

V. AC. 232



Chatterjee

Chatterjee

NOT TO BE TAKEN AWAY

+



NINTH TRIENNIAL REPORT

on

VACCINATION IN BENGAL

for the years

1911-12, 1912-13 and 1913-14.

by

MAJOR A. B. FRY, M.D., D.P.H., I.M.S.,
Officiating Sanitary Commissioner for Bengal.



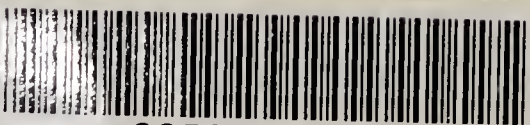
CALCUTTA:

THE BENGAL SECRETARIAT BOOK DEPÔT.

1914.

[Price—Indian, 8 annas ; English, 9 d.]

QW28
JI4
B46
1911-1914



22501899194



Digitized by the Internet Archive
in 2019 with funding from
Wellcome Library

<https://archive.org/details/b31496039>

NINTH TRIENNIAL REPORT
on
VACCINATION IN BENGAL

for the years

1911-12, 1912-13 and 1913-14.

by

MAJOR A. B. FRY, M.D., D.P.H., I.M.S.,
Officiating Sanitary Commissioner for Bengal.



CALCUTTA :
THE BENGAL SECRETARIAT BOOK DEPÔT.

1914.

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

OFFICIAL AGENTS.

In India—

MESSRS. THACKER, SPINK & Co., Calcutta and Simla.
MESSRS. NEWMAN & Co., Calcutta.
MESSRS. HIGGINBOTHAM & Co., Madras.
MESSRS. THACKER & Co., LTD., Bombay.
MESSRS. A. J. COMBRIDGE & Co., Bombay.
THE SUPERINTENDENT, AMERICAN BAPTIST MISSION PRESS, Rangoon.
MRS. RADHABAI ATMARAM SAGOON, Bombay.
MESSRS. R. CAMBRAY & Co., Calcutta.
RAI SAHIB M. GULAB SINGH & SONS, Proprietors of the Mufid-i-am Press, Lahore, Punjab.
MESSRS THOMPSON & Co., Madras.
MESSRS. S. MURTHY & Co., Madras.
MESSRS. GOPAL NARAYAN & Co., Bombay.
MESSRS. B. BANERJEE & Co., 25, Cornwallis Street, Calcutta.
MESSRS. S. K. LAHIRI & Co., Printers and Booksellers, College Street, Calcutta.
MESSRS. V. KALYANARAMA IYER & Co., Booksellers, etc., Madras.
MESSRS. D. B. TARAPORVALA & SONS, Booksellers, Bombay.
MESSRS. G. A. NATESAN & Co., Madras.
MR. N. B. MATHUR, Superintendent, Nazir Kanun Hind Press, Allahabad.
THE CALCUTTA SCHOOL BOOK SOCIETY, 309, Bow Bazar, Calcutta, and at Daeca.
MR. SUNDER PANDURANG, Bombay.
MESSRS. A. M. AND J. FERGUSON, Ceylon.
MESSRS. TEMPLE & Co., Madras.
MESSRS. COMBRIDGE & Co., Madras.
MESSRS. A. CHAND & Co., Lahore.
BABU S. C. TALUKDAR, Proprietor, Students & Co., Cooch Behar.
MESSRS. RAMCHANDRA GOVIND & SON, Booksellers and Publishers, Kalbadevi, Bombay.
MESSRS. BUTTERWORTH & Co. (INDIA), LTD., Calcutta.
THE WELDON LIBRARY, 18-5, Chowringhee Road, Calcutta.
MESSRS. M. C. SARKAR & SONS, 75, Harrison Road, Calcutta.

In Great Britain—

MESSRS. A. CONSTABLE & Co., 10, Orange Street, Leicester Square, London, W.C.
MESSRS. GRINDLAY & Co., 54, Parliament Street, London, S.W.
MESSRS. KEGAN, PAUL, TRENCH, TRÜBNER & Co., 68-74, Carter Lane, London, E.C.
MR. B. QUARITCH, 11, Grafton Street, New Bond Street, London, W.
MESSRS. W. THACKER & Co., 2, Creed Lane, Ludgate Hill, London, E.C.
MESSRS. P. S. KING & SON, 2 & 4, Great Smith Street, Westminster, London, S.W.
MESSRS. H. S. KING & Co., 65, Cornhill, London, E.C.
MR. B. H. BLACKWELL, 50-51, Broad Street, Oxford.
MESSRS. DEIGHTON, BELL & Co., Trinity Street, Cambridge.
MESSRS. LUZAC & Co., 46, Great Russell Street, London, W.C.
MESSRS. OLIVER AND BOYD, Tweeddale Court, Edinburgh.
MESSRS. E. PONSONBY, LTD., 116, Grafton Street, Dublin.
MR. T. FISHER UNWIN, 1, Adelphi Terrace, London, W.C.

