murshidabad, Jalpaiguri, Darjeeling, Rangpur, Pabna, Noakhali and Chittagong Hill Tracts. The increase in the rural areas of Midnapur from 131·1 per mille to 423·1, Khulna from 309·7 to 685·0 and Bogra from 129·8 to 311·3 in the year under report is highly commendable, while the decrease in Jalpaiguri from 504·1 per mille to 176·8 requires explanations. Infant protection in the rural areas of Mymensingh, Faridpur and Bakarganj with their proportion of 97·8, 88·3 and 34·8 per mille, respectively, is so low as to be of little value.

In the municipalities, 54 show an increase in this proportion, especially North Dum Dum, Jaynagar, Dinajpur, Krishnagar and

Arambagh; 57 record a reduction, notably Bally, Bogra, Kharda, Suri, Uttarpara and Rajshahi, while in 9 others, Kanchrapara, Halisahar, Ramjibanpur, Chandrakona, Bhola, Kharar, Gaibandha, Jhalakati and Dum-Dum, where the surviving population was estimated to be 234, 121, 115, 109, 102, 94, 91, 55 and 17, respectively, not a single infant is reported to have been successfully vaccinated. The following statement shows that no prosecutions were instituted against even a single defaulter by the local authorities of the last two classes during the year under review:—

Municipalities.	Period for which a vaccinator is employed.	Surviving population under one year available for vaccination.	Number of prosecutions.	Results of prosecutions.				Pending.
				Convicted.	Amount of fines realised.	Acquitted.	Cases withdrawn.	
Bally ..	Whole year ..	354	Nil	..	..	..	..	..
Bogra ..	Ditto (April to July 1929).	58	Nil	..	..	..	..	..
Kharda ..	January to March 1930.	98	Nil	..	..	..	..	..
Suri ..	Whole year ..	117	Nil	..	..	..	..	..
Uttarpara ..	Ditto ..	176	Nil	..	..	..	..	..
Rajshahi ..	1 whole year (1st October to May).	438	Nil	..	..	..	..	..
Kanchrapara ..	Whole year ..	234	Nil	..	..	..	..	..
Halisahar ..	....	121	..	..	..	..	..	..
Ramjibanpur ..	Whole year ..	115	Nil	..	..	..	..	..
Chandrakona ..	Ditto ..	109	Nil	..	..	..	..	..
Bhola ..	Ditto ..	102	Nil	..	..	..	..	..
Kharar ..	15th November to 15th March.	94	Nil	..	..	..	..	..
Gaibandha ..	December to March.	91	Nil	..	..	..	..	..
Jhalakati ..	Whole year ..	55	Nil	..	..	..	..	..
Dum Dum ..	Nil	17	Nil	..	..	..	..	..

113. **Linear incision method of vaccination.**—This method being less painful and attended with practically no complications has become very popular and has been adopted with success in all the districts of the province, except the following:—In Burdwan district, the old scarification method was preferred by the vaccinators on account of the better results obtained by it; in Asansol Mining Settlement, linear method was not tried even in a single case; in Birbhum, according to the District Health Officer, the percentage of success with the linear method was not found so high as with the other and moreover the vaccinators could not recognise successful from unsuccessful points in the linear method; in Jessore, linear method was found to have given no better results; in Dinajpur, linear method was found to be more successful in primary than in re-vaccination; in Noakhali, success with linear method was found to be less than with the other, and in Chittagong Hill Tracts, linear method was tried but found unsatisfactory. It is expected that, as soon as the vaccinators are better trained and get more used to linear method, it will entirely replace the old scarification method throughout the province. It should be the lookout of the

Sanitary Inspectors in charge of the thanas to teach the vaccinators when and what to observe as the signs of success with the new method. Of course, the reaction is never so severe as with the scarification and this should not be taken as a sign of failure of the operation.

114. **Post vaccinal complications.**—A few cases of bullous eruptions were noticed in some of the districts generally 3 to 4 weeks after the operation, but apparently they had no connection with vaccination. No case of post vaccinal encephalitis was reported from any district in the province.

115. **Activities of the vaccination inspecting and the rural public health staff.**—The former including the Inspectors and Sub-Inspectors of vaccination and the latter comprising of the Assistant Health Officers and Sanitary Inspectors in addition to supervising and checking the work of the subordinate staff performed vaccinations in their respective jurisdictions as follows:—

Statement showing the number of vaccinations performed by the Rural Public Health staff and the Vaccination Inspecting staff during 1929-30.

Districts.	Number of Assistant Health Officers and Sanitary Inspectors.	Number of operations performed by the Rural Public Health staff.			Average No. of vaccinations performed by each.	Number of Vaccination Inspectors and Sub-Inspectors.	Number of operations performed by the Vaccination Inspecting staff.			Average No. of vaccinations performed by each.
		Primary vaccinations.	Re-vaccinations.	Total.			Primary vaccinations.	Re-vaccinations.	Total.	
1	2	3	4	5	6	7	8	9	10	11
Burdwan ..	16	2,373	2,334	4,707	294	2	412	317	729	364
Birbhum ..	10	1,224	2,146	3,370	337	2	427	740	1,167	584
Bankura ..	15	3,687	6,204	9,891	659	2	149	1,309	1,458	729
Midnapur ..	28	158	2,839	4,420	158	4	870	1,797	2,667	667
Hooghly ..	13	686	1,501	2,187	168	2	537	1,792	2,329	1,164
Howrah ..	10	256	1,279	1,535	153	2	286	45	331	160
24-Parganas ..	35	2,630	4,542	7,172	205	5	790	862	1,652	330
Nadia ..	25	1,139	4,367	5,506	220	6	318	1,788	2,106	351
Murshidabad ..	21	7,492	21,879	29,371	1,399	5	2,736	8,192	10,928	2,186
Jessore ..	24	1,220	2,775	3,995	166	2	..	..	..	..
Khulna ..	22	1,028	4,813	5,841	265	4	138	695	833	208
Rajshahi ..	24	1,212	1,780	2,992	125	3	255	313	568	189
Dinajpur ..	8	846	2,029	2,875	359	3	1,062	2,220	3,282	1,094
Jalpaiguri ..	17	1,122	3,548	4,670	275	1	118	725	843	843
Rangpur ..	30	2,006	3,434	5,440	181	3	..	..	..	..
Bogra ..	11	785	1,016	1,801	164	2	653	422	1,075	537
Pabna ..	16	1,554	2,239	3,793	237	2	173	133	306	153
Malda ..	18	1,417	818	2,235	124	2	71	300	371	185
Dacca ..	32	4,589	8,232	12,821	401	5	1,040	973	2,013	403
Mymensingh ..	51	5,849	8,258	14,107	277	6	1,260	3,763	5,023	837
Faridpur ..	25	3,188	10,985	14,173	567	4	1,178	2,350	3,528	882
Bakarganj ..	33	3,161	3,222	6,383	193	3	662	558	1,220	407
Chittagong ..	20	5,829	1,503	7,332	366	3	668	215	883	294
Noakhali ..	14	3,010	8,334	11,344	810	1	1,219	2,191	3,410	3,410
Tippera ..	20	3,071	4,309	7,380	369	3	2,557	3,875	6,432	2,144

The average outturn of work of both the rural public health and the vaccination inspecting staff in Murshidabad and that of the latter in Noakhali and Tippera is highly praiseworthy; in Malda and Rajshahi, the members of the former staff and in Pabna and Howrah those of the latter individually performed the lowest number of vaccinations. The vaccination inspecting staff of Jessore and Rangpur deserve severest condemnation for not having performed a single vaccination during the year under review.

116. **Inspections (Vaccination Statement No. IV).**—The following table shows the particulars of vaccination verified by the inspecting officers during the year 1929-30 :—

	Percentage of inspections to total number of vaccinations.			
	Primary vaccinations.		Re-vaccinations.	
	1929-30.	1928-29.	1929-30.	1928-29.
1. District Health Officers and Civil Surgeons of Darjeeling and Chittagong Hill Tracts	1.6	2.9	.7	1.1
2. Rural Assistant Health Officers and Sanitary Inspectors and Vaccination Inspecting staff ..	25.4	27.4	11.3	12.2
3. Municipal Superintendents and Assistant Superintendents of Vaccination	1.8	1.9	3.3	1.9

	Percentage of cases found successful to total number inspected.				Percentage of success reported by vaccinators
	Primary vaccinations.		Re-vaccinations.		
	1929-30.	1928-29.	1929-30.	1928-29.	
1. District Health Officers and Civil Surgeons of Darjeeling and Chittagong Hill Tracts	92.2	96.1	52.5	66.3	1928-29. 93.3 92.5
2. Rural Assistant Health Officers and Sanitary Inspectors and Vaccination Inspecting staff ..	93.1	97.2	62.9	51.1	1929-30. 93.3 92.5
3. Municipal Superintendents and Assistant Superintendents of Vaccination	98.1	92.4	27.9	36.7	Primary vaccinations Re-vaccinations 53.3 59.05

From the above table it is apparent that the percentage of inspections to total number of vaccinations was reduced compared with the previous year so far as every inspecting agency was concerned except in the municipalities where the percentage of re-vaccination inspections was increased; similarly there was a falling off in the percentage of cases found successful to total number inspected except in the case of primary vaccinations in municipalities and re-vaccinations in the rural areas. The District Health Officer of Hooghly inspected the largest percentage of both primary and re-vaccination cases (29.5 and 9.9 per cent. respectively) while that of Jessore had not a single inspection to his credit. The rural inspecting staff of Noakhali and Darjeeling inspected 98.3 and 95.6 per cent., respectively, of primary cases and that of Hooghly 58.8 per cent. of re-vaccinations; at the other end stood Jalpaiguri with its 1.6 per cent. of primary and Pabna with 1.08 per cent. of re-vaccination inspections. In the municipalities the Dinajpur staff heads the list with its 79.3 per cent. primary and Bakarganj with 68.6 per cent. re-vaccination inspections, while Howrah

staff inspected only 5·8 per cent. of primary and 4·3 per cent. of re-vaccinations. Again while the highest percentage of cases found successful to total number inspected by the District Health Officers was 100 (primary) in Khulna and Darjeeling each and 96·9 (re-vaccinations) in Murshidabad, by the rural inspecting staff 99·7 (primary) in Pabna and 87·7 (re-vaccinations) in Mymensingh and by the Municipal staff 100 (primary) in Birbhum and Faridpur each and 80·9 (re-vaccinations) in Noakhali, the lowest percentages were returned by the District Health Officers of Rangpur 73·6 (primary) and of Noakhali 30·03 (re-vaccinations), by the rural inspecting staff of Mymensingh 70·4 (primary) and of Bogra 33·6 (re-vaccinations) and by the municipal staff of Hooghly 35·9 (primary) and Jessore 2·6 (re-vaccinations). The percentage of success reported by vaccinators was highest in Khulna 99·7 (primary) and Dinajpur 76·7 (re-vaccinations) and lowest in Mymensingh 86·3 (primary) and Darjeeling 35·8 (re-vaccinations).

117. **Cost of Vaccination (Vaccination Statement No. II).**—The total cost of vaccination amounted to Rs. 5,14,006-15-6 against Rs. 4,84,635-10-11 in the previous year, Rs. 1,91,917 (including the annual recurring grant of Rs. 50,000) being contributed towards this expenditure from the provincial fund, Rs. 1,90,982-5-9 from the district fund and Rs. 1,31,107-9-9 from the municipal fund against Rs. 1,85,165-9-11, Rs. 1,75,318-4-3 and Rs. 1,24,151-12-9, respectively, in 1928-29.

The details of this expenditure are given below :—

1929-30.									
			Pay of establishment including vaccination inspecting staff, vaccinators and probationers.	Travelling allowance.			Contingencies.		
			Rs. A. P.	Rs. A. P.			Rs. A. P.		
Rural areas	..	..	2,52,579 5 6	36,029 14 0	12,406 2 3	3,01,015 5 9			
Municipalities	..	..	1,13,859 1 4	3,043 13 9	4,594 10 8	1,21,497 9 9			
Provincial Vaccine Depot ..	..	..	13,748 0 0	71 5 0	45,663 8 0*	59,482 13 0			
Calcutta Corporation Vaccine Depot ..	..	..	5,910 0 0	.....	3,700 0 0	9,610 0 0			
Vaccination Bureau ..	..	..	20,100 0 0	2,301 3 0	....	22,401 3 0			
Total ..			4,06,196 6 10	41,446 3 9	66,364 4 11	5,14,006 15 6			

1928-29.									
			Pay of establishment.	Travelling allowance.			Contingencies.		
			Rs. A. P.	Rs. A. P.			Rs. A. P.		
Rural areas	..	..	2,46,836 0 1	37,113 1 1	12,827 8 10	2,96,776 10 0			
Municipalities	..	..	1,07,409 1 0	2,543 9 0	4,630 2 9	1,14,672 12 9			
Provincial Vaccine Depot ..	..	..	12,949 12 0	64 1 0	29,038 1 0	42,051 14 0			
Calcutta Corporation Vaccine Depot ..	..	..	5,810 0 0	.....	3,669 0 0	9,479 0 0			
Vaccination Bureau ..	..	..	18,450 0 0	3,205 6 2	....	21,655 6 2			
Total ..			3,91,544 13 1	42,926 1 3	50,164 12 7	4,84,635 10 11			

*Includes cost of stores procured from Europe.

The average cost of each successful case varied from annas 8 and pies 5 in Darjeeling, annas 6 and pies 3 in Chittagong Hill Tracts and annas 6 in Asansol Mining Settlement to 8 pies in Khulna, 9 pies each in Bakarganj and Noakhali and 10 pies each in Dacca and Tippera districts. In towns, the variations lay between Rs. 3-3-8 for each successful case in Suri, Rs. 2-6-7 in Kotrung and Rs. 2 in Kharda on the one hand to 6 pies in Debhatta and 11 pies in Bansbaria on the other.

118. Bengal Vaccine Depot.—3,418 calves (3,373 cow and 45 buffalo) were vaccinated during the year against 3,039 and 2,958, respectively, in the two preceding years. Out of a total of 3,477 vaccinated calves including 59 of the previous year, pulp was collected only from 3,091 calves (3,056 cow and 35 buffalo), 323 vaccinated calves (314 cow and 9 buffalo) were discharged as unfit for collection, 5 (4 cow and 1 buffalo) died and 58 remained over in hand at the close of the year. The total output of lymph was 4,720,960 grains against 4,600,152 and 3,340,098 grains, respectively, in 1928-29 and 1927-28; this taken along with the balance of the previous year amounted to 4,931,334 grains, of which 4,490,939 grains were issued during the year, leaving a reserve stock of 440,395 grains in hand on the 1st April 1930. The average amount of pulp collected from each cow calf was 246.94 grains, and from each buffalo calf 672.0 grains as against 277.67 grains and 761.3 grains, respectively, in the previous year. 121 stocks of lymph, all chloroformed were sampled and analysed bacteriologically during the year. Only one stock was declared unfit for issue; it was however subsequently found fit and issued after a storage for three weeks. In addition, all the stocks were invariably tested for potency both on calves and on human arms before issue. Lymph was regenerated as in previous years through buffaloes and ideal cow calves. Bayer's German and some American lymph were used for this purpose. A little over 200 packets were issued daily to the various districts and in the majority of cases directly to vaccinators; the services of 2 depot assistants and clerks had to be specially requisitioned for this work. The total proceeds of the sale of lymph amounted to Rs. 11,318-11 against Rs. 8,551-6 in the previous year. The total expenditure was Rs. 59,482-13 (including overhead charges for supervision, etc.) against Rs. 42,051-14 in 1928-29.

Besides performing their ordinary duties in connection with the manufacture of lymph, the Superintendent and the Senior Depot Assistant Babu S. N. Mazumdar were called upon during the year under review to perform 3,093 vaccinations at the Writers' Buildings and other places on Government officials and the subordinate staff as well as at the Calcutta Health Exhibition, where special demonstrations and lectures were delivered by the latter. The Superintendent as usual gave regular courses of lectures and demonstrations at the biennial sessions of the Sanitary Inspectors' training class and to the senior students of the Calcutta Medical College.

Dr. M. K. Chakravartti, Superintendent of the Bengal Vaccine Depot, since 1902-03, who is due to retire in May next, is responsible for the marked improvement in the method of manufacture of lymph and the remarkable increase in the quantity manufactured and in the average yield of pulp per calf, attended by not a very insignificant

proportionate reduction in the expenditure. The subjoined statement shows these particulars in detail:—

Years.	Lymph manufactured.	Lymph issued.	Average yield of pulp per calf.	Total expenditure.		
				Rs.	A.	P.
	Grains.	Grains.	Grains.			
1900-01 ..	65,832	No record of issues.	49·09	4,320	3	7
1901-02 ..	74,325		59·85	4,800	2	6
1902-03 (1) ..	103,470		59·81	7,458	3	3
1903-04 ..	130,680		55·45	8,364	4	0
1904-05 ..	147,579		50·92	9,208	2	9
1905-06 ..	223,322		49·93	15,772	12	2
1906-07 ..	293,250		93·92	14,253	6	1
1907-08 ..	318,447		89·03	15,250	0	0
1908-09 ..	420,845		97·23	17,680	9	3
1909-10 ..	520,114		102·58	18,717	12	3
1910-11 (2) ..	608,916	537,331	101·90	20,473	10	0
1911-12 ..	568,113	712,805	102·75	19,347	13	8
1912-13 ..	675,228	704,420	105·27	18,473	13	7
1913-14 ..	744,054	744,105	120·39	19,985	1	2
1914-15 ..	772,587	742,746	110·38	21,719	6	3
1915-16 ..	783,632	802,305	119·48	22,745	12	2
1916-17 ..	765,201	766,550	133·12	21,236	4	5
1917-18 ..	858,759	844,821	141·92	21,431	6	1
1918-19 (3) ..	1,058,273	1,057,378	150·98	25,411	6	0
1919-20 ..	1,715,101	1,713,879	181·81	35,998	2	4
1920-21 ..	1,506,164	1,512,979	178·36	29,189	1	6
1921-22 (4) ..	1,490,222	1,507,487	161·80	31,968	6	3
1922-23 ..	1,706,089	1,563,861	152·76	36,200	6	2
1923-24 ..	1,694,180	1,764,339	168·06	32,208	7	0
1924-25 ..	1,975,780	2,029,178	182·14	28,373	2	0
1925-26 (5) ..	2,470,607	2,477,815	204·29	43,250	14	0
1926-27 ..	2,680,464	2,654,690	201·09	45,089	7	0
1927-28 (6) ..	3,340,098	3,574,274	250·76	42,491	7	0
1928-29 ..	4,600,152	4,563,154	282·48	42,051	14	0
1929-30 ..	4,720,960	4,490,939	254·55	59,482	13	0

(1) Dr. M. K. Chakravartti appointed as Inspector, now Superintendent of the Bengal Vaccine Depot. (2) Ghum (Darjeeling) Vaccine Depot abolished. (3) Supply of glycerinated lymph started. (4) Mostly glycerinated lymph. (5) Includes Rs 12,450 for cost of European stores. (6) Supply of lanolinized lymph entirely stopped.

SECTION VIII.

Sanitary Works (Military).

119. This section is excluded from provincial public health reports.

SECTION IX.

Sanitary Works (Civil).

120. **General Remarks.**—The financial aspect of public health administration as dealt with in the next four paragraphs, is based on the Government Resolution on the Reports on the Working of District Boards and Municipalities in Bengal during the year 1928-29, the population being taken as it stood at the time of the last census.

121. **Municipalities: Income and Expenditure.**—Excluding Calcutta, there were 116 municipalities in Bengal in 1928-29 with an aggregate population of 2,033,993 and an average population of 17,535 for each municipality. The total income excluding the opening balance and extraordinary income and debts during the year was Rs. 92,94,616 as compared with Rs. 79,72,168 of the previous year. The average income of each municipality was thus Rs. 80,126 and that per head of population Rs. 4-9-1 against Rs. 69,323-3-2 and Rs. 3-14-11, respectively, in 1927-28. The total receipts from all sources including the opening balance amounted to Rs. 1,29,61,786 against Rs. 1,12,10,926 in the previous year. There was thus an increase of Rs. 13,22,448 or 16·6 per cent. in the total income and Rs. 17,50,860 or 15·6 per cent. in the total receipts. The opening balance was Rs. 15,73,067 or annas 12-4 per head of population, while extraordinary income and debts amounted to Rs. 20,94,103 or Rs. 1-0-6 per head against Rs. 15,64,715 and Rs. 16,74,043 or annas 12-4½ and annas 13-3 per head of population respectively in the previous year.

The total expenditure during the year was Rs. 92,03,302 against Rs. 84,14,462 in the previous year, showing an increase of Rs. 7,88,840 or 9·4 per cent. The proportion of the total receipts (including the opening balance) spent in 1928-29 on the several heads of expenditure is shown below:—

Heads.	Total expenditure, 1928-29.	Percentages.		Increase + or decrease—.
		1927-28.	1928-29.	
	Rs.			
Sanitary Works	57,13,347	42·4	44·08	+1·67
Public Safety	6,59,563	5·9	5·09	—0·82
Roads	8,53,971	8·3	6·6	—1·7
All other requirements	19,76,421	18·3	15·2	—3·1

122. **Municipal expenditure on Sanitation.**—The following statement shows the average expenditure per head of municipal population on certain sanitary works:—

Heads.	Total expenditure, 1928-29.	1927-28.				1928-29.			
		Rs.	Rs.	A.	P.	Rs.	Rs.	A.	P.
Conservancy	33,70,223	1·120	= 1	1	11	1·657	= 1	10	6·1
Water-supply	12,04,926	·705	= 0	11	3·3	·592	= 0	9	5·6
Drainage	3,71,527	·158	= 0	2	6·3	·183	= 0	2	11·1
Disposal of the dead (including burial places and burning ghats)	46,543	·026	= 0	0	4·9	·023	= 0	0	4·4
Markets and slaughter houses	61,379	·025	= 0	0	4·8	·030	= 0	0	5·8
Medical Relief (Hospitals and plague charges)	3,37,530	·164	= 0	2	7·4	·166	= 0	2	7·8
Vaccination	34,603	·017	= 0	0	3·2	·017	= 0	0	3·2
Charges on account of Health Officers and Sanitary Inspectors	2,02,960	·092	= 0	1	5·6	·099	= 0	1	7·0
Registration of births and deaths	16,074	·008	= 0	0	1·5	·008	= 0	0	1·5
Other sanitary requirements	67,582	·032	= 0	0	6·1	·033	= 0	0	6·3
Total	57,13,347	2·347	= 2	5	6·1	2·809	= 2	12	11·3

Compared with the previous year the expenditure on conservancy per head increased by 47·9 per cent., on drainage by 15·8 per cent., on markets and slaughter houses by 20·0 per cent., on medical relief by 1·2 per cent. and on health officers and sanitary inspectors by 7·6 per cent., while that on water supply decreased by 16·03 per cent. and on disposal of the dead by 11·5 per cent. Expenditure on vaccination and registration of births and deaths continued the same, viz., 3·2 and 1·5 pies per head respectively. The total average expenditure on sanitation per head increased by 19·7 per cent. The aggregate expenditure incurred by some of the municipalities during the year on certain subsidiary heads is shown below:—

	1927-28.	1928-29.
	Rs.	Rs.
(1) Antimalaria measures	4,564	4,454
(2) Public Health propaganda work including health exhibition ..	7,775	15,279
(3) Infectious diseases hospitals ..	23,331	24,872
(4) Vaccinators	31,608	32,055

123. Rural Areas: Income and Expenditure.—There were 26 District Boards in Bengal during the year 1928-29 with an aggregate population of 43,411,036. The total income of the District Boards excluding the opening balance and debts amounted to Rs. 1,42,90,873 against Rs. 1,36,23,825 during the preceding year, the average income per head of population being annas 5-3·2 against annas 5 in the previous year. The total receipts from all sources including the opening balance during the year were Rs. 1,86,89,034 against Rs. 1,80,16,871. There was thus an increase of Rs. 6,67,048 or 4·9 per cent. in the total income and of Rs. 6,72,163 or 3·7 per cent. in the total receipts. The opening balance was Rs. 30,96,141 or about anna 1-1·7 pies per head of population against Rs. 34,68,554 and anna 1-3 in the previous year. The average incidence of taxation was annas 2-11 per head against annas 2-10 in 1927-28. The total expenditure was Rs. 1,40,51,563 against Rs. 1,36,66,495 in the previous year showing an increase of 2·8 per cent. 32·5 per cent. of the total receipts was spent on public works, including 18·4 per cent. on "Communications," 4·5 per cent. on "Water supply," 2·7 per cent. on "Buildings" and ·09 per cent. on "Drainage" against 34·9 per cent., 19·9 per cent., 5·1 per cent., 2·8 per cent. and ·07 per cent., respectively, during the previous year, while only 15·5 or anna 1-1 per head was spent on "Medical Relief," including sanitation and vaccination, against 14·5 per cent. or 11 pies per head during the previous year, vaccination receiving 1·5 per cent. of the total income or 1·2 pies per head of population and sanitation 4·9 per cent. or 4·1 pies per head against 1·6 per cent. or 1·2 pies, and 3·8 per cent. or 3·07 pies respectively in the previous year.

124. Sanitary Works in Towns and Rural Areas.—The total expenditure on sanitary works by Government, municipalities and district boards during the year 1928-29 amounted to Rs. 24,63,549 against Rs. 55,31,567 during the previous year, showing a decrease of 55·4

per cent. as compared with the previous year. The most important items each costing Rs. 5,000 or more are shown below:—

	Rs.
Hooghly waterworks extension scheme	2,30,000
Titagarh sewerage extension scheme	2,30,000
Dacca water-supply improvement scheme	1,17,631
English Bazar water-supply scheme	1,14,000
Bansbaria waterworks scheme	96,000
Bankura waterworks scheme	53,651
Bansbaria Municipal Charitable Dispensary	45,000
Birbhum water-supply scheme	44,400
Dacca Sewerage	40,717
Tollyganj water-supply	25,964
Khulna waterworks extension scheme	24,413
Sanitary works in Sagar mela	22,159
Rajshahi water-supply scheme	20,000
Jamalpur Municipal office building	9,931
Asansol water-supply scheme	8,150
Nawabganj waterworks storage and settling tanks land acquisition	7,173
Rajakhalī bridge in the Chittagong Municipality	6,206

125. **Sanitary Administration in municipal and rural areas.**—Twenty Health Officers and 97 Sanitary Inspectors were employed in the municipalities of the province excluding Calcutta, the sanctioned scale being 21 Health Officers and 99 Sanitary Inspectors. In addition to the sanctioned establishment, the Howrah Municipality appointed three more Assistant Health Officers to cope with the increased municipal sanitary works. Only the Barisal Municipality continued to evade employing a Health Officer and Santipur and Baraset maintaining Sanitary Inspectors. Out of the three sanctioned posts of Sanitary Inspectors, the Bhatpara municipality employed only two Sanitary Inspectors, one post remaining vacant throughout the year. The Gaibandha municipality employed a Sanitary Inspector although not yet required to do so under the Bengal Municipal Act.

Two hundred and forty-two new health circles were opened during the year under the rural public health organisation scheme, thus bringing the total number to 514 as against 272 in the previous year. Forty-nine health circles in the district of Mymensingh, 33 each in the 24-Parganas and Bakarganj, 32 in Dacca, 30 in Rangpur, 27 in Midnapur, 25 in Faridpur, 24 in Jessore, 22 in Nadia, 21 in Khulna, 20 each in Rajshahi, Dinajpur, Chittagong and Tippera, 18 in Murshidabad, 16 in Burdwan, 15 in Malda, 14 each in Pabna and Noakhali, 13 in Jalpaiguri, 11 each in Bogra and Bankura, 10 each in Hooghly and Howrah and 6 health circles in Birbhum worked during the year under review. The circles were each in charge of a qualified Sanitary

Inspector or Assistant Health Officer with a health assistant subordinate to him. Inspection on the working of the health circles was undertaken by the circle Assistant Directors of Public Health. During the year 18 health circles in the Burdwan Division, 59 in the Presidency Division, 28 in the Rajshahi, 33 in the Dacca and 25 in the Chittagong Division were inspected.

126. **Village Self-Government.**—4,089 union boards worked during the year against 3,005 in the previous year. There can be little doubt that although the maximum has by no means been reached the year 1928-29 will represent the sharpest upward movement. Thus, it can be said that the formation of union boards is now generally welcomed by the public. Most of the district boards took much interest in the working of union boards and helped them with such grants-in-aid as they could spare. As in the previous year, the District Board of Bankura adopted a definitely obstructive attitude towards the already established union boards in that district. The union boards during the year collected a total sum of Rs. 56.1 lakhs as rents of chaukidari chakran lands. The total income amounted to Rs. 71.4 lakhs, of which 46.3 lakhs were spent on establishment and collection charges, leaving a balance of Rs. 25.1 lakhs only which were expended on communications, medical aid, education, water supply and sanitation. A number of union boards started small irrigation works and maintained dispensary services.

127. **Visva Bharati.**—A few lines in connection with the health activities of Visva Bharati will not be out of place here.

(1) *Village Survey.*—Rural Survey of Raipur village was completed during the year; the survey of Goalpara, Bandhgora and Bhubandanga are progressing.

(2) *Village Reconstruction.*—(a) *Ballavpur.*—About a hundred years ago this village was very prosperous and had a population of 500 families which have now dwindled to only 23 families. A thorough survey of the village was completed in 1924-25. A co-operative health and rural reconstruction society was formed in 1925 and was registered on the 10th November of the same year. Since then 2,829 feet of new road have been constructed, 6,716 feet of drains opened and 11½ bighas of jungles cleared. Every year the roads are repaired and the drains cleaned. 6,682 grains of quinine were distributed in 1929 against 9,428 in 1928 and 31 dobas were kerosinised with 32 lbs. of kerosine. In the year under review the percentage of cases from malaria among those who took quinine was 33 against 17.3 in 1928, 18.0 in 1927, 52 in 1926 and 85 in 1925. The incidence among those who did not take quinine was 52.6 in 1929. This unsatisfactory increase in the malaria rate is accounted for as follows: (i) The gradual decrease in the number of cases of malaria during the previous years created a mistaken impression among the people that there was no more danger from malaria, resulting in a discontinuance of the practice of taking quinine regularly in the year under report; (ii) all the dobas and tanks could not be kerosinised as some of these were still surrounded by thick jungles; (iii) most of the people were too poor to use mosquito curtains. Forty-eight persons were vaccinated against smallpox. Of the 4 dais trained in 1927, one of them successfully attended calls from 8 villages within a radius of 5 miles.

(b) The following table shows the Health Work done in villages Benuri, Lohagarh, Bahadurpur, Bhubandanga and Bandhgora:—

Work in villages.

	Total populations.	Total members of Health Society.	Health activities.			
			Jungle cleared (bigha).	Roads repaired and cleared and new roads opened.	Drains cleared and new drains opened.	Dobas filled up.
Benuria ..	272	113	1	7½' × 2,085'	1½' × 3,480'	33
Lohagarh ..	291	133	½	7½' × 2,031'	3' × 4,734'	3
Bahadurpur ..	311	155	½	7½' × 2,031'	1½' × 5,034'	17
Bhubandanga ..	350	99	1	600'	900'	15
Bandhgora ..	178	134	2	15' × 675' and 195'	3,840'	10

	Health activities.				Malaria cases among—		
	Dobas cleaned and cleared.	Dobas kerosened.	Kerosene used (lbs.).	Quinine distributed (grains).	Member (percentage).	Non-member (percentage).	Total (percentage).
Benuria ..	18	58	54	9,452	2 (1·7)	..	..
Lohagarh ..	..	20	10	7,728	3 (2·2)	14 (8·8)	17 (11)
Bahadurpur ..	..	35	24	8,020	4 (2·5)	9 (6)	13 (8·5)
Bhubandanga ..	..	16	416	11,276	2 (2)	27 (10·8)	29 (10·8)
Bandhgora ..	..	..	36	14,116	2 (1·49)	..	..

128. **Prevention of Food Adulteration.**—The Bengal Food Adulteration Act, 1919, has been extended from July 1927 to the whole of Bengal except Calcutta. The object of this law is to prevent the sale of adulterated foodstuffs in the mufassal. The following articles of food have so far been notified for the purpose:—

- | | | |
|-------------|------------------|--------------------------|
| (1) Milk, | (4) Ghee, | (7) Wheat flour (Maida), |
| (2) Dahi, | (5) Butter, | (8) Ata, |
| (3) Chhana, | (6) Mustard oil, | (9) Tea. |

The inauguration of the rural public health organisation scheme has facilitated the working of the Bengal Food Adulteration Act. Excepting the District Board of Howrah, which has deferred action and except the district boards of Dinajpur, Bogra, Pabna and Mymensingh, from whom reports have not yet been received, all other district boards have authorised the public health circle sanitary officers to exercise the powers and perform the duties specified in sections 10 and 12 of the Act.

SECTION X.

129. **Personal Proceedings.**—As I am shortly proceeding on leave preparatory to retirement from service, this report is the last report which will be submitted by me. The Office of the Director of Public Health was held by me from the 1st January until I proceeded on leave on the 19th June. I resumed work on the 14th October. During my absence on leave, Dr. Khambata officiated in the appointment while Dr. Brahmachari officiated for the same period as the Director of the Bengal Public Health Laboratory in place of the permanent incumbent Dr. Khambata. The temporary vacancy in a post of Assistant Director of Public Health caused by Dr. Brahmachari's transfer was filled up by Dr. R. D. Ray, District Health Officer of Malda. Other posts of Assistant Directors of Public Health were held during the years by Drs. Sufi, Sur, Ray, Mitra and Batra, the last of whom was on special duty from the 15th July to the 4th October in connection with the investigation of the Royal Commission on Labour, Dr. G. K. Chakravartti, District Health Officer of Rajshahi, having officiated in his place from the 15th August to the 4th October. Rai Bahadur K. P. Ray continued to perform the duties of the Publicity Officer, Dr. Mahendra Kumar Chakravartti as Superintendent of the Bengal Vaccine Depot, Rao Bahadur Govinda Raju as Superintendent of the Bengal Vaccine Laboratory, Rai Sahib Surendra Nath De as the Assistant Chemical Examiner for Excise and Mr. Iyengar as the Entomologist. All of them deserve my thanks for maintaining the efficient working of the department.

CHAS. A. BENTLEY,

Director of Public Health, Bengal.

CALCUTTA,

The 2nd February 1931.

Part II

Annual Report of the Sanitary Board, Bengal, 1929.

130. **Work of the Sanitary Board.**—(1) The number of official members of the Board remained the same as in the previous year. That of non-official members was increased from eight to nine; the personnel remained the same as in the previous year, except that Mr. G. Bransby Williams, M.INST.C.E., F.R.SAN.I., M.I.E. (Ind.), was appointed the additional non-official member.

Dr. C. A. Bentley, C.I.E., ex-officio Joint Secretary, was on leave from 19th June to 15th October, and Dr. R. B. Khambata officiated for him during the period.

Mr. F. C. Griffin, ex-officio Joint Secretary, was on leave from 2nd March to 5th October, and Mr. S. N. Ghose acted for him during his absence.

(2) The Board held *five* meetings during the year, all in Calcutta.

(3) The following schemes were approved by the Board and forwarded to Government:—

(a) *Sketch projects.*

	Estimated cost.
	Rs.
(1) Brahmanbaria water-supply (revised project)...	66,800
(2) Narayanganj water-supply improvement ...	1,27,500
(3) Netrakona water-supply ...	75,000
(4) Satkhira water-supply extension ...	11,907
(5) Chittagong sewerage—main drainage and water-supply improvement ...	12,22,030
(6) Mymensingh waterworks improvement ...	1,34,233

(b) *Detailed project.*

Jalpaiguri water-supply	... 1,50,000
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(4) The Board considered a note of inspection on the Mymensingh waterworks made by the Executive Engineer, Dacca Sanitary Works Division, and drew the attention of Government to the serious condition of the waterworks revealed by the report. The Board recommended that the municipal authority should be called upon at once to carry out the works suggested by the Executive Engineer, and also to put the accounts of the waterworks fund on a proper basis.

(5) Government referred to the Board the Howrah Central Drainage (Canal) Scheme for an expression of opinion as to whether, in view of recommendations of the Board previously made, viz., the adoption of a sewerage scheme to follow the canal scheme, the Board would advise

that the canal scheme should not be proceeded with until a sewerage scheme is ready. The Board informed Government that the canal scheme could be proceeded with without waiting for the sewerage scheme.

(6) Government also referred to the Board the detailed project for the improvement of water-supply of the Noakhali Municipality. The scheme involved pumping from a tank near the local hospital. In the opinion of the Board this arrangement was unsatisfactory from a sanitary point of view. The Board therefore recommended that this scheme should be combined with that for water-supply to the Government quarters at Sonapur, and that the pumping station should be on the bank of the Sonapur Tank.

(7) A scheme for further extension of water-supply in the Suri Municipality came up to the Board for consideration. The Board found it to be inadequate and returned it to the Divisional Commissioner with the suggestion that it should include the protective works required for the filtration gallery at the river intake.

(8) The Board considered a letter from Mr. G. Bransby Williams regarding the proposal for the formation of a Main Drainage Board for Calcutta and drew the attention of Government to the urgency of the problem.

131. **Inspection reports on municipalities.**—These were circulated to the members of the Board and discussed at the meetings.

132. **Water analysis reports.**—The Board examined the analysis reports on water-supplies of the various towns in the province and took such action as was considered necessary.

C. W. GURNER,

President.

C. A. BENTLEY, F. C. GRIFFIN, *Joint Secretaries.*

CALCUTTA,

The 1st April 1930.

Part III

Seventeenth Annual Report of the Chief Engineer, Public Health Department, Bengal, 1929.

133. **Establishment.**—I was on leave from the 2nd March to the 5th October. During this period Mr. S. N. Ghose, Executive Engineer, Central Division, officiated for me, and Rai Saheb S. N. Roy acted in Mr. Ghose's place.

Babu B. N. Mazumdar, officiating Executive Engineer, Western Division, was confirmed in the post on the 7th April and held charge of the division throughout the year.

Mr. W. J. Berry and Rai Saheb K. C. Banerjee, Executive Engineers, were in charge of the Dacca Sanitary Works Division and Presidency Division, respectively, during the whole year.

Mr. S. N. Ghose, Executive Engineer, Central Division, was on leave from the 25th November to 23rd December, and Rai Saheb S. N. Roy officiated for him during the period.

The strength of the Subordinate Engineering Establishment at the end of the year was as follows:—

	Perma- nent.	Tempo- rary.	Total.
Assistant Engineers	... 4	3	7
Supervisors	... 1	8	9
Overseers	... ...	9	9
Sub-overseers	... ...	12	12

134. **Schemes prepared.**—The following projects were drawn up during the year:—

(a) *Sketch projects.*

	Estimated cost. Rs.
(i) Rajshahi Sewerage	... 3,22,300
(ii) Tittagarh Sewerage Extension	... 2,30,000
(iii) Naihati Surface Drainage	... 2,25,100
(iv) Mymensingh Waterworks Improvement	... 1,34,233
(v) Comilla Water-supply Extension	... 21,540
(vi) Satkhira Water-supply Extension	... 11,907
(vii) Bagerhat Water-supply	... 50,000

(b) *Detailed projects.*

	Estimated cost.
	Rs.
(i) Jalpaiguri Water-supply—two alternative schemes were drawn up—	
(a) With an elevated reservoir ...	1,50,000
(b) With a distribution system on "decentralised storage" system ...	1,65,900
(ii) Tamluk Water-supply (revised scheme) ...	45,300
(iii) Noakhali Water-supply Improvement ...	22,200
(iv) Midnapur Central Jail Water-supply ...	26,700
(v) Satkhira Water-supply Extension (revised scheme) ...	14,113
(vi) Suri Water-supply Extension ...	14,670
(vii) Barisal Water-supply Improvement ...	88,700

135. **Schemes examined.**—A scheme for Kanchrapara water-supply prepared by the municipal authority and estimated to cost Rs. 87,907 was examined and approved.

136. **Tube wells.**—The following tube wells were sunk under the control and supervision of the department:—

(1) *A 1½" diameter tube well in the office compound of Jhargram Local Board.*—The yield was satisfactory and the quality of the water fairly good.

(2) *A 5" diameter tube well at the proposed Leper Asylum at Salboni in the district of Midnapore.*—This well is to form the source of supply of a water-supply scheme for the asylum. The yield was fairly satisfactory and the quality of the water good.

(3) *A 5" diameter tube well at English Bazar (Malda district) in connection with the proposed water-supply scheme of that town.*

(4) The departmental boring plant and staff were engaged in the early part of the year in sinking an experimental tube well at Rauzan in the district of Chittagong. This proved a success.

Sinking of tube wells in the province being considered past the experimental stage and sufficiently popularised to be left for local bodies to make any further experiments through the agency of private firms, the temporary boring branch of the department was abolished in March.

(5) At the request of the Medical Superintendent of the Santal Mission Hospital at Sarenga in the district of Midnapur, a tube well sunk on the hospital compound was inspected and the pumping test carried out by the contractors supervised.

137. **Works under construction.**—(i) *Dacca Waterworks Improvement Scheme.*—The laying of new and relaying of old C. I. distribution mains was practically completed and the mains taken into use. The three elevated reservoirs were completed and put into use. The new 16" suction pipe was completed early in June. The

cleaning and regrading of the existing suction pipe was taken in hand after the monsoon and this work was nearing completion at the end of the year. The remodelling of the settling tanks was taken in hand after the rains and the work was in progress.

Prices were obtained for two additional mechanical filters and a contract was awarded to Messrs. Paterson Engineering Company at the end of the year.

Progress on this scheme was slower than anticipated, as owing to unexpected delay in receiving local contributions work was practically at a standstill for several months.

(ii) *Dacca Main Drainage Extension Scheme*.—Practically no work was done on this during the year, owing partly to shortage of funds and partly to delay in the acquisition of sites for dumping depots. No further sewer-laying can be taken in hand until the reference to the High Court regarding the appeal against enhanced award for the land acquired for the outfall works is disposed of, as a considerable sum of money has had to be earmarked for meeting the increased award in the event of an adverse decision being given.

(iii) *Outfall works*.—The raising and grading of the irrigation area round tank No. 10 of the outfall works was completed and the land put under cultivation.

The erection of wire fencing was completed.

(iv) *Dacca University Sewerage Scheme*.—The remaining sewers were completed, the ventilating columns erected and automatic flushing tanks installed; the automatic electric pumping plant was tested and taken over from the contractors.

(v) *Government building sanitation, Dacca*.—Construction of two hand dumping depots were taken in hand and were nearing completion at the end of the year.

Contract drawings and specifications were prepared and tenders called for in December for Part 1 of the sanitation scheme for the new hostel attached to the Ahsanulla School of Engineering, the estimated cost of which is Rs. 25,800.

(vi) *Comilla Waterworks*.—The installation of the second pump and the re-erection of an existing oil engine on a new foundation were completed. A third pumping set, consisting of a new triple ram pump driven by an existing oil engine which was dismantled and re-erected on a new foundation, was also installed.

The town was supplied throughout the year from the new tube wells at an average rate of 108,000 gallons of water per day.

(vii) *Chandpur (Northern Section) Water-supply Scheme*.—Owing to opposition to the acquisition of the site for the waterworks it was not possible to commence work on this scheme. Contract drawings and specifications were prepared and tenders obtained for the machinery, filtration plant, pipes, specials and valves, and the elevated steel reservoir, but for want of possession of the land it was not possible to let any of these contracts.

(viii) *Narainganj East Bank Water-supply Scheme*.—Considerable modifications were made in this scheme which delayed the commencement of the construction operations.

Steel pipes for the trunk mains were delivered at site and tenders called for the pumping machinery, iron removal plant, and the second tube well.

(ix) *Khulna Waterworks Extension Scheme*.—The following works were done and the scheme completed during the year:—

- (1) Extension of the pipe lines.
- (2) Installation of the new oil engines, pumps and filters.
- (3) Removing and re-erecting the old steam engine at the river side for replenishing the reserved tank.

The plant was handed over to the municipal authority after it had passed the necessary tests.

(x) *Patuakhali Waterworks*.—Laying of the distribution mains with 22 G. I. tanks erected at different centres of the town was completed. The new pumping plant, the elevated reservoir and the filter were installed. The work of fencing the compound was in progress.

The town supply was started in November.

(xi) *Faridpur Waterworks*.—Works completed during the year were:—

- (1) Construction of the engine house, staff quarters and the reinforced concrete settling tanks.
- (2) The installation of a Jewell gravity filter capable of dealing with 9,000 gallons per hour.
- (3) Erection of the plant and the elevated reservoir of 30,000 gallons capacity.
- (4) The distribution system with 86 street standposts.

The water-supply in the town commenced from 9th September 1929, but the works could not be handed over to the municipal authority owing to the failure of one of the oil engines to pass the necessary tests. The machinery contractor agreed to replace this engine.

(xii) *Kalimpong Bazar Sewerage*.—Laying of all the sewer lines and construction of latrines, except a portion of sewer No. 1 and latrine No. 1, were completed. The jhora crossings and sludge lagoons were also finished. The construction of the septic tank was nearly completed at the close of the year.

(xiii) *Rajshahi Water-supply*.—The scheme received administrative approval in September. It was proposed to prepare the detailed scheme after sinking the two 7" diameter tube wells which are to constitute the source of supply for the scheme. A sum of Rs. 20,000 was transferred by the municipal authority to the credit of the department for the tube wells, but owing to delay in obtaining possession of the site for the headworks, operations could not start although a tender for the tube wells was accepted by the middle of the year.

(xiv) *English Bazar Water-supply*.—The scheme was finally sanctioned in May. To obtain an increased supply, a second tube well of 5" diameter was sunk a little distance from the one previously constructed. Both the wells were tested and proved successful. The

attention of the municipal commissioners was drawn to the fact that the tube well water was rather hard, and they were asked whether they wished a water softening plant to be added to the scheme. They replied in the negative, and accordingly arrangements for proceeding with the construction of the scheme as designed were taken in hand.

(xv) *Tittagarh Sewerage Extension Scheme*.—Under orders of Government the works proposed in connection with the alteration of the outfall works, the additional sewers, dumping depots, gulley pits, etc., were to form a separate scheme, which is styled "Tittagarh Sewerage Extension Scheme." It was estimated to cost Rs. 2,30,000 and received administrative approval in September. Works to the value of Rs. 72,200 were completed during the year and tenders for the third activated sludge plant, æration tanks, surface drains, gulley pits, etc., were called for about the close of the year.

(xvi) *Bhatpara Improvement Scheme*.—Laying of pipes for the improvement of water-supply, with the exception of those along the proposed new roads, was practically completed. The old pipes which were to be utilised in the new scheme were taken out, scraped, painted and relaid in their new positions.

Tenders for the machinery, sewer pipes, and excavation of trenches and laying of sewers were obtained and accepted. The progress of the work was considerably hampered owing to delay in getting possession of land.

(xvii) *Bansbaria Water-supply*.—The scheme received the final sanction of Government in August, but owing to difficulty in getting the local funds transferred to the credit of the department, work could not be started. Tenders for pipes and specials were invited, and were received about the close of the year.

(xviii) *Asansol Water-supply*.—The drivers' and khalasis' quarters were completed about the middle of the year. The sump well for the infiltration gallery was completed and a portion of the pipes laid in the bed of the Damodar. Good progress was made with the construction of the reinforced concrete elevated reservoir of 225,000 gallons capacity. Tenders were called for the pipes and specials for the rising main. All the pipes and specials were delivered at site, and a portion of the main was laid. A tender was accepted for a service road along the rising main and construction of about one-third of its length was completed. Tenders for pumping machinery and laying of the distribution system were obtained and accepted.

(xix) *Midnapore Jail Water-supply*.—Construction of the engine house was nearly completed. Excavation of the foundation for the elevated reservoir and the storage tanks was completed. Tenders for the supply of the machinery was received and accepted. A portion of it was also delivered at site.

(xx) *Raniganj Water-supply*.—Construction of the khalasis' quarters, fencing round the head works, a service road from the engine house to the intake well, and the durwans' quarters were completed. A chlorinating plant was erected on the roof of the service reservoir.

(xxi) *Suri Water-supply*.—Construction of the elevated reservoir and the remaining portion of the improvement work at the headworks were completed.

(xxii) *Suri Drainage Scheme*.—Contract drawings, specifications and bills of quantities for various contracts for the Suri drainage (partial) scheme were prepared. The works were executed under the supervision of the District Engineer and were periodically inspected and supervised by the officers of the department.

138. **Expenditure of new works.**—The total capital expenditure on waterworks and sewerage works during the year were Rs. 8,74,587 and Rs. 2,91,745, respectively, vide Appendices I and II.

139. **Maintenance of sewerage and waterworks.**—(i) *Dacca Main Drainage*.—The management of the outfall works and the operation of the sewage pumping station at Narinda continued under the control of the department throughout the year. During the year ending 31st August 1929 the quantity of sewage and storm water pumped amounted to 609,158,225 gallons. The reduction of the previous year's output is due to more energetic measures taken by the local authority at the instance of this department to exclude storm water from the sewers during the monsoon. The total cost of pumping and maintenance of the plant, including supervision fees, amounted to Rs. 15,050, or 39 annas per 100 gallons, which was defrayed by the municipal authority.

During the year newly raised areas of the outfall works were brought under cultivation for the first time. Farming operations were carried on successfully, and the produce of the farm brought in an income of approximately Rs. 14,030, which was an increase of Rs. 4,700 on the previous year's income. This would have been greater but for the poor prices realised for jute.

The cost of disposal amounted to Rs. 15,910 including supervision fees. These figures show a deficit on the year's working, but no allowance has been made for the value of standing crops which was considerably greater than at the end of the previous year owing to greater area under cultivation.

The demand for effluent for irrigating the crops of the neighbouring cultivators continued to increase, although the price had been raised to Rs. 7-8 per acre per crop. During November and December 23½ bighas were irrigated and a still larger area will be irrigated in the hot weather.

(ii) *Dacca unfiltered Water-supply Pumping Station*.—The working of this plant remained under the control of this department. In the early part of the year a heavy strain was thrown on it, as owing to the breakdown of one of the waterworks engines, it was necessary to work the plant an average of 14 hours daily to keep the waterworks supplied as well as to provide flushing and dilution water for the sewerage scheme.

(iii) *Tittagarh Sewerage Scheme*.—The works in connection with the scheme were completed and handed over to the municipal authority. The irrigation area which was leased out by the municipal authority fetched an income of Rs. 4,100 during the year. The effluent produced was reported to be uniformly good chemically, and is up to the standard which, in England, is considered good enough for discharge into a public water-course.

(iv) *Berhampore Waterworks*.—The management of the waterworks was transferred to the municipal authority at the end of 1928. The programme of repairs and replacement of machinery had been carried

out except as regards the engine and pump for the riverside pumping station. This plant was supplied in 1928 but could not be got ready for test till September 1929. The test on the plant was carried out by the Superintendent of the waterworks and Assistant Engineer (Mechanical) of this department at the end of the year.

(v) *Kalimpong Waterworks*.—The Kalimpong water-supply including the Kalimpong Bazar supply was maintained by the department as in previous years.

140. **General.**—(1) The monthly returns of the various sewerage and waterworks were regularly checked and necessary action taken in cases of irregularities.

(2) The report of Messrs. Worthington Simpson, Limited, on their periodical inspections on the various waterworks machinery and filters were scrutinised and forwarded to the local bodies concerned with necessary remarks.

(3) The reports on analyses of water issued by the Director of Public Health Laboratory and the Medical Officer, Darjeeling, were regularly dealt with, and necessary steps taken to improve the quality of water in the cases of unsatisfactory results.

(4) The Mechanical Assistant Engineer and the Mechanical Overseer of the department carried out inspections of waterworks whenever necessary. As in the previous years some of the municipalities utilised their services in connection with the running of their waterworks.

(5) Two new municipal waterworks were started during the year, viz., Faridpur and Patuakhali. These replaced the old small works consisting in each case of hand pumps and slow sand filters on the bank of a reserved tank. The total number of waterworks in operation during the year was 40. The total number of persons served was 1,011,287 and the total quantity of filtered water supplied was 13,237,038 gallons per day on an average.

(6) The diagram in Appendix III shows the comparative figures for consumption of coal and fuel oil during the year at the various waterworks and sewage pumping stations in the presidency.

141. **Miscellaneous.**—(i) The Mymensingh Waterworks was inspected and reported on by the Executive Engineer, Dacca Division, at the request of the Chairman of the Municipality in February. It was found that the waterworks was being grossly overworked, the consumption of water having increased to a point far in excess of the rate of delivery for which the waterworks was designed when extended in 1921. There being only one serviceable pumping engine and this having been in use for 18 years, it was recommended to install an entirely new pumping plant of larger capacity, as well as to augment the output of the filter by two tube wells sunk in the waterworks compound.

These works as well as an additional elevated reservoir, with necessary enlargement and extension of the rising main, are included in the sketch project mentioned in paragraph 2 of this report.

(ii) Estimates and plans for the following additional works were drawn up:—

(a) *Faridpur Water-supply Scheme.*

Additions and alterations to—

			Rs.
(i) Distribution system	...	...	3,765
(ii) Settling tank	...	...	3,639

(b) *Raniganj Water-supply Scheme.*

Works required for completing the scheme, including arrangement of chemical gear	...	...	7,338
--	-----	-----	-------

(c) *Bansberia Water-supply Scheme.*

Extension of pipe line and an alternative pipe line across the bed of the Saraswati river	...	...	6,000
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(d) *Midnapore Water-supply Scheme.*

(i) Extension of pipe line to the Midnapore railway station	...	...	1,200
(ii) Uncompleted portion of the distribution system (revised)	...	...	39,973

(e) *Khulna Water-supply.*

A filter shed, a chlorinating plant, some additions to the filtration and a reinforced concrete street tank			4,769
---	--	--	-------

(f) *Patuakhali Water-supply.*

(i) Chowkidar's quarters, godown and latrines	...	...	1,430
(ii) An 18" diameter S. W. pipe culvert	...	...	230

(g) *Suri Water-supply.*

(i) Protective dam for river intake	...	...	4,500
(ii) Extension of the distribution system	...	...	7,890
(iii) Compound wall round the elevated reservoir	...	...	2,500

(h) *Chittagong Drainage.*

Unfiltered water-supply for flushing sewers and dumping depots	...	...	16,500
--	-----	-----	--------

(i) *Asansol Water-supply.*

	Rs.
Temporary arrangements for water-supply at the head-works	3,000

(j) *Kalimpong Water-supply.*

(a) Maintenance and repairs in the D. I. Fund area for 1929-30	1,900
(b) Improvement of the distribution system (revised)	2,100

(iii) Estimates for tube wells were prepared for—

(a) Rajshahi Water-supply Scheme	20,000
(b) Netrokona Water-supply Scheme	3,904
(c) Jhargram Local Board	1,200
(d) Salboni Leper Asylum Water-supply Scheme	12,000

(iv) At the request of the Civil Surgeon, Noakhali, an estimate amounting to Rs. 14,300 was prepared for a scheme for water-supply at Feni from eleven tube wells.

(v) At the instance of the Public Works Department a scheme for water-supply to the Government quarters at Sonapur, Noakhali, was prepared. The scheme was estimated at Rs. 16,650.

(vi) Under the instruction of Government a revised scheme for a combined water-supply for the town of Noakhali and for the civil station at Sonapur was prepared. This provided for a larger supply to the town and for a supply of 400 gallons a day to the civil lines. The estimated cost amounted to Rs. 46,015.

(vii) A scheme for carrying out certain experiments for treatment of nightsoil by a simplex activated sludge plant was prepared at the request of the municipal commissioners of Naihati and sent to them. The scheme was estimated to cost Rs. 8,000.

(viii) *Improvement of drainage at Tangail Sub-Jail.*—At the request of the Inspector-General of Prisons, the Tangail Sub-Jail was inspected and a scheme prepared for the improvement of the drainage system. This will remedy a long standing nuisance caused by the collection of sullage water in the roadside drains outside the Jail. The estimated cost was Rs. 2,119.

(ix) *Dacca Central Jail Sanitation.*—At the request of the Inspector-General of Prisons, a scheme for the removal of nuisance caused by sullage water flowing in the large drain which passes through the compound of the Jail Superintendent's quarters was prepared. The method proposed was to intercept the dry weather flow and discharge it into the municipal sewers. The estimated cost of the work amounted to Rs. 5,900.

(x) At the request of the Superintendent, Dacca Central Jail, a sketch project for an emergency water-supply for the jail was prepared. This was estimated to cost Rs. 19,819.

(xi) The Executive Engineer, Central Division, made an inspection of the Dinajpur Municipality with a view to studying the various drainage schemes which have been suggested for the municipality. A report on the alternative schemes with his recommendations was submitted to Government.

(xii) At the request of the municipal authority the septic tank at Darjeeling, which was reported to be in a very unsatisfactory condition, was inspected by the Executive Engineer, Central Division, and a report with his recommendation was forwarded to the municipality.

(xiii) As in the previous years a temporary water-supply system with the necessary pumping plant was installed and worked by the department at the Saugor Island for the supply of drinking water to the pilgrims on the occasion of the annual festival there. The measure was very effective in preventing an epidemic.

(xiv) The three student-engineers of the Bengal Engineering College, Sibpore, and the seven student-overseers from the Ahsanulla School of Engineering, Dacca, who were taken on the previous year, duly completed their course of practical training, and four new students from the former and four new student-overseers from the latter were admitted for training. Of the four students from the latter, two were stipend-holders under the new scheme of practical examination of student-overseers.

(xv) Training in elementary sanitary engineering was given to the students of the 24th and 25th sessions of the Sanitary Inspectors class and the usual examinations held.

F. C. GRIFFIN, M.INST.C.E.,

M.I.E. (IND.),

Chief Engineer,

Public Health Department, Bengal.

CALCUTTA,

The 19th March 1930.

APPENDIX

Statistics with regard to Municipal

No.	Name of Municipality	Year of report	Area, square miles	Population, 1900	Population, 1910	Population, 1920	Total, 1900-1920
1	Madison	1912	5.50	10,741	107,240	2,000	2,000
2	Jefferson	1900	4.50	20,000	200,000	11,000	11,000
3	Franklin	1900	1.50	25,000	400,000	12,000	12,000
4	Greene	1910	1.50	10,000	100,000	10,000	10,000

Appendices

APPENDIX

Statistics with regard to Municipal

No.	Name of municipality.	Year of completion.	Area served.	Approximate population served.	Average daily supply in gallons.	Average daily supply per head of population in gallons.	Total capital expenditure up to 1929.	Total capital expenditure during 1929.
1	2	3	4	5	6	7	8	9
			Sq. miles.				Rs.	Rs.
1	Barisal ..	1912	3.50	26,744	107,356	3.97	2,14,521	..
2	Berhampur ..	1899	6.00	26,670	309,045	11.58	3,72,272	24
3	Burdwan ..	1884	3.30	35,000	431,262	12.32	5,74,456	2,518
4	Dacca ..	1910	7.00	117,900	1,821,550	15.45	15,92,209	2,03,269

I.

Waterworks in Bengal, 1929.

Annual cost of maintenance.	Cost of delivery of 1,000 gallons (working charges only).	Source of supply.	Type of filters employed.	Type of engines and pumps.
10	11	12	13	14
Rs.	Annas.			
14,676	3·7	River Barisal ..	Three slow sand filter beds.	Two Tandem compound surface-condensing horizontal engines and double acting combined high and low lift pumps. Two loco type boilers.
34,657	3·99	River Bhagirathi	Two slow sand filter beds.	<i>Filtered Water Pumping Station.</i> —Two compound horizontal condensing Duplex Worthington pumping engines, size 8" by 14" by 10" stroke. Diameter of plungers 8½" by 10" stroke. Two loco type boilers Nos. B. L. 6377 and 6383 of N. H. P. <i>Unfiltered Water Pumping Station.</i> —One Session High Speed Tandem compound non-condensing engine, size 5" by 8" by 4½" stroke direct coupled to one 8" Worthington slow speed low lift centrifugal pump. One vertical Cochran boiler of the multitubular type on a barge. One Tangye's semi-diesel crude oil engine, 24 B. H. P. One Tangye's centrifugal pump direct belt driven on a barge.
25,860	1·7	River Banka ..	Ditto ..	Two Tangye's horizontal crude oil single cylinder 4-cycle cold starting type, with variable admission oil governing. Diameter of piston 16·233" by 22" stroke. Rated 77 B. H. P. Rev. per minute 210. Two 8" single stage low lift type Tangye's centrifugal pumps direct belt driven, capacity of each 52,000 gallons per hour at 830 R. P. M. Two Tangye's Triplex single acting horizontal plunger pumps. Diameter of plungers 10" by 15" stroke. The shaft is coupled direct with the engine by a friction clutch and the pumps are driven through a single reduction, helical gearing. Capacity of each pump 47,000 gallons per hour. Three suction and 3 delivery valves on each pump, diameter of valves 9½". Two steel cylindrical air receivers 5' by 1' 10" outside diameter. One Tangye's "AA" type oil engine, 2½" B. H. P. diameter of piston 4½" by 8" stroke single cylinder for workshop. One Lancashire boiler and one horizontal compound Worthington condensing steam engine with direct acting pump.
87,148	1·35	River Buriganga	Six Jewell gravity filters, 18' 0" diameter each.	Two sets of horizontal Worthington triple expansion pumping engines, size of cylinders 9", 14", 22", and 18" stroke. Two direct acting Worthington horizontal high and low lift pumps, diameter of plungers 16" by 18" stroke. Two Babcock and Wilcox water tube boilers Nos. B. L. 6567 and 6565, grate area 19·15 sq. ft., N. H. P. 76, fitted with superheaters—Green's economiser. Working pressure 160 lb. sq.

No.	Name of municipality.	Year of completion.	Area served.	Approximate population served.	Average daily supply in gallons.	Average daily supply per head of population in gallons.	Total capital expenditure up to 1929.	Total capital expenditure during 1929.
1	2	3	4	5	6	7	8	9
			Sq. miles.				Rs.	Rs.
5	Howrah ..	1896	10.10	195,300	3,823,273	19.58	38,78,628	75,283
6	Mymensingh ..	1893	2.50	25,200	332,260	13.18	4,60,732	13,051
7	Narayanganj (west bank of the river).	1908	3.00	30,600	319,086	10.42	2,53,312	..
8	Darjeeling ..	1917	4.85	23,000	630,137	27.39	6,32,783	86
9	Kurseong ..	1913	2.00	6,000	150,000	30.00	1,10,241	..
10	Khulna ..	1914	2.00	10,000	51,915	5.19	1,19,517	20,105
11	Chandpur ..	1912	.093	6,000	15,348	2.5	32,457	148
12	Munshiganj ..	1911	1.00	4,000	13,000	3.25	41,917	400

Annual cost of maintenance.	Cost of delivery of 1,000 gallons (working charges only).	Source of supply.	Type of filters employed.	Type of engines and pumps.
10	11	12	13	14
Rs.	Annas.			
1,71,356	1-66	River Hooghly ..	Slow sand filter beds.	Two vertical high speed un-flow engines, diameter of cylinders 18" by 10" stroke. One Worthington triple expansion horizontal condensing engine, diameter of cylinder 12" by 19", 30" by 24" stroke. Two 20" Worthington low lift centrifugal pumps. Two direct acting plunger pumps. Plungers 13½" diameter by 12" stroke. One Worthington Simpson double acting pump. Plunger 18" diameter by 24" stroke. Three Lancashire boilers by Evans & Co., grate area 16.5 sq. ft. 70 H. P. One Lancashire boiler, grate area 17 sq. ft. 70 H. P.
41,683	2-75	River Brahma-putra.	Five slow sand filter beds.	Three condensing compound Worthington Duplex pumping engines and one triple expansion horizontal Worthington double acting high and low lift combined pumping steam engine, one loco type boiler and one Babcock and Wilcox water tube boiler.
23,112	2-19	River Sitalakhya	One Jewell gravity filter.	Two loco type boilers by Robey & Co. Grate area 8.9 sq. ft. N. H. P. 12, registered Nos. B. L. 6553 and 6554. Duplicate sets of Worthington horizontal triplex expansion surface condensing pumping engines Nos. 2841 and 2909. Diameter of cylinders 6" by 9" by 16" by 15" stroke. Duplicate sets of Worthington horizontal double acting H. L. and L. L. pumps, diameter of H. L. plunger 8½" and L. L. plunger 8½".
18,808	0-36	30 Springs on Senchal Spur.	....	For subsidiary service to St. Paul's School and three adjacent properties, two 10 H. P. motors, one Rees Roturbo pump and one Hayward Taylor duplicate plunger pump.
9,452	.89	Spring in the forest of Sepoydhara.	Jewell * pressure filters.	
10,406	4-82	Reserved tank and river.	One Paterson gravity filter.	<i>Low lift from river to reserved tank.</i> —One Worthington Duplex horizontal piston pattern pump 7½" × 7½" × 6" light service. One vertical boiler by Jessop & Co., N. H. P. 8. Medium lift un-filtered water from reserved tank to the settling tanks. Two Gwyne's centrifugal pumps, 3" suction × 2½" delivery each having a capacity of 7,500 gallons per hour. <i>High lift</i> —two Gwyne's centrifugal pumps 3" suction × 2½" delivery filtered water pumps, each having a capacity of 7,500 gallons per hour. All these centrifugal pumps are driven by two Blackstone spring injection type cold starting 4-cycle crude oil engines of 9 B. H. P. each direct belt driven.
5,517	8-22	River Meghna ..	Two Jewell pressure filters.	Two horizontal Duplex piston pattern non-condensing pumping engines, size 6" diameter by 6" stroke. Diameter of pump plungers 4" by 10" stroke. Two vertical cross tube boilers by Marshall & Sons, B. L. Nos. 6576 and 6577, grate area 4.9 sq. ft., N. H. P. 5.
4,304	8-86	River Dhaleswarl	Ditto ..	Ditto Ditto.

No.	Name of municipality.	Year of completion.	Area served.	Approximate population served.	Average daily supply in gallons.	Average daily supply per head of population in gallons.	Total capital expenditure up to 1929.	Total capital expenditure during 1929.
1	2	3	4	5	6	7	8	9
			Sq. miles.				Rs.	Rs.
13	Faridpur ..	1929	2.00	7,000	21,000*	3.00*	1,22,907	1,10,907
14	Pirojpur ..	1913	0.50	2,283	1,600†	.50†	20,468	..
15	Patuakhali ..	1929	2.00	5,000	7,698	1.53	96,675	34,048
16	Jessore ..	1914	4.00	8,000	37,600	4.7	1,96,810	627
17	Hooghly-Chinsura	1914	5.00	29,940	455,388	15.21	6,20,459	..
18	Serampur ..	1914	1.62	33,200	288,082	8.67	3,16,278	8,905
19	Bankura ..	1916	2.5	17,935	90,951	5.02	1,17,021	1,229
20	Chittagong ..	1916	4.25	40,000	482,368	9.50	3,81,843	5,967
21	Naihati ..	1928	1.68	23,300	213,821	9.17	1,90,846	10,304
22	Bhatpara ..	1906	1.50	46,000	92,000	2.00	2,14,266	1,81,334
23	Titagarh ..	1905	1.50	52,454	1,607,000	30.00	17,929	..
24	Garulia ..	1904	1.00	13,000	201,720	15.51	9,229	131
25	Bhardeswar ..	..	1.77	20,000	218,082	10.90	..	..
26	Champdani ..	..	4.80	28,500	376,200	16.04	..	..
27	Baranagar ..	1918	0.82	8,000	32,245	4.03	15,173	..

* Supply from the new waterworks started in
† Supply was stopped during the greater part

Annual cost of maintenance.	Cost of delivery of 1,000 gallons (working charges only).	Source of supply.	Type of filters employed.	Type of engines and pumps.
10	11	12	13	14
Rs.	Annas.			
1,016*	2-16*	Tube well ..	Iron eliminating plant and Jewel gravity filter.	Two Crossley's vertical two-cycle crude oil engines and pumps. Engines 10 B. H. P. each, driving two Worthington low lift centrifugal pumps and two Worthington high lift centrifugal pumps. Lime apparatus and countershaft belt driven.
993	19-5†	Reserved tank ..	Slow sand filter beds.	Two kite motion pumps.
567	2-43	Ditto ..	Kennicott pressure filter.	Two Evan's No. 831 new design single cylinder power pumps, 23 B. H. P. Petter kerosine oil engine. Direct belt driven. Pumping capacity of the pump is 300 gallons per hour.
7,329	6-2	Reserved tank and tube well.	Three Paterson's gravity filters.	Two Tangye's kerosine oil engines of 12 B. H. P. each, diameter of cylinder 7½" by 14" stroke. Four-cycle 260 R. P. M. Four 4" centrifugal pumps (Tangye). One Broom and Wad's air compressor. All countershaft belt driven.
25,416	2-1	River Hooghly ..	Three slow sand filter beds.	Two Worthington horizontal triple expansion surface-condensing engines, diameter of cylinder 8" by 12" by 20" by 15" stroke. Two vertical high speed compound Sission engines, size of cylinders 5½" by 9" dia. by 6" stroke. Three Babcock and Wilcox boilers. 343 sq. ft., heating surface each 150 lbs. working pressure. Two 10" medium lift centrifugal pumps. Two Worthington horizontal double acting plunger pumps, diameter of plungers 14½" by 15" stroke.
51,402	7-61	Ditto ..	....	Two filtered water engines and pumps, Cornish boiler, two Donkey pumps and one Worthington pump for feed water.
6,165	2-25	Infiltration gallery in the bed of river Gandeswari.	....	Two semi-diesel crude oil engines,—one Petter's vertical two-cycle and one Campbell horizontal four-cycle. Direct belt driven. Two horizontal Worthington Duplex pumps.
41,901	3-22	Bore holes ..	Paterson's iron eliminating plant and two low gravity type filters.	Two horizontal triple expansion surface condensing fly-wheel steam engines, double acting plunger pumps for high lift, air compressor for low lift. All direct acting. Two Lancashire boilers.
1,955	..	} Supplied from local mills.	....	
..	..			
..	..			
..	..			
..	..			
..	..			
5,680	6-79			

November 1929, so the previous years' figures are noted of the year. Previous years' figures given.

No.	Name of municipality.	Year of completion.	Area served.	Approximate population served.	Average daily supply in gallons.	Average daily supply per head of population in gallons.	Total capital expenditure up to 1929.	Total capital expenditure during 1929.
1	2	3	4	5	6	7	8	9
			Sq. miles.				Rs.	Rs.
28	Tollyganj ..	1909	5.75	21,700	60,717	2.71	65,582	445
29	South Suburban ..	1904	3.00	17,000	32,053	1.8	66,362	285
30	Uttarpara ..	1918	0.75	8,666	102,886	11.87	1,92,758	1,199
31	Nator ..	1919	1.60	7,000	19,700	2.81	1,04,492	Nil
32	Satkhira ..	1919	2.50	7,500	12,184	1.62	80,260	815
33	Rajbari ..	1919	0.75	3,000	16,000	5.3	63,908	Nil
34	Noakhali ..	1920	..	2,500	4,550	1.82	37,172	..
35	Kalimpong ..	1922	1.50	7,216	89,312	12.30	7,82,979	7,087
36	Krishnagar ..	1922	7.00	22,300	147,400	6.51	4,09,514	2,000
37	Midnapur ..	1926	3.00	24,100	357,900	14.85	5,39,450	478
38	Comilla ..	1925	2.58	25,914	97,339	3.75	4,14,269	19,715

Annual cost of maintenance.	Cost of delivery of 1,000 gallons (working charges only).	Source of supply.	Type of filters employed.	Type of engines and pumps.
10	11	12	13	14
Rs.	Annas.			
5,857	1-08	....	....	
6,224	8-4	....	....	
11,546	4-14	River Hooghly ..	One Paterson's low gravity type filter.	Two sets of Tangye's centrifugal pumps consisting of three in each set, driven by two Tangye's patent semi-diesel crude oil engines.
4,297	7-09	Reserved tank and tube well.	One Jewell pressure filter.	One Worthington Ingico oil engine of 4 B. H. P. of "W" type, diameter of cylinder 4½" by 7" stroke and the other Worthington Ingico oil engine 4 B. H. P. of "AL" type, diameter of cylinder 4½" by 9" stroke. Two Worthington "A" type horizontal single double acting power pumps, diameter of plungers 6" by 6" stroke. Capacity of each pump per hour 3,000 gallons. Direct belt driven.
3,795	8-65	Reserved tank ..	One Mather and Platt's mechanical pressure filter.	Mather and Platt's turbine centrifugal pump of 4,000 gallons per hour capacity. Countershaft belt driven by two Campbell's crude oil engines of 9 B. H. P. each; one of hot bulb type and the other cold starting by hand type. One chemical pump, plunger type for pumping coagulant.
2,413	3-97	Reserved tank and tube well.	One Jewell pressure filter.	One Tangye's "AA" oil engine of 1½" B. H. P. and 3 B. H. P. Petters. Two-cycle kerosine oil engine. Two 5" by 5" "A" type double acting horizontal Worthington single power pumps, capacity 1,500 gallons per hour. Direct belt driven.
1,916	15-35	Reserved tank ..	Chlorinating apparatus.	One vertical boiler and one Worthington Duplex non-condensing pump.
11,684	3-41	River Rilli ..	....	Gravity supply.
32,339	3-04	River Jalangi ..	One Jewell mechanical gravity filter.	Two Ransomes, Sims and Jefferies semi-diesel engines, 15 B. H. P. each. Four-cycle, diameter of cylinder 8½" by 14" stroke. Two Ransomes, Sims & Jefferies semi-diesel engines 10 B. P. H. each. Four-cycle, diameter of cylinder 6½" by 13" stroke. Two Worthington 2½" high lift centrifugal pumps, two Worthington 3" medium lift pumps and one 6" Worthington centrifugal pump. All direct belt driven.
15,527	-69	Filtration well on the bed of river Cossye.	....	Two 42 B.H.P. Campbell crude oil engines driving vertical treble Ram pumps.
12,740	3-31	Tube wells ..	One Paterson's pressure filter.	Two 9½ B. H. P. high compression type crude oil engines, one 10 B. H. P. high compression cold storing crude oil engines—all these from Campbell Gas Engine Co., and three Triplex Ram pumps, direct belt driven.

No.	Name of municipality.	Year of completion.	Area served.	Approximate population served.	Average daily supply in gallons.	Average daily supply per head of population in gallons.	Total capital expenditure up to 1929.	Total capital expenditure during 1929.
1	2	3	4	5	6	7	8	9
			Sq. miles.				Rs.	Rs.
39	Raniganj ..	1927	1.80	14,450	103,578	7.20	3,24,840	934
40	Suri ..	1927	3.00	8,915	63,432	7.12	2,29,169	39,395
41	Asansol ..	In progress		..	..	..	92,369	92,369
42	English Bazar ..	In progress		..	..	..	4,305	4,305
43	Narayanganj (East Bank).	In progress		..	..	..	37,224	37,224
		Total	..	1,011,287	13,237,038	..	1,40,47,692	8,74,587

Annual cost of maintenance.	Cost of delivery of 1,000 gallons (working charges only).	Source of supply.	Type of filters employed.	Type of engines and pumps.
10	11	12	13	14
Rs.	Annas.			
12,953	3.75	Filtration well in the bed of river Damodar.	Filtration well	Two Campbell high compression crude oil engines of the horizontal single cylinder ordinary cold starting type 23/26 B. H. P. each. Two Campbell vertical treble Ram water pumps, capacity 12,500 gallons per hour. Diameter of plungers 8½" by 10" stroke, direct belt driven.
6,683	.28	River Mourakhi	Infiltration gallery	Two three-throw Ram pumps of 7,500 gallons capacity each, direct belt driven by two 15.5 H. P. Campbell high compression horizontal heavy oil engines.
..	..	River Damodar	Ditto.	
..	..	Tube well.		
..	..	Ditto.		
..	..			

APPENDIX II.

Total expenditure on Drainage and Sewerage Works in the Municipalities in Bengal up to 31st December 1929.

No.	Name of municipality.	Area served.	Approximate population served.	Total capital cost up to 31st December 1929.	Total capital expenditure during 1929.	Annual cost of maintenance.
1	2	3	4	5	6	7
		Sq. mile.		Rs.	Rs.	Rs.
1	Darjeeling	4.85	23,000	1,62,589	6,074	1,604
2	Howrah	2.82	93,566	13,23,828	17,073	50,841
3	Burdwan	4.00	28,000	1,81,351	754	448
4	Kurseong	2.00	4,000	2,54,279	950	577
5	Khulna	1.00	8,000	14,349	433	2,331
6	Bhatpara	3.70	50,000	2,15,648	6,250	..
7	Titaghur	1.50	52,454	11,71,983	79,527	8,352
8	Garulia	1.13	12,000	52,566	..	285
9	Budge-Budge	2.00	5,612	81,218	627	1,882
10	Basirhat	8.50	19,268	19,070	250	827
11	Baraset	3.50	5,500	24,809	..	348
12	Barulpur	1.20	5,114	17,209	..	..
13	Baranagar	0.82	17,750	68,482	564	3,631
14	Krishnagar	..	16,000	28,000	..	..
15	Berhampur	6.00	26,670	53,450	136	4,773
16	English Bazar	2.00	11,000	30,155	..	627
17	Ranaghat	1.50	8,000	43,638	337	182
18	Kushtia	0.55	5,000	35,503	139	903
19	Uttarpara	0.38	2,300	19,434	1,570	57
20	Chandpur	0.059	2,450	1,723	..	1,943
21	Bankura	.04	4,000	10,002	..	..
22	Katwa	1.00	6,822	55,709	..	1,016
23	Bhadreswar	0.30	10,500	28,943	1,400	750
24	Tangail	2.19	3,000	22,052	..	366
25	Chamdpani	7.20	24,500	1,44,141	38,000	..
26	Serampur	0.024	1,800	22,201	3,108	196
27	Dacca	2.85	66,500	24,44,969	81,697	35,129
28	Rangpur	..	..	*91,591	..	..
29	Jangipur	3.00	11,000	47,254	..	..
30	Narayanganj	0.02	2,500	3,029	..	892
31	Kalimpong Bazar (in progress)	..	..	39,068	39,068	..
32	Suri (in progress)	..	..	13,788	13,788	630
	Total	..	..	67,22,031	2,91,745	..

*Reconstruction of Goghat Bridge.

APPENDIX III

WATER WORKS AND SEWAGE PUMPING STATIONS IN BENGAL, 1929.

DIAGRAM SHOWING CONSUMPTION OF COAL PER PUMP HORSE POWER HOUR

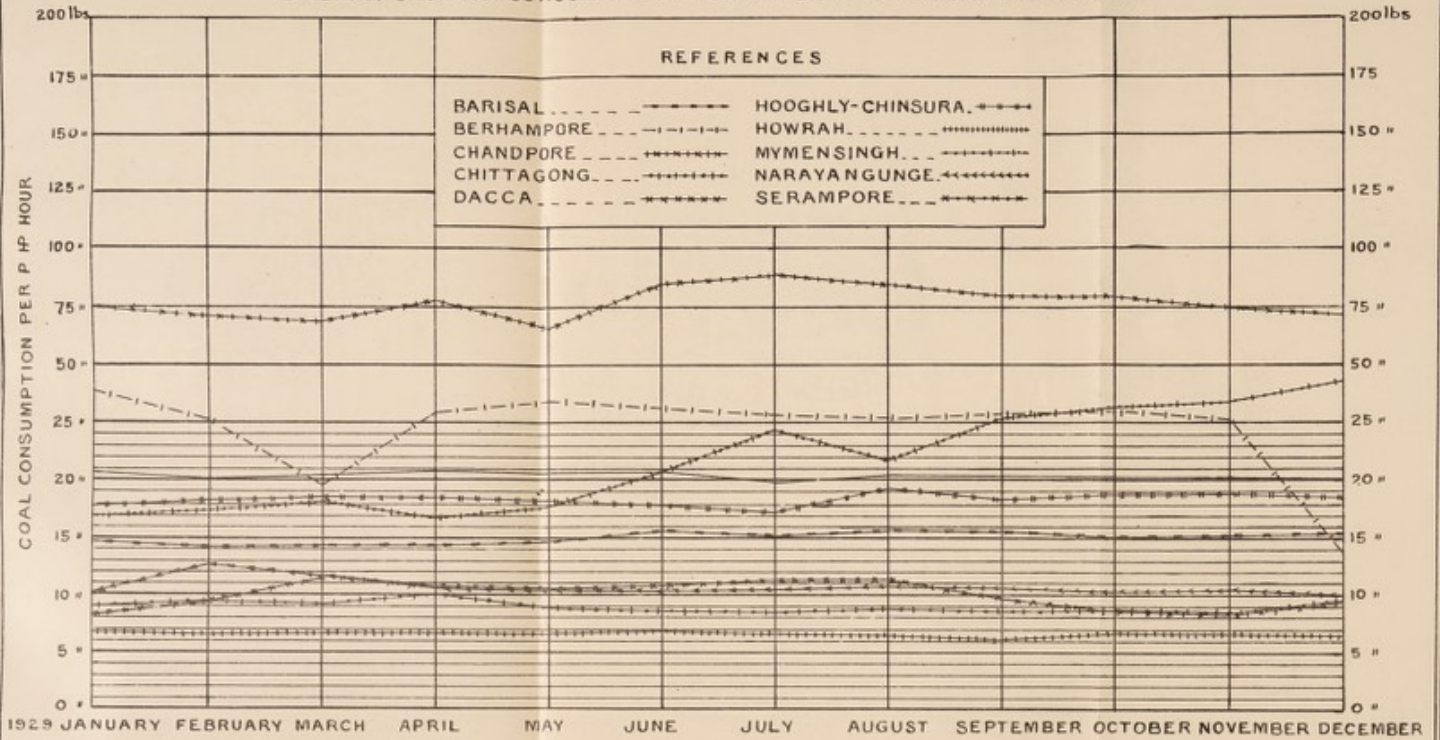
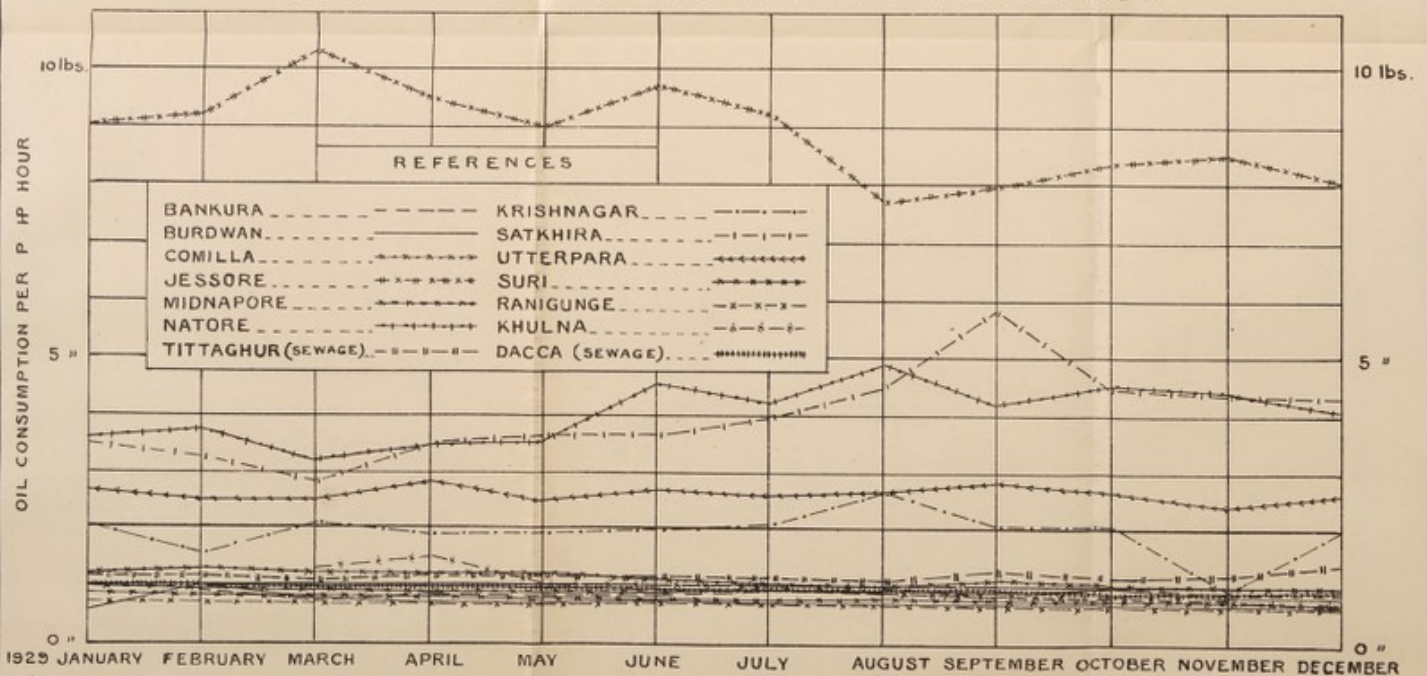


DIAGRAM SHOWING CONSUMPTION OF OIL PER PUMP HORSE POWER HOUR



WATERWORKS

DIAGRAM SHOWING

BAR
BER
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1933 JANUARY FEBRUARY MARCH APRIL

DIAGRAM SHOWING

Appendix I

and Statistics of the Districts of Bengal for the year 1929.

Part IV

Appendices

Part IV
Appendices

Appendix I

Vital Statistics of the Districts of Bengal for the year 1929.

Printed and Published by the Government of Bengal, Calcutta, 1930.

Annual Form No. I.—BIRTHS registered in the districts of the Bengal Presidency during the year 1929.