On the Continent—

MESSRS. R. FRIEDLÄNDER & SOHN, 11, Carlstrasse, Berlin, N.W. 6.
MR. OTTO HARRASSOWITZ, Leipzig, Germany.
MR. KARL W. HIERSEMANN, 29, Königstrasse, Leipzig, Germany.
MR. ERNEST LEROUX, Rue Bonaparte, Paris, France.
MR. MARTINUS NIJHOFF, The Hague, Holland.

TRIENNIAL REPORT ON VACCINATION IN BENGAL FOR THE YEARS 1911-12, 1912-13 AND 1913-14.

1. This report deals with vaccination in the reconstituted Presidency of Bengal for the triennial period 1911-12 to 1913-14.

2. **Officer in charge of the Department.**—Major W. W. Clemesha, M.D., D.P.H., I.M.S., was in charge of the department throughout the period under report.

During 1911-12 the area covered by the reconstituted Presidency was in charge of two Deputy Sanitary Commissioners, while during 1912-13 practically there was only one Deputy Sanitary Commissioner, but from 1st February 1913, the Presidency has been divided into four sanitary circles, *viz.*, Presidency, Burdwan, Rajshahi and Dacca. Captain H. M. Brown, I.M.S., was in charge of the present Presidency and Burdwan Circles from 23rd May 1911 to 12th July 1912 and Captain A. M. Jukes, I.M.S., from 13th July 1912 to the end of the triennial period, but he was relieved of the charge of the Burdwan Circle from 8th December 1913 by Captain K. K. Mukerji, I.M.S. Drs. R. B. Khambata, M.R.C.S., D.P.H., and M. E. Sufi, B.A., D.P.H., held charge of the Rajshahi and Dacca Circles from 18th January 1913 and 7th April 1913 respectively to 31st March 1914.

3. **Strength of Staff.**—In Calcutta the average number of inspecting officers and vaccinators was 7 and 44 against 7 and 31 during 1908-09 to 1910-11. In the Provincial rural areas and mufassal Municipalities and dispensaries, etc., the inspecting staff and operators numbered 123 and 1,338 and 5 and 131 respectively against 118 and 1,309 and 5 and 134 during the previous triennial period.

4. **General operations.**—The total number of operations performed in the Presidency during the past year was 1,857,294, of which 1,575,510 were primary and 281,784 re-vaccination cases against 1,984,399 with 1,787,143 primary cases and 197,256 re-vaccinations during 1912-13 and 1,946,584 with 1,803,652 primary cases and 142,932 re-vaccinations during 1911-12. The average of the triennial period under review was 1,929,425 with 1,722,101 primary and 207,324 re-vaccination cases against 1,910,605 with 1,709,966 primary and 200,639 re-vaccination cases of the previous triennial period 1908-09 to 1910-11. There was an average increase of 18,820 cases, of which 12,135 were in primary vaccination and 6,685 in re-vaccination.

The ratio of success under the two different heads, primary and re-vaccination, was 97.99 and 60.78 against 97.87 and 63.51 during 1908-09 to 1910-11.

The average work of a vaccinator was 1,245 against 1,275 of the previous triennial period. The average work of a licensed and paid vaccinator was 1,340 and 768 against 1,346 and 822 respectively during 1908-09 to 1910-11.