1	2	3	4	5	6	7	8	9	10							
No.	Districts.	Population according to Census of 1921.			Number of births registered (exclusive of still-births).			Ratio of births per 1,000 of population.		Excess of deaths over births per 1,000 of population.	Excess of births over deaths per 1,000 of population.	Mean ratio of births per 1,000 during previous five years.				
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.			Male.	Female.	Total.		
Burdwan Division.																
1	Burdwan	732,369	706,557	1,438,926	28,527	22,074	45,601	16.3	15.3	31.7	106	7.2	..	15.9	14.5	30.1
2	Birbhum	422,986	424,584	847,570	18,086	17,254	35,290	21.3	20.4	41.6	104	16.0	..	20.1	19.2	39.3
3	Bankura	503,334	510,007	1,013,341	19,820	18,523	38,043	19.1	18.2	37.3	105	10.7	..	18.1	17.2	35.3
4	Midnapur	1,339,652	1,327,008	2,666,660	44,930	42,701	87,631	16.8	16.0	32.9	105	11.4	..	14.8	14.0	28.8
5	Hooghly	561,268	518,874	1,080,142	14,295	13,348	27,643	13.2	12.4	25.6	107	5.4	..	13.1	11.9	25.0
6	Howrah	535,151	462,252	997,403	14,146	12,814	26,960	14.2	12.8	27.0	110	5.1	..	14.2	12.8	27.1
Presidency Division.																
7	24-Paraganas	1,324,060	1,134,732	2,458,792	36,871	33,073	70,944	15.0	13.7	28.7	109	9.2	..	10.4	9.3	19.7
8	Calcutta	724,248	333,016	1,057,264	12,137	10,602	22,739	11.3	9.8	21.1	114	..	9.5	9.5	8.5	13.0
9	Nadia	761,345	726,227	1,487,572	25,028	23,586	48,614	16.8	15.9	32.7	105	15.6	..	17.1	16.0	33.1
10	Murshidabad	628,742	633,772	1,262,514	28,257	26,755	55,012	22.4	21.2	43.6	105	..	..	21.5	20.4	41.9
11	Jessore	898,592	828,627	1,727,219	20,897	19,166	40,063	12.1	11.1	23.2	109	5.8	..	13.0	11.9	24.9
12	Khulna	757,524	695,510	1,453,034	24,403	21,925	46,328	16.8	15.1	31.9	111	..	..	15.1	14.0	29.1
Rajshahi Division.																
13	Rajshahi	767,370	722,305	1,489,675	24,088	23,171	47,259	16.2	15.5	31.7	103	..	1.4	16.5	15.7	32.2
14	Dinajpur	896,400	808,953	1,705,353	24,998	22,871	47,779	14.6	13.4	28.0	108	..	..	18.4	17.2	35.6
15	Jalpaiguri	503,397	432,872	936,269	16,379	15,398	31,777	17.5	16.4	33.9	106	6.8	..	16.5	15.0	32.1
16	Darjeeling	149,094	133,654	282,748	5,268	4,776	10,044	18.6	16.9	35.5	110	4.5	..	17.5	16.4	33.9
17	Rangpur	1,316,840	1,191,014	2,507,854	24,788	21,665	46,453	12.9	12.6	25.5	109	3.5	..	15.5	14.3	29.7
18	Bogra	538,727	509,579	1,048,306	13,336	12,201	25,537	12.7	11.6	24.3	109	5.9	..	13.2	12.2	25.4
19	Pabna	706,702	682,792	1,389,494	18,235	16,300	34,535	13.1	11.7	24.8	111	..	..	13.1	11.7	24.8
20	Malda	492,822	492,843	985,665	16,809	15,478	32,287	17.1	15.7	32.7	108	4.1	..	17.4	16.1	33.5
Dacca Division.																
21	Dacca	1,572,220	1,553,747	3,125,967	45,199	41,434	86,633	14.5	13.2	27.7	109	5.6	..	14.4	13.3	27.7
22	Mymensingh	2,510,450	2,327,280	4,837,730	61,627	56,292	117,919	12.7	11.6	24.3	109	7.2	..	13.5	12.4	25.9
23	Faridpur	1,147,742	1,102,116	2,249,858	33,364	30,125	63,489	14.8	13.4	28.2	110	1.7	..	15.3	13.8	29.1
24	Bakarganj	1,343,163	1,280,593	2,623,756	44,270	40,463	84,733	16.9	15.4	32.3	109	11.9	..	15.0	13.7	28.6
Chittagong Division.																
25	Chittagong	777,882	833,540	1,611,422	25,606	22,652	48,258	15.9	14.0	29.9	113	8.0	..	15.8	14.0	29.8
26	Noakhali	738,722	734,064	1,472,786	27,622	24,748	52,370	18.7	16.8	35.5	111	14.3	..	17.1	15.5	32.7
27	Tippera	1,406,134	1,336,939	2,743,073	35,529	32,038	67,567	12.9	11.7	24.6	110	8.4	..	11.9	10.8	22.8
Total for the Bengal Presidency.		24,057,936	22,464,357	46,522,293	709,145	652,133	1,361,278	15.2	14.0	29.3	108	5.8	..	14.9	13.8	28.7

Annual Form No. II.—BIRTHS and DEATHS registered in the districts of the Bengal Presidency during the year 1929.

1	2	3	4	5			6			7			8		
No.	Districts.	Area in square miles.	Average population per square mile.	Population (Census, 1921).			Births.			Deaths.			Number of male deaths to every 100 female deaths.		
				Male.	Female.	Total.	Male.	Female.	Total.	Birth rate per 1,000 of population.	Male.	Female.		Total.	
Burdwan Division.															
1	Burdwan	2,703	532	732,369	706,557	1,438,926	23,527	22,074	45,601	31.7	17,873	17,424	35,297	102	
2	Birbhum	1,753	483	422,986	424,584	847,570	18,036	17,254	35,290	41.6	11,086	10,615	21,701	104	
3	Bankura	2,625	388	509,334	510,607	1,019,941	19,520	18,523	38,043	37.3	13,886	13,301	27,187	104	
4	Midnapur	5,055	528	1,339,652	1,327,008	2,666,660	44,950	42,701	87,651	32.9	29,040	28,273	57,313	102	
5	Hooghly	1,188	969	561,268	518,874	1,080,142	14,295	13,348	27,643	25.6	11,001	10,827	21,828	101	
6	Howrah	530	1,882	535,151	462,252	997,403	14,146	12,814	26,960	27.0	11,488	10,341	21,829	111	
Presidency Division.															
7	24-Parganas	4,845	507	1,324,060	1,134,732	2,458,792	36,871	33,673	70,544	28.7	25,188	22,718	47,906	110	
8	Calcutta	30	35,174	724,248	353,016	1,077,264	12,187	10,602	22,789	21.1	18,462	14,519	32,981	127	
9	Nadia	2,778	535	761,345	726,227	1,487,572	25,028	23,686	48,714	32.7	24,520	25,085	49,605	97	
10	Murshidabad	2,121	595	628,742	633,772	1,262,514	28,257	26,755	55,012	43.6	18,162	17,243	35,405	105	
11	Jessore	2,904	583	893,592	828,627	1,722,219	20,897	19,166	40,063	23.2	29,257	27,561	56,818	106	
12	Khulna	4,730	307	757,524	695,510	1,453,034	24,403	21,925	46,328	31.9	19,228	18,651	37,879	103	
Rajshahi Division.															
13	Rajshahi	2,620	569	767,370	722,305	1,489,675	24,088	23,171	47,259	31.7	24,693	24,683	49,376	100	
14	Dinajpur	3,946	432	896,400	808,953	1,705,353	24,908	22,871	47,779	28.0	25,319	23,008	48,327	110	
15	Jalpaiguri	2,931	319	503,397	432,872	936,269	16,379	15,398	31,777	33.9	13,207	12,135	25,342	108	
16	Darjeeling	1,164	243	149,094	133,654	282,748	5,268	4,776	10,044	35.5	4,594	4,161	8,755	110	
17	Rangpur	3,496	717	1,316,840	1,191,014	2,507,854	34,788	31,665	66,453	26.5	29,806	27,949	57,755	106	
18	Bogra	1,379	760	538,727	509,879	1,048,606	13,336	12,201	25,537	24.3	9,785	9,593	19,378	102	
19	Pabna	1,678	828	706,702	682,792	1,389,494	18,235	16,300	34,535	24.8	17,871	17,800	35,731	100	
20	Malda	1,833	538	492,822	492,843	985,665	16,809	15,478	32,287	32.7	14,554	13,691	28,245	106	
Dacca Division.															
21	Dacca	2,723	1,148	1,572,220	1,553,747	3,125,967	45,199	41,434	86,633	27.7	34,854	34,159	69,013	102	
22	Mymensingh	6,238	77	2,510,450	2,327,280	4,837,730	61,627	56,292	117,919	24.3	41,974	40,620	82,594	103	
23	Faridpur	2,371	949	1,147,742	1,102,116	2,249,858	33,364	30,125	63,489	28.2	30,761	28,858	59,619	106	
24	Bakarganj	3,490	752	1,343,163	1,280,593	2,623,756	44,270	40,463	84,733	32.3	27,701	25,761	53,462	107	
Chittagong Division.															
25	Chittagong	2,497	645	777,882	833,540	1,611,422	25,606	22,652	48,258	29.9	17,924	17,326	35,250	103	
26	Noakhali	1,515	972	738,722	734,064	1,472,786	27,622	24,748	52,370	35.5	15,589	15,685	31,274	99	
27	Tippura	2,560	1,072	1,406,134	1,336,939	2,743,073	35,529	32,038	67,567	24.6	23,011	21,382	44,393	107	
Total for the Bengal Presidency.				648	24,057,936	22,464,357	46,522,293	709,145	652,133	1,361,278	29.3	560,834	533,429	1,094,263	105

1		2		Deaths per 1,000 of population from—										10		
No.	Districts.	Mean ratio of deaths per 1,000 during previous five years.										Total.	Female.	Male.	Total.	
		Cholera.	Small-pox.	Plague.	Fever.	Dysen-tery and diarrhoea.	Respira-tory diseases.	Injury.	All other causes.	All causes.						
										Male.	Female.					Total.
Burdwan Division.																
1	Burdwan	1.3	.3	..	15.8	.9	2.0	.5	3.8	24.4	24.7	24.5	25.6	26.0	25.2	25.6
2	Birbhum	..	.1	..	19.6	.4	1.3	.4	2.7	26.2	25.0	25.6	27.5	29.1	27.5	28.3
3	Bankura	..	.03	..	15.5	1.5	2.4	.5	5.6	27.3	26.0	26.0	24.2	26.0	24.2	25.1
4	Midnapur	..	.1	..	12.2	.9	1.5	.6	4.6	21.7	21.3	21.5	23.8	24.3	23.8	24.1
5	Hooghly	..	.3	..	10.9	1.4	2.8	.5	3.0	19.6	20.9	20.2	25.4	25.0	25.4	25.2
6	Howrah	..	.2	..	7.1	3.1	3.6	.6	4.6	21.6	22.4	21.9	27.7	26.4	27.7	27.0
Presidency Division.																
7	24-Parganas	2.5	.2	..	10.1	.8	1.7	.6	3.6	19.0	20.0	19.5	23.9	23.5	23.9	23.7
8	Calcutta	2.4	.4	..	3.7	3.0	9.6	.8	10.7	25.5	41.1	30.6	44.6	26.7	44.6	32.6
9	Nadia	3.5	.2	..	23.7	.4	1.1	.5	3.8	32.2	34.5	33.3	30.8	30.8	29.8	30.3
10	Murshidabad	1.3	.6	..	20.3	.2	.3	.5	4.8	28.9	27.2	28.0	20.9	32.3	20.9	31.1
11	Jessore	3.5	.02	..	25.6	.4	.5	.5	2.4	32.7	33.2	33.0	28.3	29.5	28.3	28.9
12	Khulna	3.8	.01	..	14.1	.6	.8	.7	6.1	25.4	26.8	26.1	24.4	24.9	24.4	24.7
Rajshahi Division.																
13	Rajshahi	2.3	.3	..	25.8	.3	.3	.5	3.6	32.2	34.2	33.1	32.7	34.2	32.7	33.5
14	Dinajpur	.7	.5	..	25.1	.2	.5	.3	1.0	28.2	28.2	28.3	33.2	33.2	32.6	32.9
15	Jalpaiguri	..	.04	..	17.3	1.8	3.1	.3	4.2	26.2	28.0	27.1	28.2	28.2	28.6	28.3
16	Darjeeling	..	.5	..	19.3	2.0	3.1	.3	5.7	30.8	31.1	31.0	31.5	31.6	31.5	31.6
17	Rangpur	.9	.3	..	19.4	.5	.6	.3	1.0	22.6	23.5	23.0	28.8	28.8	28.1	28.5
18	Bogra	.6	.04	..	15.0	.4	.3	.4	1.8	18.2	18.8	18.5	23.2	23.2	22.0	22.6
19	Pabna	2.2	.1	..	19.8	.3	.6	.4	2.3	25.3	26.1	25.7	26.1	26.1	24.0	25.1
20	Malda	1.8	.2	..	22.9	.4	.2	.4	2.8	29.5	27.8	28.6	25.8	29.3	25.8	27.5
Dacca Division.																
21	Dacca	2.1	1.7	..	11.3	1.5	1.0	.3	4.3	22.2	22.0	22.1	20.5	22.4	20.5	21.4
22	Mymensingh	..	.5	..	11.5	.4	.3	.2	3.1	16.7	17.4	17.1	20.8	21.2	20.8	21.0
23	Faridpur	2.0	1.6	..	16.0	1.0	1.1	.3	3.6	26.8	26.2	26.5	24.3	26.0	25.2	25.7
24	Bakarganj	..	.1	..	12.0	.3	.1	.5	6.0	20.6	20.1	20.4	25.6	25.6	23.8	24.7
Chittagong Division.																
25	Chittagong	.7	.8	..	18.3	.3	.1	.5	1.1	23.0	20.8	21.9	22.8	25.9	22.8	24.3
26	Noakhali	1.6	.1	..	14.5	.6	.2	.6	3.5	21.1	21.4	21.2	24.7	21.4	23.9	24.3
27	Tippera	1.9	.7	..	9.4	.7	.4	.2	2.9	16.4	16.0	16.2	16.3	17.4	16.3	16.9
Total for the Bengal Presidency.																
		1.7	.4	..	15.3	.8	1.1	.4	3.6	23.3	23.7	23.5	25.7	25.7	24.9	25.3

Annual Form No. III.—DEATHS registered in the districts of the Bengal Presidency during each month of the year 1929.

No.	Districts.	January.	February.	March.	April.	May.	June.	July.	August.	September.	October.	November.	December.	Total.
Burdwan Division.														
1	Burdwan ..	2,507	2,360	3,067	2,999	2,460	1,971	2,404	3,063	3,228	3,256	4,010	3,972	35,297
2	Birbhum ..	1,648	1,524	1,729	1,915	1,790	1,542	1,556	1,805	1,753	1,849	2,188	2,402	21,701
3	Bankura ..	1,951	1,929	2,473	2,082	2,030	2,056	1,723	2,749	2,158	2,436	2,758	2,842	27,187
4	Midnapur ..	6,226	5,285	4,951	4,300	3,766	3,244	3,209	4,242	4,139	4,979	6,277	6,695	57,313
5	Hooghly ..	2,337	1,817	2,077	1,565	1,518	1,266	1,232	1,468	1,600	2,013	2,190	2,685	21,828
6	Howrah ..	1,826	1,767	1,878	1,779	1,469	1,160	1,350	1,530	1,870	1,997	2,237	2,966	21,829
Presidency Division.														
7	24-Parganas ..	4,456	3,731	4,251	3,529	3,099	2,785	3,232	3,620	3,960	3,674	5,167	6,402	47,906
8	Calcutta ..	2,673	2,489	2,886	2,777	2,901	2,255	2,414	2,578	2,540	2,937	3,163	3,368	32,981
9	Nadia ..	3,843	2,811	2,753	2,720	2,454	2,221	2,127	2,456	3,802	5,491	9,639	9,288	49,605
10	Murshidabad ..	2,444	1,900	1,992	2,958	2,256	1,878	2,459	2,482	3,315	4,299	4,850	4,572	35,405
11	Jessore ..	6,150	4,364	3,817	3,032	2,976	2,312	2,235	2,754	3,014	6,634	9,120	10,390	56,818
12	Khulna ..	3,184	1,956	2,293	2,011	1,931	1,829	2,204	2,501	3,360	4,127	6,552	5,931	37,879
Rajshahi Division.														
13	Rajshahi ..	4,944	3,373	3,000	3,966	2,909	2,500	3,267	3,092	4,095	5,373	5,905	6,952	49,376
14	Dinajpur ..	5,605	4,880	3,986	4,374	1,703	3,754	3,255	3,230	3,857	4,814	4,441	4,428	48,327
15	Jalpaiguri ..	2,299	1,702	1,882	2,105	1,816	1,865	2,235	1,788	2,229	1,964	2,754	3,203	25,342
16	Darjeeling ..	607	636	550	819	748	755	813	666	770	728	790	873	8,755
17	Rangpur ..	5,238	5,382	4,260	4,225	3,535	4,612	4,693	4,606	4,293	4,791	6,880	5,240	57,755
18	Bogra ..	2,227	1,474	1,270	1,360	1,394	1,201	1,209	1,593	1,546	1,679	2,262	2,163	19,378
19	Pabna ..	2,975	2,255	2,057	2,702	2,360	1,626	1,599	2,125	2,394	3,810	5,200	6,628	35,731
20	Malda ..	2,003	1,504	1,368	1,945	1,728	1,606	1,671	1,920	2,278	3,777	3,823	4,622	28,245
Dacca Division.														
21	Dacca ..	6,840	5,286	5,744	5,535	4,592	3,695	3,374	3,359	4,316	6,264	9,168	10,840	69,013
22	Mymensingh ..	10,838	7,625	6,270	7,193	5,334	5,503	5,458	4,278	5,009	6,810	7,503	10,773	82,594
23	Faridpur ..	5,612	3,791	4,613	4,513	3,707	2,816	2,769	2,986	3,838	6,099	9,439	9,436	59,619
24	Bakarganj ..	6,441	4,171	4,342	4,686	3,520	3,150	3,395	2,838	2,993	3,954	5,033	8,939	53,462
Chittagong Division.														
25	Chittagong ..	3,134	2,808	2,936	3,396	2,427	3,106	2,996	2,468	2,829	2,391	3,163	3,596	35,250
26	Noakhali ..	3,267	2,572	2,579	2,762	2,460	2,073	2,276	1,821	1,976	2,324	2,875	4,289	31,274
27	Tippura ..	4,893	4,796	3,992	3,951	3,152	2,980	2,574	2,391	2,460	3,086	4,751	5,367	44,393
Total for the Bengal Presidency.		106,168	84,188	82,516	85,199	70,035	65,761	67,749	70,409	79,682	101,556	132,138	148,862	1,094,263
Ratio of deaths per 1,000 of population.		2.3	1.8	1.8	1.8	1.5	1.4	1.5	1.5	1.7	2.2	2.8	3.2	23.5

Number.	Districts.	6		7		8		9		10		11		12	
		10 years and under 15 years.		15 years and under 20 years.		20 years and under 30 years.		30 years and under 40 years.		40 years and under 50 years.		50 years and under 60 years.		60 years and upwards.	
		Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.	Male.	Female.
1	Burdwan Division.														
2	Burdwan	725	693	904	1,262	1,645	2,282	1,911	1,707	1,785	1,286	1,589	1,302	2,175	2,322
3	Birbhum	294	268	372	570	791	1,081	922	802	900	710	839	803	1,524	1,565
4	Bankura	571	533	645	794	1,196	1,480	1,330	1,154	1,274	943	1,186	1,063	1,547	1,740
5	Midnapur	968	703	1,112	1,441	2,798	3,649	3,167	2,898	2,904	2,230	2,647	2,304	4,006	4,265
6	Hooghly	380	345	467	714	1,026	1,498	1,268	1,080	1,152	820	986	802	1,602	1,748
	Howrah	425	380	520	598	1,069	1,184	1,117	933	985	679	939	677	1,714	1,731
	Presidency Division.														
7	24-Parganas	1,033	827	1,218	1,668	2,472	2,977	2,532	2,043	2,230	1,560	1,881	1,540	3,461	3,070
8	Calcutta	652	469	772	768	2,704	1,987	2,531	1,660	2,028	916	1,419	808	2,525	3,070
9	Nadia	1,347	1,242	1,307	1,684	2,132	2,943	2,288	1,729	2,121	1,729	1,836	1,778	2,208	2,378
10	Murshidabad	674	519	644	805	1,359	1,599	1,500	1,177	1,335	947	1,208	984	1,882	2,104
11	Jessore	1,334	1,001	1,393	2,046	3,137	4,238	3,496	3,076	3,179	2,314	2,604	2,103	3,383	2,816
12	Khulna	758	658	737	1,588	1,652	2,928	1,853	1,846	1,666	1,185	1,411	1,141	2,584	1,864
	Rajshahi Division.														
13	Rajshahi	1,281	1,028	1,330	1,979	2,845	3,985	2,873	2,723	2,169	1,785	1,515	1,295	1,943	1,621
14	Dinajpur	1,325	1,060	1,296	1,799	2,984	3,841	2,905	2,638	2,199	1,773	1,678	1,276	2,018	1,266
15	Jalpaiguri	495	445	542	868	1,473	2,309	1,691	1,513	1,316	898	1,034	620	1,521	805
16	Darjeeling	230	242	275	329	579	590	562	497	435	331	351	273	463	449
17	Rangpur	1,146	1,074	1,272	1,893	2,731	4,376	3,304	2,942	2,768	2,084	2,169	1,696	2,973	2,142
18	Bogra	403	401	416	699	764	1,257	856	790	762	591	702	588	1,024	795
19	Pabna	763	642	752	1,183	1,560	2,332	1,719	1,610	1,555	1,181	1,200	1,086	1,994	1,983
20	Malda	698	512	625	739	1,339	1,562	1,299	1,127	963	781	779	775	1,247	1,247
	Dacca Division.														
21	Dacca	1,019	951	1,049	2,031	2,425	4,407	2,733	2,733	2,432	1,837	2,334	1,781	4,771	4,158
22	Mymensingh	1,531	1,166	1,547	2,934	3,694	6,581	3,811	4,048	3,404	2,512	3,261	2,302	5,641	4,086
23	Faridpur	1,068	923	1,145	1,906	2,469	3,893	2,751	2,468	2,344	1,630	1,849	1,407	3,639	3,110
24	Bakarganj	918	754	908	1,727	2,157	3,929	2,367	2,431	2,046	1,527	1,921	1,410	3,843	2,773
	Chittagong Division.														
25	Chittagong	735	583	786	1,015	1,578	2,358	1,626	1,647	1,431	1,124	1,457	1,148	2,557	2,278
26	Noakhali	528	424	526	841	1,173	2,063	1,166	1,394	1,139	939	1,150	975	2,149	1,689
27	Tippura	872	659	888	1,420	2,065	3,311	2,101	2,120	1,738	1,288	1,617	1,113	3,243	2,341
	Total for the Bengal Presidency.	22,173	18,502	23,448	35,211	51,797	74,640	55,699	51,190	48,261	35,600	41,562	33,050	67,478	59,375
	Population (Census of 1921).	3,005,655	2,216,573	2,156,731	2,327,598	4,182,739	4,354,228	3,571,497	2,882,285	2,311,237	1,825,377	1,240,878	1,114,873	969,771	968,171
	Ratio per 1,000 of population.	7.4	8.0	10.9	15.1	12.4	17.1	15.6	17.8	20.9	19.5	33.5	29.6	69.6	61.3

Annual Form No. V.—Deaths registered according to CLASS in the districts of the Bengal Presidency during the year 1929.

Population according to Census of 1921.													
No.	Districts.	Christians.			Hindus.			Musulmans.			Buddhists.		
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Burdwan Division.													
1	Burdwan ..	2,292	1,894	4,186	569,896	552,335	1,122,231	136,518	129,763	266,281	24	..	24
2	Birbhum ..	239	229	468	287,578	289,172	576,750	105,881	106,579	212,460	..	..	..
3	Bankura ..	748	673	1,421	439,368	441,071	880,439	24,064	22,537	46,601	..	..	..
4	Midnapur ..	3,172	2,666	5,838	1,183,637	1,168,233	2,351,870	89,698	90,974	180,672	17	18	35
5	Hooghly ..	579	287	866	460,159	424,650	884,809	89,890	83,743	173,633	41	1	42
6	Howrah ..	1,888	1,310	3,198	426,546	364,195	790,741	105,976	96,499	202,475	59	2	61
Presidency Division.													
7	24-Parganas ..	9,537	7,679	17,216	855,950	724,864	1,580,814	451,896	397,107	849,003	89	11	100
8	Calcutta ..	22,306	18,070	40,376	498,899	250,933	749,832	191,116	78,733	269,849	2,792	676	3,468
9	Nadia ..	4,438	4,095	8,533	296,023	285,740	581,763	459,827	435,363	895,190	5	5	10
10	Murshidabad ..	254	271	525	284,585	284,205	568,790	335,289	340,968	676,257	10	11	21
11	Jessore ..	1,140	1,111	2,251	335,486	320,857	656,343	556,917	506,638	1,063,555	34	16	50
12	Khulna ..	1,203	1,014	2,217	378,514	348,347	726,861	377,237	345,650	722,887	28	1	29
Rajshahi Division.													
13	Rajshahi ..	506	494	1,000	166,885	151,500	318,385	584,523	555,733	1,140,256	11	1	12
14	Dinajpur ..	2,612	2,397	5,009	401,213	350,648	751,861	435,901	400,902	836,803	2	..	2
15	Jalpaiguri ..	4,476	4,250	8,726	280,367	234,735	515,102	125,091	106,592	231,683	3,281	2,817	6,098
16	Darjeeling ..	4,121	3,977	8,098	106,716	94,600	201,316	5,139	3,377	8,516	26,456	25,513	51,969
17	Rangpur ..	580	534	1,114	425,463	365,680	791,143	885,136	821,041	1,706,177	18	..	18
18	Bogra ..	222	179	401	93,909	80,557	174,466	439,994	425,004	864,998	1	1	1
19	Pabna ..	215	240	455	168,347	165,985	334,332	537,435	516,136	1,053,571	4	..	4
20	Malda ..	292	256	548	202,051	198,469	400,520	251,652	256,033	507,685	..	..	..
Dacca Division.													
21	Dacca ..	6,269	7,108	13,377	531,908	537,034	1,068,942	1,033,824	1,009,422	2,043,246	31	1	32
22	Mymensingh ..	2,142	1,981	4,123	620,057	553,958	1,174,015	1,869,890	1,753,829	3,623,719	4	..	4
23	Faridpur ..	3,287	3,012	6,299	409,206	406,428	815,634	735,200	692,639	1,427,839	3	..	3
24	Bakarganj ..	3,754	3,820	7,574	385,789	368,671	754,460	948,132	903,107	1,851,239	5,425	4,938	10,363
Chittagong Division.													
25	Chittagong ..	701	660	1,361	180,162	183,733	363,895	563,162	610,043	1,173,205	33,527	38,875	72,402
26	Noakhali ..	400	383	783	168,528	160,609	329,137	569,576	572,892	1,142,468	218	180	398
27	Tippera ..	261	196	457	361,550	345,987	707,537	1,043,397	989,845	2,033,242	855	851	1,706
Total for the Bengal Presidency.		77,634	68,786	146,420	10,518,792	9,653,196	20,171,988	12,952,361	12,251,149	25,203,510	72,935	73,907	146,842

No.	Districts.	Population according to Census of 1921.				Number of deaths registered.							
		Other classes.			Total.	Christians.			Hindus.				
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.			
Burdwan Division.													
1	Burdwan ..	23,639	22,565	46,204	732,369	706,557	1,438,926	6	11	17	13,799	13,406	27,205
2	Birbhum ..	29,288	28,604	57,892	422,986	424,584	847,570	3	6	9	7,473	7,137	14,610
3	Bankura ..	45,154	46,326	91,480	509,334	510,607	1,019,941	66	72	138	11,842	11,378	23,220
4	Midnapur ..	63,128	65,117	128,245	1,339,652	1,327,008	2,666,660	11	16	27	25,044	24,510	49,554
5	Hooghly ..	10,599	10,193	20,792	561,268	518,874	1,080,142	19	9	28	8,856	8,885	17,741
6	Howrah ..	682	246	928	535,151	462,252	997,403	2	1	3	9,074	8,078	17,152
Presidency Division.													
7	24-Parganas ..	6,588	5,071	11,659	1,324,060	1,134,732	2,458,792	128	151	279	16,161	14,267	30,428
8	Caleutta ..	9,135	4,604	13,739	724,248	353,016	1,077,264	572	469	1,041	12,722	9,865	22,587
9	Nadia ..	1,052	1,024	2,076	761,345	726,227	1,487,572	152	115	267	8,510	8,747	17,257
10	Murshidabad ..	8,604	8,327	16,931	628,742	633,772	1,262,514	3	4	7	8,074	7,763	15,837
11	Jessore ..	15	5	20	893,592	828,627	1,722,219	25	18	43	10,400	10,136	20,536
12	Khulna ..	542	498	1,040	757,524	695,510	1,453,034	26	25	51	8,990	8,661	17,651
Rajshahi Division.													
13	Rajshahi ..	15,445	14,577	30,022	767,370	722,305	1,489,675	18	13	31	4,109	4,121	8,230
14	Dinajpur ..	56,672	55,006	111,678	896,400	808,953	1,705,353	38	38	76	11,140	9,974	21,114
15	Jalpaiguri ..	90,182	84,478	174,660	503,397	432,872	936,269	98	78	176	5,877	5,266	11,143
16	Darjeeling ..	6,662	6,187	12,849	149,094	133,654	282,748	54	68	122	3,203	2,941	6,144
17	Rangpur ..	5,643	3,759	9,402	1,316,840	1,191,014	2,507,854	18	17	35	9,247	8,673	17,920
18	Bogra ..	4,601	4,139	8,740	538,727	509,879	1,048,606	4	1	5	1,453	1,325	2,778
19	Pabna ..	701	431	1,132	706,702	682,792	1,389,494	1	3	4	4,164	4,290	8,454
20	Malda ..	38,827	38,085	76,912	492,822	492,843	985,665	3	1	4	5,903	5,601	11,504
Dacca Division.													
21	Dacca ..	188	182	370	1,572,220	1,553,747	3,125,967	133	120	253	11,538	11,606	23,144
22	Mymensingh ..	18,357	17,512	35,869	2,510,450	2,327,280	4,837,730	19	19	38	11,700	11,391	23,091
23	Faridpur ..	46	37	83	1,147,742	1,102,116	2,249,858	83	57	140	9,808	9,442	19,250
24	Bakarganj ..	63	57	120	1,343,163	1,280,593	2,623,756	60	47	107	7,000	6,714	13,714
Chittagong Division.													
25	Chittagong ..	330	229	559	777,882	833,540	1,611,422	7	2	9	3,775	3,763	7,538
26	Noakhali ..	..	..	..	738,722	734,064	1,472,786	8	4	12	3,445	3,325	6,770
27	Tippura ..	71	60	131	1,406,134	1,336,939	2,743,073	..	2	2	6,067	5,899	11,966
Total for the Bengal Presidency.		436,214	417,319	853,533	24,057,936	22,464,357	46,522,293	1,557	1,367	2,924	239,374	227,164	466,568

1		2		4									
		Number of deaths registered.											
No.	Districts.	Muslimans.			Buddhists.			Other classes.			Total.		
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Burdwan Division.													
1	Burdwan ..	2,940	3,013	5,953	..	..	..	1,128	994	2,122	17,873	17,424	35,297
2	Birbhum ..	2,729	2,634	5,363	..	..	..	881	838	1,719	10,615	10,615	21,701
3	Bankura ..	679	635	1,314	..	..	..	1,299	1,216	2,515	13,886	13,301	27,187
4	Midnapur ..	2,067	1,978	4,045	..	..	..	1,918	1,769	3,687	29,040	28,273	57,313
5	Hooghly ..	1,916	1,727	3,643	..	..	..	210	206	416	11,001	10,827	21,828
6	Howrah ..	2,402	2,260	4,662	..	..	..	10	2	12	11,488	10,341	21,829
Presidency Division.													
7	24-Parganas ..	8,874	8,279	17,153	..	6	..	25	21	46	25,188	22,718	47,906
8	Calcutta ..	5,152	4,168	9,320	..	6	..	10	11	21	18,462	14,519	32,981
9	Nadia ..	15,849	16,206	32,055	..	..	..	9	17	26	25,085	25,085	49,605
10	Murshidabad ..	9,847	9,256	19,103	..	..	..	238	220	458	18,162	17,243	35,405
11	Jessore ..	18,832	17,407	36,239	..	..	..	..	..	..	29,257	27,561	56,818
12	Khulna ..	10,211	9,962	20,173	..	..	..	1	3	4	19,228	18,651	37,879
Rajshahi Division.													
13	Rajshahi ..	20,107	20,177	40,284	..	..	..	459	372	831	24,693	24,683	49,376
14	Dinajpur ..	12,015	11,264	23,279	..	..	..	2,126	1,732	3,858	25,319	23,008	48,327
15	Jalpaiguri ..	3,490	3,359	6,849	..	33	..	3,688	3,399	7,087	13,207	12,135	25,342
16	Darjeeling ..	143	164	307	..	646	1,423	417	342	759	4,594	4,161	8,755
17	Rangpur ..	20,258	19,012	39,270	..	..	..	283	247	530	29,806	27,949	57,755
18	Bogra ..	8,144	8,099	16,243	..	..	..	184	168	352	9,785	9,593	19,378
19	Pabna ..	13,628	13,494	27,122	..	..	..	78	73	151	17,871	17,860	35,731
20	Malda ..	7,448	7,122	14,570	..	..	..	1,200	967	2,167	14,554	13,691	28,245
Dacca Division.													
21	Dacca ..	23,183	22,433	45,616	..	..	..	..	..	..	34,854	34,159	69,013
22	Mymensingh ..	30,005	28,944	58,949	..	..	..	250	266	516	41,974	40,620	82,594
23	Faridpur ..	20,870	19,359	40,229	..	..	..	..	..	..	30,761	28,858	59,619
24	Bakarganj ..	20,566	18,964	39,530	..	36	111	..	..	..	27,701	25,761	53,462
Chittagong Division.													
25	Chittagong ..	13,409	12,955	26,364	733	606	1,339	..	..	..	17,924	17,826	35,250
26	Noakhali ..	12,136	12,356	24,492	..	..	..	..	..	..	15,889	15,685	31,274
27	Tippah ..	16,926	15,470	32,396	..	11	29	..	..	..	23,011	21,882	44,393
Total for the Bengal Presidency.		303,826	290,697	594,523	1,663	1,338	3,001	14,414	12,863	27,277	560,834	533,429	1,094,263

1		2		5		Ratio of deaths per 1,000 of population.		Muslims.		
Districts.		Christians.		Hindus.						
No.		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.
Burdwan Division.										
1	Burdwan ..	2.6	5.8	4.1	24.2	24.3	24.2	21.5	23.2	22.3
2	Birbhum ..	12.5	26.2	19.2	26.0	24.7	25.3	25.8	24.7	25.2
3	Bankura ..	88.1	107.0	97.1	26.9	25.8	26.4	28.2	28.2	28.2
4	Midnapur ..	3.5	6.0	4.6	21.2	21.0	21.1	23.0	21.7	22.4
5	Hoochly ..	32.8	31.3	32.3	19.2	20.9	20.0	21.3	20.6	21.0
6	Howrah ..	1.1	.8	.9	21.3	22.2	21.7	22.7	23.4	23.0
Presidency Division.										
7	24-Parganas ..	13.4	19.7	16.2	18.9	19.7	19.2	19.6	20.8	20.2
8	Calcutta ..	25.6	25.9	25.8	25.5	39.3	30.1	26.9	52.9	34.5
9	Nadia ..	34.2	28.1	31.3	28.7	30.6	29.7	34.5	37.2	35.8
10	Murshidabad ..	11.8	14.8	13.3	28.4	27.3	28.4	29.4	27.1	28.2
11	Jessore ..	21.9	16.2	19.1	31.0	31.6	31.3	33.8	34.3	34.1
12	Khulna ..	21.6	24.7	23.0	23.8	24.9	24.3	27.1	28.8	28.0
Rajshahi Division.										
13	Rajshahi ..	35.6	26.3	31.0	24.6	27.2	25.8	34.4	36.3	35.3
14	Dinajpur ..	14.5	15.8	15.2	27.8	28.4	28.1	27.6	28.1	27.8
15	Jalpaiguri ..	21.9	18.3	20.2	21.0	22.4	21.6	27.9	31.5	29.6
16	Darjeeling ..	13.1	17.1	15.1	30.0	31.1	30.5	27.8	48.6	36.0
17	Rangpur ..	31.0	31.8	31.4	21.7	23.7	22.6	22.9	23.1	23.0
18	Bogra ..	18.0	5.6	12.5	15.5	16.4	15.9	18.5	19.1	18.8
19	Pabna ..	4.6	12.5	8.8	24.7	25.8	25.3	25.3	26.1	25.7
20	Malda ..	10.3	3.9	7.3	29.2	28.2	28.7	29.6	27.8	28.7
Dacca Division.										
21	Dacca ..	21.2	16.9	18.9	21.7	21.6	21.6	22.4	22.2	22.3
22	Mymensingh ..	8.9	9.6	9.2	18.9	19.7	19.7	16.0	16.5	16.3
23	Faridpur ..	25.2	18.9	22.2	24.0	23.2	23.6	28.4	27.9	28.2
24	Bakarganj ..	16.0	12.3	14.1	18.1	18.2	18.2	21.7	21.0	21.3
Chittagong Division.										
25	Chittagong ..	10.0	3.0	6.6	20.9	20.5	20.7	23.8	21.2	22.5
26	Noakhali ..	20.0	10.4	15.3	20.4	20.7	20.6	21.3	21.6	21.4
27	Tippera ..	..	10.2	4.4	16.8	17.0	16.9	16.2	15.6	15.9
Total for the Bengal Presidency.		10.1	19.9	20.0	22.8	23.5	23.1	23.4	23.7	23.6

1		2		Ratio of deaths per 1,000 of population.									
No.	Districts.	Buddhists.			Other classes.			Total.					
		Male.	Female.	Total.	Male.	Female.	Total.	Male.	Female.	Total.			
Burdwan Division.													
1	Burdwan ..	..	..	..	47.7	43.9	45.9	24.4	24.7	24.5			
2	Birbhum ..	..	..	..	30.1	29.3	29.7	26.2	25.0	25.6			
3	Bankura ..	..	..	..	28.8	26.2	27.5	27.3	26.0	26.6			
4	Midnapur ..	..	..	..	30.4	27.2	28.7	21.7	21.3	21.5			
5	Hooghly ..	..	..	..	19.8	20.2	20.0	19.6	20.9	20.2			
6	Howrah ..	..	..	..	14.7	8.1	12.9	21.5	22.4	21.9			
Presidency Division.													
7	24-Parganas ..	..	..	..	3.8	4.1	3.9	19.0	20.0	19.5			
8	Calcutta ..	2.1	8.9	3.5	1.1	2.4	1.5	25.5	41.1	30.6			
9	Nadia ..	..	..	..	8.5	16.6	12.5	32.2	34.5	33.3			
10	Murshidabad ..	..	..	..	27.7	26.4	27.0	28.9	27.2	28.0			
11	Jessore ..	..	..	..	..	..	..	32.7	33.2	33.0			
12	Khulna ..	..	..	..	1.8	6.0	3.8	25.4	26.8	26.1			
Rajshahi Division.													
13	Rajshahi ..	..	..	..	29.7	25.5	27.7	32.2	34.2	33.1			
14	Dinaipur ..	..	..	..	37.5	31.5	34.5	28.2	28.4	28.3			
15	Jalpaiguri ..	16.5	11.7	14.3	40.1	40.2	40.6	26.2	28.0	27.1			
16	Darjeeling ..	29.4	25.3	27.4	62.6	55.3	59.1	30.8	31.1	31.0			
17	Rangpur ..	..	..	..	50.1	65.7	56.4	22.6	23.5	23.0			
18	Bogra ..	..	..	..	40.0	40.6	40.3	18.2	18.8	18.5			
19	Pabna ..	..	..	..	111.3	169.3	133.4	25.3	26.1	25.7			
20	Malda ..	..	..	..	30.9	25.4	28.2	20.5	27.8	28.6			
Dacca Division.													
21	Dacca ..	..	..	..	..	..	..	22.2	22.0	22.1			
22	Mymensingh ..	..	..	..	13.6	15.2	14.4	16.7	17.4	17.1			
23	Faridpur ..	..	..	..	..	..	..	26.8	26.2	26.5			
24	Bakarganj ..	13.8	7.3	10.7	..	..	..	20.6	20.1	20.4			
Chittagong Division.													
25	Chittagong ..	21.9	15.6	18.5	..	..	..	23.0	20.8	21.9			
26	Noakhali ..	..	..	..	..	..	..	21.1	21.4	21.2			
27	Tippera ..	21.0	12.9	17.0	..	..	..	16.4	16.0	16.2			
Total for the Bengal Presidency.		22.8	18.1	20.4	33.0	30.8	31.9	23.3	23.7	23.5			

Annual Form No. VI.—Deaths registered from DIFFERENT CAUSES in the districts and towns of the Bengal Presidency during the year 1929.

No.	Districts and towns.	Population according to Census of 1921.	Injury.												
			Cholera.	Small-pox.	Plague.	Fever.	Dysen-tery and diarrhoea.	9	10			Rabies.	Total.		
									Respira-tory diseases.	Suicide.				Wounds or acci-dents.	Snake-bite or killed by wild beasts.
										Male.	Female.				
DISTRICTS (EXCLUDING TOWNS).															
Burdwan Division.															
1	Burdwan ..	1,343,185	1,683	472	..	22,255	1,062	2,518	36	52	352	173	16	629	
2	Birbhum ..	838,655	791	74	..	16,595	347	1,110	33	30	205	83	15	366	
3	Bankura ..	964,487	1,072	31	..	15,431	1,408	2,307	24	40	267	127	8	466	
4	Midnapur ..	2,595,071	3,808	199	..	32,377	2,380	3,685	35	46	1,004	368	54	1,507	
5	Hooghly ..	900,802	1,042	261	..	17,024	1,158	2,552	27	43	252	138	9	469	
6	Howrah ..	778,893	1,822	107	..	5,644	2,092	1,752	53	63	235	74	14	439	
Presidency Division.															
7	24-Parganas ..	1,998,318	5,040	313	..	22,169	1,118	3,135	153	173	653	254	25	1,258	
8	Nadia ..	1,390,704	5,104	320	..	34,447	563	1,484	64	94	300	213	31	1,702	
9	Murshidabad ..	1,182,983	1,541	696	..	24,803	194	2,769	33	55	272	277	16	653	
10	Jessore ..	1,700,924	6,013	28	..	43,974	666	855	95	192	320	250	16	873	
11	Khulna ..	1,421,116	5,294	20	..	20,205	807	1,106	63	122	492	233	30	940	
Rajshahi Division.															
12	Rajshahi ..	1,457,037	3,323	446	..	38,211	326	380	57	87	349	312	14	819	
13	Dinajpur ..	1,687,328	1,142	795	..	42,835	364	854	36	39	222	159	7	463	
14	Jalpaiguri ..	921,749	218	35	..	16,061	1,723	2,879	19	7	181	65	9	281	
15	Darjeeling ..	254,045	20	121	..	5,229	532	714	13	6	55	18	..	92	
16	Rangpur ..	2,482,722	2,316	847	..	48,539	1,280	1,388	37	32	367	163	37	636	
17	Bogra ..	1,032,300	587	43	..	15,681	317	349	21	43	241	72	9	385	
18	Pabna ..	1,344,633	2,998	138	..	27,168	326	743	20	54	298	163	27	562	
19	Malda ..	955,830	1,728	184	..	22,295	274	124	21	19	140	169	10	359	
Dacca Division.															
20	Dacca ..	2,975,915	6,286	4,994	..	34,520	4,051	2,196	56	56	580	90	23	805	
21	Mymensingh ..	4,703,249	5,155	2,188	..	54,835	1,758	1,280	60	68	770	157	34	1,089	
22	Faridpur ..	2,202,783	6,450	3,574	..	35,646	2,282	2,333	37	59	386	172	51	1,705	
23	Bakarganj ..	2,563,849	3,014	310	..	31,264	941	243	41	106	1,040	200	6	1,393	
Chittagong Division.															
24	Chittagong ..	1,570,760	1,019	1,235	..	29,306	472	183	11	10	773	85	..	879	
25	Noakhali ..	1,465,071	2,352	124	..	21,365	917	256	12	23	818	80	7	940	
26	Tippera ..	2,678,627	5,008	1,849	..	25,582	1,782	1,290	15	20	374	54	10	473	
Total of districts ..		43,411,036	74,826	19,404	..	697,461	29,140	35,895	1,072	1,539	10,946	4,149	478	18,184	

13 Ratio of deaths per 1,000 of population.														
No.	Districts and towns.	11 All other causes.	12 Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Injury.	All other causes.	From all causes.		
												For the year.	Mean of previous five years.	
DISTRICTS (EXCLUDING TOWNS).														
Burdwan Division.														
1	Burdwan ..	4,557	33,176	1.2	.3	..	16.6	.8	1.9	.5	3.4	24.7	26.1	
2	Birbhum ..	2,311	21,594	.9	.1	..	19.8	.4	1.3	.4	2.7	25.7	28.5	
3	Bankura ..	5,341	26,056	1.1	.03	..	16.0	1.4	2.4	.5	5.5	27.0	25.7	
4	Midnapur ..	12,026	55,982	1.5	.1	..	12.5	.9	1.4	.6	4.6	21.6	24.2	
5	Hoochly ..	2,268	18,774	1.1	.3	..	12.2	1.3	2.8	.5	2.5	20.8	26.4	
6	Howrah ..	2,612	14,468	2.3	.1	..	7.2	2.7	2.2	.6	3.3	18.6	25.4	
Presidency Division.														
7	24-Parganas ..	7,407	40,440	2.5	.1	..	11.1	.6	1.6	.6	3.7	20.2	25.1	
8	Nadia ..	5,201	47,821	3.7	.2	..	24.8	.4	1.1	.5	3.7	34.4	31.0	
9	Murshidabad ..	5,712	33,868	1.3	.6	..	21.1	.2	.2	.5	4.8	28.6	31.7	
10	Jessore ..	4,029	56,438	3.5	.01	..	25.8	.4	.5	.5	2.4	33.2	29.0	
11	Khulna ..	8,793	37,165	3.7	.01	..	14.2	.6	.8	.7	6.2	26.2	24.8	
Rajshahi Division.														
12	Rajshahi ..	5,163	48,668	2.3	.3	..	26.2	.2	.3	.6	3.5	33.4	33.8	
13	Dinajpur ..	1,749	48,202	.7	.5	..	25.4	.2	.5	.3	1.0	28.6	33.1	
14	Jalpaiguri ..	3,844	25,041	.2	.04	..	17.4	1.8	3.1	.3	4.2	27.2	28.6	
15	Darjeeling ..	1,351	8,059	.1	.5	..	20.6	2.1	2.8	.4	5.3	31.7	32.5	
16	Rangpur ..	2,434	57,440	.9	.3	..	19.5	.5	.6	.2	1.0	23.1	28.6	
17	Bogra ..	1,847	19,210	.6	.04	..	15.2	.9	.3	.4	1.8	18.6	22.7	
18	Pabna ..	3,068	35,003	2.2	.1	..	20.2	.2	.5	.4	2.3	26.0	25.3	
19	Malda ..	2,563	27,527	1.8	.2	..	23.3	.2	.1	.4	2.7	28.8	27.8	
Dacca Division.														
20	Dacca ..	11,357	64,209	2.1	1.7	..	11.6	1.3	.7	.3	3.8	21.6	21.0	
21	Mymensingh ..	14,557	80,862	1.1	.5	..	11.7	.3	.3	.2	3.1	17.2	21.2	
22	Faridpur ..	7,910	58,900	2.9	1.6	..	16.2	1.0	1.1	.3	3.6	26.7	25.4	
23	Bakarganj ..	15,537	52,702	1.2	.1	..	12.2	.3	.1	.5	6.1	20.5	25.0	
Chittagong Division.														
24	Chittagong ..	1,372	34,466	.6	.8	..	18.6	.3	.1	.6	.9	21.9	26.5	
25	Noakhali ..	5,173	31,127	1.6	.1	..	14.6	.6	.2	.6	3.5	21.2	24.3	
26	Tippura ..	7,810	43,704	1.9	.7	..	9.5	.7	.4	.2	2.9	16.3	17.0	
Total of districts ..				1.7	.4	..	16.1	.7	.8	.4	3.4	23.5	25.4	

1	2	3	4	5	6	7	8	9	10 Injury.					
No.	Districts and towns.	Population according to Census of 1921.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Suicide.		Wounds or accidents.	Snake-bite or killed by wild beasts.	Rabies.	Total.
									Male.	Female.				
TOWNS.														
Burdwan district.														
1	Burdwan	34,616	67	2	..	132	139	148	..	3	11	4	2	17
2	Kalna ..	8,424	1	1	..	124	17	18	..	..	5	4	..	13
3	Katwa ..	6,823	21	1	..	38	7	21	..	..	..	1	..	4
4	Dainhat ..	4,843	2	1	..	46	2	11	..	1	1	1	..	4
5	Raiganj ..	14,536	2	1	..	107	14	65	..	1	7	1	..	9
6	Asansol ..	26,499	49	14	..	54	3	42	..	..	9	4	..	14
Birbhum district.														
7	Suri ..	8,915	3	..	..	46	1	29	..	2	..	..	1	3
Bankura district.														
8	Bankura ..	25,412	67	..	..	87	49	59	..	..	8	1	..	9
9	Bishnupur ..	19,398	46	4	..	228	34	41	..	3	3	2	..	9
10	Sonamukhi ..	10,644	3	..	..	67	36	42	..	2	2	2	..	6
Midnapur district.														
11	Midnapur ..	28,965	2	1	..	101	44	97	1	..	7	1	..	9
12	Ghatal ..	10,770	55	..	..	46	47	60	..	..	4	2	..	6
13	Kharar ..	6,580	5	..	..	22	16	34	..	..	..	1	..	1
14	Chandrakona ..	6,470	4	..	..	47	22	51	..	..	1	..	..	1
15	Ramjibpur ..	6,700	..	..	..	37	40	63	..	..	9	3	..	12
16	Khirpai ..	8,756	4	..	..	34	24	42	..	..	2	..	..	2
17	Tamluk ..	8,348	39	..	..	21	16	17	..	..	1	1	..	2
Hooghly district.														
18	Hooghly-Chinsura	29,938	33	4	..	216	79	115	3	..	16	6	2	27
19	Bansberia ..	6,382	32	1	..	39	12	9	..	..	1	1	..	2
20	Arambagh ..	7,857	..	..	..	66	19	55	..	..	7	1	..	8
21	Serampur ..	33,197	48	6	..	82	116	91	..	2	10	..	..	15
22	Rishra-Konnagar ..	23,259	26	5	..	59	46	40	..	..	4	..	..	4
23	Uttarpara ..	8,657	22	26	..	33	38	24	..	..	4	..	1	6
24	Kotrung ..	6,846	16	..	..	23	12	17	..	..	3	1	..	4
25	Baidyabati ..	16,471	12	3	..	96	56	36	..	1	..	..	..	4
26	Bhadreswar ..	22,081	7	4	..	110	42	33	..	..	..	2	..	2
27	Chandani ..	24,652	24	1	..	40	31	40	..	..	5	1	..	6

1	2	11	12	13												
No.	Districts and towns.	All other causes.	Total deaths from all causes.	Ratio of deaths per 1,000 of population.												
				Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Injury.	All other causes.	From all causes.				
												For the year.	Mean of previous five years.			
TOWNS.																
Burdwan district.																
1	Burdwan	292	797	1.9	.1	..	3.8	4.0	4.3	.5	8.4	23.0	20.3			
2	Kalna ..	94	268	.1	.1	..	14.7	2.0	2.1	1.5	11.2	31.8	35.0			
3	Katwa ..	18	107	3.1	.1	..	5.6	1.0	3.1	.1	2.6	15.7	11.6			
4	Dainhat ..	13	79	.4	.2	..	9.5	.4	2.3	.8	2.7	16.3	21.1			
5	Raniganj ..	171	369	.1	.1	..	7.4	1.0	4.5	.6	11.8	25.4	16.8			
6	Asansol ..	325	501	1.8	.5	..	2.0	.1	1.6	.5	12.3	18.9	10.6			
Birbhum district.																
7	Suri ..	25	107	.4	..	..	5.8	.1	3.7	.4	3.2	13.5	6.4			
Bankura district.																
8	Bankura	114	385	2.6	..	..	3.4	1.9	2.3	.3	4.5	15.1	10.9			
9	Bishnupur	125	487	2.4	.2	..	11.7	1.8	2.1	.5	6.4	25.1	17.6			
10	Sonamukhi	105	259	.3	..	..	6.3	3.3	3.9	.6	9.9	24.3	20.5			
Midnapur district.																
11	Midnapur	100	354	.1	.03	..	3.5	1.5	3.3	.3	3.4	12.2	13.6			
12	Ghatal	70	284	5.1	..	..	4.3	4.3	5.6	.6	6.5	26.4	19.1			
13	Kharar	34	112	.8	..	..	3.3	2.4	5.2	.1	5.2	17.0	23.2			
14	Chandrakona	50	175	.6	..	..	7.3	3.4	7.9	.1	7.7	27.0	33.5			
15	Ramjibpur	17	169	..	..	..	5.5	6.0	9.4	1.8	2.5	25.2	24.5			
16	Khirpai	..	106	1.1	..	..	9.0	6.4	11.2	.5	..	28.2	26.3			
17	Tamluk	36	131	4.7	..	..	2.5	1.9	2.0	.2	4.3	15.7	16.8			
Hooghly district.																
18	Hooghly-Chinsura	349	823	1.1	.1	..	7.2	2.6	3.8	.9	11.7	27.5	28.5			
19	Bansberia	22	117	5.0	.2	..	6.1	1.9	1.4	.3	3.4	18.3	23.2			
20	Arambagh	45	193	..	..	..	8.4	2.4	7.0	1.0	5.7	24.6	20.4			
21	Serampur	143	501	1.4	.2	..	2.5	3.5	2.7	.4	4.3	15.1	17.9			
22	Rishra-Konnagar	111	291	1.1	.2	..	2.5	2.0	1.7	.2	4.8	12.5	14.6			
23	Uttarpara	51	290	2.5	3.0	..	3.8	4.4	2.8	.7	5.9	23.1	19.4			
24	Kotrung	28	97	2.3	..	..	3.4	1.7	2.5	.1	4.1	14.2	16.9			
25	Baidyabati	83	290	.7	.2	..	5.8	3.4	2.2	.2	5.0	17.6	22.3			
26	Bhadreswar	112	310	.3	.2	..	5.0	1.9	1.5	.1	5.1	14.0	17.9			
27	Chandpurani	90	232	1.0	.04	..	1.6	1.3	1.6	.2	3.6	9.4	11.3			

1 No.	2 Districts and towns.	3 Population according to Census of 1921.	4 Cholera.	5 Small-pox.	6 Plague.	7 Fever.	8 Dysentery and diarrhoea.	9 Respira- tory diseases.	10 Injury.				Total.	
									Suicide.		Wounds or acci- dents.	Snake- bite or killed by wild beasts.		Rabies.
									Male.	Female.				
TOWNS.														
Howrah district.														
28	Howrah	195,301	659	72	..	1,347	1,026	1,838	11	11	123	5	6	156
29	Bally	23,209	71	15	..	98	31	53	..	..	2	1	..	3
24-Parganas district.														
30	South Suburban	33,345	61	2	..	219	112	130	4	..	15	6	1	26
31	Tollyganj	21,637	22	1	..	94	33	61	..	1	2	1	..	4
32	Budge-Budge	25,723	117	..	..	124	110	54	..	..	9	2	..	11
33	Baranagar	32,084	104	7	..	122	150	81	2	3	7	4	1	17
34	Kanarhati	23,018	69	4	..	94	69	58	..	..	11	..	..	11
35	Rajpur	11,412	23	2	..	48	13	50	..	1	3	..	..	4
36	Barulpur	5,114	7	..	..	14	5	11	..	..	..	..	..	..
37	Jaynagar	8,408	31	4	..	52	22	43	..	..	2	..	..	4
38	North Dum-Dum	4,369	5	..	..	14	15	13	1	..	2	..	..	3
39	South Dum-Dum	14,030	45	4	..	53	50	50	..	..	3	..	1	4
40	Khardah	5,486	5	1	..	17	10	13	..	..	2	..	..	3
41	Barrackpur	22,460	9	5	..	37	14	30	..	..	3	..	..	3
42	Panhati	10,161	22	..	..	15	20	27	1	..	1	..	..	2
43	North Barrackpur	15,433	25	..	..	38	35	51	..	1	3	1	..	5
44	Titagarh	52,451	132	43	..	735	26	7	..	..	11	..	..	11
45	Garulia	13,096	17	..	..	66	17	21	..	..	2	..	..	3
46	Nalhati	23,286	33	5	..	56	28	43	1	1	4	..	..	6
47	Halisahar	7,318	24	..	..	30	13	20	..	..	..	..	..	..
48	Kanchrapara	10,332	7	..	..	68	19	12	..	1	1	..	..	2
49	Bhatpara	65,609	151	4	..	437	99	116	..	1	12	..	1	13
50	Barasat	8,211	5	..	..	36	5	18	..	..	1	..	1	3
51	Gobardanga	5,112	1	..	..	37	10	33	..	..	4	..	1	5
52	Basirhat	19,267	70	..	..	117	53	97	2	..	4	..	..	7
53	Baduria	14,057	22	1	..	127	6	2	..	2	..	1	..	7
54	Taki	5,200	17	..	..	38	10	12	..	..	4	..	..	..
55	Dum-Dum	3,855	1	..	..	7	3	5	..	..	..	..	..	..
City of Calcutta.														
56	Calcutta	1,077,264	2,571	393	..	3,997	3,248	10,391	15	7	796	..	30	848

1	2	11	12	13									
		Ratio of deaths per 1,000 of population.											
No.	Districts and towns.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respira- tory diseases.	Injury.	All other causes.	From all causes.	
												For the year.	Mean of previous five years.
TOWNS.													
Howrah district.													
28	Howrah	1,940	7,038	3.4	.4	..	6.9	5.2	9.4	.8	9.9	36.0	34.7
29	Bally	52	323	3.1	.6	..	4.2	1.3	2.3	.1	2.2	13.9	14.9
24-Parganas district.													
30	South Suburban	180	730	1.8	.1	..	6.6	3.3	3.9	.8	5.4	21.9	21.1
31	Tollyganj	89	304	1.0	.04	..	4.3	1.5	2.8	.2	4.1	14.0	15.5
32	Budge-Budge	67	483	4.5	..	..	4.8	4.3	2.1	.4	2.6	18.8	18.7
33	Baranagar	225	706	3.2	.2	..	3.8	4.6	2.5	.5	7.0	22.0	25.2
34	Kamarhati	52	357	3.0	.2	..	4.1	2.9	2.5	.5	2.3	15.5	16.8
35	Rajpur	44	184	2.0	.2	..	4.2	1.1	4.4	.3	3.8	16.1	19.1
36	Baruipur	12	49	1.4	..	..	2.7	1.0	2.1	..	2.3	9.6	16.2
37	Jaynagar	10	166	3.7	.5	..	6.2	2.6	5.1	.5	1.2	19.7	20.1
38	North Dum-Dum	31	81	1.1	..	..	3.2	3.4	3.0	.7	7.1	18.5	33.2
39	South Dum-Dum	76	282	3.2	.3	..	3.8	3.5	3.6	.3	5.4	20.1	18.2
40	Khurdah	18	67	.9	.2	..	3.1	1.8	2.4	.5	3.3	12.2	16.0
41	Barrackpur	30	128	.4	.2	..	1.6	.6	1.3	.1	1.3	5.7	7.3
42	Panhati	73	159	2.2	..	..	1.5	2.0	2.6	.2	7.2	15.6	25.2
43	North Barrackpur	51	205	1.6	..	..	2.5	2.3	3.3	.3	3.3	13.3	17.1
44	Titagarh	32	986	2.5	.8	..	14.0	.5	.1	.2	.6	18.8	17.0
45	Garulia	16	139	1.3	..	..	5.0	1.3	1.6	.1	1.2	10.6	10.5
46	Nalhati	100	271	1.4	.2	..	2.4	1.2	1.8	.3	4.3	11.6	11.8
47	Halishahar	33	120	3.3	..	..	4.1	1.8	2.7	..	4.5	16.4	17.2
48	Kanchrapara	2	110	.7	..	..	6.6	1.8	1.2	.2	2.2	10.6	11.7
49	Bhatpara	181	1,001	2.3	.1	..	6.7	1.5	1.8	.2	2.8	15.2	18.6
50	Barasat	11	78	.6	..	..	4.4	.6	2.2	.4	1.3	9.5	12.0
51	Gobardanga	10	96	.2	..	..	7.2	2.0	6.4	1.0	1.9	18.8	16.2
52	Basirhat	135	479	3.6	..	..	6.1	2.7	5.0	.4	7.0	24.9	22.4
53	Baduria	2	160	1.6	.1	..	9.0	.4	.1	..	.1	11.4	13.2
54	Taki	20	104	3.3	..	..	7.3	1.9	2.3	.1	3.8	20.0	29.4
55	Dum-Dum	5	21	.3	..	..	1.8	.8	1.3	..	1.3	5.4	..
City of Calcutta.													
56	Calcutta	11,533	32,981	2.4	.4	..	3.7	3.0	9.6	.8	10.7	30.6	32.6

No.	Districts and towns.	3	4	5	6	7	8	9	10					
									Injury.					
									Suicide.	Wounds or acci- dents.	Snake- bite or killed by wild beasts.	Rabies.	Total.	
Male.	Female.													
TOWNS.														
Nadia district.														
57	Krishnagar	22,309	13	..	..	126	12	25	1	3	1	..	..	2
58	Nabadwip	15,584	74	4	..	102	30	29	4	..	4	..	..	9
59	Ranaghat	9,652	13	..	..	90	20	21	4	..	3	..	..	4
60	Birnagar	2,305	3	..	..	23	4	6	..	1	3	..	..	5
61	Santipur	24,792	18	27	..	212	36	92	3	1	3	3	..	9
62	Chakdaha	5,216	11	..	..	82	4	5	..	..	..	..	..	1
63	Kushtia	7,849	52	3	..	53	11	8	3	1	..	..	..	6
64	Kumarkhali	3,763	4	..	..	60	10	13	..	..	..	..	..	2
65	Meherpur	5,398	1	..	..	25	2	10	..	..	..	1	..	1
Murshidabad district.														
66	Berhampur	26,670	15	10	..	329	32	81	1	..	10	4	2	17
67	Murshidabad	10,669	29	..	..	129	6	5	..	..	..	2	..	2
68	Jhaganj-Azinganj	11,231	19	6	..	71	4	30	..	..	8	..	1	9
69	Kandi	11,787	9	..	..	76	15	17	1	..	9	..	..	10
70	Jangipur	10,739	19	..	..	103	12	10	..	..	1	2	..	3
71	Dhulian	8,435	23	..	..	121	7	5	..	2	3	..	..	5
Jessore district.														
72	Jessore	10,139	15	2	..	71	18	26	..	..	..	..	..	..
73	Kotchandpur	7,545	4	..	..	83	3	9	..	..	1	..	..	3
74	Mahespur	3,611	..	..	..	58	4	16	..	1	..	1	..	..
Khulna district.														
75	Khulna	16,049	47	2	..	142	30	27	1	1	6	..	2	7
76	Satkhira	10,299	93	..	..	95	28	40	1	..	7	..	..	10
77	Debhatta	5,570	15	1	..	61	11	6	..	2	6	..	..	8
Rajshahi district.														
78	Rajshahi	24,598	41	..	..	171	48	30	2	..	5	3	..	10
79	Nator	8,040	25	2	..	93	10	38	..	..	2	..	..	2
Dinaipur district.														
80	Dinaipur	18,025	5	21	..	46	2	15	1	..	1	..	..	2

Ratio of deaths per 1,000 of population.													
13													
12													
11													
10													
9													
8													
7													
6													
5													
4													
3													
2													
1													
No.	Districts and towns.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Injury.	All other causes.	From all causes.	Mean of previous five years.
TOWNS.													
Nadia district.													
57	Krishnagar	56	234	6	..	..	5.6	5	1.1	..	2.5	10.5	12.6
58	Nabadwip	73	321	4.7	..	..	6.5	1.9	1.9	..	4.7	20.6	21.5
59	Ranaghat	42	190	1.3	..	..	9.3	2.1	2.2	..	4.3	19.7	16.9
60	Birnagar	22	63	1.3	..	..	10.0	1.8	2.6	2.2	9.5	27.3	25.2
61	Santipur	159	553	7	1.1	..	8.5	1.5	3.7	..	6.4	22.3	28.1
62	Chakdaha	..	103	2.1	..	..	15.7	1.8	1.0	..	..	19.7	24.0
63	Kushtia	22	155	6.6	..	..	6.7	1.4	1.0	..	2.8	19.7	12.9
64	Kumarkhali	16	105	1.1	..	..	15.9	2.6	3.4	..	4.2	27.9	26.0
65	Meherpur	21	60	2	..	..	4.6	4	1.8	..	3.9	11.1	17.0
Murshidabad district.													
66	Berhampur	114	598	6	4	..	12.3	1.2	3.0	..	4.3	22.4	22.0
67	Murshidabad	31	202	2.7	..	..	12.1	6	5	..	2.9	18.9	23.9
68	Jhaganj-Azimganj	94	233	1.7	5	..	6.3	4	2.7	..	8.4	20.7	23.4
69	Kandi	53	180	8	..	..	9.6	1.3	1.4	..	4.5	15.3	20.7
70	Jangipur	5	152	1.8	..	..	9.6	1.1	9	..	5	14.1	14.1
71	Dhulian	11	172	2.7	..	..	14.3	8	6	..	1.3	20.4	24.3
Jessore district.													
72	Jessore	42	174	1.5	2	..	7.0	1.8	2.6	..	4.1	17.2	20.6
73	Kotchandpur	8	107	5	..	..	11.0	4	1.2	..	1.1	14.2	19.1
74	Mahespur	18	99	..	..	..	16.1	1.0	4.4	..	5.0	27.4	23.8
Khulna district.													
75	Khulna	40	295	2.9	1	..	8.9	1.9	1.7	..	2.5	18.4	16.3
76	Satkhira	51	317	9.0	..	..	9.2	2.7	3.9	1.0	5.0	30.8	20.8
77	Debbhatta	..	102	2.7	2	..	11.0	1.9	1.1	1.4	..	18.3	14.5
Rajshahi district.													
78	Rajshahi	185	485	1.7	..	..	6.9	2.0	1.2	..	7.5	19.7	18.0
79	Nator ..	53	223	3.1	2	..	11.6	1.2	4.7	..	6.6	27.7	21.3
Dinalpur district.													
80	Dinalpur	34	125	3	1.2	..	2.5	1	8	..	1.9	6.9	12.1

1 No.	2 Districts and towns.	3 Population according to Census of 1921.	4 Cholera.	5 Small-pox.	6 Plague.	7 Fever.	8 Dysentery and diarrhoea.	9 Respiratory diseases.	10 Injury.			Total.		
									Suicide.		Wounds or accidents.		Snake-bite or killed by wild beasts.	Rabies.
									Male.	Female.				
TOWNS.														
Jalpaiguri district.														
81	Jalpaiguri ..	14,520	3	7	..	119	28	64	1	..	3	5		
Darjeeling district.														
82	Darjeeling ..	22,258	..	11	..	115	17	136	..	1	3	5		
83	Kurseong ..	6,445	..	..	..	122	10	21	..	1	..	1		
Rangpur district.														
84	Rangpur ..	19,076	21	2	..	81	38	16	2	1	1	4		
85	Gaibandha ..	6,056	10	..	..	20	5	6	..	..	3	4		
Bogra district.														
86	Bogra ..	12,322	2	2	..	35	13	16	..	1	2	3		
87	Sherpur ..	3,984	3	..	..	23	5	9	..	..	2	4		
Pabna district.														
88	Pabna ..	19,343	39	..	..	110	13	16	..	1	3	4		
89	Sirajganj ..	25,518	3	21	..	261	32	25	1	2	52	64		
Malda district.														
90	English Bazar ..	14,057	26	..	..	96	32	32	1	1	5	7		
91	Old Malda ..	3,145	1	..	..	27	11	13	1	1	1	3		
92	Nawabganj ..	12,633	45	1	..	120	91	38	1	..	2	11		
Dacca district.														
93	Dacca ..	119,450	170	144	..	424	492	946	7	6	90	104		
94	Narayanganj ..	30,602	42	41	..	275	117	45	1	1	12	17		
Mymensingh district.														
95	Mymensingh ..	25,287	9	8	..	204	41	24	..	1	11	11		
96	Muktagacha ..	6,770	3	16	..	11	2	3	..	..	1	2		
97	Netrakona ..	8,587	12	6	..	46	28	6	..	..	7	9		

1		2		11		12		13						
								Ratio of deaths per 1,000 of population.						
No.	Districts and towns.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Injury.	All other causes.	From all causes.		
												For the year.	Mean of previous five years.	
TOWNS.														
Jalpaiguri district.														
81	Jalpaiguri	..	75	301	·2	·5	..	8·2	1·9	4·4	·3	5·2	20·7	15·5
Darjeeling district.														
82	Darjeeling	..	167	451	..	·5	..	5·2	·7	6·1	·2	7·5	20·3	18·4
83	Kurseong	..	91	245	..	..	..	18·9	1·5	3·3	·1	14·1	38·0	41·1
Rangpur district.														
84	Rangpur	..	97	259	1·1	·1	..	4·2	2·0	·8	·2	5·1	13·6	14·4
85	Gaibandha	..	11	56	1·6	..	..	3·3	·8	1·0	·7	1·8	9·2	9·6
Bogra district.														
86	Bogra	..	41	112	·2	·2	..	2·8	1·0	1·3	·2	3·3	9·1	13·5
87	Sherpur	..	12	56	·7	..	..	5·8	1·2	2·3	1·0	3·0	14·1	21·6
Pabna district.														
88	Pabna	..	53	235	2·0	..	..	5·7	·7	·8	·2	2·7	12·1	13·5
89	Sirajganj	..	87	493	·1	·8	..	10·2	1·2	1·0	2·5	3·4	19·3	21·1
Malda district.														
90	English Bazar	..	86	279	1·8	..	..	6·8	2·2	2·3	·5	6·1	19·8	16·3
91	Old Malda	..	10	65	·3	..	..	8·6	3·5	4·1	·9	3·2	20·7	28·0
92	Nawabganj	..	68	374	3·6	·1	..	9·5	7·2	3·0	·9	5·4	29·6	19·5
Dacca district.														
93	Dacca	..	1,542	3,822	1·4	1·2	..	3·5	4·1	7·9	·9	12·9	32·0	28·6
94	Narayanganj	..	445	982	1·4	1·3	..	9·0	3·8	1·5	·5	14·5	32·1	28·9
Mymensingh district.														
95	Mymensingh	..	93	390	·3	·3	..	8·1	1·6	·9	·4	3·7	15·4	18·4
96	Muktagacha	..	24	61	·4	2·4	..	1·6	·3	·4	·3	3·5	9·0	12·4
97	Netrakona	..	46	153	1·4	·7	..	5·3	3·2	·7	1·0	5·3	17·6	21·5

1	2	3	4	5	6	7	8	9	10 Injury.				
No.	Districts and towns.	Population according to Census of 1921.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Suicide.		Snake-bite or killed by wild beasts.	Rabies.	Total
									Male.	Female.	Wounds or accidents.		
TOWNS.													
Mymensingh district.													
98	Jamalpur ..	23,113	13	3	..	142	24	39	..	..	6	1	7
99	Sherpur ..	17,813	5	..	..	100	57	12	..	..	..	1	2
100	Kishoreganj ..	19,518	21	..	..	53	36	13	..	..	2	..	..
101	Rajitpur ..	11,568	23	..	..	29	8	5	..	..	..	..	..
102	Tangail ..	14,305	6	2	..	86	24	22	..	..	1	..	1
103	Gauripur ..	7,420	5	1	..	16	5	9	..	..	..	..	1
Faridpur district.													
104	Faridpur ..	14,503	9	..	..	92	19	21	..	..	3	..	3
105	Madaripur ..	25,297	8	..	..	104	14	20	..	..	..	..	..
106	Rajbari ..	7,275	68	5	..	91	35	13	..	..	7	..	8
Bakarganj district.													
107	Barisal ..	26,744	46	5	..	169	58	54	..	1	3	..	4
108	Jhalakati ..	5,955	16	1	..	22	4	5	..	..	4	..	4
109	Nalchiti ..	1,858	..	..	..	6	1	4	..	..	2	..	2
110	Pirojpur ..	13,841	10	..	..	61	8	5	..	1	10	..	12
111	Patuakhali ..	6,984	7	..	..	19	7	3	..	..	5	1	6
112	Bhola ..	4,525	2	..	..	9	10	2	..	..	..	..	..
Chittagong district.													
113	Chittagong ..	36,030	61	4	..	164	50	48	..	1	7	..	8
114	Cox's Bazar ..	4,632	..	..	..	29	1	10	..	1	2	..	3
Noakhali district.													
115	Noakhali ..	7,715	6	..	..	53	33	11	..	..	8	..	3
Tippera district.													
116	Comilla ..	25,914	22	1	..	40	13	6	..	..	3	..	3
117	Brahmanbaria ..	23,414	35	4	..	105	36	18	..	..	2	..	2
118	Chandpur ..	15,118	48	2	..	31	25	8	..	..	4	..	4
Total of Towns ..		3,111,257	6,264	1,003	..	16,070	8,016	16,948	85	74	1,491	106	1,818
Total for the Bengal Presidency.		46,522,293	81,090	20,407	..	713,531	37,156	52,843	1,157	1,613	12,437	4,255	20,002

1		2		11		12		13					
								Ratio of deaths per 1,000 of population.					
No.	Districts and towns.	All other causes.	Total deaths from all causes.	Cholera.	Small-pox.	Plague.	Fever.	Dysentery and diarrhoea.	Respiratory diseases.	Injury.	All other causes.	For the year.	Mean of previous five years.
TOWNS.													
Mymensingh district													
98	Jamulpur ..	90	318	.6	.1	..	6.1	1.0	1.7	.3	3.9	13.8	18.4
99	Sherpur ..	121	297	.3	..	..	5.6	3.2	.7	.1	6.8	16.7	19.6
100	Kishoreganj ..	33	158	1.1	..	..	2.7	1.9	.7	.1	1.7	8.1	11.7
101	Barisal ..	54	119	2.0	..	..	2.5	.6	.4	..	4.7	10.3	12.4
102	Tangail ..	54	195	.4	.1	..	6.0	1.7	1.5	.1	3.8	13.6	15.2
103	Gauripur ..	4	41	.7	.1	..	2.1	.7	1.2	.1	.5	5.5	..
Faridpur district.													
104	Faridpur ..	51	195	.6	..	..	6.3	1.3	1.4	.2	3.5	13.4	17.6
105	Madaripur ..	27	173	1.1	..	..	14.3	2.0	2.7	..	3.7	23.8	14.4
106	Rajbari ..	131	351	2.7	.2	..	3.6	1.4	.5	.3	5.2	13.9	17.4
Bakarganj district.													
107	Barisal ..	62	398	1.7	.2	..	6.3	2.1	2.0	.1	2.3	14.9	14.8
108	Jhalakati ..	18	70	2.7	.2	..	3.7	.7	.8	.7	3.0	11.7	12.9
109	Nalchiti ..	1	14	..	..	..	3.2	.5	2.1	1.1	5.5	7.5	13.4
110	Pirojpur ..	77	173	.7	..	..	4.4	.5	.4	.9	5.6	12.5	10.3
111	Patuakhali ..	27	69	1.0	..	..	2.7	1.0	.4	.9	3.9	9.9	15.7
112	Bhola ..	13	36	.4	..	..	2.0	2.2	.4	..	2.9	7.9	5.3
Chittagong district.													
113	Chittagong ..	383	718	1.7	.1	..	4.5	1.4	1.3	.2	10.6	19.9	16.7
114	Cox's Bazar ..	23	66	..	..	..	6.3	.2	2.2	.6	5.0	14.2	15.3
Noakhali district.													
115	Noakhali ..	36	147	.8	..	..	6.9	4.2	1.4	1.0	4.7	19.0	10.5
Tippera district.													
116	Comilla ..	73	158	.8	.04	..	1.5	.5	.2	.1	2.8	6.1	6.5
117	Brahmanbaria ..	168	368	1.5	.2	..	4.5	1.6	.8	.1	7.2	15.7	20.0
118	Chandpur ..	45	163	3.2	.1	..	2.0	1.7	.5	.3	3.0	10.8	10.6
Total of Towns ..		23,242	73,361	2.0	.3	..	5.2	2.6	5.4	.6	7.5	23.6	24.3
Total for the Bengal Presidency.		169,234	1,094,263	1.7	.4	..	15.3	.8	1.1	.4	3.6	23.5	25.3

Supplementary Annual Form No. VI (A).—Deaths registered from Different Causes in the districts and towns of the Bengal Presidency during the year 1929.

No.	Districts and towns.	3		4		5		6		7		8		9	
		Malaria.		Enteric fever.		Measles.		Relapsing fever.		Kala-azar.		Other fevers.		Dysentery.	
		Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
DISTRICTS (EXCLUDING TOWNS).															
Burdwan Division.															
1	Burdwan ..	9,278	6.9	123	.1	89	.1	69	.05	201	.1	12,495	9.3	305	.2
2	Birbhum ..	5,496	6.5	471	.6	158	.2	90	.1	57	.1	10,323	12.3	164	.2
3	Bankura ..	7,945	8.2	124	.1	92	.1	117	.1	28	.03	7,125	7.4	431	.4
4	Midnapur ..	15,257	5.9	800	.3	79	.03	135	.05	136	.05	15,970	6.1	1,008	.4
5	Hooghly ..	6,163	6.8	572	.6	47	.05	9	.01	109	.1	4,124	4.6	291	.3
6	Howrah ..	1,889	2.4	239	.3	18	.02	172	.2	126	.2	3,200	4.1	457	.6
Presidency Division.															
7	24-Parganas ..	5,763	2.9	348	.2	73	.04	277	.1	1,325	.7	14,383	7.2	581	.3
8	Nadia ..	27,492	19.8	67	.04	78	.1	423	.3	405	.3	5,982	4.3	412	.3
9	Murshidabad ..	19,188	16.2	194	.2	167	.1	42	.03	56	.04	5,156	4.4	127	.1
10	Jessore ..	37,144	21.8	292	.2	54	.03	64	.01	265	.1	6,155	3.6	498	.3
11	Khulna ..	12,240	8.6	832	.6	34	.02	9	.01	427	.3	6,663	4.7	527	.4
Rajshahi Division.															
12	Rajshahi ..	32,979	22.6	60	.04	34	.02	106	.1	268	.2	4,764	3.3	225	.1
13	Dinapur ..	31,692	18.8	854	.5	101	.1	115	.1	736	.4	9,337	5.5	259	.1
14	Falgaon ..	12,064	13.1	67	.1	81	.1	190	.1	134	.1	3,625	3.9	859	.9
15	Darjeeling ..	2,378	9.4	18	.1	16	.1	8	.03	63	.2	2,746	10.8	376	1.5
16	Rangpur ..	22,513	9.1	1,432	.6	269	.1	566	.2	896	.4	22,813	9.2	777	.3
17	Bogra ..	9,182	8.9	27	.03	18	.02	6	.01	210	.2	6,238	6.0	158	.1
18	Pabna ..	19,281	14.3	281	.2	52	.04	137	.1	209	.1	7,208	5.4	207	.1
19	Malda ..	19,900	20.8	128	.1	14	.01	73	.1	103	.1	2,077	2.2	229	.2
Dacca Division.															
20	Dacca ..	7,241	2.4	873	.3	317	.1	566	.2	968	.3	24,525	8.2	3,024	1.0
21	Mymensingh ..	5,375	1.1	305	.1	204	.04	263	.1	947	.2	47,741	10.1	1,095	.2
22	Faridpur ..	16,913	7.7	568	.3	201	.1	188	.1	764	.3	17,012	7.7	1,590	.7
23	Bakarganj ..	432	.2	1	.0004	2	.001	35	.01	236	.1	30,558	11.9	816	.3
Chittagong Division.															
24	Chittagong ..	348	.2	14	.01	42	.03	23	.01	135	.1	28,744	18.3	263	.2
25	Noakhali ..	196	.1	13	.01	13	.01	80	.1	94	.1	20,969	14.3	601	.4
26	Tippura ..	3,325	1.2	446	.2	69	.02	248	.1	1,006	.4	20,488	7.6	1,265	.5
Total of Districts		331,674	7.6	9,199	.2	2,352	.1	3,911	.1	9,904	.2	340,421	7.8	16,635	.4

No.	Districts and towns.	10		11		12		13		14		15	16			17
		Diarrhoea.		Influenza.		Pneumonia.		Phthisis.		Other respiratory diseases.			Deaths under one year.			
		Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.		Male.	Female.	Total.	
DISTRICTS (EXCLUDING TOWNS).																
Burdwan Division.																
1	Burdwan ..	757	·6	136	·1	1,362	1·0	436	·3	584	·4	305	4,362	3,714	8,076	183·8
2	Birbhum ..	183	·2	46	·1	311	·4	176	·2	577	·7	204	3,355	2,785	6,140	174·5
3	Bankura ..	977	1·0	212	·2	911	·9	441	·5	743	·8	248	3,877	5,327	7,204	195·2
4	Midnapur ..	1,282	·5	114	·04	2,281	·9	700	·3	590	·2	635	7,241	6,542	13,783	160·0
5	Hooghly ..	867	1·0	56	·1	1,683	1·9	382	·4	431	·5	194	2,153	1,928	4,081	172·0
6	Howrah ..	1,635	2·1	89	·1	631	·8	478	·6	554	·7	112	1,822	1,502	3,324	152·8
Presidency Division.																
7	24-Parganas.	537	·3	251	·1	1,551	·8	629	·3	704	·3	341	4,946	4,109	9,055	148·0
8	Nadia ..	151	·1	157	·1	709	·5	240	·2	378	·3	378	5,431	5,234	10,665	229·7
9	Murshidabad ..	67	·1	13	·01	121	·6	75	·1	60	·1	253	4,633	4,144	8,777	165·3
10	Jessore ..	168	·1	30	·02	439	·3	205	·1	181	·1	324	4,046	3,720	7,766	195·3
11	Khulna ..	280	·2	23	·02	484	·3	245	·2	354	·2	434	5,063	4,206	9,269	202·4
Rajshahi Division.																
12	Rajshahi ..	101	·1	58	·04	73	·1	31	·02	218	·1	258	5,533	5,207	10,740	230·6
13	Dinajpur ..	105	·1	53	·03	542	·3	134	·1	125	·1	291	5,645	4,957	10,602	222·1
14	Jalpaiguri ..	864	·9	412	·4	1,498	1·6	546	·6	423	·5	672	2,770	2,653	5,423	172·0
15	Darjeeling ..	156	·6	39	·1	294	1·2	273	1·1	108	·4	41	802	632	1,434	155·5
16	Rangpur ..	503	·2	126	·1	552	·2	282	·1	428	·2	870	7,630	6,396	14,026	212·2
17	Bogra ..	159	·1	38	·04	109	·1	111	·1	91	·1	308	3,048	2,840	5,888	231·6
18	Pabna ..	119	·1	37	·03	339	·2	200	·1	167	·1	289	3,906	3,493	7,399	218·5
19	Malda ..	45	·04	11	·01	44	·04	40	·04	29	·03	122	2,655	2,420	5,075	162·1
Dacca Division.																
20	Dacca ..	1,027	·3	142	·04	569	·2	501	·2	984	·3	726	7,776	6,682	14,458	177·1
21	Mymensingh ..	663	·1	99	·02	243	·1	479	·1	459	·1	731	10,939	9,446	20,385	176·7
22	Faridpur ..	692	·3	75	·03	865	·4	382	·2	1,011	·5	493	6,515	5,467	11,982	191·3
23	Bakarganj ..	125	·04	4	·002	69	·03	100	·04	70	·03	157	8,023	6,453	14,476	173·1
Chittagong Division.																
24	Chittagong ..	209	·1	10	·01	119	·1	34	·02	20	·01	84	3,141	2,807	5,948	126·2
25	Noakhali ..	316	·2	16	·01	10	·01	5	·003	225	·1	337	3,440	3,014	6,454	124·1
26	Tippura ..	517	·2	165	·1	309	·1	231	·1	495	·2	361	4,923	4,002	8,925	134·5
Total of Districts ..		12,505	·3	2,412	·1	16,118	·4	7,356	·2	10,009	·2	9,168	123,675	107,680	231,355	178·7

* Deaths during or within 14 days of labour.

No.	Districts and towns.	3		4		5		6		7		8		9	
		Malaria.		Enteric fever.		Measles.		Relapsing fever.		Kala-azar.		Other fevers.		Dysentery.	
		Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
TOWNS.															
Burdwan District.															
1	Burdwan ..	75	2.2	22	.6	5	.1	..	.2	9	.3	21	.6	75	2.2
2	Kalna ..	21	2.5	1	.1	..	.3	..	..	18	2.1	82	9.7	6	.7
3	Katwa ..	3	.4	2	.3	..	..	..	.2	1	.1	30	4.4	6	.9
4	Dainhat ..	43	8.9	..	..	..	..	..	..	..	..	2	.4	1	.2
5	Raniganj ..	6	.4	2	.1	..	..	..	..	..	..	99	6.8	10	.7
6	Asansol ..	1	.04	..	..	..	..	..	..	..	..	53	2.0	3	.1
Birbhum District.															
7	Suri ..	1	.1	2	.2	2	.2	..	..	1	.1	40	4.5	1	.1
Bankura District.															
8	Bankura ..	7	.3	5	.2	6	.2	..	..	1	.04	68	2.7	26	1.0
9	Vishnupur ..	146	7.5	..	..	1	.05	..	..	..	..	81	4.2	11	.6
10	Sonamukhi ..	28	2.6	..	..	..	..	..	..	..	..	39	3.7	9	.8
Midnapur District.															
11	Midnapur ..	3	.1	..	..	1	.03	..	..	..	..	97	3.3	30	1.0
12	Ghatal ..	4	.4	..	..	..	..	..	..	..	..	42	3.9	7	.6
13	Kharar ..	1	.1	..	..	..	..	..	..	..	..	21	3.2	..	..
14	Chandrakona ..	3	.5	..	..	3	.5	..	..	10	1.5	31	4.8	6	.9
15	Ramjibanpur ..	22	3.3	..	..	1	.1	..	..	..	..	14	2.1	4	.6
16	Khirpai ..	..	..	..	..	..	..	..	..	1	.3	33	8.8	..	..
17	Tamluk ..	1	.1	..	..	..	..	..	..	..	..	20	2.4	10	1.2
Hooghly District.															
18	Hooghly-Chinsura ..	32	1.1	19	.6	1	.03	..	..	8	.3	156	5.2	37	1.2
19	Bansberia ..	9	1.4	..	..	1	.2	..	..	..	..	29	4.5	9	1.4
20	Arambagh ..	62	7.9	..	..	..	..	..	..	..	..	4	.5	5	.6
21	Serampur ..	13	.4	14	.4	2	.1	..	.03	4	.1	48	1.4	57	1.7
22	Rishra-Konnagar ..	7	.3	8	.3	..	..	1	.01	1	.04	42	1.8	14	.6
23	Uttarpara ..	2	.2	1	.1	1	.1	..	..	3	.3	26	3.0	31	3.6
24	Kotrung ..	..	..	..	..	..	..	..	.1	2	.2	20	2.9	5	.7
25	Baidyabati ..	8	.5	1	.1	4	.2	..	..	4	.2	78	4.7	12	.8
26	Bhadreswar ..	21	.9	2	.1	6	.3	..	..	4	..	77	3.5	17	.7
27	Chandpaul ..	4	.2	..	..	..	..	..	..	..	..	36	1.5	12	.5

1 No.	2 Districts and towns.	10		11		12		13		14		15 Deaths from child-birth.*	16			17 Infant mor-tality rate.
		Diarrhoea.		Influenza.		Pneumonia.		Phthisis.		Other respiratory diseases.			Deaths under one year.	Male.	Female.		Total.
		Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.					
TOWNS.																
Burdwan District.																
1	Burdwan ..	64	1.8	1	.03	91	2.6	14	.4	42	1.2	10	15	9	24	75.7
2	Kalna ..	11	1.3	3	.4	8	.9	3	.4	4	.5	1	27	42	69	268.4
3	Katwa ..	1	.1	2	.3	11	1.6	7	1.0	1	.1	..	5	6	11	180.9
4	Dalihat ..	1	.2	1	.2	7	1.4	1	.2	2	.4	..	10	9	19	197.9
5	Raniganj ..	4	.3	..	..	20	1.4	6	.4	39	2.7	3	43	21	64	173.9
6	Asansol ..	..	..	..	..	34	1.3	6	.2	2	.1	13	63	39	102	118.4
Birbhum District.																
7	Suri ..	..	..	1	.1	12	1.3	15	1.7	1	.1	2	16	10	26	224.1
Bankura District.																
8	Bankura ..	23	.9	..	..	27	1.1	3	.1	29	1.1	5	30	27	57	138.3
9	Vishnupur ..	23	1.2	..	..	17	.9	6	.3	18	.9	11	54	34	88	223.9
10	Sonamukhi ..	27	2.5	..	..	25	2.3	3	.3	14	1.3	3	34	40	74	215.1
Midnapur District.																
11	Midnapur ..	14	.5	2	.1	60	2.1	16	.5	19	.6	..	15	11	26	48.7
12	Ghatal ..	40	3.7	..	..	39	3.6	5	.5	16	1.5	..	16	23	39	114.0
13	Kharar ..	16	2.4	..	..	20	3.0	5	.8	9	1.4	3	7	7	14	133.3
14	Chandrakona ..	16	2.5	..	..	41	6.3	2	.3	8	1.2	6	16	17	33	221.4
15	Ranjanpur ..	36	5.4	8	.2	30	4.5	2	.3	23	3.4	6	7	4	11	79.5
16	Khirpal ..	24	6.4	..	..	32	8.5	2	.5	8	2.1	..	4	2	6	75.0
17	Tamluk ..	6	.7	..	..	6	.7	3	.4	8	1.0	2	13	7	20	127.4
Hooghly District.																
18	Hooghly-Chinsura ..	42	1.4	1	.03	76	2.5	20	.7	18	.6	10	114	92	206	211.9
19	Bansheria ..	3	.5	..	..	4	.6	2	.3	3	.5	..	12	4	16	164.6
20	Arambagh ..	14	1.8	..	..	40	5.1	9	1.1	6	.8	2	18	8	26	218.5
21	Serampur ..	59	1.8	1	.03	40	1.2	20	.6	30	.9	7	42	40	82	113.4
22	Rishra-Konnagar ..	32	1.4	1	.04	18	.8	10	.4	11	.5	2	28	34	62	157.7
23	Uttarpara ..	7	.8	1	.1	6	.8	10	1.1	6	.7	1	10	7	17	90.4
24	Kotrang ..	7	1.0	1	.1	6	.9	1	.1	9	1.3	2	9	16	25	144.5
25	Baidyabati ..	44	2.7	1	.1	15	.9	13	.8	7	.4	..	31	31	62	128.4
26	Bhadreswar ..	25	1.1	..	..	12	.5	5	.2	16	.7	3	43	38	81	191.9
27	Chandpur ..	19	.8	9	.4	13	.5	10	.4	8	.3	3	28	20	48	135.2

• Deaths during or within 14 days of labour.