Compared with the previous year, there was an increase of operations in 11 and a decrease in 16 districts. The increase was marked in Rangpur, 16,119, Khulna 7,623 and Bankura 6,257, while the decrease calling for notice occurred in 5 districts, *viz.*, Bakarganj 70,240, Pabna 17,616, Dacca 13,309, Midnapore 11,865 and Tippera 11,257. In Rangpur and Khulna the increase is attributed to greater interest shown by the District Magistrate and his subordinates and to activity on the part of the staff in suppressing outbreaks of small-pox. No explanation of the increase has been furnished by the Civil Surgeon of Bankura, but it is evident from the greater prevalence of small-pox in this district as compared with the previous year that the same cause is responsible for the increase here as in the other two districts named. In Bakarganj there was a large decrease, but the explanation is quite clear. The prolonged tour of the Deputy Sanitary Commissioner of the Dacca Circle in this district during the last cold weather discloses that the figures of previous years were totally unreliable and it is doubtful if the figures furnished in this report are correct. The Civil Surgeon of Dacca ascribes the decrease to prevalence of malarial fever in the Manickganj and Sadar Subdivisions which retarded the progress of work in them and also to greater prevalence of small-pox during the preceding year which swelled the number of operations in that

year. This explanation must be accepted with reservation, as I doubt also the accuracy of the figures of the Dacca district which was the worst sufferer from small-pox during 1913. In Midnapore the decrease is said to be due to the adults of the district having been protected in previous years, less subjects being thus left for vaccination. No satisfactory explanation of the decrease in Tippera has been furnished, but I am afraid the figures cannot be relied on for accuracy.

5. **Protection afforded to infants.**—During the past year 1913-14 out of 1,254,652, the estimated number of infants under one year available for vaccination, 580,639, that is, 462·78 per thousand, were successfully vaccinated against 480·79 during the preceding year 1912-13. In 13 districts the protection was over 500 per mille, while in 14 it was below this standard, the same as in the preceding year. As already stated in the last report, the low rate of infant protection is due to the backward condition of vaccination in the Eastern Bengal districts where there is still great opposition to vaccination specially of infants under one year of age. Bakarganj, Dacca and Chittagong were the worst protected districts as regards infant vaccination, the protection in these districts having been 83·63, 248·68 and 250·16 per thousand respectively.

The protection afforded to infants in Municipalities is shewn in Appendix VII attached to the report. It will be seen that 768·45 per mille of the surviving infant population was protected during the past year. The attention of Civil Surgeons has, as usual, been drawn to their responsibility in the matter of infant vaccination in towns wherever the protection is inadequate.

6. **Recess work.**—One hundred thirty-four thousand five hundred and thirty-nine operations were performed during the recess or non-working season of 1913-14 chiefly in connection with small-pox epidemics and the up-keep of lymph for emergencies against 112,955 during 1912-13 and 122,260 during 1911-12. The average of the triennial period under review was 123,251 against 185,544 of the previous epoch.

7. **Six-puncture Vaccination.**—The six-puncture system of vaccination was introduced in the districts of Eastern Bengal during 1912-13 and only a small amount of work with six-punctures was done during that year in some of the districts there, but during the past year the method was adopted in every district. In spite of strong opposition from parents or guardians to have their infants vaccinated under this system, 695,807 successful primary operations were performed in six-points during 1913-14 as compared with 333,903 during 1912-13 and 273,402 during 1911-12. The number of re-vaccinations performed with this method was 47,899 against 7,563, and 3,301 during the two preceding years. The average of the triennial period in primary vaccination and re-vaccination was 434,371 and 19,588.