No.	Districts and towns.	3		4		5		6		7		8		Dysentery.
		Malaria.		Enteric fever.		Measles.		Relapsing fever.		Kala-azar.		Other fevers.		
		Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	
TOWNS.														
Howrah District.														
28	Howrah ..	197	1.0	172	.9	..	..	..	..	26	.3	952	4.9	548
29	Bally ..	5	.2	5	.2	..	..	1	.04	8	.3	79	3.4	17
24-Parganas District.														
30	South Suburban ..	134	4.0	39	1.2	2	1.1	1	.03	6	.2	37	1.1	34
31	Tollyganj ..	3	.1	7	.3	1	.04	2	.1	..	..	81	3.7	15
32	Budge-Budge ..	2	.1	..	..	4	1.1	..	..	1	.04	117	4.5	105
33	Baranagar ..	15	.5	23	.7	2	1.1	..	..	6	.2	74	2.3	110
34	Kamarhati ..	4	.2	..	..	2	1.1	..	..	1	.04	87	3.3	45
35	Rajpur ..	4	.3	7	.6	..	..	..	..	..	..	37	3.2	9
36	Barulpur ..	3	.6	1	.2	..	..	..	..	1	.2	9	1.2	2
37	Jaynagar ..	2	.2	1	.1	..	..	..	..	9	1.1	40	4.7	6
38	North Dum-Dum ..	..	..	..	..	..	..	..	..	1	.2	13	3.0	5
39	South Dum-Dum ..	..	..	..	..	1	1.1	..	..	5	.4	33	2.3	33
40	Khardah ..	9	.6	5	.4	..	..	1	.2	..	..	16	2.9	4
41	Barrackpur ..	15	.7	1	.04	..	..	1	.04	..	..	20	.9	7
42	Pandhati ..	8	.8	1	.1	..	..	..	..	2	.2	4	.4	12
43	North Barrackpur ..	7	.4	3	.2	..	..	..	..	1	.1	27	1.7	26
44	Titagarh ..	..	..	..	..	10	2.2	..	..	..	..	73	13.8	1
45	Garulia ..	54	4.1	2	.1	..	..	..	..	1	.1	9	.7	10
46	Naihati ..	5	.2	1	.04	..	..	..	..	1	.1	1	.1	16
47	Halisahar ..	29	4.0	..	..	..	..	..	..	..	..	..	..	..
48	Kanchrapara ..	..	..	..	..	4	1.1	..	..	1	.01	68	6.6	5
49	Bhatpara ..	16	.2	14	.2	..	..	..	..	..	..	402	6.1	31
50	Barasat ..	35	4.3	..	..	..	..	..	..	4	..	1	.1	4
51	Gobardanga ..	27	5.3	..	..	..	..	..	..	..	..	6	1.2	5
52	Basurhat ..	22	1.1	6	.3	1	1.1	..	..	14	.7	74	3.8	35
53	Baduria ..	9	.6	..	..	..	..	..	..	..	..	118	8.4	5
54	Taki ..	1	.2	..	..	..	..	..	..	2	.4	35	6.7	9
55	Dum-Dum ..	3	.8	..	..	..	..	..	..	..	..	4	1.0	3
City of Calcutta.														
56	Calcutta ..	927	.9	765	.7	82	1.1	..	..	405	.4	1,818	1.7	1,643
Nadia District.														
57	Krishnagar ..	45	2.0	2	.1	..	1.1	..	..	2	.1	77	3.4	12
58	Nabadwip ..	5	.3	2	.1	..	1.1	..	..	3	.2	91	5.8	22

No.	Districts and towns.	10		11		12		13		14		15	16		17	
		Diarrhoea.		Influenza.		Pneumonia.		Phthisis.		Other respiratory diseases.			Deaths under one year.			
		Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.		Male.	Female.		Total.
28	Howrah ..	478	2.4	..	..	690	3.5	253	1.3	895	4.6	71	876	671	1,547	320.8
29	Bally ..	14	.6	..	.1	29	1.2	7	.3	15	.6	..	24	10	34	87.0
24-Parganas District.																
30	South Suburban ..	78	2.3	..	..	60	1.8	17	.5	53	1.6	15	93	84	177	175.8
31	Tollyganj ..	18	.8	..	.3	32	1.5	12	.5	11	.5	..	33	38	71	129.3
32	Budge-Budge ..	5	.2	..	..	14	.5	6	.2	34	1.3	..	3	6	9	34.7
33	Baranagar ..	40	1.2	..	.1	38	1.2	23	.7	18	.6	..	75	77	152	172.7
34	Kamarhati ..	24	1.0	1	.04	20	.9	17	.7	20	.9	4	31	20	51	117.8
35	Rajpur ..	5	.4	2	.2	31	2.7	5	.4	12	1.0	8	15	13	28	89.4
36	Baruipur ..	3	.6	..	..	7	1.4	3	.6	1	.2	..	4	4	8	114.3
37	Jaynagar ..	16	1.9	..	..	7	.7	6	.7	30	3.6	5	11	12	23	270.6
38	North Dum-Dum ..	10	2.3	..	..	8	1.8	3	.7	2	.5	..	11	17	28	181.8
39	South Dum-Dum ..	17	1.2	..	..	35	2.5	5	.4	10	.7	..	29	31	60	211.2
40	Khardah ..	6	1.1	..	..	5	.9	1	.2	7	1.3	..	6	5	11	88.7
41	Barrackpur ..	7	.3	..	.1	11	.5	4	.4	13	.6	4	8	9	17	83.7
42	Palhati ..	8	.8	..	..	21	2.1	4	.4	2	.2	..	27	22	49	126.9
43	North Barrackpur ..	9	.6	..	.1	27	1.7	13	.8	9	.6	..	30	16	46	117.0
44	Titagarh ..	25	.5	..	.3	..	.2	1	.1	4	1.0	3	41	32	73	100.1
45	Garulia ..	7	.5	..	..	3	.2	1	.1	13	1.0	..	16	16	32	149.5
46	Nalhati ..	12	.5	..	.2	27	1.2	4	.2	8	.3	..	32	14	46	123.0
47	Halisahar ..	13	1.8	..	..	16	2.2	4	.2	4	.5	..	8	11	19	138.7
48	Kanchrapara ..	14	1.3	..	..	9	.9	..	..	1	.1	2	4	2	6	23.3
49	Bhatpara ..	68	1.0	..	.01	60	.9	21	.3	34	.5	19	76	48	124	100.0
50	Barasat ..	1	.1	4	.5	5	.6	2	.2	7	.8	6	8	5	13	97.7
51	Gobardanga ..	5	1.0	..	..	23	4.5	6	1.2	4	.8	1	3	2	5	73.5
52	Basirhat ..	18	.9	..	..	78	4.0	17	.9	2	.1	12	71	57	128	178.0
53	Baduria ..	1	.1	..	..	1	.1	1	.1	..	..	..	8	5	13	70.6
54	Taki ..	1	.2	..	..	4	.8	2	.4	6	1.1	..	11	10	21	120.0
55	Dum-Dum ..	..	..	..	..	3	.8	1	.3	1	.3	1	1	1	2	142.8
56	Calcutta ..	1,605	1.5	478	.4	4,195	3.9	2,591	2.4	3,127	2.9	97	3,396	2,523	5,913	259.5
City of Calcutta.																
57	Krishnagar ..	..	..	1	..	18	.8	3	.1	3	.1	1	19	16	35	98.8
58	Nabadwip ..	..	..	..	..	7	.4	11	.7	11	.7	..	24	14	38	123.8
Nadia District.																

* Deaths during or within 14 days of labour.

1 No.	2 Districts and towns.	3 Malaria.		4 Enteric fever.		5 Measles.		6 Relapsing fever.		7 Kala-azar.		8 Other fevers.		9 Dysentery.		
		Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.			
TOWNS.																
Nadia District.																
59	Ranaghat ..	90	9.3	..	..	..	..	..	..	..	..	..	..	20	2.1	
60	Birnagar ..	21	9.1	..	..	..	..	..	..	..	..	..	..	2	.9	
61	Santipur ..	30	1.2	..	.4	1	.04	..	..	5	.2	167	6.7	19	.8	
62	Chakdaha ..	82	15.7	..	..	..	..	..	..	..	..	..	..	4	.8	
63	Kushtia ..	13	1.6	..	.2	..	..	..	..	1	.1	37	4.7	5	.6	
64	Kumarkhali ..	59	15.7	..	..	..	..	..	..	..	..	..	..	5	.6	
65	Meherpur ..	10	1.8	..	.2	..	..	..	..	1	.2	13	2.4	1	1.2	
Murshidabad District.																
66	Berhampur ..	99	3.7	25	.9	1	.04	..	..	16	.6	188	7.0	31	1.2	
67	Murshidabad ..	..	..	..	..	..	..	..	..	..	..	129	12.1	6	.6	
68	Jiaganj-Azimganj ..	27	2.4	..	.1	..	..	..	..	6	.5	36	3.2	2	.2	
69	Kandi ..	2	.2	1	.1	7	.6	..	..	1	.1	65	5.5	7	.6	
70	Jangipur ..	..	..	..	..	4	.4	..	..	..	..	99	9.2	11	1.0	
71	Dhulian ..	121	14.3	..	..	..	..	..	..	..	..	..	..	7	.8	
Jessore District.																
72	Jessore ..	60	5.9	2	.2	..	..	..	..	7	.7	2	.2	16	1.6	
73	Kotchandpur ..	80	10.6	..	..	..	..	..	..	1	.1	2	.3	2	.3	
74	Maheshpur ..	45	12.5	6	1.7	..	..	..	..	2	.5	5	1.4	2	.5	
Khulna District.																
75	Khulna ..	113	7.0	..	..	..	..	..	..	2	.1	27	1.7	16	1.0	
76	Satkhira ..	31	3.0	..	..	..	..	..	..	29	2.8	35	3.4	21	2.0	
77	Debhata ..	..	..	..	..	..	..	..	..	1	.2	60	10.8	7	1.2	
Rajshahi District.																
78	Rajshahi ..	84	3.4	..	..	4	.2	..	..	5	.2	78	3.2	39	1.6	
79	Nator ..	62	7.7	..	..	..	..	..	..	8	1.0	23	2.9	10	1.2	
Dinalpur District.																
80	Dinalpur ..	1	.1	..	..	..	..	..	..	1	.1	44	2.4	1	.1	
Jalpaiguri District.																
81	Jalpaiguri ..	61	4.2	..	..	..	..	..	22	1.5	13	.9	23	1.6	18	1.2

1	2	10	11	12	13	14	15	16	17							
No.	Districts and towns.	Diarrhoea.		Influenza.		Pneumonia.		Phthisis.		Other respiratory diseases.		Deaths from child-birth.*	Deaths under one year.			Infant mortality rate.
		Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.		Male.	Female.	Total.	
TOWNS.																
Nadia District.																
59	Ranaghat ..	..	..	..	..	17	1.8	2	.2	..	..	..	14	11	25	99.2
60	Birnagar ..	..	.9	..	..	5	2.2	1	.4	..	..	..	7	5	12	184.6
61	Santipur ..	17	.7	..	..	53	2.1	17	.7	..	22	21	41	39	80	94.9
62	Chakdaha ..	..	..	..	..	5	1.0	..	..	..	..	..	6	6	12	134.8
63	Kushin ..	..	.8	..	..	5	..	..	..	..	3	5	8	5	13	87.8
64	Kumarkhali ..	5	1.3	..	..	13	3.4	..	..	..	..	..	9	11	20	263.1
65	Meherpur ..	1	.2	..	..	5	.9	5	.9	..	..	1	5	13	18	110.4
Murshidabad District.																
66	Perhampur ..	1	.04	1	.04	41	1.5	25	.9	14	.5	7	53	38	91	186.8
67	Murshidabad ..	..	..	2	.2	..	..	2	.2	1	.1	..	10	14	24	97.1
68	Jaganj-Azinganj ..	..	.2	..	..	12	1.1	8	.7	10	.9	3	21	19	40	139.4
69	Kandi ..	8	.7	..	..	7	.6	..	..	10	.8	1	17	11	28	135.9
70	Janzipur ..	1	.1	..	..	6	.2	4	.4	..	..	3	12	8	20	48.9
71	Dhulia ..	..	..	..	..	2	.2	3	.3	..	..	..	18	5	23	78.8
Jessore District.																
72	Jessore ..	2	.2	..	..	20	2.0	2	.2	4	.4	..	2	2	4	31.7
73	Kotechandpur ..	1	.1	..	..	4	.5	1	.1	4	1.2	..	3	5	8	108.1
74	Maheshpur ..	2	.5	..	..	7	1.9	..	..	9	1.1	..	7	8	15	263.1
Khulna District.																
75	Khulna ..	14	.9	..	..	13	.8	4	.2	10	.6	..	16	14	30	157.0
76	Satkhira ..	7	.7	..	..	32	3.1	6	.6	2	.2	8	33	18	51	244.0
77	Debhata ..	4	.7	..	..	..	..	..	..	6	1.1	..	14	8	22	174.6
Rajshahi District.																
78	Rajshahi ..	9	.4	..	..	18	.7	6	.2	6	.2	5	42	38	80	140.3
79	Nator ..	..	..	..	..	24	3.0	5	.6	9	1.1	7	19	15	34	259.5
Dinajpur District.																
80	Dinajpur ..	1	.1	..	..	11	.6	1	.1	3	.2	..	3	5	8	145.4
Jalpaiguri District.																
81	Jalpaiguri ..	10	.7	11	.7	27	1.9	13	.9	13	.9	..	12	15	27	110.2

* Deaths during or within 14 days of labour.

1 No.	2 Districts and towns.	3 Malaria.		4 Enteric fever.		5 Measles.		6 Relapsing fever.		7 Kala-azar.		8 Other fevers.		9 Dysentery.	
		Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
TOWNS.															
Darjeeling District.															
82	Darjeeling ..	29	1.3	1	.04	3	.1	..	..	12	.5	70	3.1	10	.4
83	Kurseong ..	1	.1	..	..	..	..	..	..	3	.5	118	18.3	8	1.2
Rangpur District.															
84	Rangpur ..	19	1.0	12	.6	..	..	..	..	6	.3	44	2.3	29	1.5
85	Galbandha ..	1	.2	..	..	..	..	..	..	7	1.1	12	2.0	5	.8
Bogra District.															
86	Bogra ..	10	.8	5	.4	..	..	..	..	1	.1	19	1.5	10	.8
87	Sherpur ..	15	3.8	..	..	..	..	..	..	2	.5	6	1.5	3	.7
Pabna District.															
88	Pabna ..	25	1.3	..	..	..	..	5	.3	1	.05	79	4.1	6	.3
89	Seraiganj ..	231	9.0	..	..	..	..	..	..	1	.04	29	1.1	18	.7
Malda District.															
90	English Bazar ..	31	2.2	..	..	..	..	..	..	2	.1	63	4.5	27	1.9
91	Old Malda ..	1	.3	..	..	..	..	..	..	..	..	26	8.3	5	1.6
92	Nawabganj ..	17	1.3	..	..	1	.1	..	..	3	.2	99	7.8	65	5.1
Dacca District.															
93	Dacca ..	25	.2	61	.5	38	.3	..	..	127	1.1	173	1.4	342	2.9
94	Narainganj ..	1	.03	3	.1	16	.5	..	..	3	.1	252	8.2	92	3.0
Mymensingh District.															
95	Mymensingh ..	1	.04	..	..	..	..	..	..	2	.1	201	7.9	17	.7
96	Mukttagacha ..	..	..	1	.1	..	..	..	..	..	..	10	1.5	2	.3
97	Netrokona ..	5	.6	2	.2	..	..	..	..	1	.1	38	4.4	12	1.4
98	Jamalpur ..	30	1.3	4	.2	..	..	..	..	15	.6	93	4.0	17	.7
99	Sherpur ..	7	.4	..	..	2	.1	..	..	4	.2	87	4.9	37	2.1

1	2	10	11	12	13	14	15	16	17							
No.	Districts and towns.	Diarrhoea.		Influenza.		Pneumonia.		Phthisis.		Other respiratory diseases.		Deaths from child-birth.*	Deaths under one year.			Infant mortality rate.
		Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.		Male.	Female.	Total.	
TOWNS.																
Darjeeling District.																
82	Darjeeling ..	7	.3	7	.3	48	2.1	66	3.0	15	.7	1	27	30	57	105.7
83	Kurseong ..	2	.3	1	.1	8	1.2	10	1.5	2	.3	..	18	19	37	129.8
Rangpur District.																
84	Rangpur ..	9	.5	1	.1	9	.5	3	.2	3	.2	6	8	4	12	48.0
85	Galbandha ..	..	..	..	..	3	.5	..	..	3	.5	..	..	2	2	16.8
Bogra District.																
86	Bogra ..	3	.2	..	..	9	.7	4	.3	3	.2	2	5	6	11	164.1
87	Sherpur ..	2	.5	..	..	3	.7	2	.5	4	1.0	..	4	4	8	163.2
Pabna District.																
88	Pabna ..	7	.4	..	..	3	.1	3	.1	10	.5	..	16	13	29	120.8
89	Seraiganj ..	14	.5	..	..	10	.4	10	.4	5	.2	1	41	27	68	156.3
Malda District.																
90	English Bazar ..	5	.3	..	..	17	1.2	8	.6	7	.5	1	20	25	45	108.9
91	Old Malda ..	6	1.9	..	..	8	2.5	..	..	5	1.6	..	6	6	12	150.0
92	Nawabganj ..	26	2.1	..	..	14	1.1	4	.3	20	1.6	3	30	33	63	127.5
Dacca District.																
93	Dacca ..	150	1.2	20	.2	528	4.4	91	.8	307	2.6	90	576	489	1,065	263.6
94	Narainganj ..	25	.8	2	.1	22	.7	10	.3	11	.4	10	137	138	275	279.7
Mymensingh District.																
95	Mymensingh ..	24	.9	..	..	8	.3	1	.04	15	.6	1	47	33	80	147.0
96	Muktagacha ..	..	..	..	..	2	.3	1	.1	..	..	..	5	2	7	57.8
97	Netrokona ..	16	1.8	..	..	1	.1	4	.5	1	.1	2	18	14	32	146.1
98	Jamalpur ..	7	.3	1	.04	16	.7	3	.1	19	.8	11	22	37	59	123.2
99	Sherpur ..	20	1.1	..	..	3	.2	..	..	9	.5	..	23	21	44	86.3

*Deaths during or within 14 days of lab ur.

1 No.	2 Districts and towns.	3 Malaria.		4 Enteric fever.		5 Measles.		6 Relapsing fever.		7 Kala-azar.		8 Other fevers.		9 Dysentery.	
		Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.
TOWNS.															
Mymensingh District.															
100	Kishorganj ..	..	..	..	..	1	.05	..	..	..	..	52	2.7	11	.6
101	Bajitpur ..	..	.6	..	.1	..	..	..	..	..	..	29	2.5	4	.3
102	Tangail ..	8	..	1	..	..	..	..	..	3	.2	74	5.2	20	1.4
103	Gauripur ..	..	..	..	..	..	..	..	..	..	..	16	2.1	2	.3
Faridpur District.															
104	Faridpur ..	58	4.0	..	.1	..	..	..	..	8	.5	26	1.8	10	.7
105	Madaripur ..	3	.4	..	..	..	.1	..	..	4	.5	96	13.2	7	1.0
106	Rajbari ..	4	.2	6	.2	2	..	..	..	14	.5	65	2.6	35	1.4
Bakarganj District.															
107	Barisal ..	10	.4	1	.04	..	..	2	.01	2	.01	154	5.8	52	1.9
108	Jhalakati ..	1	.2	..	..	..	..	..	..	..	..	21	3.5	4	.7
109	Nalchiti ..	..	..	..	..	..	..	..	..	..	..	6	3.2	..	..
110	Pirojpur ..	..	..	..	..	..	..	..	..	1	.1	60	4.3	2	.1
111	Patuakhali ..	..	..	..	..	..	..	..	..	2	.3	17	2.4	7	1.0
112	Bhola ..	..	..	..	..	..	..	..	..	..	..	9	2.0	4	.9
Chittagong District.															
113	Chittagong ..	4	.1	4	.1	..	..	..	..	4	.1	152	4.2	49	1.4
114	Cox's Bazar ..	..	..	..	..	..	..	..	..	..	..	29	6.3	1	.2
Noakhali District.															
115	Noakhali ..	..	..	1	.1	..	..	2	.3	8	1.0	42	5.4	28	3.6
Tippera District.															
116	Comilla ..	2	.1	1	.04	4	.1	..	..	1	.04	32	1.2	8	.3
117	Brahmanbaria ..	1	.04	..	..	..	..	..	..	2	.1	102	4.3	18	.8
118	Chandpur ..	..	..	..	..	..	..	..	..	7	.5	24	1.6	16	1.1
Total of Towns		3,740	1.2	1,288	.4	230	.1	44	.01	916	.3	9,852	3.2	4,417	1.4
Total for the Bengal Presidency.		335,414	7.2	10,487	.2	2,582	.1	3,955	.1	10,820	.2	350,273	7.5	21,052	.4

1 No.	2 Districts and towns.	10		11		12		13		14		15	16			17
		Diarrhoea.		Influenza.		Pneumonia.		Phthisis.		Other respiratory diseases.		Deaths from child-birth.*	Male.	Female.	Total.	Infant Mortality rate.
		Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.	Deaths.	Ratio.					
TOWNS.																
Mymensingh District.																
100	Kaharganj ..	25	1.3	..	..	..	..	1	.05	12	.6	..	23	9	32	127.5
101	Bajitpur ..	4	.3	..	..	..	..	4	.3	1	.1	..	14	9	23	160.8
102	Tangail ..	4	.3	..	..	..	..	3	.2	5	.3	..	15	12	27	103.4
103	Gauripur ..	3	.4	..	..	1	.1	1	.1	7	.9	..	3	1	4	70.2
Faridpur District.																
104	Faridpur ..	9	.6	..	..	12	.8	3	.2	6	.4	8	21	13	34	155.3
105	Madaripur ..	7	1.0	..	..	14	1.9	4	.5	2	.3	2	24	12	36	290.3
106	Rajbari ..	..	..	..	..	8	.3	1	.04	4	.2	4	42	29	71	133.7
Bakarganj District.																
107	Barisal ..	6	.2	..	..	21	.8	8	.3	25	.9	..	61	45	106	221.3
108	Jhalakati ..	..	..	..	..	4	.7	..	..	1	.2	..	9	5	14	218.7
109	Nalchiti ..	1	.5	..	..	4	2.1	..	..	..	..	..	1	3	4	200.0
110	Pirojpur ..	6	.4	..	..	1	.1	2	.1	2	.1	1	27	33	60	179.1
111	Patuakhali ..	..	..	..	..	1	.1	2	.3	..	..	..	6	11	17	191.0
112	Bhola ..	6	1.3	..	..	1	.2	..	..	1	.2	..	2	2	4	29.2
Chittagong District.																
113	Chittagong ..	1	.03	..	..	41	1.1	7	.2	..	..	15	118	106	224	212.9
114	Cox's Bazar ..	..	..	..	..	7	1.5	2	.4	1	.2	..	2	7	9	113.9
Noakhali District.																
115	Noakhali ..	5	.6	1	.1	..	..	3	.4	7	.9	6	17	15	32	83.8
Tippera District.																
116	Comilla ..	5	.2	..	..	5	.2	..	..	1	.04	..	8	7	15	60.0
117	Brahmanbaria ..	18	.8	..	..	2	.1	2	.1	14	.6	..	56	41	97	124.5
118	Chandpur ..	9	.6	..	..	8	.2	2	.1	8	.2	1	12	10	22	135.8
Total of Towns ..		3,599	1.1	591	.2	7,373	2.4	3,613	1.2	5,371	1.7	602	7,534	5,975	13,509	201.5
Total for the Bengal Presidency.		16,104	.3	3,003	.1	23,491	.5	10,969	.2	15,380	.3	9,770	131,209	113,655	244,864	179.9

* Deaths during or within 14 days of labour.

Annual Form No. VII.—Deaths registered from CHOLERA in the districts of the Bengal Presidency during each month of the year 1929.

1 No.	2 Districts.	3 Circles of Registration.		4 Villages.		5							
		Number in each district.	Number from which deaths from cholera were reported.	Number in each district.	Number from which deaths from cholera were reported.	January.	February.	March.	April.	May.	June.	July.	August.
Burdwan Division.													
1	Burdwan ..	29	29	2,817	1,133	11	50	286	224	130	87	142	213
2	Birbhum ..	15	15	2,302	216	13	14	32	130	37	13	18	78
3	Bankura ..	22	22	4,003	527	48	88	216	153	71	53	127	286
4	Midnapur ..	33	32	10,351	1,657	480	377	465	384	154	136	144	274
5	Hoochly ..	28	26	2,197	545	59	81	120	190	169	80	68	22
6	Howrah ..	13	13	863	288	130	169	240	299	252	150	99	159
Presidency Division.													
7	24-Parganas ..	63	62	3,427	1,213	645	574	852	433	392	159	254	277
8	Calcutta ..	1	1	1	1	87	119	285	432	693	247	132	104
9	Nadia ..	30	30	2,353	617	161	55	51	83	56	10	3	24
10	Murshidabad ..	26	26	1,974	520	46	20	48	196	54	14	29	21
11	Jessore ..	27	26	3,613	1,645	426	103	22	38	50	20	10	38
12	Khulna ..	25	25	2,011	879	193	48	176	172	168	150	208	93
Rajshahi Division.													
13	Rajshahi ..	27	27	4,487	843	382	129	157	541	285	109	55	30
14	Dinajpur ..	31	27	6,612	681	227	210	66	57	37	126	25	9
15	Jalpaiguri ..	18	13	722	58	1	..	..	6	5	12	43	17
16	Darjeeling ..	6	1	304	3	..	..	..	..	..	..	18	2
17	Rangpur ..	32	31	4,102	484	179	145	240	416	125	72	84	29
18	Bogra ..	14	14	2,780	138	191	47	24	75	97	23	6	1
19	Fabna ..	19	19	2,539	274	177	54	119	428	280	33	19	58
20	Malda ..	18	18	2,239	41	15	25	31	66	99	107	110	48
Dacca Division.													
21	Dacca ..	14	14	4,737	1,312	804	370	477	394	306	132	84	87
22	Mymensingh ..	60	60	7,354	1,157	1,649	766	515	501	264	229	135	34
23	Faridpur ..	17	17	3,363	2,205	441	153	238	423	187	80	48	22
24	Bakarganj ..	22	21	2,990	842	183	243	362	363	230	76	22	8
Chittagong Division.													
25	Chittagong ..	22	20	870	139	128	68	143	221	155	154	75	21
26	Noakhali ..	15	15	1,719	535	176	172	317	184	85	27	35	104
27	Tippura ..	15	15	4,018	1,690	755	862	591	422	307	110	33	31
Total for the Bengal Presidency. 4						7,607	4,943	6,073	6,831	4,628	2,409	2,026	2,090

1 No.	2 Districts.	3 Month.				6 Total.	7 Ratio of deaths per 1,000 of population.			8 Mean ratio per 1,000 during previous five years.	
		September.	October.	November.	December.		Male.	Female.	Total.		
Burdwan Division.											
1	Burdwan ..	245	110	99	228	954	871	1,825	1.3	1.2	1.3
2	Birbhum ..	52	54	90	263	401	393	794	.9	.9	.9
3	Bankura ..	60	31	31	24	564	624	1,188	1.1	1.2	1.2
4	Midnapur ..	109	335	480	579	1,936	1,981	3,917	1.4	1.5	1.4
5	Hooghly ..	46	48	163	276	634	628	1,262	1.1	1.2	1.1
6	Howrah ..	128	147	306	473	1,328	1,224	2,552	2.5	2.6	2.6
Presidency Division.											
7	24-Parganas ..	167	304	712	1,296	3,222	2,843	6,065	2.4	2.5	2.5
8	Calcutta ..	60	121	154	137	1,744	827	2,571	2.4	2.3	2.4
9	Nadia ..	77	763	2,129	1,881	2,500	2,793	5,293	3.3	3.8	3.5
10	Murshidabad ..	22	179	399	627	805	850	1,655	1.3	1.3	1.3
11	Jessore ..	36	1,112	2,106	2,071	3,161	2,871	6,032	3.5	3.5	3.5
12	Khulna ..	320	758	1,762	1,401	2,942	2,507	5,449	3.9	3.6	3.8
Rajshahi Division.											
13	Rajshahi ..	246	608	487	360	1,713	1,676	3,389	2.2	2.3	2.3
14	Dinaipur ..	6	166	128	90	625	522	1,147	.7	.6	.7
15	Jalpaiguri ..	37	60	26	13	132	89	221	.3	.2	.2
16	Darjeeling ..	..	..	..	..	10	10	20	.1	.1	.1
17	Rangpur ..	70	72	550	365	1,103	1,244	2,347	.8	1.0	.9
18	Bogra ..	11	17	49	51	331	261	592	.6	.5	.6
19	Patna ..	235	626	572	439	1,528	1,512	3,040	2.2	2.2	2.2
20	Malda ..	7	48	392	852	978	822	1,800	2.0	1.7	1.8
Dacca Division.											
21	Dacca ..	53	391	1,541	1,859	3,250	3,248	6,498	2.1	2.1	2.1
22	Mymensingh ..	13	134	234	778	2,642	2,610	5,252	1.0	1.1	1.1
23	Faridpur ..	114	959	2,098	1,772	3,288	3,247	6,535	2.9	2.9	2.9
24	Bakarganj ..	10	38	243	1,317	1,783	1,312	3,095	1.3	1.0	1.2
Chittagong Division.											
25	Chittagong ..	20	4	10	81	544	586	1,080	.7	.6	.7
26	Noakhali ..	106	46	302	804	1,184	1,174	2,358	1.6	1.6	1.6
27	Tippera ..	18	100	700	1,184	2,722	2,391	5,113	1.9	1.8	1.9
Total for the Bengal Presidency.		2,268	7,231	15,763	19,221	42,024	39,066	81,090	1.7	1.7	1.7

Annual Form No. VIII.—Deaths registered from SMALL-POX in the districts of the Bengal Presidency during each month of the year 1929.

No.	Districts.	3 Circles of Registration.		4 Villages.		5							
		Number in each district.	Number from which deaths from small-pox were reported.	Number in each district.	Number from which deaths from small-pox were reported.	January.	February.	March.	April.	May.	June.	July.	August.
Burdwan Division.													
1	Burdwan ..	29	25	2,817	466	76	67	114	97	57	32	17	14
2	Birbhum ..	15	11	2,302	55	2	2	7	11	19	9	7	12
3	Bankura ..	22	10	4,003	25	5	5	4	5	2	4	..	5
4	Midnapur ..	33	25	10,351	171	54	35	25	41	13	5	13	3
5	Hoochly ..	28	23	2,197	288	39	42	65	49	33	16	9	16
6	Howrah ..	13	12	863	30	14	20	41	29	19	14	5	23
Presidency Division.													
7	24-Parganas ..	63	38	3,427	346	49	61	74	38	33	16	12	12
8	Calcutta ..	1	1	1	1	11	27	72	79	50	24	18	15
9	Nadia ..	30	16	2,353	110	71	53	39	70	46	10	9	9
10	Murshidabad ..	26	21	1,974	252	83	65	101	230	97	46	48	10
11	Jessore ..	27	8	3,613	21	8	2	..	..	4	3	..	..
12	Khulna ..	25	10	2,011	9	..	2	2	..	1	5	..	..
Rajshahi Division.													
13	Rajshahi ..	27	17	4,487	315	35	32	51	122	83	41	54	14
14	Dinajpur ..	31	25	6,612	252	48	77	142	154	90	139	52	32
15	Jalpaiguri ..	18	10	722	24	1	1	3	10	6	15	4	2
16	Darjeeling ..	6	4	304	49	9	26	41	27	18	6	1	..
17	Rangpur ..	32	29	4,102	222	60	64	92	136	68	123	133	36
18	Bogra ..	14	7	2,780	35	10	6	4	4	3	7	6	3
19	Pabna ..	19	13	2,539	109	6	11	30	51	14	10	10	7
20	Malda ..	18	13	2,239	34	35	23	35	41	24	11	12	1
Dacca Division.													
21	Dacca ..	14	14	4,737	919	593	615	1,064	966	647	428	320	178
22	Mymensingh ..	60	51	7,354	685	284	239	300	443	311	279	129	59
23	Faridpur ..	17	13	3,363	389	426	451	993	631	447	208	153	72
24	Bakarganj ..	22	15	2,990	136	46	60	49	53	26	19	25	18
Chittagong Division.													
25	Chittagong ..	22	20	870	134	137	222	295	347	86	42	37	22
26	Noakhali ..	15	12	1,719	97	3	6	29	23	21	20	11	4
27	Tippera ..	15	15	4,018	410	227	303	310	380	253	128	98	62
Total for the Bengal Presidency.						2,332	2,517	3,982	4,037	2,471	1,660	1,183	629

1 No.	2 Districts.	3 5				4 6			5 7		6 8			9 Mean ratio per 1,000 during previous five years.
		Septem-ber.	October.	Novem-ber.	Decem-ber.	Total.			Under one year.	One year and under ten years.	Male.	Female.	Total.	
						Male.	Female.	Total.						
Burdwan Division.														
1	Burdwan ..	5	8	4	1	249	243	492	42	28	.3	.3	.3	.8
2	Birbhum ..	4	..	..	1	45	29	74	..	..	.1	.1	.1	.7
3	Bankura ..	4	1	..	..	14	21	35	..	..	.03	.04	.03	.9
4	Midnapur ..	1	5	5	..	94	106	200	10	34	.1	.1	.1	.7
5	Hooghly ..	5	5	17	15	164	147	311	1	11	.3	.3	.3	1.3
6	Howrah ..	7	6	5	11	95	99	194	..	..	.2	.2	.2	
Presidency Division.														
7	24-Parganas ..	5	4	12	80	225	171	396	19	70	.2	.1	.2	.8
8	Calcutta ..	19	11	14	53	208	185	393	40	105	.3	.5	.4	1.6
9	Nadia ..	18	21	5	3	180	174	354	..	1	.2	.2	.2	1.5
10	Murshidabad ..	7	1	6	18	365	347	712	99	195	.6	.5	.6	.2
11	Jessore ..	..	12	1	..	10	20	30	..	..	.01	.02	.02	.1
12	Khulna ..	..	..	1	12	15	8	23	..	..	.02	.01	.01	
Rajshahi Division.														
13	Rajshahi ..	13	2	1	..	223	225	448	4	3	.3	.3	.3	.2
14	Dinajpur ..	13	34	28	7	406	410	816	53	130	.4	.5	.5	.5
15	Jalpaiguri ..	..	..	..	..	32	10	42	..	..	.1	.02	.04	.1
16	Darjeeling ..	4	..	..	..	86	46	132	..	..	.6	.3	.5	.4
17	Rangpur ..	39	27	30	41	459	390	849	15	49	.3	.3	.3	1.3
18	Bogra ..	..	..	1	1	18	27	45	..	..	.03	.05	.04	1.3
19	Pabna ..	1	17	1	1	82	77	159	5	8	.1	.1	.1	1.3
20	Malda ..	1	..	..	2	100	85	185	7	10	.2	.2	.2	1.0
Dacca Division.														
21	Dacca ..	136	68	64	100	2,632	2,547	5,179	827	2,202	1.7	1.6	1.7	.7
22	Mymensingh ..	53	49	14	64	1,140	1,084	2,224	211	494	.4	.5	.5	.4
23	Faridpur ..	73	28	48	49	1,793	1,786	3,579	218	929	1.6	1.6	1.6	.3
24	Bakarganj ..	5	4	8	3	161	155	316	49	19	.1	.1	.1	.1
Chittagong Division.														
25	Chittagong ..	14	3	14	20	590	649	1,239	246	558	.8	.8	.8	.8
26	Noakhali ..	..	2	..	5	54	79	124	6	8	.1	.1	.1	.3
27	Tippura ..	32	11	34	18	959	897	1,856	19	155	.7	.7	.7	.3
Total for the Bengal Presidency.														
		459	319	313	505	10,399	10,008	20,407	1,871	5,009	.4	.4	.4	.6

Annual Form No. IX.—Deaths registered from **FEVERS** in the districts of the Bengal Presidency during each month of the year 1929.

1 No.	2 Districts.	3 Circles of Registration.		4 Villages.		January.	February.	March.	April.	May.	June.	July.	August.
		Number from which deaths from fevers were reported.		Number from which deaths from fevers were reported.									
		Number in each district.	Number from which deaths from fevers were reported.	Number in each district.	Number from which deaths from fevers were reported.								
Burdwan Division.													
1	Burdwan ..	29	29	2,817	2,817	1,719	1,593	1,861	1,911	1,549	1,269	1,479	1,932
2	Birbhum ..	15	15	2,302	2,290	1,362	1,240	1,362	1,471	1,404	1,223	1,179	1,306
3	Bankura ..	22	22	4,003	4,003	1,185	1,123	1,248	1,107	1,125	1,185	906	1,481
4	Midnapur ..	33	33	10,351	9,053	3,492	2,968	2,805	2,550	2,267	1,882	1,817	2,423
5	Hooghly ..	28	28	2,197	1,929	1,336	964	1,072	789	822	667	653	830
6	Howrah ..	13	13	863	284	654	606	563	580	495	332	398	502
Presidency Division.													
7	24-Parganas ..	63	63	3,427	3,420	2,287	1,864	1,971	1,890	1,604	1,537	1,715	2,038
8	Calcutta ..	1	1	1	1	325	257	327	313	348	278	313	362
9	Nadia ..	30	30	2,353	2,224	2,896	2,105	2,048	1,983	1,779	1,651	1,575	1,855
10	Murshidabad ..	26	26	1,974	1,974	1,812	1,425	1,403	1,943	1,654	1,343	1,756	1,812
11	Jessore ..	27	27	3,613	3,129	5,094	3,808	3,377	2,652	2,541	1,947	1,935	2,373
12	Khulna ..	25	25	2,011	1,937	1,859	1,128	1,336	1,165	1,074	983	1,288	1,567
Rajshahi Division.													
13	Rajshahi ..	27	27	4,487	4,485	3,606	2,734	2,308	2,739	2,118	1,942	2,615	2,665
14	Dinajpur ..	31	31	6,612	594	4,974	4,270	3,472	3,789	1,423	3,199	2,904	2,904
15	Jalpaiguri ..	18	18	722	489	1,972	1,449	1,091	1,679	1,495	1,282	1,334	844
16	Darjeeling ..	6	6	304	269	420	404	344	528	469	429	450	417
17	Rangpur ..	32	32	4,102	3,642	4,475	4,627	3,529	3,266	3,005	3,967	4,043	4,088
18	Bogra ..	14	14	2,780	2,770	1,715	1,193	992	1,078	1,078	1,002	1,056	1,374
19	Pabna ..	19	19	2,539	97	2,357	1,844	1,583	1,854	1,728	1,282	1,282	1,724
20	Malda ..	18	18	2,239	1,345	1,643	1,233	1,101	1,548	1,339	1,236	1,264	1,572
Dacca Division.													
21	Dacca ..	14	14	4,737	4,056	3,193	2,602	2,577	2,628	2,268	1,906	1,856	1,886
22	Mymensingh ..	60	60	7,354	5,702	6,544	4,890	3,975	4,634	3,543	3,786	3,961	3,081
23	Faridpur ..	17	17	3,363	2,394	3,409	2,303	2,385	2,527	2,208	1,857	1,876	2,081
24	Bakarganj ..	22	22	2,990	2,390	3,927	2,440	2,486	2,681	2,084	1,970	2,115	1,735
Chittagong Division.													
25	Chittagong ..	22	22	870	793	2,562	2,333	2,287	2,462	1,861	2,521	2,564	2,172
26	Noakhali ..	15	15	1,719	1,386	2,295	1,723	1,708	1,952	1,804	1,569	1,709	1,282
27	Tippura ..	15	15	4,018	3,440	2,706	2,350	2,137	2,246	1,786	1,877	1,714	1,572
Total for the Bengal Presidency.						70,019	55,476	51,348	53,965	44,871	44,212	45,757	47,878

1 No.	2 Districts.	3				4			5			6			7			8 Mean ratio per 1,000 during previous five years.
		September.	October.	November.	December.	Total.	Male.	Female.	Total.	Male.	Female.	Total.	Ratio of deaths per 1,000 of population.					
Burdwan Division.																		
1	Burdwan ..	2,002	2,131	2,687	2,623	11,089	11,667	22,756	15.1	16.5	15.8	17.8						
2	Birbhum ..	1,298	1,389	1,689	1,718	8,333	8,308	16,641	19.7	19.6	19.6	21.3						
3	Bankura ..	1,320	1,536	1,771	1,826	7,782	8,031	15,813	15.3	15.7	15.5	16.0						
4	Midnapur ..	2,464	2,889	3,540	3,588	16,037	16,648	32,685	12.0	12.5	12.2	16.2						
5	Hooghly ..	945	1,165	1,176	1,369	5,666	6,122	11,788	10.1	11.8	10.9	16.4						
6	Howrah ..	682	691	713	873	3,647	3,442	7,089	6.8	7.4	7.1	10.8						
Presidency Division.																		
7	24-Parganas ..	2,360	1,931	2,663	3,004	12,903	11,961	24,864	9.7	10.5	10.1	14.2						
8	Calcutta ..	338	375	406	355	2,051	1,946	3,997	2.8	3.5	3.7	4.8						
9	Nadia ..	2,921	3,858	6,263	6,286	17,227	17,943	35,220	22.7	24.7	23.7	28.8						
10	Murshidabad ..	2,474	3,188	3,629	3,193	13,089	12,543	25,632	20.8	19.8	20.3	21.9						
11	Jessore ..	2,675	4,717	5,926	7,141	22,658	21,528	44,186	25.3	26.0	25.6	23.5						
12	Khulna ..	1,991	2,131	3,064	2,917	9,944	10,559	20,503	13.1	15.2	14.1	15.9						
Rajshahi Division.																		
13	Rajshahi ..	3,021	4,134	4,702	5,691	19,251	19,224	38,475	25.1	26.6	25.8	27.4						
14	Dinalpur ..	3,596	4,322	4,001	4,027	22,511	20,370	42,881	25.1	25.2	25.1	29.6						
15	Jalpaiguri ..	1,121	953	1,396	1,564	8,541	7,639	16,180	17.0	17.6	17.3	23.5						
16	Darjeeling ..	479	436	558	532	2,906	2,560	5,466	19.5	19.1	19.3	21.6						
17	Rangpur ..	3,747	4,154	5,484	4,255	25,219	23,421	48,640	19.1	19.7	19.4	25.5						
18	Bogra ..	1,313	1,383	1,818	1,737	7,917	7,822	15,739	14.7	15.3	15.0	17.5						
19	Pabna ..	1,794	2,605	4,050	5,436	13,642	13,897	27,539	19.3	20.3	19.8	19.9						
20	Malda ..	1,978	3,252	3,014	3,358	11,470	11,068	22,538	23.3	22.4	22.9	21.5						
Dacca Division.																		
21	Dacca ..	2,453	3,612	4,610	5,538	17,655	17,564	35,219	11.2	11.3	11.3	13.2						
22	Mymensingh ..	3,755	4,897	5,201	7,255	28,294	27,228	55,522	11.3	11.7	11.5	14.7						
23	Faridpur ..	2,675	3,654	5,285	5,673	18,541	17,392	35,933	16.1	15.8	16.0	17.7						
24	Bakarganj ..	1,955	2,564	2,845	4,748	16,189	15,361	31,550	12.0	12.0	12.0	16.1						
Chittagong Division.																		
25	Chittagong ..	2,557	2,131	2,831	3,218	15,064	14,435	29,499	19.4	17.3	18.3	20.1						
26	Noakhali ..	1,884	1,646	1,871	2,475	10,681	10,737	21,418	14.5	14.6	14.5	17.6						
27	Tippura ..	1,728	2,069	2,767	2,806	13,277	12,481	25,758	9.4	9.3	9.4	11.0						
Total for the Bengal Presidency.		55,026	67,813	83,960	93,206	361,634	351,897	713,531	15.0	15.7	15.3	17.8						

Annual Form No. X.—Deaths registered from DYSENTERY AND DIARRHOEA in the districts of the Bengal Presidency during each month of the year 1929.

1 No.	2 Districts.	3 Circles of Registration.		4 Villages.		January.	February.	March.	April.	May.	June.	July.	August.
		Circles of Registration.		Villages.									
		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.								
Burdwan Division.													
1	Burdwan ..	29	29	2,817	864	83	70	92	82	62	49	63	132
2	Birbhum ..	15	15	2,302	198	23	27	23	23	18	17	25	31
3	Bankura ..	22	22	4,003	1,073	109	123	151	96	92	88	92	205
4	Midnapur ..	33	33	10,351	1,600	249	207	234	151	165	140	139	205
5	Hooghly ..	28	28	2,197	273	178	124	138	96	80	99	98	132
6	Howrah ..	13	13	863	190	278	225	238	200	176	152	229	211
Presidency Division.													
7	24-Parganas ..	63	61	3,427	213	173	142	106	126	105	103	160	166
8	Calcutta ..	1	1	1	1	263	215	250	255	236	195	274	322
9	Nadia ..	30	30	2,353	305	41	31	20	20	19	27	28	32
10	Murshidabad ..	26	25	1,974	90	9	5	11	17	6	12	17	32
11	Jessore ..	27	27	3,613	134	37	7	11	10	19	10	8	17
12	Khulna ..	25	25	2,011	140	72	24	32	34	43	47	31	46
Rajshahi Division.													
13	Rajshahi ..	27	21	4,487	323	17	7	10	13	6	31	19	20
14	Dinajpur ..	31	28	6,612	208	9	9	22	40	8	38	25	41
15	Jalpaiguri ..	18	18	722	251	43	23	42	73	75	174	253	228
16	Darjeeling ..	6	6	304	282	16	17	14	32	65	85	95	48
17	Rangpur ..	32	32	4,102	618	133	109	103	113	107	100	94	83
18	Bogra ..	14	14	2,780	179	32	21	37	34	21	27	17	15
19	Pabna ..	19	19	2,539	17	25	19	5	27	48	36	7	24
20	Malda ..	18	15	2,239	14	5	9	..	49	79	57	17	24
Dacca Division.													
21	Dacca ..	14	14	4,737	1,258	421	228	215	265	278	225	213	264
22	Mymensingh ..	60	59	7,354	894	234	137	120	192	166	136	131	94
23	Faridpur ..	17	17	3,363	899	209	128	165	163	140	95	90	136
24	Bakarganj ..	22	22	2,990	506	88	63	81	87	95	54	66	61
Chittagong Division.													
25	Chittagong ..	22	21	870	131	30	13	24	58	66	119	42	37
26	Noakhali ..	15	15	1,719	305	80	100	88	102	121	50	61	37
27	Tippura ..	15	15	4,018	797	188	157	144	165	146	161	99	101
Total for the Bengal Presidency.		642	625	84,748	11,773	3,045	2,240	2,376	2,523	2,442	2,327	2,393	2,744

1 No.	2 Districts.	3 6				4 6			5 7		8 Mean ratio per 1,000 during previous five years.	
		September.	October.	November.	December.	Total.		Total.	Ratio of deaths per 1,000 of population.			
						Male.	Female.		Male.	Female.		Total.
Burdwan Division.												
1	Burdwan ..	128	140	151	192	651	593	1,244	.9	.8	.9	.6
2	Birbhum ..	42	45	42	32	108	150	248	.4	.4	.4	.1
3	Bankura ..	137	121	149	164	791	736	1,527	1.6	1.4	1.5	.9
4	Midnapur ..	226	266	301	306	1,389	1,200	2,589	1.1	.9	.9	.5
5	Hoochly ..	134	177	169	184	782	827	1,609	1.4	1.6	1.4	1.4
6	Howrah ..	291	352	334	463	1,513	1,636	3,149	2.8	3.5	3.1	3.1
Presidency Division.												
7	24-Parganas ..	203	191	229	361	1,036	1,029	2,065	.7	.9	.8	.7
8	Calcutta ..	288	305	306	339	1,700	1,548	3,248	2.3	4.4	3.0	3.3
9	Nadia ..	99	96	131	158	390	302	692	.5	.4	.4	.3
10	Murshidabad ..	40	42	42	37	165	105	270	.3	.1	.2	.1
11	Jessore ..	8	147	209	208	387	304	691	.4	.4	.4	.1
12	Khulna ..	68	136	178	165	445	431	876	.6	.6	.6	.2
Rajshahi Division.												
13	Rajshahi ..	57	52	69	83	207	177	384	.3	.3	.3	.1
14	Dinajpur ..	35	41	33	65	294	162	456	.3	.2	.2	.1
15	Jalpaiguri ..	218	177	209	236	942	809	1,751	1.9	1.9	1.8	1.0
16	Darjeeling ..	60	53	40	34	280	279	559	1.9	2.1	2.0	2.2
17	Rangpur ..	63	89	185	144	773	550	1,323	.6	.5	.5	.1
18	Bogra ..	33	39	36	23	204	131	335	.4	.2	.4	.3
19	Pabna ..	32	56	40	52	237	134	371	.3	.2	.3	.1
20	Malda ..	32	47	27	62	231	177	408	.5	.4	.4	.1
Dacca Division.												
21	Dacca ..	415	616	711	809	2,466	2,194	4,660	1.6	1.4	1.5	.9
22	Mymensingh ..	117	137	239	280	1,043	940	1,983	.4	.4	.4	.4
23	Faridpur ..	184	277	411	352	1,259	1,091	2,350	1.1	1.0	1.0	.5
24	Bakarganj ..	50	53	126	205	585	444	1,029	.4	.4	.3	.3
Chittagong Division.												
25	Chittagong ..	21	23	57	33	275	248	523	.3	.3	.3	.3
26	Noakhali ..	49	62	76	124	506	444	950	.7	.6	.6	.3
27	Tippera ..	84	166	217	228	1,003	853	1,856	.7	.6	.7	.6
Total for the Bengal Presidency.		3,114	3,896	4,717	5,339	19,662	17,494	37,156	.8	.8	.8	.6

Annual Form No. XI.—Deaths registered from RESPIRATORY DISEASES in the districts of the Bengal Presidency during each month of the year 1929.

No.	Districts.	3		4		5							
		Circles of Registration.		Villages.		January.	February.	March.	April.	May.	June.	July.	August.
		Number in each district.	Number from which deaths from respiratory diseases were reported.	Number in each district.	Number from which deaths from respiratory diseases were reported.								
Burdwan Division.													
1	Burdwan ..	29	29	2,817	1,048	224	212	301	243	185	145	202	188
2	Birbhum ..	15	15	2,302	401	79	97	111	90	84	79	87	79
3	Bankura ..	22	22	4,003	1,881	166	185	270	265	173	174	136	145
4	Midnapur ..	33	33	10,351	2,194	416	406	451	332	315	230	227	280
5	Hoochly ..	28	28	2,197	172	355	297	352	208	236	168	167	175
6	Howrah ..	13	13	863	192	356	341	391	281	212	215	243	243
Presidency Division.													
7	24-Parganas ..	63	63	3,427	582	442	319	346	319	241	265	291	324
8	Calcutta ..	1	1	1	1	962	896	1,033	872	720	702	750	723
9	Nadia ..	30	30	2,353	544	184	145	150	137	142	84	143	140
10	Murshidabad ..	26	24	1,974	93	24	18	20	24	32	21	20	26
11	Jessore ..	27	27	3,613	161	63	32	38	39	21	30	20	22
12	Khulna ..	25	22	2,011	67	110	69	86	68	69	76	82	68
Rajshahi Division.													
13	Rajshahi ..	27	23	4,487	239	18	11	13	17	9	8	54	19
14	Dinajpur ..	31	31	6,612	368	22	19	10	15	8	130	132	126
15	Jalpaiguri ..	18	18	722	207	125	87	121	179	76	168	229	293
16	Darjeeling ..	6	6	304	160	42	67	49	73	70	73	74	56
17	Rangpur ..	32	32	4,102	591	116	127	111	107	83	121	110	91
18	Bogra ..	14	14	2,780	230	34	22	54	30	27	25	25	27
19	Pabna ..	19	19	2,539	19	73	68	105	77	57	69	51	39
20	Malda ..	18	15	2,239	8	7	7	15	24	21	20	20	27
Dacca Division.													
21	Dacca ..	14	14	4,737	746	244	274	263	257	177	169	168	233
22	Mymensingh ..	60	60	7,354	763	120	123	114	160	87	77	106	85
23	Faridpur ..	17	17	3,363	922	243	179	188	206	152	103	131	150
24	Bakarganj ..	22	21	2,990	122	25	20	23	17	16	18	37	36
Chittagong Division.													
25	Chittagong ..	22	22	870	73	30	15	27	40	24	19	16	10
26	Noakhali ..	15	13	1,719	83	38	32	20	17	15	31	17	12
27	Tippera ..	15	15	4,018	380	109	133	106	84	83	73	109	84
Total for the Bengal Presidency.		642	627	84,748	12,247	4,627	4,201	4,768	4,201	3,335	3,293	3,647	3,701

1 No.	2 Districts.	5				6			7			8 Mean ratio per 1,000 during previous five years.
		September.	October.	November.	December.	Total.		Male.	Female.	Total.		
						Male.	Female.					
Burdwan Division.												
1	Burdwan ..	212	229	371	311	1,768	1,055	2,823	2,4	1,5	2,0	1,0
2	Birbhum ..	95	101	107	130	711	428	1,139	1,7	1,0	1,3	3
3	Bankura ..	152	192	269	322	1,549	900	2,449	3,0	1,8	2,4	1,0
4	Midnapur ..	280	291	413	408	2,703	1,346	4,049	2,0	1,0	1,5	6
5	Hooghly ..	174	263	258	359	1,860	1,152	3,012	3,3	2,2	2,8	1,3
6	Howrah ..	271	260	362	468	2,226	1,417	3,643	4,2	3,1	3,6	3,4
Presidency Division.												
7	24 Parganas ..	280	343	485	538	2,566	1,627	4,193	1,9	1,4	1,7	1,0
8	Calcutta ..	705	866	1,037	1,125	6,141	4,250	10,391	8,5	12,0	9,6	9,7
9	Nadia ..	128	107	167	166	1,100	593	1,693	1,4	8	1,1	8
10	Murshidabad ..	51	55	42	70	307	110	417	5	2	3	2
11	Jessore ..	16	139	194	292	630	276	906	7	3	5	2
12	Khulna ..	101	104	180	166	734	425	1,179	1,0	6	8	3
Rajahahi Division.												
13	Rajahahi ..	198	28	41	32	255	193	448	3	3	3	1
14	Dinaajpur ..	99	107	93	108	531	338	869	6	4	5	1
15	Jalpaiguri ..	366	276	479	544	1,775	1,168	2,943	3,5	2,7	3,1	1,2
16	Darjeeling ..	72	83	84	122	462	409	871	3,1	3,1	3,1	1,8
17	Rangpur ..	120	115	195	114	956	454	1,410	7	4	6	1
18	Bogra ..	26	14	42	48	270	104	374	5	2	3	4
19	Pabna ..	44	53	68	80	541	243	784	8	3	6	1
20	Malda ..	13	20	17	16	141	66	207	3	1	2	1
Dacca Division.												
21	Dacca ..	297	281	382	442	1,920	1,267	3,187	1,2	8	1,0	4
22	Mymensingh ..	97	114	157	173	998	415	1,413	4	2	3	2
23	Faridpur ..	160	248	325	302	1,462	925	2,387	1,3	8	1,1	4
24	Bakarganj ..	25	31	28	40	208	108	316	1,1	1	1	1
Chittagong Division.												
25	Chittagong ..	14	17	12	17	148	93	241	2	1	1	2
26	Noakhali ..	9	11	22	43	164	103	267	2	1	2	1
27	Tippura ..	86	86	139	140	737	495	1,232	5	4	4	3
Total for the Bengal Presidency.		4,091	4,434	5,989	6,576	32,883	19,960	52,843	1,4	9	1,1	7

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Appendix II

Statements of Vaccination operations in Bengal for the year 1929-30.

STATEMENT No. I.

Showing particulars of vaccination in the Presidency of Bengal during 1929-30.

Serial No.	Urban and rural areas.	Population according to the last Census.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average of persons vaccinated by each vaccinator.	Primary vaccinations.				
					Male.	Female.	Total.		Total number of vaccinations performed.	Successful.			
										Under one year.	One year and under six years.	Total of all ages.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
RURAL AREAS.													
Burdwan Division.													
1	Burdwan ..	1,343,185	500	48	49,623	30,338	79,961	1,666	49,675	3,679	29,802	47,220	659
2	Asansol Mining Settlement.	..	..	14	15,377	10,794	26,171	1,869	12,720	3,543	8,671	12,644	58
3	Birbhum ..	838,655	479	18	29,748	19,498	49,246	2,736	28,103	4,186	20,650	27,488	259
4	Bankura ..	964,487	369	44	39,381	28,998	68,379	1,553	44,736	9,156	32,484	44,446	85
5	Midnapur ..	2,595,071	516	124	192,539	120,632	313,171	2,525	142,936	30,178	81,478	137,599	3,584
6	Hoochly ..	900,802	780	44	24,557	14,303	38,860	883	23,868	3,304	18,175	23,208	131
7	Howrah ..	778,893	1,502	27	36,513	14,671	51,184	1,896	27,478	4,777	20,978	27,229	164
Presidency Division.													
8	24-Parganas ..	1,998,318	527	165	136,205	87,435	223,640	1,355	109,089	21,840	68,210	103,787	2,458
9	Nadia ..	1,390,704	507	46	46,597	31,396	77,993	1,695	51,722	16,506	31,046	49,380	1,058
10	Murshidabad ..	1,182,983	566	56	142,587	96,424	239,011	4,268	56,558	17,880	32,523	52,860	1,360
11	Jessore ..	1,700,924	587	96	101,436	63,652	165,088	1,719	54,900	6,485	41,677	53,884	475
12	Khulna ..	1,421,116	301	100	247,226	201,119	448,345	4,483	63,489	22,685	28,667	63,333	86
Rajshahi Division.													
13	Rajshahi ..	1,457,037	557	48	65,721	36,212	101,933	2,207	33,192	11,384	20,762	32,750	265
14	Dinajpur ..	1,687,328	428	69	77,997	47,636	125,633	1,821	82,104	13,030	50,947	77,151	1,928
15	Jalpaiguri ..	921,749	314	36	40,438	17,152	57,590	1,599	14,022	4,659	7,229	13,365	35
16	Darjeeling ..	254,045	215	24	16,951	14,205	31,156	1,298	8,369	3,278	3,909	7,964	373
17	Rangpur ..	2,482,722	713	146	131,604	48,195	179,799	1,231	94,914	7,912	70,654	86,651	4,253
18	Bogra ..	1,032,300	751	28	51,350	26,717	78,067	2,787	49,000	6,124	31,058	44,452	2,383
19	Pabna ..	1,344,633	809	59	58,212	36,686	94,898	1,608	55,702	7,443	37,023	51,992	1,335
20	Malda ..	955,830	523	60	146,894	109,511	256,405	4,273	30,968	11,822	14,315	27,606	2,663

Serial No.	Urban and rural areas.	Re-vaccinations.			Percentage of successful cases in which results were known.		Persons successfully vaccinated per mille of population.	Percentage of unknown cases to total cases.		Average annual number of persons successfully vaccinated during the previous five years.		Average annual number of deaths from small-pox during the previous five years.	
		Total number of vaccinations performed.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	Number.	Ratio per mille of population.	Number.	Ratio per mille of population.
							15							16	17	18	19	20	21	22	23	24	25	26
RURAL AREAS.													
Burdwan Division.													
1	Burdwan	30,286	15,946	1,408	95.06	52.6	62.5	1.3	4.6	90,022	67.09	1,222	.9
2	Asansol Mining Settlement	13,451	8,142	570	99.4	60.5	46.5	.4	4.2	49,922	59.5	724	.8
3	Birbhum	21,143	11,516	1,999	97.8	54.5	57.8	.9	9.4	50,432	52.2	302	.3
4	Bankura	23,643	11,294	1,929	99.3	47.7	90.2	1	8.1	168,066	64.7	2,456	.9
5	Midnapur	170,235	96,530	26,603	96.2	56.7	37.7	2.5	15.6	34,866	38.7	771	.8
6	Hooghly	14,992	10,796	982	97.2	72.0	48.9	.5	18.5	32,072	41.1	1,258	1.6
7	Howrah	23,706	10,938	4,400	99.09	46.1							
Presidency Division.													
8	24-Parganas	114,551	67,125	6,865	95.1	58.5	85.5	2.2	5.9	109,634	54.8	1,864	.9
9	Nadia	26,271	17,571	2,783	95.5	66.8	48.1	2.0	10.5	69,220	49.7	499	.3
10	Murshidabad	182,453	90,044	39,030	93.4	49.3	120.8	2.4	21.3	108,180	91.4	1,866	1.5
11	Jessore	110,188	60,186	13,606	98.1	54.6	67.05	.8	12.3	76,994	45.2	301	.2
12	Khulna	384,856	213,029	52,896	99.7	55.3	194.4	.1	13.7	71,864	50.5	86	.06
Rajshahi Division.													
13	Rajshahi	72,741	48,199	7,566	98.6	71.7	58.3	.7	10.4	84,631	58.08	284	.2
14	Dinajpur	43,529	33,381	2,748	93.9	76.7	65.5	2.3	6.3	100,899	59.8	834	.4
15	Jalpaiguri	43,828	19,930	2,869	95.3	45.5	36.1	.2	6.5	35,513	38.5	116	.1
16	Darjeeling	22,825	8,172	6,363	95.1	35.8	63.6	4.4	27.8	14,076	55.4	26	.1
17	Rangpur	84,885	64,169	6,921	91.3	75.6	60.7	4.4	8.1	113,522	45.7	1,349	.5
18	Bogra	29,067	10,439	6,454	90.7	35.9	53.2	4.8	22.1	37,383	36.2	1,334	1.2
19	Pabna	39,196	20,751	3,868	93.3	52.9	54.1	2.3	9.8	85,883	63.8	1,780	1.3
20	Malda	225,437	126,610	40,332	89.1	56.1	161.3	8.5	17.8	124,676	103.04	960	1

Serial No.	Urban and rural areas.	Population according to the last Census.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Total number of vaccinations performed.	Primary vaccinations.			
					Male.	Female.	Total.			Under one year.	One year and under six years.	Total of all ages.	Unknown.
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Dacca Division.													
21	Dacca	2,975,915	1,097	87	148,216	97,787	246,003	2,873	143,575	10,092	105,716	135,675	4,887
22	Mymensingh	4,703,249	759	229	456,151	262,028	718,179	3,179	356,450	9,588	187,262	307,646	23,791
23	Faridpur	2,202,783	934	56	118,452	73,358	191,810	3,425	82,275	4,283	58,385	78,219	2,588
24	Bakarganj	2,563,849	734	54	164,768	95,855	260,623	4,826	190,572	2,247	94,553	178,899	7,395
Chittagong Division.													
25	Chittagong	1,570,760	630	40	87,302	51,607	138,909	3,473	66,685	7,147	51,254	63,240	1,177
26	Noakhali	1,465,071	968	44	150,255	70,778	221,033	5,023	90,021	9,310	56,878	78,561	8,667
27	Tippura	2,678,627	1,051	194	299,331	192,127	491,458	2,533	211,397	16,880	155,009	199,517	4,747
28	Chittagong Hill Tracts	173,243	34	11	10,416	8,094	18,510	1,682	8,716	328	5,740	8,682	18
Total of Districts		43,584,279	578	1,967	3,085,347	1,907,208	4,993,055	2,541	2,183,236	269,546	1,365,055	2,035,448	76,882
MUNICIPALITIES.													
Burdwan District.													
	Burdwan	34,616	..	3	2,004	984	2,988	1,494	846	74	478	778	12
	Kalna	8,424	..	1	219	291	510	510	243	96	133	234	..
	Katwa	6,823	..	1	259	150	409	409	159	96	62	158	..
	Dainhat	4,843	..	1	248	129	377	377	218	155	62	217	..
	Raniganj	14,536	..	1	761	641	1,402	1,402	482	150	329	482	..
	Asansol	26,499	..	1	1,602	705	2,307	2,307	815	153	592	815	..
Birbhum District.													
	Suri	8,915	..	1	330	87	417	417	44	7	34	44	..

Serial No.	Urban and rural areas	Re-vaccinations.			Percentage of successful cases in which results were known.		Persons successfully vaccinated per mille of population.	Percentage of unknown cases to total cases.		Average annual number of persons successfully vaccinated during the previous five years.		Average annual number of deaths from small-pox during the previous five years.	
		Total number of vaccinations performed.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	Number.	Ratio per mille of population.	Number.	Ratio per mille of population.
		15	16	17	18	19	20	21	22	23	24	25	26
Dacca Division.													
21	Dacca ..	102,428	48,635	17,113	94.5	47.4	61.9	3.4	16.7	143,255	48.1	2,565	.8
22	Mymensingh ..	361,729	227,012	51,608	86.3	62.7	112.4	6.6	14.2	323,378	68.6	2,099	.4
23	Faridpur ..	109,552	49,791	19,641	95.06	45.4	58.1	3.1	17.9	80,922	36.7	1,068	.4
24	Bakarganj ..	70,116	47,073	7,513	93.8	67.1	88.1	3.8	10.7	120,311	46.9	153	.05
Chittagong Division.													
25	Chittagong ..	72,232	26,830	12,344	94.8	37.1	57.3	1.7	17.08	88,323	56.2	1,316	.8
26	Noakhali ..	131,012	51,639	44,226	87.2	39.4	88.8	9.6	33.7	95,324	65.06	378	.2
27	Tippura ..	280,061	195,838	28,141	94.4	69.9	147.5	2.2	10.04	179,041	66.8	1,008	.3
28	Chittagong ..	9,794	5,310	201	99.6	54.2	80.7	.2	20.5	9,382	54.1	..	..
	Total of Districts	2,814,207	1,596,896	410,979	93.2	56.8	83.4	3.5	14.6	2,497,791	57.3	26,519	.6
MUNICIPALITIES.													
Burdwan District.													
	Burdwan ..	2,142	1,547	99	91.9	72.2	67.2	1.4	4.6	2,441	70.5	27	.7
	Kalna ..	267	71	196	96.2	26.3	36.2	..	72.8	477	56.6	5	.6
	Katwa ..	250	95	7	99.3	37.9	37.1	..	2.8	418	61.2	10	1.4
	Dainhat ..	159	9	19	99.5	11.9	48.7	..	11.9	353	72.8	4	.8
	Raniganj ..	920	551	3	100	59.8	71.05	..	.3	2,220	152.7	10	.6
	Asansol ..	1,492	760	67	100	50.9	59.4	..	4.4	3,329	125.6	10	.3
Birbhum District.													
	Suri ..	373	17	..	100	4.5	6.8	..	..	892	100.05	4	.4

Serial No.	Urban and rural areas.	Population according to the last Census.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary vaccinations.				
					Male.	Female.	Total.		Total number of vaccinations formed.	Successful.			
										Under one year.	One year and under six years.	Total of all ages.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Bankura District.													
..	..	25,412	..	1	1,370	609	1,979	1,979	534	187	300	514	..
..	..	19,398	..	1	564	344	908	908	349	16	315	349	..
..	..	10,644	..	1	707	588	1,295	1,295	1,186	70	822	1,184	..
Midnapur District.													
..	..	28,965	..	2	1,177	554	1,731	865	509	102	389	498	..
..	..	10,770	..	1	548	350	898	898	542	112	212	495	..
..	..	6,580	..	1	106	49	155	155	126	..	115	124	..
..	..	6,470	..	1	248	106	354	354	79	..	49	79	..
..	..	6,700	..	1	141	97	238	238	205	..	174	198	..
..	..	3,756	..	1	42	16	58	58	47	5	24	32	12
..	..	8,348	..	1	749	524	1,273	1,273	204	23	154	195	..
Hooghly District.													
..	..	29,938	..	2	2,908	991	3,899	1,949	1,775	757	840	1,775	..
..	..	6,382	..	1	989	734	1,723	861	178	15	113	153	5
..	..	7,857	..	1	268	185	453	216	353	53	297	353	..
..	..	33,197	..	2	2,180	1,028	3,208	1,604	1,174	443	661	1,119	2
..	..	23,259	..	1	560	223	783	783	467	97	315	423	82
..	..	8,657	..	1	127	75	202	202	119	22	88	119	..
..	..	6,846	..	1	49	31	80	80	68	30	38	68	..
..	..	16,471	..	1	1,010	685	1,695	1,695	635	164	420	584	..
..	..	22,081	..	1	627	363	990	990	724	121	534	684	35
..	..	24,652	..	1	630	213	843	843	520	6	500	520	..
Howrah District.													
..	..	195,301	..	10	9,817	4,630	14,447	1,444	5,178	2,401	2,445	4,974	93
..	..	23,209	..	1	424	97	521	521	119	17	82	114	1

Serial No.	Urban and rural areas.	Re-vaccinations.				Percentage of successful cases in which results were known.		Persons successfully vaccinated per mille of population.	Percentage of un-known cases to total cases.		Average annual number of persons successfully vaccinated during the previous five years.		Average annual number of deaths from small-pox during the previous five years.	
		Total number of vaccinations performed.	Successful.	Unknown.	Primary.	Re-vaccination.	Primary.		Re-vaccination.	Number.	Ratio per mille of population.	Number.	Ratio per mille of population.	
		15	16	17	18	19	20	21	22	23	24	25	26	
Bankura District.														
	Bankura ..	1,445	230	81	96.2	17.3	29.3	..	5.6	992	39.03	39	1.5	
	Vishnupur ..	559	289	15	100	46.3	31.3	..	2.6	858	44.2	11	.5	
	Sonamukhi ..	109	..	..	99.8	..	111.2	..	..	1,266	118.9	1	.07	
Midnapur District.														
	Midnapur ..	1,222	619	..	97.8	50.6	38.6	..	..	1,754	60.5	28	.9	
	Ghatal ..	356	120	..	91.3	33.7	57.1	..	..	394	36.7	4	.3	
	Kharar ..	29	29	..	98.4	100	23.2	..	..	448	68.08	14	2.1	
	Chandrakona ..	275	271	..	100	98.5	54.1	..	..	498	76.9	6	.9	
	Ramjhanpur ..	33	28	..	96.6	84.8	10.3	..	..	322	48.05	8	1.1	
	Khirpal ..	11	5	3	68.08	45.4	9.8	25.5	27.2	191	50.8	1	.2	
	Tamluk ..	1,069	175	126	95.5	16.5	44.3	..	11.7	523	62.6	11	1.3	
Hooghly District.														
	Hooghly-Chinsura ..	2,124	455	1,341	100	21.4	74.5	..	63.1	2,031	67.8	23	.7	
	Bansbaria ..	1,545	890	406	85.9	57.6	163.4	2.7	26.2	217	34.3	1	.1	
	Arambagh ..	100	40	10	100	40	50.01	..	10	285	36.1	..	..	
	Serampur ..	2,034	251	1,310	95.3	12.3	41.3	..	64.3	1,758	52.9	38	1.1	
	Rishra-Konnagar ..	326	195	48	90.5	59.8	26.6	6.8	14.7	704	30.2	23	.9	
	Uttarpara ..	83	48	6	100	57.8	19.3	..	7.2	813	93.9	12	1.3	
	Kotrung ..	12	10	1	100	83.3	11.4	..	8.3	500	73.03	4	.5	
	Baidyabati ..	1,060	891	14	91.9	84.05	89.5	..	1.3	1,877	113.9	13	.7	
	Bhadreswar ..	266	107	68	94.4	40.2	35.8	4.8	25.5	764	31.8	21	.9	
	Chandmani ..	323	238	26	100	73.6	30.7	..	8.04	596	24.1	25	1.01	
Howrah District.														
	Howrah ..	9,277	1,938	611	96.04	20.8	35.4	1.7	6.5	5,213	26.6	337	1.7	
	Bally ..	402	256	15	95.7	63.6	15.9	.8	3.7	1,412	60.08	22	.9	

Serial No.	Urban and rural areas.	Population according to the last Census.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary vaccinations.				
					Male.	Female.	Total.		Total number of vaccinations performed.	Successful.			
										Under one year.	One year and under six years.	Total of all ages.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
24-Parganas District.													
	South Suburban	33,345	..	..	876	682	1,558	779	1,250	630	550	1,205	24
	Tollyganj	21,637	..	2	960	492	1,452	726	812	332	444	777	9
	Budge-Budge	25,723	..	1	2,509	192	2,701	2,701	1,721	163	196	1,530	35
	Baranagar ..	32,084	..	3	3,744	1,395	5,139	1,713	807	226	525	792	12
	Kamrathati ..	23,018	..	1	1,326	482	1,808	1,808	752	156	573	738	3
	Raipur ..	11,412	..	1	345	223	568	568	330	33	288	330	..
	Baripur ..	5,114	..	1	330	225	555	555	208	33	555	183	..
	Jaynagar ..	8,408	..	1	206	126	332	332	245	64	146	245	..
	North DumDum	4,369	..	1	89	51	140	140	105	30	72	105	..
	Dum Dum ..	3,855	..	..	..	..	..	..	..	..	..	..	..
	South Dum Dum	14,030	..	..	534	330	864	864	340	136	190	334	..
	Kharda ..	5,486	..	1	64	66	130	130	36	7	29	36	..
	Barrackpur ..	22,460	..	1	1,016	318	1,334	1,334	406	110	260	387	..
	Panihati ..	10,161	..	1	526	469	995	995	462	155	239	427	7
	North Barrackpur	15,433	..	1	626	288	914	914	423	154	252	423	..
	Titagarh ..	52,451	..	2	6,200	1,875	8,075	4,037	793	239	540	793	..
	Gardulia ..	13,096	..	1	574	214	788	788	282	62	292	281	..
	Naldi ..	23,286	..	1	2,370	493	2,863	2,863	794	221	292	744	..
	Halisahar ..	7,318	..	1	107	83	190	190	173	..	164	164	4
	Kanchrapara ..	10,332	..	1	135	97	232	232	213	..	213	213	..
	Bhatpara ..	65,609	..	3	4,474	2,008	6,482	2,161	1,922	441	1,390	1,849	..
	Basarat ..	8,211	..	1	417	166	583	583	342	16	311	342	..
	Gobardanga ..	5,112	..	1	109	74	183	183	181	1	170	181	..
	Basirhat ..	19,267	..	1	365	314	679	679	502	363	138	501	..
	Baduria ..	14,057	..	1	596	557	1,153	1,153	506	228	269	497	..
	Taki ..	5,200	..	1	677	286	963	963	698	95	587	686	..
	Calcutta ..	1,077,264	..	60	161,587	66,609	228,196	3,803	35,446	18,834	13,057	33,895	1,017

Serial No.	Urban and rural areas.	Re-vaccinations.			Percentage of successful cases in which results were known.		Persons successfully vaccinated per mille of population.	Percentage of unknown cases to total cases.		Average annual number of persons successfully vaccinated during the previous five years.		Average annual number of deaths from small-pox during the previous five years.	
		Total number of vaccinations performed.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	Number.	Ratio per mille of population.	Number.	Ratio per mille of population.
		15	16	17	18	19	20	21	22	23	24	25	26
24-Parganas District.													
	South Suburban	308	74	15	96.3	24.02	38.3	1.9	4.8	1,422	42.6	16	.4
	Tollyganj	675	137	3	95.6	20.2	42.2	1.1	.4	1,132	52.3	12	.5
	Budge-Budge	980	570	9	88.8	58.1	81.6	2.03	.9	2,377	92.4	6	.2
	Baranagar	4,332	2,164	288	98.1	49.9	92.1	1.4	6.6	1,533	47.7	41	1.2
	Kamarhati	1,056	462	..	98.1	43.7	52.1	.3	..	788	34.2	29	1.2
	Raipur	238	116	2	100	48.7	39.1	..	.8	411	36.8	7	.6
	Barrackpur	347	233	..	87.9	67.1	81.3	..	..	562	109.8	1	.1
	Jaynagar	87	39	16	100	44.8	33.8	..	18.3	274	32.5	9	1.1
	North Dum Dum	35	35	..	100	100	17.02	..	..	173	21.03	7	.8
	Dum Dum	..	..	..	..	..	..	..	..	..	..	..	..
	South Dum Dum	524	226	103	98.2	43.1	39.9	..	19.6	438	31.2	6	.4
	Khanda	94	64	..	100	68.09	18.2	..	..	146	26.6	1	.1
	Barrackpur	928	228	150	95.3	24.5	18.9	..	16.1	410	18.7	6	.2
	Panhati	533	441	4	92.4	82.7	83.3	1.5	.7	426	41.9	5	.4
	North Bar.ackpur	491	49	..	100	9.9	30.6	..	..	400	25.9	14	.9
	Titagarh	7,282	17	7,252	100	..	15.4	..	99.5	932	17.7	44	.8
	Garulia	506	184	..	99.6	36.3	35.5	..	..	446	34.05	5	.3
	Nailhati	2,129	760	932	93.7	35.6	64.6	3.2	43.7	994	42.6	10	.4
	Halisahar	17	11	1	94.7	64.7	23.9	2.3	5.8	217	29.6	2	.2
	Kanchrapara	19	19	..	100	100	22.4	..	..	237	22.9	3	.2
	Bhatpara	4,560	2,228	161	96.2	48.8	62.1	.5	3.5	3,394	51.7	83	1.2
	Barasat	241	157	..	100	65.1	60.8	..	..	339	41.2	5	.6
	Gobardanga	2	2	..	100	100	35.8	..	..	82	16.04	..	..
	Basirhat	177	67	3	99.7	37.8	29.5	..	1.6	524	27.1	3	.1
	Baduria	647	170	35	98.2	26.2	47.4	..	5.4	308	21.9	..	..
	Taki	265	172	..	98.2	64.9	164.7	..	..	522	100.3	2	.3
	Calcutta	192,750	40,126	29,741	95.6	20.8	68.7	2.8	15.4	63,594	59.03	1,736	1.6

Serial No.	Urban and rural areas.	Population according to the last Census.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary vaccinations.				
					Male.	Female.	Total.		Total number of vaccinations performed.	Successful.			
										Under one year.	One year and under six years.	Total of all ages.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Nadia District.													
	Krishnagar	22,309	..	3	2,480	1,734	4,214	1,404	1,133	218	614	894	120
	Nabadwip	15,584	..	1	145	160	305	305	206	24	177	201	..
	Ranaghat	9,652	..	1	472	332	804	804	405	185	157	343	..
	Birnagar	2,305	..	1	101	61	162	162	103	37	66	103	..
	Santipur	24,792	..	2	1,316	1,755	3,071	1,535	1,150	108	762	1,144	..
	Chakdaha	5,216	..	1	87	80	167	167	154	44	109	153	..
	Kushia	7,849	..	1	312	175	487	487	161	16	135	156	3
	Kumarkhali	3,763	..	1	118	82	200	200	200	43	157	200	..
	Meherpur	5,398	..	1	131	116	247	247	203	30	161	201	..
Murshidabad District.													
	Berhampur	26,670	..	2	1,374	748	2,122	1,011	734	150	475	657	6
	Murshidabad	10,669	..	1	218	142	360	360	133	22	87	117	..
	Jaganj—Azimganj	11,231	..	1	493	330	823	823	336	228	108	336	..
	Kandi	11,787	..	1	542	553	1,095	1,095	422	171	210	419	..
	Jangpur	10,739	..	1	181	152	333	333	307	72	230	304	..
	Dhullan	8,435	..	1	403	217	620	620	249	135	114	249	..
Jessore District.													
	Jessore	10,139	..	1	434	248	682	682	225	31	133	223	..
	Kotebandpur	7,545	..	1	126	118	244	244	167	16	145	166	..
	Moheshpur	3,611	..	1	60	3	63	63	58	12	32	57	..
Khulna District.													
	Khulna	16,049	..	1	1,027	433	1,460	1,460	310	31	213	283	15
	Satkhira	10,259	..	1	147	121	268	268	192	76	84	189	..
	Debhata	5,570	..	1	1,139	927	2,066	2,066	201	110	91	201	..

Serial No.	Urban and rural areas.	Re-vaccinations.			Persons successfully vaccinated per mille of population.	Percentage of un-known cases to total cases.		Average annual number of persons successfully vaccinated during the previous five years.		Average annual number of deaths from small-pox during the previous five years.				
		Total number of vaccination performed.	Re-vaccination.			Primary.	Re-vaccination.	Number.	Ratio per mille of population.	Number.	Ratio per mille of population.			
			Successful.	Unknown.										
		15	16	17		18	19	20	21	22	23	24	25	26
Nadia District.														
	Krishnagar	3,081	1,538	543		78.9	49.9	109.01	10.5	17.6	1,132	50.7	8	.3
	Nabadwip	99	61	..		97.5	61.6	16.8	..	..	527	33.8	17	1.1
	Ranaghat	399	368	..		84.6	92.2	73.7	..	..	367	38.02	1	.1
	Birnagar	59	40	..		100	67.7	62.03	..	..	132	57.2	1	.4
	Santipur	1,921	1,613	6		99.4	83.9	111.2	..	.3	776	31.3	10	.4
	Chakdaha	13	8	..		99.3	61.5	30.9	..	..	139	26.6	..	..
	Kushtia	326	103	29		96.8	31.5	32.9	1.8	8.8	291	37.07	3	.3
	Kumarkhali	..	..	..		100	..	53.1	..	..	204	54.2	1	.2
	Meherpur	44	10	..		99	22.7	39.1	..	..	222	41.1	..	..
Murshidabad District.														
	Berhampur	1,388	330	78		88.8	23.7	44.5	.8	5.6	1,392	52.1	32	1.1
	Murshidabad	227	82	1		87.9	36.1	18.6	..	.4	374	35.05	10	.9
	Jiaganj-Azimganj	487	181	..		100	37.1	46.03	..	..	424	37.7	16	1.4
	Kandi	673	191	51		99.2	28.3	51.8	..	7.5	813	68.9	9	.7
	Jaugipur	26	9	17		99.01	34.6	29.1	..	65.3	572	53.9	12	1.1
	Dhulian	371	132	..		100	35.5	45.2	..	..	740	87.7	16	1.8
Jessore District.														
	Jessore	457	159	..		99.1	34.7	37.7	..	..	312	30.7	2	.1
	Kotechandpur	77	55	..		99.3	71.4	29.3	..	..	158	20.9	..	..
	Meherpur	5	4	1		98.2	80	16.9	..	20	74	20.4	..	..
Khulna District.														
	Khulna	1,150	106	243		92.8	9.2	24.5	4.8	21.1	812	50.5	3	.1
	Satkhira	76	13	..		98.4	17.1	19.6	..	..	339	31.9	3	.2
	Debhata	1,865	1,484	40		100	79.5	302.5	..	2.1	210	37.5	..	..

Serial No.	Urban and rural areas.	Population according to the last Census.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary vaccinations.				
					Male.	Female.	Total.		Total number of vaccinations performed.	Successful.			
										Under one year.	One year and under six years.	Total of all ages.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Rajshahi District.													
	Rajshahi ..	24,598	..	2	1,387	880	2,267	1,133	890	155	711	890	..
	Nator ..	8,040	..	1	130	93	223	111	118	3	82	114	..
Dinalpur District.													
	Dinalpur ..	18,025	..	4	781	633	1,414	354	411	138	179	403	1
Jalpaiguri District.													
	Jalpaiguri ..	14,520	..	1	1,830	1,852	3,682	3,682	849	552	248	844	..
Darjeeling District.													
	Darjeeling ..	22,258	..	1	3,017	1,803	4,820	4,820	427	324	69	402	24
	Kurseong ..	6,445	..	1	498	512	1,010	1,010	480	258	145	480	..
Rangpur District.													
	Rangpur ..	19,076	..	2	938	466	1,404	702	627	96	474	584	25
	Gaibandha ..	6,056	..	1	527	115	642	321	84	..	52	79	..
Bogra District.													
	Bogra ..	12,322	..	1	1,277	567	1,844	1,844	274	45	169	272	..
	Sherpur ..	3,984	..	1	63	36	99	99	76	3	51	76	..
Pabna District.													
	Pabna ..	19,343	..	1	572	508	1,080	1,080	813	256	326	787	..
	Sirajganj ..	25,518	..	2	1,504	750	2,254	1,127	1,234	290	864	1,208	20

Serial No.	Urban and rural areas.	Re-vaccinations.			Percentage of successful cases in which results were known.		Persons successfully vaccinated per mille of population.	Percentage of un-known cases to total cases.		Average annual number of persons successfully vaccinated during the previous five years.		Average annual number of deaths from small-pox during the previous five years.	
		Total number of vaccinations performed.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	Number.	Ratio per mille of population.	Number.	Ratio per mille of population.
		15	16	17	18	19	20	21	22	23	24	25	26
Rajshahi District.													
	Rajshahi ..	1,377	271	432	100	19.6	47.2	..	31.3	1,965	79.8	5	.2
	Nator ..	105	22	2	96.6	20.9	16.9	..	1.9	284	35.3	1	.1
Dinajpur District.													
	Dinajpur ..	1,003	393	210	98.03	39.1	44.2	.2	20.9	1,974	109.5	5	.2
Jalpaiguri District.													
	Jalpaiguri ..	2,838	918	170	99.4	32.3	12.1	..	5.9	606	41.7	..	..
Darjeeling District.													
	Darjeeling ..	4,396	1,010	989	94.1	22.9	63.4	5.6	22.4	3,729	167.5	4	.1
	Kurseong ..	530	324	28	100	61.1	124.3	..	5.2	802	124.4	..	..
Rangpur District.													
	Rangpur ..	777	235	156	93.1	30.2	42.9	3.9	20.07	1,820	95.4	4	.2
	Gaibandha ..	558	275	23	94.03	49.2	58.4	..	4.1	475	78.4	6	.9
Bogra District.													
	Bogra ..	1,571	379	144	99.2	24.1	52.8	..	9.1	616	49.9	8	.6
	Sherpur ..	23	23	..	100	100	24.8	..	..	96	24.09	2	.5
Pabna District.													
	Pabna ..	267	113	..	96.7	42.3	46.5	..	17.4	784	40.5	11	.5
	Sirajganj ..	1,020	338	178	97.8	33.1	60.6	1.6	17.4	1,537	60.2	18	.7

Serial No.	Urban and rural areas.	Population according to the last Census.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary vaccinations.				
					Male.	Female.	Total.		Total number of vaccinations performed.	Successful.			
										Under one year.	One year and under six years.	Total of all ages.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Malda District.													
	English Bazar	14,057	..	2	861	522	1,383	691	428	227	190	417	..
	Malda	3,145	..	1	46	39	85	85	85	23	54	77	..
	Nawabganj	12,633	..	1	281	753	434	434	225	41	179	223	2
Dacca District.													
	Dacca	119,450	..	10	14,942	9,680	24,622	2,462	6,340	2,493	2,407	5,135	407
	Narayanganj	30,602	..	2	2,686	1,135	3,821	1,910	1,198	156	972	1,149	43
Mymensingh District.													
	Mymensingh	25,287	..	1	898	496	1,394	1,394	377	8	247	305	37
	Muktagacha	6,770	..	1	435	354	789	789	286	31	166	262	17
	Netrokona	8,687	..	1	267	198	465	465	240	30	174	224	..
	Jamalpur	23,113	..	1	619	280	899	899	435	4	430	435	..
	Sherpur	17,813	..	1	1,269	452	1,721	1,721	458	61	283	455	..
	Kishoreganj	19,518	..	1	724	414	1,138	1,138	590	67	369	453	137
	Bajitpur	11,568	..	1	237	167	404	404	215	8	127	186	2
	Tangail	14,305	..	1	502	265	767	767	209	27	137	175	28
	Gauripur	7,420	..	1	342	171	513	513	141	9	70	141	..
Faridpur District.													
	Faridpur	14,503	..	1	693	425	1,118	1,118	645	120	386	467	..
	Madaripur	25,297	..	1	648	464	1,112	1,112	781	46	670	780	1
	Rajbari	7,275	..	1	260	164	424	424	237	42	144	192	22
Bakarganj District.													
	Barisal	26,744	..	1	2,203	947	3,150	3,150	713	25	490	676	8
	Jhalakati	5,955	..	1	194	69	263	263	106	..	30	81	10
	Nalchiti	1,858	..	1	356	193	549	549	199	13	28	199	..
	Pirojpur	13,841	..	1	386	219	605	605	370	181	142	364	6
	Patuakhali	6,984	..	1	307	87	394	394	176	4	91	157	15
	Bhola	4,525	..	1	317	110	427	427	213	..	136	213	..

Serial No.	Urban and rural areas.	Re-vaccinations.			Percentage of suc- cessful cases in which results were known.		Persons suc- cess- fully vaccinated per mille of population.	Percentage of un- known cases to total cases.		Average annual number of persons successfully vaccinated during the previous five years.		Average annual number of deaths from small-pox during the previous five years.											
		Total number of vaccina- tions per- formed.	Successful.		Unknown.	Primary.		Re-vac- nation.	Primary	Re-vac- nation.	Number.	Ratio per mille of population.	Number.	Ratio per mille of population.									
			15	16			17								18	19	20	21	22	23	24	25	26
Malda District.																							
	English Bazar	955	234	692	97.4	24.5	46.3	..	72.4	845	60.1	2	.1										
	Malda	..	..	..	88.2	..	23.8	..	..	87	27.6	1	.3										
	Nawabganj	209	100	46	99.1	47.8	25.6	..	22.01	1,122	88.8	26	2.0										
Dacca District.																							
	Dacca	18,456	3,964	1,827	80.9	21.4	76.2	6.4	9.9	5,868	49.1	63	.5										
	Narayanganj	2,623	858	618	95.9	32.7	65.6	3.5	23.5	1,934	63.1	24	.7										
Mymensingh District.																							
	Mymensingh	1,017	55	184	80.8	5.4	14.2	9.8	18.09	552	21.8	10	.3										
	Muktagacha	503	158	9	91.6	31.4	62.03	5.9	1.7	281	41.5	2	.2										
	Netrokona	225	101	..	93.3	44.8	37.4	..	..	346	39.8	3	.3										
	Jamalpur	464	275	..	100	59.2	30.5	..	..	1,227	53.09	2	.1										
	Sherpur	1,263	322	53	99.3	25.4	43.6	..	4.1	622	34.9	2	.1										
	Kishoreganj	548	124	156	76.7	22.6	29.6	23.2	28.4	774	39.6	2	.1										
	Bajitpur	189	29	8	86.5	15.3	18.6	9	4.2	159	13.7	7	.6										
	Tangail	558	236	157	83.7	42.2	28.7	13.3	28.1	372	26	4	.2										
	Gouripur	372	273	..	100	73.4	55.8	..	..	..	..	..	..										
Faridpur District.																							
	Faridpur	531	13	169	72.4	2.4	33.1	..	31.8	577	39.7	1	.1										
	Madaripur	331	73	..	99.8	22.05	33.7	.1	..	899	35.5	2	.1										
	Rajbari	187	37	18	81.01	19.7	31.4	9.2	9.6	284	39.3	2	.3										
Bakarganj District.																							
	Barisal	2,437	493	232	94.8	20.2	43.7	1.1	9.5	1,326	49.6	4	.1										
	Jhalakati	157	15	18	76.4	9.5	16.1	9.4	11.4	171	28.7	1	.2										
	Nalchiti	350	327	10	100	93.4	283.1	..	2.3	34	18.3	..	..										
	Pirojpur	235	65	33	98.3	27.6	30.9	1.6	14.04	729	52.6	1	.1										
	Patuakhali	218	79	28	89.1	36.2	33.8	8.5	12.8	291	41.7	..	..										
	Bhola	214	63	13	100	29.4	60.9	..	6.07	188	41.5	1	.2										

Serial No.	Urban and rural areas.	Population according to the last Census.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of person vaccinated by each vaccinator.	Primary vaccinations.				
					Male.	Female.	Total.		Total number of vaccinations performed.	Successful.			Unknown.
										Under one year.	One year and under six years.	Total of all ages.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14
Chittagong District.													
	Chittagong	36,030	..	3	1,911	949	2,860	953	1,150	136	888	1,080	28
	Cox's Bazar	4,632	..	1	277	59	336	336	60	22	35	60	..
Noakhali District.													
	Noakhali	7,715	..	2	1,459	430	1,889	944	625	28	376	541	27
Tippera District.													
	Comilla	25,914	..	1	676	484	1,160	1,160	669	68	534	655	..
	Brahmanbaria	23,414	..	1	803	478	1,281	1,281	843	79	633	746	44
	Chandpur	15,118	..	1	743	392	1,135	1,135	496	101	346	481	2
	Total of Municipalities	3,111,257	..	221	280,598	130,092	410,690	1,858	99,489	36,040	50,208	94,009	2,390
	Grand Total for the Presidency (Rural areas and Municipalities)	46,695,536	648	2,188	3,366,445	2,037,300	5,403,745	2,469	2,282,725	305,586	1,415,263	2,129,457	79,272
Other Agencies.													
	Tea-gardens	..	..	..	..	..	30,695	..	11,626	..	..	10,894	408
	Factories	..	..	..	..	..	40,156	..	5,651	..	..	5,381	270
	Steamers	..	..	..	..	..	1,200	..	..	..	..	..	..
	Railways	..	..	..	..	..	21,405	..	4,240	..	..	4,091	1
	Jails	..	..	..	..	..	31,937	..	219	..	..	121	47
	Dispensaries	..	..	..	..	..	..	..	..	..	..	..	..
	Total	..	..	..	..	..	125,393	..	21,736	..	..	20,487	726

Serial No.	Urban and rural areas.	Re-vaccinations.			Persons successfully vaccinated per mille of population.	Percentage of un-known cases to total cases.		Average annual number of persons successfully vaccinated during the previous five years.		Average annual number of deaths from small-pox during the previous five years.			
		Total number of vaccinations performed.	Successful.	Unknown.		Primary.	Re-vacclination.	Number.	Ratio per mille of population.	Number.	Ratio per mille of population.		
		15	16	17	18	19	20	21	22	23	24	25	26
	Chittagong District.												
	Chittagong ..	1,710	432	324	93.9	25.2	41.9	2.4	18.9	1,792	49.5	11	.3
	Cox's Bazar ..	276	39	77	100	14.1	21.4	..	9.7	319	68.8	1	.2
	Noakhali District.												
	Noakhali ..	1,264	403	492	86.5	31.8	122.3	4.3	38.9	1,295	16.07	3	.4
	Tippera District.												
	Comilla ..	491	113	32	97.9	23.04	29.6	..	6.5	835	32.2	5	.2
	Brahmanbaria ..	438	154	105	88.4	35.1	38.4	5.2	23.9	946	40.4	6	.2
	Chandpur ..	639	198	164	96.9	30.9	44.9	.4	25.6	606	40.08	1	.1
	Total of Municipalities ..	311,555	78,917	51,993	94.45	25.3	55.5	2.4	16.6	167,018	53.6	3,160	1.01
	Grand Total for the Presidency (Rural areas and Municipalities) ..	3,125,762	1,675,813	462,972	93.3	53.6	81.1	3.5	14.8	2,664,809	57.1	29,679	.6
	Other Agencies.												
	Tea-gardens ..	19,069	11,382	2,981	93.7	59.6	..	3.5	15.6	..	..	..	..
	Factories ..	34,505	9,993	24,562	95.2	28.9	..	4.7	71.1	..	..	..	..
	Steamers ..	1,200	1,200	..	..	..	..	..	100	..	..	..	..
	Railways ..	17,165	11,045	1,100	96.4	64.3	..	.02	.6	..	..	..	..
	Jails ..	31,718	14,166	2,844	55.2	44.6	..	21.4	8.9	..	..	..	..
	Dispensaries ..	..	..	..	..	..	..	..	..	..	..	..	..
	Total ..	103,657	46,586	31,687	94.2	44.9	..	3.3	30.5	..	..	..	..

Summary of vaccinations performed in the Presidency of Bengal during the year 1929-30.

Agencies.	Total number of persons vaccinated.			Total number of vaccinations performed.			Percentage of successful cases in which results were known.			Average number of vaccinators employed.	Average number of persons vaccinated by each vaccinator.	Number of children successfully vaccinated.		Ratio of successful vaccinations per mille of population.	Total cost of Department.	Average cost of each successful vaccination.
	Primary.	Re-vaccinations.	Total.	Primary.	Re-vaccinations.	Total.	Primary.	Re-vaccinations.	Total.			Under one year.	One year and under six years.			
I. Government staff	8,716	9,794	18,510	8,716	9,794	18,510	99.6	54.2	75.6	11	1,682	328	5,740	80.7	Rs. 5,14,006-15-6.	Rs. 0-2-1.
II. Local (Municipal and District Board staff and Asansol Mines Board of Health)	2,273,345	3,111,890	5,385,235	2,274,009	3,115,968	5,389,977	93.3	53.6	70.3	2,177	2,474	305,258	1,409,523	81.1		
III. Other agencies— Tea Gardens, Factories, Steamers, Railways, Jails, and Dispensaries	21,736	103,657	125,393	21,736	103,657	125,393	94.2	44.9	53.5			Unknown.		..		
Total ..	2,303,797	3,225,341	5,529,138	2,304,461	3,229,419	5,533,880	93.3	53.3	69.9	2,188	2,469	305,586	1,415,263	82.9		

STATEMENT No. II
Showing the cost of vaccination in the Presidency of Bengal during the year 1929-30.

Expenditure.										
Urban and rural areas.	Vaccination inspecting staff.				Vaccinators and probationers.		Establishment other than technical staff.		Total pay of establishment.	Travelling allowance.
	Number.	Pay.	Rs. A. P.	Number.	Pay.	Rs. A. P.	Number.	Pay.		
1	2	3	4	5	6	7	8	9		
RURAL AREAS.										
Burdwan Division.										
Burdwan ..	3	2,384 4 0	48	7,124 9 0	..	..	9,508 13 0	2,241 0 0		
Asansol Mining Settlement ..	..	..	14	6,720 0 0	..	..	6,720 0 0	72 0 0		
Birbhum ..	2	1,038 2 0	18	2,845 12 0	..	..	3,883 14 0	705 6 0		
Bankura ..	3	1,010 0 0	44	4,309 10 0	..	..	5,319 10 0	688 12 0		
Midnapur ..	5	2,098 7 0	124	13,447 9 0	..	..	15,546 0 0	1,670 3 0		
Hooghly ..	3	868 13 0	44	2,240 5 0	..	..	3,109 2 0	598 10 0		
Howrah ..	2	1,156 10 0	27	4,690 8 0	..	..	5,847 2 0	530 0 0		
Presidency Division.										
24-Parganas ..	5	3,605 11 0	165	11,891 3 0	..	..	15,496 14 0	1,653 3 0		
Nadia ..	6	2,520 0 0	46	6,133 9 0	..	..	8,653 9 0	2,272 1 0		
Murshidabad ..	5	2,160 0 0	56	10,220 0 0	..	..	12,380 0 0	2,494 0 0		
Jessore ..	2	860 0 0	96	8,138 11 0	..	..	8,998 11 0	736 4 0		
Khulna ..	4	1,920 0 0	100	7,250 5 0	..	..	9,170 5 0	1,517 14 0		
Rajshahi Division.										
Rajshahi ..	4	2,060 0 0	48	7,456 1 0	..	..	9,516 1 0	2,704 3 0		
Dinajpur ..	3	1,529 8 0	69	8,870 9 0	..	..	10,400 1 0	981 14 0		
Jalpaiguri ..	3	468 5 0	36	3,542 5 0	..	..	4,010 10 0	307 3 0		
Darjeeling ..	3	1,560 0 0	24	3,671 13 0	..	1,431 0 0	5,231 13 0	3,168 9 0		
Rangpur ..	4	1,521 5 0	146	9,674 11 0	1	..	12,627 0 0	1,330 1 0		
Bogra ..	2	1,044 7 0	28	2,509 2 0	..	..	3,553 9 0	720 12 0		
Pabna ..	3	1,151 13 0	59	5,310 5 0	..	..	6,462 2 0	397 14 0		
Malda ..	3	1,066 5 3	60	12,012 10 3	..	..	13,078 15 6	782 8 0		
Dacca Division.										
Dacca ..	5	2,026 6 0	87	5,956 8 0	..	..	7,982 14 0	1,096 0 0		
Mymensingh ..	6	3,269 7 0	229	27,337 0 0	..	..	30,606 7 0	2,564 6 0		
Faridpur ..	5	1,831 6 0	56	4,512 9 0	..	..	6,343 15 0	1,232 8 0		
Bakarganj ..	4	1,592 14 0	54	6,578 0 0	..	..	8,171 11 0	1,401 13 0		

Urban and rural areas.	Expenditure.		Paid from—					Number of successful vaccinations and re-vaccinations.	Average cost of each successful case.
	Contingencies.	Total cost.	Provincial fund.	District fund.	Municipal fund.	Total.			
							10	11	12	13	14	15	16	17
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
RURAL AREAS.									
Burdwan Division.									
Burdwan	509 8 0	12,259 5 0	4,844 9 0	7,414 12 0	..	12,259 5 0	63,166	0 3 1	
Asansol Mining Settlement ..	1,014 2 0	7,806 2 0	..	7,806 2 0	..	7,806 2 0	20,786	0 6 0	
Birbhum	83 10 0	4,672 14 0	2,613 2 0	2,059 12 0	..	4,672 14 0	39,004	0 1 11	
Bankura	121 13 0	6,130 9 0	2,398 12 0	3,731 7 0	..	6,130 3 0	55,740	0 1 9	
Midnapur	441 8 0	17,657 11 0	3,400 0 0	14,257 11 0	..	17,657 11 0	234,129	0 1 2	
Hooghly	116 12 0	3,824 8 0	2,025 4 0	1,799 4 0	..	3,824 8 0	34,004	0 1 2	
Howrah	515 0 0	6,892 2 0	2,344 0 0	4,548 2 0	..	6,892 2 0	38,167	0 2 11	
Presidency Division.									
24-Parganas	891 9 0	18,041 10 0	6,197 11 0	11,843 15 0	..	18,041 10 0	170,912	0 1 8	
Nadia	199 11 0	11,125 5 0	4,803 9 0	6,321 12 0	..	11,125 5 0	66,951	0 2 8	
Murshidabad	198 0 0	15,072 0 0	6,260 0 0	8,812 0 0	..	15,072 0 0	142,904	0 1 8	
Jessore	25 3 0	9,760 2 0	2,924 7 0	6,835 11 0	..	9,760 2 0	114,070	0 1 4	
Khulna	580 9 0	11,268 12 0	7,187 14 0	4,080 14 0	..	11,268 12 0	276,362	0 0 8	
Rajshahi Division.									
Rajshahi	2,294 2 3	14,514 6 3	7,042 7 0	7,471 15 3	..	14,514 6 3	80,949	0 2 0	
Dinaipur	152 6 0	11,534 5 0	2,511 6 0	9,022 15 0	..	11,534 5 0	110,532	0 1 8	
Jalpaiguri	218 11 0	4,536 8 0	1,312 7 0	3,224 1 0	..	4,536 8 0	33,295	0 2 2	
Darjeeling	100 6 0	8,500 12 0	3,751 3 0	4,749 9 0	..	8,500 12 0	16,136	0 8 5	
Rangpur	855 10 0	14,812 11 0	3,025 0 0	11,787 11 0	..	14,812 11 0	150,820	0 1 7	
Bogra	8 13 0	4,283 2 0	2,820 0 0	1,463 2 0	..	4,283 2 0	54,891	0 1 3	
Pabna	758 11 0	7,618 11 0	2,913 11 0	4,705 0 0	..	7,618 11 0	72,743	0 1 8	
Malda	354 3 0	14,215 10 6	7,792 7 0	6,423 3 6	..	14,215 10 6	154,216	0 1 6	
Dacca Division.									
Dacca	328 1 0	9,406 15 0	4,334 11 0	5,072 4 0	..	9,406 15 0	184,310	0 0 10	
Mymensingh	564 15 0	33,735 12 0	4,550 13 0	29,184 15 0	..	33,735 12 0	534,658	0 1 0	
Faridpur	580 15 0	8,157 6 0	3,963 0 0	4,194 6 0	..	8,157 6 0	128,010	0 1 0	
Bakarganj	252 4 0	9,825 12 0	4,526 8 0	5,299 4 0	..	9,825 12 0	225,972	0 0 9	

Urban and rural areas.	Expenditure.									
	Vaccination inspecting staff.			Vaccinators and probationers.		Establishment other than technical staff.		Total pay of establishment.	Travelling allowance.	
	Number.	Pay.	Rs. A. P.	Number.	Pay.	Rs. A. P.				
1	2	3	Rs. A. P.	4	5	6	7	8	9	
Chittagong Division.										
..	3	1,566 10 0		40	5,820 0 0	..	..	7,386 10 0	795 5 0	
..	1	730 5 0		44	5,014 12 0	..	..	5,745 1 0	330 0 0	
..	3	1,200 0 0		194	12,320 2 0	..	..	13,520 2 0	983 15 0	
..	3	1,680 0 0		11	1,628 6 0	..	..	3,308 6 0	2,053 10 0	
Total of the Rural Areas	95	43,920 10 3		1,967	2,07,227 11 3	1	1,431 0 0	2,52,579 5 6	36,029 14 0	
MUNICIPALITIES.										
Burdwan District.										
..	..	..		3	672 0 0	..	..	672 0 0	160 0 0	
..	..	..		1	196 0 0	..	..	196 0 0	..	
..	..	..		1	120 0 0	..	..	120 0 0	..	
..	..	..		1	96 0 0	..	..	96 0 0	6 12 0	
..	..	..		1	351 10 0	..	..	351 10 0	118 0 0	
..	..	..		1	300 0 0	..	..	300 0 0	60 0 0	
Birbhum District.										
..	..	..		1	188 2 0	..	..	188 2 0	..	
Bankura District.										
..	..	..		1	284 0 0	..	..	284 0 0	60 0 0	
..	..	..		1	180 0 0	..	..	180 0 0	..	
..	..	..		1	121 0 0	..	..	121 0 0	..	
Midnapur District.										
..	..	..		2	330 0 0	..	..	330 0 0	..	
..	..	..		1	180 0 0	..	..	180 0 0	..	
..	..	..		1	43 12 0	..	..	43 12 0	..	
..	..	..		1	74 8 0	..	..	74 8 0	..	
..	..	..		1	65 3 0	..	..	65 3 0	..	
..	..	..		1	15 8 0	..	..	15 8 0	..	
..	..	..		1	204 0 0	..	..	204 0 0	..	

Urban and rural areas.	Expenditure.		Paid from—				Number of successful vaccinations and re-vaccinations.	Average cost of each successful case.						
	Contingencies.		Total cost.		Provincial fund.				District fund.		Municipal fund.		Total.	
	Rs.	A. P.	Rs.	A. P.	Rs.	A. P.			Rs.	A. P.	Rs.	A. P.	Rs.	A. P.
	10		11		12		13		14		15		16	17
Chittagong Division.														
Chittagong ..	569	2 0	8,751	1 0	4,861	15 0	3,889	2 0	..	..	8,751	1 0	90,070	0 1 7
Noakhali ..	13	2 0	6,088	3 0	1,860	5 0	4,227	14 0	..	..	6,088	3 0	130,200	0 0 9
Tippera ..	535	8 0	15,039	9 0	4,283	15 0	10,755	10 0	..	..	15,039	9 0	395,355	0 0 10
Chittagong Hill Tracts ..	122	0 0	5,484	0 0	5,484	0 0	..	..	..	..	5,484	0 0	13,992	0 6 3
Total of the Rural Areas	12,406	2 3	3,01,015	5 9	1,10,033	0 0	1,90,982	5 9	..	..	3,01,015	5 9	3,632,354	0 1 4
MUNICIPALITIES.														
Burdwan District.														
Burdwan ..	28	0 0	860	0 0	..	..	..	..	860	0 0	860	0 0	2,325	0 5 11
Kalna ..	..	..	196	0 0	..	..	..	..	196	0 0	196	0 0	305	0 10 3
Katwa ..	3	7 0	123	7 0	..	..	..	..	123	7 0	123	7 0	253	0 7 10
Dainhat ..	..	..	102	12 0	..	..	..	..	102	12 0	102	12 0	236	0 4 11
Raniganj ..	12	11 0	482	5 0	..	..	..	..	482	5 0	482	5 0	1,033	0 7 6
Asansol ..	10	10 0	370	10 0	..	..	..	..	370	10 0	370	10 0	1,575	0 3 9
Birbhum District.														
Suri ..	9	2 0	197	4 0	..	..	..	..	197	4 0	197	4 0	61	3 3 8
Bankura District.														
Bankura ..	1	0 0	345	0 0	..	..	..	..	345	0 0	345	0 0	744	0 7 5
Vishnupur ..	..	..	180	0 0	..	..	..	..	180	0 0	180	0 0	638	0 4 6
Sonamukhi ..	12	4 0	133	4 0	..	..	..	..	133	4 0	133	4 0	1,184	0 1 10
Midnapur District.														
Midnapur ..	25	0 0	355	0 0	..	..	..	..	355	0 0	355	0 0	1,117	0 4 10
Ghatal ..	1	5 0	181	5 0	..	..	..	..	181	5 0	181	5 0	615	0 4 9
Kharar ..	0	14 0	44	10 0	..	..	..	..	44	10 0	44	10 0	153	0 4 8
Chandrakona ..	7	12 0	82	4 0	..	..	..	..	82	4 0	82	4 0	350	0 3 9
Ramjibanpur ..	..	..	65	3 0	..	..	..	..	65	3 0	65	3 0	226	0 4 7
Khirpal ..	7	5 0	22	13 0	..	..	..	..	22	13 0	22	13 0	37	0 9 10
Tamluk ..	25	2 0	229	2 0	..	..	..	..	229	2 0	229	2 0	370	0 9 11

Urban and rural areas.	Expenditure.							Travelling allowance.
	Vaccination inspecting staff.		Vaccinators and probationers.		Establishment other than technical staff.		Total pay of establishment.	
	Number.	Pay.	Number.	Pay.	Number.	Pay.		
1	2	3	4	5	6	7	8	9
		Rs. A. P.		Rs. A. P.		Rs. A. F.	Rs. A. P.	Rs. A.
Hooghly District.								
Hooghly-Chinsura ..	..	..	2	350 0 0	..	..	350 0 0	..
Bansbaria ..	..	..	1	61 8 0	..	..	61 8 0	..
Arambagh ..	..	..	1	180 0 0	..	..	180 0 0	..
Serampur ..	..	..	2	588 0 0	..	..	588 0 0	20 0 0
Rishra-Konnagar ..	..	..	1	264 0 0	..	..	264 0 0	60 0 0
Uttarpura ..	..	..	1	168 0 0	..	..	168 0 0	..
Kotrung ..	..	..	1	198 0 0	..	..	198 0 0	..
Baidyabati ..	..	..	1	192 0 0	..	..	192 0 0	..
Bhadreswar ..	..	..	1	312 0 0	..	..	312 0 0	..
Champdani ..	..	..	1	270 0 0	..	..	270 0 0	..
Howrah District.								
Howrah ..	1	769 8 0	10	4,660 10 3	..	..	5,430 2 3	120 0 0
Bally ..	..	..	1	288 0 0	..	..	288 0 0	..
24-Parganas District.								
South Suburban ..	1	228 0 0	2	432 0 0	..	..	660 0 0	..
Tollyganj ..	..	..	1	648 0 0	..	..	648 0 0	..
Budge-Budge ..	..	..	1	360 0 0	..	..	360 0 0	..
Baranagar ..	..	..	3	1,044 0 0	..	..	1,044 0 0	..
Kamarhati ..	..	..	1	319 0 0	..	..	319 0 0	..
Kalpur ..	..	..	1	74 8 3	..	..	74 8 3	..
Baruipur ..	..	..	1	72 0 0	..	..	72 0 0	..
Jaynagar ..	..	..	1	90 0 0	..	..	90 0 0	..
North Dum Dum ..	..	..	1	40 0 0	..	..	40 0 0	..
Dum Dum ..	..	..	..	..	..	..	..	..
South Dum Dum ..	..	..	1	300 0 0	..	..	300 0 0	2 15 0
Khardah ..	..	..	1	200 0 0	..	..	200 0 0	..
Barrackpur ..	..	..	1	348 0 0	..	..	348 0 0	..
Panhati ..	..	..	1	192 0 0	..	..	192 0 0	..
North Barrackpur ..	..	..	1	300 0 0	..	..	300 0 0	..
Titagarh ..	..	..	2	512 11 3	..	..	512 11 3	..
Garulia ..	..	..	1	240 0 0	..	..	240 0 0	..
Naldi ..	..	..	1	359 0 0	..	..	359 0 0	..
Halisahar ..	..	..	1	108 0 0	..	..	108 0 0	..
Kanchrapara ..	..	..	1	240 0 0	..	..	240 0 0	..
Bhatpara ..	..	..	3	743 0 0	..	..	743 0 0	..
Barasat ..	..	..	1	90 0 0	..	..	90 0 0	..

Urban and rural areas.	Expenditure.			Paid from—				Number of successful vaccinations and re-vaccinations.	Average cost of each successful case.
	Contingencies.		Total cost.	Provincial fund.		District fund.	Municipal fund.		
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.		
	10	11	12	13	14	15	16	17	
Hooghly District.									
Hooghly-Chinsura ..	..	350 0 0	..	..	350 0 0	350 0 0	2,230	0 2 6	
Bansbaria ..	..	61 8 0	..	..	61 8 0	61 8 0	1,043	0 0 11	
Arambagh ..	..	180 0 0	..	..	180 0 0	180 0 0	393	0 7 4	
Serampur ..	14 8 0	622 8 0	..	..	622 8 0	622 8 0	1,370	0 7 3	
Rishra-Konnagar ..	26 8 0	350 8 0	..	..	350 8 0	350 8 0	618	0 9 1	
Uttarpara ..	..	168 0 0	..	..	168 0 0	168 0 0	167	1 0 1	
Kotrung ..	..	198 0 0	..	..	198 0 0	198 0 0	78	2 6 7	
Baidyabati ..	..	192 0 0	..	..	192 0 0	192 0 0	1,475	0 2 1	
Bhadreswar ..	15 0 0	327 0 0	..	..	327 0 0	327 0 0	791	0 6 7	
Chandani ..	6 0 0	276 0 0	..	..	276 0 0	276 0 0	758	0 5 10	
Howrah District.									
Howrah ..	..	5,550 2 3	..	..	5,550 2 3	5,550 2 3	6,912	0 12 10	
Bally ..	1 6 0	289 6 0	..	..	289 6 0	289 6 0	370	0 12 6	
24-Parganas District.									
South Suburban ..	31 15 0	691 15 0	..	..	691 15 0	691 15 0	1,279	0 8 8	
To lyganj ..	10 0 0	658 0 0	..	..	658 0 0	658 0 0	914	0 11 6	
Budge-Budge ..	15 0 0	375 0 0	..	..	375 0 0	375 0 0	2,100	0 2 10	
Baranagar ..	11 6 0	1,055 6 0	..	..	1,055 6 0	1,055 6 0	2,956	0 5 9	
Kamarhati ..	8 5 0	327 5 0	..	..	327 5 0	327 5 0	1,200	0 4 4	
Rajpur ..	..	74 8 3	..	..	74 8 3	74 8 3	446	0 2 8	
Barulpur ..	7 10 0	79 10 0	..	..	79 10 0	79 10 0	416	0 3 1	
Jaynagar ..	..	90 0 0	..	..	90 0 0	90 0 0	284	0 5 1	
North Dum Dum ..	1 10 0	41 10 0	..	..	41 10 0	41 10 0	140	0 4 9	
Dum Dum ..	..	..	..	..	..	..	..	..	
South Dum Dum ..	1 14 0	304 13 0	..	..	304 13 0	304 13 0	560	0 8 8	
Khurdah ..	..	200 0 0	..	..	200 0 0	200 0 0	100	2 0 0	
Barackpur ..	..	348 0 0	..	..	348 0 0	348 0 0	615	0 9 1	
Panhati ..	..	192 0 0	..	..	192 0 0	192 0 0	868	0 3 6	
North Barrackpur ..	5 0 0	305 0 0	..	..	305 0 0	305 0 0	472	0 10 4	
Titagarh ..	25 4 6	537 15 9	..	..	537 15 9	537 15 9	810	0 10 7	
Garulia ..	0 8 0	240 8 0	..	..	240 8 0	240 8 0	465	0 8 3	
Nahati ..	7 7 6	366 7 6	..	..	366 7 6	366 7 6	1,504	0 3 11	
Halisahar ..	1 5 0	109 5 0	..	..	109 5 0	109 5 0	175	0 10 0	
Kanchrapara ..	..	240 0 0	..	..	240 0 0	240 0 0	232	1 0 7	
Bhatpara ..	26 0 0	769 0 0	..	..	769 0 0	769 0 0	4,077	0 3 0	
Barasat ..	..	90 0 0	..	..	90 0 0	90 0 0	499	0 2 11	

Urban and rural areas.	Expenditure.		Paid from—				Number of successful vaccinations and re-vaccinations.	Average cost of each successful case.
	Contingencies.		Provincial fund.		District fund				Municipal fund.	Total.
	10	11	12	13	14	15	16	17
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
24-Parganas District.								
Gohardanga ..	1 12 0	57 12 0	..	..	57 12 0	57 12 0	183	0 5 1
Basirhat ..	6 10 0	294 10 0	..	..	294 10 0	294 10 0	568	0 8 4
Baduria ..	..	108 0 0	..	..	108 0 0	108 0 0	667	0 2 7
Taki ..	16 14 3	76 14 3	..	..	76 14 3	76 14 3	858	0 1 5
Calcutta	3,395 0 0	84,207 0 0	..	..	84,207 0 0	84,207 0 0	74,021	1 2 2
Nadia District.								
Krishnagar ..	1 4 0	527 6 0	..	..	527 6 0	527 6 0	2,432	0 3 6
Nabadwip ..	16 6 0	247 11 3	..	..	247 11 3	247 11 3	262	0 15 1
Ranaghat ..	..	234 6 0	..	..	234 6 0	234 6 0	711	0 5 3
Birnagar ..	..	40 0 0	..	..	40 0 0	40 0 0	143	0 4 6
Santipur ..	24 11 9	423 4 6	..	..	423 4 6	423 4 6	2,757	0 2 5
Chakdaha ..	8 13 0	62 13 0	..	..	62 13 0	62 13 0	161	0 6 3
Kushtia ..	3 4 0	241 4 0	..	..	241 4 0	241 4 0	259	0 14 11
Kumarkhali ..	3 0 0	83 0 0	..	..	83 0 0	83 0 0	200	0 6 8
Meherpur ..	..	66 0 0	..	..	66 0 0	66 0 0	211	0 5 0
Murshidabad District.								
Berhampur ..	11 8 0	547 8 0	..	..	547 8 0	547 8 0	987	0 8 11
Murshidabad ..	..	156 0 0	..	..	156 0 0	156 0 0	199	0 12 7
Jhaganj-Azinganj ..	..	168 0 0	..	..	168 0 0	168 0 0	517	0 5 2
Kandi ..	5 0 0	155 0 0	..	..	155 0 0	155 0 0	610	0 4 1
Jangipur ..	4 0 0	196 0 0	..	..	196 0 0	196 0 0	313	0 10 0
Dhulian ..	6 10 0	156 10 0	..	..	156 10 0	156 10 0	381	0 6 7
Jessore District.								
Jessore ..	..	178 0 0	..	..	178 0 0	178 0 0	382	0 7 5
Kotechandpur ..	6 0 0	84 0 0	..	..	84 0 0	84 0 0	221	0 6 1
Maheshpur ..	..	36 0 0	..	..	36 0 0	36 0 0	61	0 9 5
Khulna District.								
Khulna ..	1 5 0	228 0 0	..	..	228 0 0	228 0 0	394	0 9 3
Satkhira ..	1 14 0	49 5 0	..	..	49 5 0	49 5 0	202	0 3 11
Debhata ..	..	49 6 0	..	..	49 6 0	49 6 0	1,685	0 0 6
Rajshahi District.								
Rajshahi ..	16 12 0	458 14 0	..	..	458 14 0	458 14 0	1,161	0 6 11
Nator ..	45 15 3	249 15 3	..	..	249 15 3	249 15 3	1,136	1 13 5

Urban and rural areas.	Expenditure.							
	Vaccination inspecting staff.		Vaccinators and probationers.		Establishment other than technical staff.		Total pay of establishment.	Travelling allowance.
	Number.	Pay.	Number.	Pay.	Number.	Pay.		
1	2	3	4	5	6	7	8	9
Dinaipur District.		Rs. A. P.		Rs. A. P.		Rs. A. P.	Rs. A. P.	Rs. A. P.
Dinaipur ..	..	..	4	273 12 0	..	..	273 12 0	60 0 0
Jalpaiguri District.								
Jalpaiguri ..	..	..	1	240 0 0	..	..	240 0 0	..
Darjeeling District.								
Darjeeling ..	..	..	1	616 5 0	..	..	616 5 0	9 10 0
Kurseong ..	..	..	1	360 0 0	..	..	360 0 0	90 0 0
Rangpur District.								
Rangpur ..	..	..	2	525 14 0	..	..	525 14 0	..
Gaibandha ..	..	..	1	20 0 0	..	..	20 0 0	..
Bogra District.								
Bogra ..	..	..	1	125 0 0	..	..	125 0 0	..
Sherpur ..	..	..	1	112 0 0	..	..	112 0 0	..
Pabna District.								
Pabna ..	..	..	1	180 14 0	..	..	180 14 0	..
Sirajganj ..	..	..	2	426 0 0	..	..	426 0 0	..
Malda District.								
English Bazar ..	..	..	2	315 11 4	..	..	315 11 4	..
Malda ..	..	..	1	26 9 0	..	..	26 9 0	..
Navabganj ..	..	..	1	204 0 0	..	..	204 0 0	..
Dacca District.								
Dacca ..	1	294 0 0	10	1,989 13 0	..	..	2,283 13 0	60 0 0
Narayanganj ..	..	..	2	576 0 0	..	..	576 0 0	..
Mymensingh District.								
Mymensingh ..	..	..	1	339 11 0	..	..	339 11 0	..
Muktagacha ..	..	..	1	212 9 0	..	..	212 9 0	2 0 0
Netrakona ..	..	..	1	240 0 0	..	..	240 0 0	..
Jamalpur ..	..	..	1	173 2 0	..	..	173 2 0	..
Sherpur ..	..	..	1	144 0 0	..	..	144 0 0	..
Kishorganj ..	..	..	1	216 0 0	..	..	216 0 0	..
Bajitpur ..	..	..	1	75 0 0	..	..	75 0 0	..
Tangail ..	..	..	1	204 0 0	..	..	204 0 0	..
Gauripur ..	..	..	1	35 0 0	..	..	35 0 0	..

Urban and rural areas.	Expenditure.		Total cost.	Paid from—				Number of successful vaccinations and re-vaccinations.	Average cost of each successful case.
	Contingencies.	Total cost.		Provincial fund.	District fund.	Municipal fund.	Total.		
	10	11	12	13	14	15	16	17	
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
Dinajpur District.									
Dinajpur ..	0 12 0	334 8 0	..	..	334 8 0	334 8 0	796	0 6 9	
Jalpaiguri District.									
Jalpaiguri ..	36 0 0	276 0 0	..	..	276 0 0	276 0 0	1,762	0 2 6	
Darjeeling District.									
Darjeeling ..	60 0 0	625 15 0	..	..	625 15 0	625 15 0	1,412	0 4 10	
Kurseong ..	..	510 0 0	..	..	510 0 0	510 0 0	804	0 10 2	
Rangpur District.									
Rangpur ..	15 0 0	525 14 0	..	..	525 14 0	525 14 0	819	0 10 3	
Gaibandha ..	..	35 0 0	..	..	35 0 0	35 0 0	354	0 1 7	
Bogra District.									
Bogra ..	6 0 0	125 0 0	..	..	125 0 0	125 0 0	651	0 3 1	
Sherpur ..	..	118 0 0	..	..	118 0 0	118 0 0	99	1 3 1	
Pabna District.									
Pabna ..	..	180 14 0	..	..	180 14 0	180 14 0	900	0 3 3	
Sirajganj ..	..	426 0 0	..	..	426 0 0	426 0 0	1,546	0 4 5	
Malda District.									
English Bazar ..	0 12 0	315 11 4	..	..	315 11 4	315 11 4	651	0 7 9	
Malda ..	3 9 5	27 5 0	..	..	27 5 0	27 5 0	77	0 5 8	
Nawabganj ..	..	207 9 5	..	..	207 9 5	207 9 5	323	0 10 3	
Dacca District.									
Dacca ..	193 3 0	2,537 0 0	..	..	2,537 0 0	2,537 0 0	9,099	0 4 6	
Narayanganj ..	158 6 0	734 6 0	..	..	734 6 0	734 6 0	2,007	0 5 10	
Mymensingh District.									
Mymensingh ..	19 0 0	358 11 0	..	..	358 11 0	358 11 0	360	0 15 11	
Muktagacha ..	5 14 0	220 7 0	..	..	220 7 0	220 7 0	420	0 8 5	
Netrakona ..	..	240 0 0	..	..	240 0 0	240 0 0	325	0 11 10	
Jamalpur ..	11 1 0	184 3 0	..	..	184 3 0	184 3 0	710	0 4 2	
Sherpur ..	..	144 0 0	..	..	144 0 0	144 0 0	777	0 2 11	
Kishorganj ..	14 7 0	230 7 0	..	..	230 7 0	230 7 0	577	0 6 5	
Bajtpur ..	..	75 0 0	..	..	75 0 0	75 0 0	215	0 5 7	
Tangail ..	..	204 0 0	..	..	204 0 0	204 0 0	411	0 7 11	
Gauripur ..	..	35 0 0	..	..	35 0 0	35 0 0	414	0 1 4	

Urban and rural areas.	Expenditure.									
	Vaccination inspecting staff.		Vaccinators and probationers.		Establishment other than technical staff.		Total pay of establishment.		Travelling allowance.	
	Number.	Pay.	Number.	Pay.	Number.	Pay.	Rs.	A. P.	Rs.	A. P.
1	2	3	4	5	6	7	8		9	
Faridpur District.		Rs. A. P.		Rs. A. P.		Rs. A. P.	Rs. A. P.		Rs. A. P.	
Faridpur ..	..	..	1	360 0 0	..	..	360 0 0	20 0 0	..	..
Madaripur ..	..	..	1	272 0 0	..	..	272 0 0	..	..	..
Rajbari ..	..	..	1	240 0 0	..	..	240 0 0	..	..	..
Bakarganj District.										
Barisal ..	..	..	1	216 0 0	..	..	216 0 0	60 0 0	..	..
Jhalakati ..	..	..	1	180 0 0	..	..	180 0 0	..	..	..
Naichiti ..	..	..	1	50 0 0	..	..	50 0 0	..	..	..
Pirojpur ..	..	..	1	130 0 0	..	..	130 0 0	..	..	..
Patuakhali ..	..	..	1	204 0 0	..	..	204 0 0	..	..	..
Bhola ..	..	..	1	50 0 0	..	..	50 0 0	..	..	..
Chittagong District.										
Chittagong ..	..	..	3	680 0 0	..	..	680 0 0	..	..	..
Cox's Bazar ..	..	..	1	84 1 0	..	..	84 1 0	..	..	..
Noakhali District.										
Noakhali ..	..	..	2	210 12 0	..	..	210 12 0	..	..	..
Tippera District.										
Comilla ..	..	..	1	264 0 0	..	..	264 0 0	60 0 0	..	..
Brahmanbaria ..	..	..	1	358 0 0	..	..	358 0 0	..	..	..
Chandpur ..	..	..	1	240 0 0	..	..	240 0 0	..	..	..
Total of the towns	21	29,139 8 0	221	79,119 9 4	30	5,600 0 0	1,13,859 1 4	3,043 13 9		
Provincial Vaccine Depot	1	6,600 0 0	7	5,365 0 0	4	1,783 0 0	13,748 0 0	71 5 0		
Calcutta Corporation Vaccine Depot ..	..	..	..	..	..	..	..	..		
Vaccination Bureau ..	1	4,010 0 0	1	780 0 0	5	1,120 0 0	5,910 0 0	2,301 3 0		
Tea Gardens ..	*3	20,100 0 0	..	..	..	..	20,100 0 0	..		
Factories ..	..	..	..	..	..	..	..	..		
Steamers ..	..	..	..	..	..	..	..	..		
Railways ..	..	..	..	..	..	..	..	..		
Jails ..	..	..	..	..	..	..	..	..		
Dispensaries ..	..	..	..	..	..	..	..	..		
Grand Total	121	1,03,770 2 3	2,196	2,92,492 4 7	40	9,934 0 0	4,06,196 6 10	41,446 3 9		

* One Assistant Director of Public Health in charge of vaccination and vital statistics and two special Inspectors of vaccination.

Urban and rural areas.	Expenditure.		Paid from—				Number of successful vaccinations and re-vaccinations.	Average cost of each successful case.
	Contingencies.	Total cost.	Provincial fund.	District fund.	Municipal fund.	Total.		
	10	11	12	13	14	15	16	17
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Faridpur District.								
Faridpur ..	15 0 0	395 0 0	..	..	395 0 0	395 0 0	480	0 13 2
Madaripur ..	0 6 0	272 6 0	..	..	272 6 0	272 6 0	853	0 5 1
Rajbari ..	0 3 0	240 3 0	..	..	240 3 0	240 3 0	229	1 0 9
Bakarganj District.								
Barisal ..	12 8 0	288 8 0	..	..	288 8 0	288 8 0	1,169	0 3 11
Jhalakati ..	10 0 0	190 0 0	..	..	190 0 0	190 0 0	96	1 15 8
Naichiti ..	..	50 0 0	..	..	50 0 0	50 0 0	526	0 1 6
Piroipur ..	..	130 0 0	..	..	130 0 0	130 0 0	429	0 4 10
Patuakhali ..	5 0 0	209 0 0	..	..	209 0 0	209 0 0	236	0 14 2
Bhola ..	..	50 0 0	..	..	50 0 0	50 0 0	276	0 2 11
Chittagong District.								
Chittagong ..	6 3 0	686 3 0	..	..	686 3 0	686 3 0	1,512	0 7 3
Cox's Bazar ..	3 13 0	87 14 0	..	..	87 14 0	87 14 0	99	0 14 2
Noakhali District.								
Noakhali ..	6 6 0	217 2 0	..	..	217 2 0	217 2 0	944	0 3 8
Tippera District.								
Comilla ..	38 13 0	362 13 0	..	..	362 13 0	362 13 0	768	0 7 7
Brahmanbaria ..	34 8 0	392 8 0	..	..	392 8 0	392 8 0	900	0 7 0
Chandpur ..	..	240 0 0	..	..	240 0 0	240 0 0	679	0 5 9
Total of the towns	4,594 10 8	1,21,497 9 9	..	..	1,21,497 9 9	1,21,497 9 9	172,926	0 10 11
Provincial Vaccine Depot								
Calcutta ..	45,663 8 0	59,482 13 0	59,482 13 0	..	..	59,482 13 0	..	..
Vaccine Corporation								
Depot ..	3,700 0 0	9,610 0 0	..	..	9,610 0 0	9,610 0 0	..	..
Vaccination Bureau ..	..	22,401 3 0	22,401 3 0	..	..	22,401 3 0	..	..
Tea Gardens ..	..	..	..	..	..	..	..	..
Factories ..	..	..	..	..	..	..	..	..
Steamers ..	..	..	..	..	..	..	..	..
Railways ..	..	..	..	..	..	..	..	..
Jails ..	..	..	..	..	..	..	..	..
Dispensaries ..	..	..	..	..	..	..	67,073	..
Grand Total	66,364 4 11	5,14,006 15 6	1,91,917 0 0	1,90,982 5 9	1,31,107 9 9	5,14,006 15 6	3,872,343	0 2 1

Persons vaccinated.

	1925-26.		1926-27.		1927-28.		1928-29.		1929-30.	
	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.
I. Government staff ..	12,366	10,090	9,984	7,656	9,734	7,176	19,604	13,677	18,510	13,992
II. District Boards ..	2,543,593	2,123,451	2,792,949	2,228,781	3,589,713	2,701,154	4,842,138	3,508,399	4,978,933	3,618,352
III. Municipalities ..	316,243	165,935	377,184	175,648	262,585	130,869	296,973	143,218	411,044	172,026
IV. Tea-Gardens, Factories, Steamers, Railways, Jails and Dispensaries ..	99,158	51,968	96,858	46,115	107,335	67,765	117,389	64,893	125,393	67,073
V. Public Vaccinators ..	56,776	44,205	..	..	..	..	..	..	..	..
Total ..	3,028,136	2,395,739	3,276,975	2,458,200	3,969,367	2,906,964	5,276,404	3,730,187	5,533,880	3,872,343
Primary vaccinations ..	1,749,320	1,685,516	1,740,309	1,657,657	1,925,601	1,814,715	2,048,775	1,896,877	2,304,461	2,149,944
Percentage of the total ..	57.7	70.3	53.1	67.4	48.5	62.2	38.8	50.8	41.6	55.5
Re-vaccinations ..	1,278,816	710,223	1,536,666	800,543	2,043,766	1,092,249	3,227,629	1,833,310	3,229,419	1,722,399
Percentage of the total ..	42.3	29.7	46.9	32.6	51.5	37.8	61.2	49.2	58.4	44.5

STATEMENT No. IV
Showing particulars of vaccination verified by the Inspecting Officers during the year 1929-30.

Serial No.	Districts.	Total number of persons vaccinated.			By District Health Officers.			By Rural Inspecting Health Staff.			By Municipal Superintendents and Assistant Superintendents of Vaccination.			Percentage of		
		Primary.	Re-vaccination.	Total.	Primary.	Re-vaccination.	Total.	Primary.	Re-vaccination.	Total.	Primary.	Re-vaccination.	Total.	Primary.	Re-vaccination.	Total.
		3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
1	2															
	Burdwan Division.															
1	Burdwan	65,158	49,482	114,640	7,318	2,999	10,317	28,867	21,388	50,255	806	2,239	3,045	11.7	6.8	9.7
2	Birbhum	28,147	21,949	50,096	1,170	250	1,420	1,480	416	1,896	10	133	143	6	1.1	8
3	Bankura	46,805	25,793	72,598	796	912	1,708	5,409	6,128	11,537	817	387	1,204	1.7	3.8	2.4
4	Midnapur	144,680	175,285	319,965	1,149	179	1,328	30,026	26,578	56,604	675	1,404	2,079	8	1.05	4
5	Hooghly	29,871	23,721	53,592	7,059	1,487	8,546	20,553	8,816	29,369	1,604	1,558	3,162	29.5	9.9	21.9
6	Howrah	32,767	35,850	68,617	1,539	149	1,688	15,331	2,952	18,283	309	420	729	5.6	6	3.2
	Presidency Division.															
7	24-Parganas	123,330	147,608	270,938	815	544	1,359	27,299	16,956	44,255	6,877	7,197	14,074	7	4	6
8	Calcutta	35,446	192,750	228,196	290	106	396	11,087	2,060	13,147	21,672	81,209	102,881	..	..	..
9	Nadia	55,437	32,418	87,855	60	260	320	33,913	53,121	77,034	962	1,158	2,120	5	4	5
10	Murshidabad	58,739	186,304	245,043	60	260	320	33,913	53,121	77,034	962	1,158	2,120	5	4	5
11	Jessore	55,351	110,974	166,325	105	228	333	20,366	51,115	71,481	159	297	456	1	..	..
12	Khulna	64,205	389,047	453,252	105	228	333	20,366	51,115	71,481	159	297	456	1	..	..
	Rajshahi Division.															
13	Rajshahi	34,321	71,713	106,034	1,447	284	1,731	17,790	10,064	27,854	362	612	974	4.3	4	1.6
14	Dinajpur	82,515	45,308	127,823	1,645	1,466	3,111	13,737	3,022	16,759	326	668	994	2.003	3.3	2.4
15	Jalpaiguri	14,606	47,696	62,302	207	1,128	1,335	7,972	8,043	16,015	530	350	880	1.5	2.5	2.3
16	Darjeeling	9,240	27,802	37,042	599	34	633	7,972	8,043	16,015	366	597	963	7.1	1.1	2.03
17	Rangpur	95,625	87,144	182,769	76	38	114	19,979	13,858	33,837	361	505	866	0.8	0.4	0.6
18	Roga	49,361	31,814	81,175	113	113	226	10,288	4,187	14,475	153	734	877	23	..	1.4
19	Pabna	57,749	41,079	98,828	128	82	210	2,463	427	2,890	765	309	1,074	8.7	3.7	2.2
20	Malda	31,731	226,764	258,495	2,723	8,430	11,153	859	5,148	6,007	248	209	457	8.7	3.7	4.3
	Dacca Division.															
21	Dacca	150,939	125,812	276,751	909	276	1,185	49,460	18,046	67,506	881	1,289	2,150	6	26	48
22	Mymensingh	359,401	369,407	728,808	767	91	858	66,619	27,304	93,923	1,196	1,872	3,068	2	0.2	1
23	Faridpur	83,863	110,601	194,464	942	758	1,700	18,871	14,534	33,405	1,069	560	1,629	1.1	6	8
24	Bakarganj	192,339	74,999	267,338	1,444	204	1,648	35,455	1,995	37,450	1,026	2,477	3,503	7	2	6
	Chittagong Division.															
25	Chittagong	67,887	75,421	143,308	3,932	993	4,925	24,003	10,356	34,359	111	177	288	5.8	1.3	3.5
26	Noakhali	90,646	132,927	223,573	1,720	566	2,286	88,538	23,572	112,110	248	126	374	1.9	4	1.03
27	Tippura	213,405	283,940	497,345	1,156	1,540	2,696	23,902	18,380	42,282	498	454	952	5	5	5
28	Chittagong Hill Tracts	8,716	9,794	18,510	..	..	..	3,635	4,634	8,269	..	..	..	..	..	..
29	Railways, steamers, factories, dispensaries and tea gardens.	21,517	71,939	93,456	..	..	..	..	..	..	..	..	..	..	..	..
	Total	2,303,797	3,225,341	5,529,138	37,109	23,004	60,113	584,568	364,470	949,038	42,967	108,328	151,295	1.6	.7	1.09

* Civil Surgeons of Darjeeling and the Chittagong Hill Tracts.

Serial No.	Districts.	Inspections to total number of vaccinations.						Percentage of cases found successful to total number inspected.						Percentage of success as reported by vaccinators.				
		By Rural Inspecting Health Staff.			By Municipal Superintendents and Assistant Superintendents of Vaccination.			By District Health Officers.			By Rural Inspecting Health Staff.				By Municipal Superintendents and Assistant Superintendents of Vaccination.			
		Primary.	Re-vacci-	Total.	Primary.	Re-vacci-	Total.	Primary.	Re-vacci-	Total.	Primary.	Re-vacci-	Total.		Primary.	Re-vacci-	Total.	
1	2	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34
Burdwan Division.																		
1	Burdwan	46.2	48.8	47.3	29.7	42.8	38.1	98.9	50.01	84.7	98.1	56.07	80.2	95.03	71.5	77.7	95.06	52.6
2	Birbhum	5.2	1.9	3.8	22.7	35.6	34.2	94.7	51.1	68.8	95.7	54.3	86.6	100	6.7	13.2	97.8	54.5
3	Bankura	12.09	25.9	16.8	39.4	18.3	28.7	99.2	43.3	69.3	76.9	78.4	77.7	99.02	51.4	83.7	99.3	47.7
4	Midnapur	21.0	15.6	18.07	43.1	47.1	45.7	98.1	72.07	94.6	94.7	59.5	78.2	97.3	42.4	60.2	96.2	56.7
5	Hooghly	86.1	58.8	75.5	26.7	19.7	22.7	93.5	51.3	86.1	95.7	62.6	85.8	35.9	32.9	66.09	97.2	72.0
6	Howrah	55.7	12.4	35.7	5.8	4.3	48.7	99.4	72.4	97.03	98.5	60.1	92.3	97.3	40.4	64.6	99.09	46.1
Presidency Division.																		
7	24-Parganas	25.02	14.8	19.7	48.3	27.2	34.6	96.4	37.6	72.9	95.2	58.4	81.2	95.4	37.3	65.7	95.1	58.5
8	Calcutta	21.4	7.8	16.8	61.1	42.1	45.08	95.8	70.7	89.1	97.2	66.2	92.3	98.01	24.9	40.6	95.5	66.8
9	Nadia	42.2	29.1	32.2	36.9	42.3	40.1	91.6	96.9	95.9	92.6	71.9	78.3	96.3	24.5	51.4	93.4	49.3
10	Murshidabad	29.5	9.1	16.05	28.8	16.6	20.7	100	36.8	56.7	95.9	62.3	83.2	99.2	2.6	63.8	98.1	54.6
11	Jessore	32.07	13.2	16.01	22.6	9.6	12.02	100	36.8	56.7	98.6	54.9	67.1	90.5	16.1	42.1	99.7	55.3
12	Khulna																	
Rajshahi Division.																		
13	Rajshahi	53.6	14.6	27.3	35.9	41.2	39.1	98.1	80.6	95.2	98.6	74.7	90.0	99.1	33.9	58.2	98.6	71.7
14	Dinajpur	16.7	6.9	13.3	79.3	66.6	70.3	95.7	94.1	94.9	97.7	71.1	92.8	98.7	34.8	55.8	93.9	76.7
15	Jalpaiguri	1.6	3.00	2.6	62.7	12.3	23.8	90.8	76.3	78.5	93.6	34.3	42.9	99.05	28.5	71.02	95.3	45.5
16	Darjeeling	95.6	35.2	51.4	40.4	12.1	16.5	100	58.8	97.7	74.3	42.0	58.1	99.7	21.9	51.5	95.1	35.8
17	Rangpur	21.04	16.3	18.8	50.7	36.9	41.7	73.6	71.05	72.8	89.7	62.05	78.3	95.8	28.3	56.4	91.3	75.6
18	Bogra	20.9	15.4	19.03	44.09	45.4	45.1	86.7	59.7	86.7	92.3	33.6	75.3	98.6	24.3	37.2	90.7	35.9
19	Pabna	4.4	1.08	3.0	37.2	24.01	32.2	94.5	59.7	80.9	99.7	50.8	92.4	96.3	34.9	78.6	93.3	52.9
20	Malda	2.7	2.2	2.3	33.7	17.9	24.02	93.5	45.4	57.1	98.6	73.3	76.9	88.2	77.9	83.5	89.1	56.1
Dacca Division.																		
21	Dacca	34.4	17.6	27.4	11.9	6.02	7.5	97.2	63.7	89.4	97.05	59.2	86.9	96.1	28.6	56.2	94.5	47.4
22	Mymensingh	18.6	7.5	13.08	42.5	39.2	40.4	87.2	83.5	87.05	70.4	87.7	75.4	89.9	30.3	53.6	86.3	62.7
23	Faridpur	22.9	13.2	17.4	71.7	53.3	64.1	93.9	51.05	74.8	93.7	47.6	73.7	100	6.9	68.02	95.06	45.4
24	Bakarganj	18.6	2.8	14.37	57.7	68.6	65.0	81.3	77.4	80.5	99.2	56.6	96.9	95.4	21.1	42.8	93.8	67.1
Chittagong Division.																		
25	Chittagong	36.00	14.3	24.7	9.1	8.9	9.01	98.3	36.3	85.8	96.1	50.7	82.4	97.2	27.6	54.5	94.8	37.1
26	Noakhali	98.3	17.9	50.7	39.6	9.9	19.7	78.37	30.03	66.4	99.3	62.0	91.4	99.5	80.9	93.8	87.2	39.4
27	Tippera	11.3	6.5	8.6	24.7	28.9	26.6	97.1	41.1	65.1	92.3	65.7	80.8	91.7	24.4	59.6	94.4	69.9
28	Chittagong Hill Tracts	41.7	47.3	44.6	..	..	..	..	..	..	99.4	56.2	75.2	..	..	..	99.6	54.2
29	Railways, steamers, factories, dispensaries and tea gardens.	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Total		25.4	11.3	17.1	1.8	3.3	2.5	92.2	52.5	77.06	93.1	62.9	81.5	98.1	27.9	47.7	93.3	53.3

STATEMENT No. V.

Showing, side by side, the ratios per mille of population of deaths from small-pox and the number of successful vaccinations during the ten years ending 1929-30.

Districts.	1920-21.		1921-22.		1922-23.		1923-24.		1924-25.	
	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.
1										
Burdwan ..	.34	83,234	.08	77,293	.07	61,625	.09	70,268	.52	92,481
Birbhum ..	.44	27,146	.05	11,370	.07	20,915	.11	22,776	.11	45,598
Bankura ..	.15	45,093	.01	48,368	.05	49,218	.03	44,891	.18	46,361
Midnapur ..	.37	108,408	.21	96,661	.33	128,029	.09	112,358	.17	121,207
Hooghly ..	.56	43,506	.07	34,270	.09	33,912	.06	30,468	.29	41,717
Howrah ..	.65	26,585	.29	29,635	.24	24,525	.06	36,726	.63	41,989
24-Parganas ..	.46	81,634	.08	72,708	.12	90,323	.11	99,751	.70	110,916
Calcutta ..	.55	19,511	.34	42,695	.35	28,617	.06	20,251	2.51	106,242
Nadia ..	.38	46,325	.04	46,020	.05	58,850	.02	50,646	.05	61,166
Murshidabad ..	.88	40,484	.40	34,568	.16	43,769	.04	45,464	.03	46,712
Jessore ..	.36	71,919	.09	61,592	.04	63,118	.01	53,295	.05	66,202
Khulna ..	.08	56,202	.009	64,244	.01	62,904	.009	50,529	.03	71,232
Rajshahi ..	.74	112,823	.04	53,797	.04	63,648	.07	52,187	.03	72,171
Dinajpur ..	.89	75,518	.28	82,359	.05	82,457	.008	75,006	.04	71,440
Jaipalguri ..	.65	84,190	.44	24,962	1.36	34,671	.51	31,602	.28	31,051
Darjeeling ..	.07	19,062	.00	15,935	.09	16,763	.01	16,320	.01	13,500
Rangpur ..	.43	79,573	.31	31,626	.09	71,797	.009	75,398	.04	54,223
Bogra ..	1.38	87,303	.05	25,169	.005	22,621	.02	33,876	.41	31,746
Pabna ..	.28	47,138	.02	28,651	.002	48,745	.01	28,831	.04	44,559
Malda ..	.54	56,726	.12	37,844	.09	45,506	.04	38,308	.18	57,821
Dacca ..	.82	132,929	.24	71,139	.29	97,044	.22	101,516	.17	127,386
Mymensingh ..	.50	239,908	.23	153,123	.22	203,223	.10	251,904	.14	271,481
Faridpur ..	.47	109,802	.06	59,390	.01	48,354	.007	41,167	.03	50,604
Bakarganj ..	.13	138,694	.01	54,754	.006	58,875	.004	69,415	.02	93,922
Chittagong ..	.10	62,604	.27	59,571	.53	65,560	.47	81,266	.27	80,827
Noakhali ..	.34	59,473	.02	44,168	.09	49,711	.03	63,175	.06	69,357
Tippura ..	.47	132,940	.08	138,223	.04	147,635	.02	156,062	.02	135,725
Chittagong Hill Tracts ..	Not under registration.	8,540	Not under registration.	7,731	Not under registration.	8,522	Not under registration.	6,790	Not under registration.	8,309
Dispensary, Railway, Tea Garden and Factory Vaccinations.	..	8,752	..	9,366	..	8,548	..	39,681	..	30,438
Total ..	.48	2,006,692	.14	1,516,502	.16	1,736,386	.08	1,790,927	.22	2,066,363

Districts.	1925-26.		1926-27.		1927-28.		1928-29.		1929-30.	
	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.	Ratio of deaths from small-pox.	Number of successful vaccinations.
1	1 ²	1 ³	1 ⁴	1 ⁵	1 ⁶	1 ⁷	1 ⁸	1 ⁹	2 ⁰	2 ¹
Burdwan ..	1.00	141,733	1.2	95,777	.72	77,742	.77	91,445	.19	80,992
Birbhum ..	1.00	41,778	1.6	62,195	1.20	59,195	.31	46,637	.10	39,285
Bankura ..	.58	61,252	.36	53,415	.23	54,272	.19	52,840	.06	58,323
Midnapur ..	.59	143,575	1.2	145,878	1.70	271,978	.92	183,599	.05	238,723
Hooghly ..	.95	41,794	.73	47,150	.85	44,899	.71	50,507	.26	43,695
Howrah ..	2.00	42,875	1.9	34,753	1.51	35,924	.30	42,133	.29	45,472
24-Parganas ..	.86	127,161	1.3	105,185	.88	149,897	.35	164,434	.21	195,227
Calcutta ..	1.76	56,042	2.2	77,359	1.08	39,754	.42	38,572	1.02	74,021
Nadia ..	.20	68,619	.32	60,442	.45	83,948	.69	91,636	.15	74,213
Murshidabad ..	.75	77,366	2.4	103,853	2.35	112,182	1.87	123,872	.40	146,311
Jessore ..	.20	66,033	.27	65,153	.22	64,404	.11	122,989	.02	114,760
Khulna ..	.05	63,337	.10	59,659	.08	68,148	.03	107,011	.02	279,180
Rajshahi ..	.04	73,334	.11	84,563	.21	85,102	.55	120,738	.23	82,671
Dinajpur ..	.22	89,749	.40	97,809	.93	124,230	.86	130,579	.33	111,598
Jalpaiguri ..	.02	33,602	.17	31,535	.07	44,886	.06	42,343	.04	35,882
Darjeeling ..	.07	23,828	.02	14,728	.07	14,142	.30	27,058	.20	18,360
Rangpur ..	.24	82,748	.52	104,140	1.04	143,808	.83	195,466	.28	152,455
Bogra ..	.55	34,791	1.5	40,684	2.58	41,588	1.18	42,740	.03	55,793
Pabna ..	.48	54,870	.09	117,116	2.42	140,844	.39	84,494	.09	75,538
Malda ..	.19	52,534	.57	61,239	1.55	109,382	2.37	383,700	.09	155,350
Dacca ..	.24	140,485	.21	147,745	.84	137,186	2.67	209,044	1.16	197,341
Mymensingh ..	.13	336,229	.32	320,817	.68	316,350	1.33	397,791	.33	540,226
Faridpur ..	1.08	73,338	.16	86,759	.44	99,775	1.71	104,503	.95	129,572
Bakarganj ..	.03	98,943	.05	104,265	.07	135,215	.10	137,809	.07	229,642
Chittagong ..	.31	88,071	.36	70,469	1.01	90,520	2.13	123,482	.44	92,002
Noakhali ..	.24	89,585	.27	83,883	.49	110,503	.21	130,606	.07	131,366
Tippura ..	.10	144,795	.23	138,946	.41	191,211	1.16	299,215	.43	398,567
Chittagong Hill Tracts ..	Not under registration.	10,099	Not under registration.	7,656	Not under registration.	7,176	.22	13,677	.16	13,992
Dispensary, Railway, Tea Garden and Factory Vaccinations.	..	37,127	..	32,032	..	53,403	..	49,269	..	52,786
Total	.4	2,395,739	.63	2,458,200	.85	2,906,964	.94	3,730,187	.32	3,872,343

STATEMENT No. VI

Showing the degree of protection afforded to infants in the Presidency of Bengal during the year 1929-30.

Rural and urban areas.	Number of births during the year.	Number of deaths among infants under one year.	Surviving population under one year available for vaccination.	Number successfully vaccinated.	Proportion of infants successfully vaccinated per mille of available infant population as shown in column 5.	Proportion of infants successfully vaccinated per mille of available infant population during the previous year.
1	2	3	4	5	6	7
RURAL AREAS.						
Burdwan Division.						
Burdwan ..	42,522	8,251	34,271	7,222	210·7	281·5
Birbhum ..	36,557	6,517	30,040	4,186	139·3	171·4
Bankura ..	35,370	6,994	28,376	9,156	322·6	294
Midnapur ..	86,016	14,706	71,310	30,178	423·1	131·1
Hooghly ..	22,269	3,906	18,363	3,304	179·9	149·5
Howrah ..	21,491	3,509	17,982	4,777	265·6	273·3
Presidency Division.						
24-Parganas ..	59,766	9,097	50,669	21,840	431·0	317·4
Nadia ..	44,257	11,023	33,234	16,506	496·5	479
Murshidabad ..	53,746	9,553	44,193	17,880	404·5	456·7
Jessore ..	37,624	7,691	29,933	6,485	216·6	165·6
Khulna ..	42,165	9,049	33,116	22,685	685·0	309·7
Rajshahi Division.						
Rajshahi ..	45,072	10,934	34,138	11,384	333·4	255·1
Dinajpur ..	45,068	10,320	34,748	13,030	375·0	307·9
Jalpaiguri ..	31,875	5,533	26,342	4,659	176·8	504·1
Darjeeling ..	9,236	1,434	7,802	3,278	420·7	464·4
Rangpur ..	61,790	13,768	48,022	7,912	164·7	187·8
Bogra ..	25,580	5,910	19,670	6,124	311·3	129·8
Pabna ..	34,420	7,833	26,587	7,443	279·9	288·4
Malda ..	30,097	5,496	24,601	11,822	480·5	459·4
Dacca Division.						
Dacca ..	81,561	14,800	66,761	10,092	151·1	129
Mymensingh ..	118,270	20,299	97,971	9,588	97·8	85·7
Faridpur ..	60,324	11,858	48,466	4,283	88·3	65·6
Bakarganj ..	78,156	13,718	64,438	2,247	34·8	31·4
Chittagong Division.						
Chittagong ..	46,414	5,897	40,517	7,147	176·4	175·6
Noakhali ..	52,487	6,907	45,580	9,310	204·2	213·1
Tippera ..	65,109	8,724	56,385	16,680	295·8	173·2
Chittagong Hill Tracts	5,076	913	4,163	328	78·7	86·8
Total of the rural areas	1,272,318	234,640	1,037,678	269,546	259·7	216·9
MUNICIPALITIES.						
Burdwan District.						
Burdwan ..	264	33	231	74	320·3	650·6
Kalna ..	198	64	134	96	716·3	635·8
Katwa ..	79	12	67	96	1,432·8	1,100·0
Dainhat ..	78	16	62	155	2,500	973·6
Raniganj ..	328	68	260	150	576·8	637·5
Asansol ..	518	100	418	153	366·0	580·0

Rural and urban areas.	Number of births during the year.	Number of deaths among infants under one year.	Surviving population under one year available for vaccination.	Number successfully vaccinated.	Proportion of infants successfully vaccinated per mille of available infant population as shown in column 5.	Proportion of infants successfully vaccinated per mille of available infant population during the previous year.
1	2	3	4	5	6	7
Birbhum District.						
Suri	144	27	117	7	59.8	192.6
Bankura District.						
Bankura	402	57	345	187	542.0	512.5
Vishnupur ..	368	93	275	16	58.1	33.7
Sonamukhi ..	332	71	261	70	268.2	411.7
Midnapur District.						
Midnapur	560	26	534	102	191.0	186.1
Ghatal	379	44	335	112	334.3	228.6
Kharar	109	15	94	..	..	..
Chandrakona ..	136	27	109	..	..	..
Ramjibanpur ..	128	13	115	..	..	..
Khirpai	81	6	75	5	66.6	142.8
Tamluk	162	13	149	23	154.3	275.1
Hooghly District.						
Hooghly-Chinsura ..	946	213	733	757	1,032.7	481.4
Bansbaria	101	18	83	15	180.7	226.6
Arambagh	122	31	91	53	582.4	195.9
Serampur	691	76	615	443	720.3	705.0
Rishra-Konnagar ..	364	61	303	97	320.1	247.7
Uttarpara	192	16	176	22	124.9	440.5
Kotrung	150	25	125	30	240.0	286.8
Baidyabati	436	45	391	164	419.4	484.5
Bhadreswar	409	97	312	121	387.7	579.1
Champdani	340	53	287	6	20.9	48.3
Howrah District.						
Howrah	4,502	1,495	3,007	2,401	798.4	455.6
Bally	389	35	354	17	48.0	537.5
24-Parganas District.						
South Suburban ..	949	175	774	630	813.7	1,008.0
Tollyganj	547	87	460	332	721.7	1,152.2
Budge Budge	268	7	261	163	624.4	589
Baranagar	855	158	697	226	324.2	377.3
Kamarhati	436	48	388	156	401.9	553.6
Rajpur	262	25	237	42	177.2	116.4
Baruipur	59	7	52	33	634.5	944.4
Jaynagar	84	24	60	64	1,066.6	150.6
North Dum Dum ..	152	26	126	30	238.1	25.8
Dum Dum	20	3	17	..	..	..
South Dum Dum ..	281	61	220	136	618.1	567.0
Khardah	115	17	98	7	71.4	340.1
Barrackpur	197	16	181	110	607.7	258.6
Panihati	389	55	334	155	464.0	788.0
North Barrackpur ..	393	52	341	154	451.6	520.9
Titagarh	649	91	558	239	428.3	325.5
Garulia	187	25	162	62	382.7	310.1
Naihati	366	43	323	221	684.0	294.6
Halisahar	141	20	121	..	..	..
Kanchrapara	244	10	234	..	..	10.2
Bhatpara	1,142	124	1,018	441	433.2	333.3
Barasat	139	16	123	16	130.0	212.7
Gobardanga	58	5	53	1	19.6	..
Basirhat	667	137	530	363	684.9	589.5
Baduria	207	17	190	228	1,200	763.6
Taki	167	30	137	96	700.7	562.0
Calcutta	23,089	6,067	17,022	18,834	1,106.4	802.0

Rural and urban areas.	Number of births during the year.	Number of deaths among infants under one year.	Surviving population under one year available for vaccination.	Number successfully vaccinated.	Proportion of infants successfully vaccinated per mille of available infant population as shown in column 5.	Proportion of infants successfully vaccinated per mille of available infant population during the previous year.
1	2	3	4	5	6	7
Nadia District.						
Krishnagar ..	290	37	253	218	861·6	225·9
Nabadwip ..	269	37	232	24	103·4	139·9
Ranaghat ..	233	25	208	185	889·3	974·4
Birnagar ..	51	11	40	37	925·0	473·6
Santipur ..	738	80	658	108	164·1	81·1
Chakdaha ..	73	10	63	44	698·4	480·0
Kushtia ..	139	13	126	16	126·9	179·2
Kumarkhali ..	64	17	47	43	914·8	1,228·0
Meherpur ..	155	14	141	30	212·7	259·7
Murshidabad District.						
Berhampur ..	489	86	403	150	372·1	262·9
Murshidabad ..	250	29	221	22	99·5	212·5
Jiaganj-Azimganj ..	262	37	225	228	1,013·3	497·4
Kandi ..	250	23	227	171	753·3	1,409·3
Jangipur ..	395	25	370	72	194·6	336·3
Dhulian ..	292	27	265	135	509·4	562·4
Jessore District.						
Jessore ..	136	6	130	31	238·4	142·8
Kotchandpur ..	65	9	56	16	285·6	135·6
Mareshpur ..	58	11	47	12	255·2	117·6
Khulna District.						
Khulna ..	173	31	142	31	218·3	240·2
Satkhira ..	181	54	127	76	598·4	918·4
Debhata ..	129	23	106	110	1,037·7	780·2
Rajshahi District.						
Rajshahi ..	520	82	438	155	353·8	1,051·1
Nator ..	108	28	80	3	37·5	19·4
Dinajpur District.						
Dinajpur ..	78	15	63	138	2,190·4	332·5
Jalpaiguri District.						
Jalpaiguri ..	216	23	193	552	2,859·9	1,000
Darjeeling District.						
Darjeeling ..	542	59	483	324	670·8	1,506·9
Kurseong ..	288	45	243	258	1,061·7	1,070·1
Rangpur District.						
Rangpur ..	213	18	195	96	492·3	348·4
Gaibandha ..	92	1	91	..	..	9·4
Bogra District.						
Bogra ..	71	13	58	45	775·8	4,592·1
Sherpur ..	51	8	43	3	69·7	163·2
Pabna District.						
Pabna ..	228	32	196	256	1,306·1	1,166·5
Sirajganj ..	398	54	344	290	842·9	726·4

Rural and urban areas.	Number of births during the year.	Number of deaths among infants under one year.	Surviving population under one year available for vaccination.	Number successfully vaccinated.	Proportion of infants successfully vaccinated per mille of available infant population as shown in column 5.	Proportion of infants successfully vaccinated per mille of available infant population during the previous year.
1	2	3	4	5	6	7
Malda District.						
English Bazar ..	400	50	350	227	648.5	783.6
Malda ..	66	11	55	23	418.2	..
Nawabganj ..	487	65	422	41	97.1	231.7
Dacca District.						
Dacca ..	3,974	995	2,979	2,493	836.8	629.4
Narayanganj ..	1,015	282	733	156	212.7	193.1
Mymensingh District.						
Mymensingh ..	496	69	427	8	18.7	52.4
Muktagacha ..	114	6	108	31	287.0	273.8
Netrakona ..	217	31	186	30	161.3	211.1
Jamalpur ..	486	51	435	4	9.1	4.6
Sherpur ..	503	50	453	61	134.6	88.3
Kishorganj ..	257	24	233	67	287.5	322.7
Bajitpur ..	160	16	144	8	55.5	..
Tangail ..	290	47	243	27	111.1	111.1
Gauripur ..	51	6	45	9	200	..
Faridpur District.						
Faridpur ..	238	27	211	120	568.6	662.9
Madaripur ..	246	44	202	46	227.7	155.2
Rajbari ..	402	66	336	42	127.9	328.2
Bakarganj District.						
Barisal ..	445	112	333	25	75.0	131.4
Jhalakati ..	69	14	55	..	..	23.2
Nalchiti ..	26	6	20	13	649.9	..
Pirojpur ..	278	49	229	181	790.4	1,185.4
Patuakhali ..	77	14	63	4	63.4	78.9
Bhola ..	111	9	102	..	..	..
Chittagong District.						
Chittagong ..	1,070	240	830	136	163.8	255.7
Cox's Bazar ..	84	8	76	22	289.4	688.4
Noakhali District.						
Noakhali ..	391	34	357	28	78.4	115.0
Tippera District.						
Comilla ..	286	17	269	68	252.8	297.0
Brahmanbaria ..	817	110	707	79	111.7	276.0
Chandpur ..	188	30	158	101	639.1	617.6
Total of the Municipalities ..	65,712	13,662	52,050	36,040	692.4	576.8
Grand Total of the Presidency ..	1,338,030	248,302	1,089,728	305,586	280.4	233.3

GOVERNMENT OF BENGAL.

Local Self-Government Department.

Public Health.

CALCUTTA, THE 7TH FEBRUARY 1931.

RESOLUTION—No. 339P.H.

Minister-in-charge: The Hon'ble Mr. Bijoy Prasad Singh Roy.

Read—

The Report of the Director of Public Health, the Sanitary Board and the Chief Engineer, Public Health Department, for the year 1929.

Vital Statistics.—The year under review is the last in which it will be necessary to base statistics on the standard of population as recorded in the census of 1921 without subsequent adjustment. This figure is 46,522,293 for Bengal excluding the Chittagong Hill Tracts. The want of any annual revision of the figures for population from vital statistics of the year makes it necessary for the same figures to serve as basis year by year between one census and another, with the result that in the eighth or ninth year the ratio per thousand has only a relative value.

The margin of error in the annual vital statistics is so wide that no other system would be possible, and the opportunity of checking the results of these statistics over the last ten years from the census of 1931 will be looked forward to in the Ministry of Public Health. The recognized inaccuracy of the annual figures, whether derived through the union boards or rural municipalities, imposes caution in summarising them; but the results for 1929 are as follows.

The number of recorded births and deaths was 1,361,278 and 1,094,263, respectively, as against 1,375,680 and 1,189,015 in the preceding year. The birth rate decreased from 29·6 per thousand in 1928 to 29·3 per thousand and the death rate from 25·5 per thousand to 23·5 per thousand, while the population as a whole increased by about 267,000 in the year, if these figures are approximately sound. The recorded death rate was the lowest on record since 1911, and the provincial birth rate remains the lowest in British India except that of Burma. The most noticeable of local features is the continued decline in the population of Jessore, but it would perhaps distort the true perspective to single out for comment in this brief summary local features of the vital statistics lucidly explained with diagrams by the Director of Public Health.

Infantile Mortality.—There was a slight check to the decrease in recent years of the infantile mortality rate based on deaths of infants under one year of age. The total number of such deaths, which falls a little short of the quarter million, actually decreased, but on the reduced number of births the ratio per thousand births for the province as a whole rose from 178·1 to 179·9, the urban ratio rising and the rural falling by degrees too slight for special analysis. A diagram on the subject shows very clearly the increase in infantile mortality over the ten year average in the central districts of Bengal, from Malda

to Faridpur and Jessore to Bogra, with a decrease outside this block, but it is not apparent whether this is the result of coincidence or of some common factor.

Consciousness of the need for maternity and child welfare work has been aroused in recent years in Bengal; and finds expression in exhibitions and publicity work, carried out largely with the assistance of voluntary associations as well as in specific welfare activities. These are organized in a special degree by the municipal authorities in Calcutta and by a voluntary association with a State grant in Dacca, and it is well worth while to stress the importance of this work by giving again this year a summary of results attained in these two towns.

In Calcutta seven maternity centres—four in the city proper and three in the added areas—were in charge of five lady health visitors assisted by twenty-two midwives except the centre in Cossipore and Maniktola. They delivered 6,498 cases and removed 122 cases to hospitals. The number of infantile deaths among babies delivered by the Corporation staff was 133. The rate of infantile mortality still born excluded, within ten days of birth in cases attended by the Corporation staff was 21.1 per 1,000, while the general infantile mortality rate within the first week in the whole city was 86.3 per 1,000. There were only ten maternal deaths among the mothers delivered by the Corporation staff. In Dacca the two maternity centres managed to attend over 25 per cent. of the births registered in the city. Eleven hundred and fifty-two out of 4,030 births registered in the city were attended to by the centre staff. The infant mortality rate during the first ten days among the cases supervised by the staff was 45.1 per 1,000 births as against a mortality rate of 85.4 among the non-centre cases. The maternal mortality rate was 13.7 per 1,000 births among the centre cases as against 25 per 1,000 births among non-centre cases.

Apart from work in Dacca and Calcutta 1,076 *dais* were given elementary training by local bodies or associations with the aid of Government grant, and the total number of exhibitions and baby weeks was 139 as against 166 in the previous year.

Cholera.—The statistics for both cholera and small-pox in 1929 were those of reaction from the peak of the previous year. In 1928 the death rate from cholera in Bengal exceeded that of any other province in India and was double the quinquennial average. In 1929, deaths decreased by about 41 per cent. from 136,245 to 81,090, approximating to the quinquennial average. Preventive activities took the usual form of inoculation, disinfection of sources of water-supply, and intensive propaganda by means of magic lantern lectures and demonstrations together with distribution of leaflets and posters and assistance to the local authorities, where possible, by loan of the services of officers of the Public Health Department. A nascent development of the year which may have far reaching possibilities for the improvement of public health at the great gatherings in Indian religious centres was the provision of facilities for inoculation against cholera of pilgrims proceeding to the Khumbh Mela in Allahabad. Voluntary inoculation against cholera has for two or three years now been part of the precautionary measures associated with the pilgrimage to the annual mela at Saugar Island, but the measures taken in the closing weeks

of 1929 with a special view to the Khumbh Mela at Allahabad were the first occasion on which this facility has been offered in the interests of public health at a religious gathering outside Bengal. Acknowledgments are due to the authorities and Medical Staff of the Eastern Bengal Railway for their co-operation in this work.

Small-pox.—The passing of the epidemic peaks was still more marked in the case of small-pox than in that of cholera, although the advice of the Public Health authorities tends entirely against any assumption that the worst is over for the present. However that may be, the quinquennial epidemic which began as forecasted in 1924 and rose to a climax in 1928 had spent its force by 1929 when deaths from small-pox fell by over 100 per cent. to 20,407 as against 43,558 in the previous year. The Director of Public Health gives the usual detailed analysis of vaccination results; and it is sufficient perhaps for the purposes of this resolution to mention that the total number of vaccinations was reported at slightly over five and-a-half million, while the total number of children under one year successfully vaccinated was just over three hundred thousand and only 27 per cent. of the infants surviving to that age. Both figures represent progress beyond the standard of the previous year; but with State grants to vaccination exceeding in all one lakh per annum, and a good deal of attention paid to the subject by local health authorities, it is disappointing to find that through the reluctance of guardians and parents relatively so small a percentage of infant life in Bengal receives this protection.

Malaria and Kala-azar.—The decrease in the mortality from malaria, which stood out last year in contrast with the epidemic statistics, forms this year part of the picture of generally improved health conditions. Deaths reported from this cause numbered 335,414 as against 368,691 in the preceding year and as against 737,223 in 1921. In nine years there has been a steady decrease to less than half of the figures for the worst year, and this in the case of a disease by no means subject to the same sharpness of periodic curve as cholera and small-pox. Nor is it to be supposed that through confusion of diagnosis or a tendency of local health authorities to show the brightest side of the picture part of this mortality is being diverted to other heads. On the contrary the nondescript head of fever which includes malaria as well as other fevers also shows a decrease from 752,003 in 1928 to 713,531 in 1929. The conclusion seems by now quite irresistible that there has been in recent years a genuine decrease in malaria due no doubt largely to the activities of the Public Health Department and to those of local health authorities fostered by State grants, though how far such decrease may be ascribed to one special cause or another and how far to the inscrutable movements of mass disease it lies beyond expert knowledge to pronounce. The visit of the Malaria Commission of the League of Nations to Bengal during the year had the stimulating effect of contact with experts in the study of malaria in other countries; and should go far to adjust knowledge of the problem in Bengal to conditions prevailing in other parts of the world. The number of deaths from Kala-azar remained practically stationary at 10,820 as against 10,746 in 1928, while the number of cases treated fell from 141,970 to 114,845. This decrease is perhaps partly due to the closing of certain centres on the expiry of the special triennial grant.

Rural health units.—The Ministry of Public Health has touched on the development of the system of rural health units in reviewing the work of district boards for 1928-1929. It need only be mentioned

here that by the end of 1929 their number had risen to 555 and that the State grant from which the charge is met amounted already in 1929-1930 to over six lakhs of rupees.

Public Health Engineering.—The year 1929 was a year of preparation rather than of completion of major schemes of sanitary engineering, preparation which the financial developments of the following year, it is to be feared, will have done much to frustrate. Works of one kind and another for the improvement of the water-supply were however rounded off in the towns of Comilla, Khulna, Patuakhali and Faridpur, and the Chief Engineer reports the completion of various other small municipal and departmental projects. Naturally the field of sanitary engineering does not present problems of the same administrative interest as those associated with other branches of public health work, but something of this nature will be found associated with the maintenance of a sewerage system in municipalities outside Calcutta (Dacca and Titagarh) and in the Chief Engineer's experiments in decentralised distribution of urban water-supply.

Personal.—Dr. C. A. Bentley, C.I.E., will be taking leave preparatory to retiring from the post of Director of Public Health in February 1931, and the Minister in charge of Local Self-Government and Public Health feels that he is only voicing the general opinion of all who are interested in public health work in Bengal in expressing his sense of the benefit derived by the province from Dr. Bentley's tenure of office during the past fifteen years. He will carry with him to his new duties in Egypt both the experience gained and the good-will won in the province he leaves. Mr. F. C. Griffin continued to hold charge of the office of Chief Engineer, Engineering Branch, Public Health Department, and the Minister desires again to express appreciation of the services rendered by him during the year.

By order of the Government of Bengal

(Ministry of Public Health),

C W. GURNER,

Secretary to the Government of Bengal.

Nos. 340-350 P.H.

Copy of the Resolution [with copies of the reports] forwarded to (1) all Commissioners of Divisions for information and communication to all District Officers and all Chairmen of District Boards in their respective divisions, (2) the Surgeon-General with the Government of Bengal, the Inspector-General of Police, Bengal, for information, (3) the Director of Public Health, Bengal, the Chief Engineer, Public Health Department, and the Secretary to the Sanitary Board, Bengal, for information.

[] For (1) and (2) only.

By order of the Government of Bengal

(Ministry of Public Health),

A. Z. KHAN,

Asst. Secy. to the Govt. of Bengal.

Calcutta, the 17th February 1931.