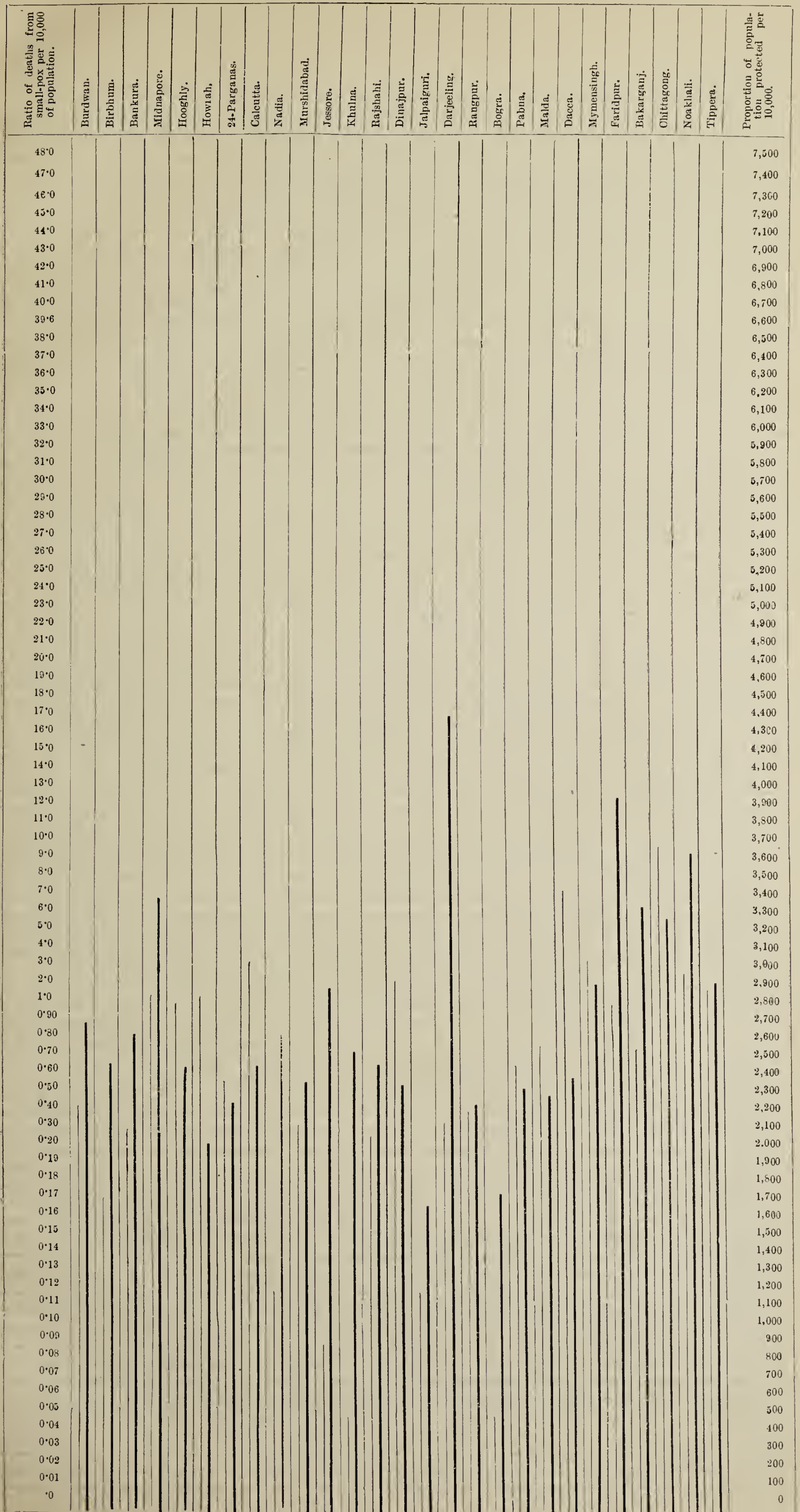
8. **Factory and tea garden vaccination.**—The total number of primary and re-vaccination operations performed in factories and tea gardens in Bengal during 1913-14 was 2,640 and 1,672 against 3,386 and 1,291 during 1912-13 and 2,752 and 665 during 1911-12. The average of the triennial period in primary vaccination and re-vaccination was 2,926 and 1,209.

9. **Cost of and contribution towards vaccination.**—The total average cost of vaccination in Bengal for the triennial period under review was Rs. 1,79,380-10-7 against Rs. 1,62,068-4-6 during 1909-11, the cost of each successful vaccination being one anna and seven pies against one anna and six pies. Out of the average cost of vaccination as shown above Rs. 2,448-8-9 were contributed by District Boards and Rs. 84-2-8 by cantonments, the corresponding figures for the previous triennial period being Rs. 1,331 and Rs. 104-11-6 respectively.

10. **Diagram illustrating death rates from small-pox and degree of protection afforded.**—The diagram facing this page illustrates the death-rates from small-pox in each district, the proportion of population protected against the disease by vaccination during the past seven years being shown side by side.

11. **Deaths from small-pox.**—During 1913-14 the total number of deaths from small-pox in the Presidency was 8,134 against 9,684 and 6,674 during 1912-13 and 1911-12 respectively, the ratio of deaths per 1,000 of the population being ·17 against ·21 and ·14 during the two preceding years.

Diagram illustrating death-rates from small-pox and degree of protection afforded 1907—1914.



NOTE--Thin lines indicate the death-rates from small-pox.
Thick lines indicate the proportion of population protected by vaccination.

The largest number of deaths were recorded in the districts of Dacca (2,079), Chittagong (1,469), Mymensingh (1,429), Tippera (437), Midnapore (401), Dinajpur (360), Calcutta (316), Noakhali (309), Faridpur (217), Bakarganj (188), 24-Parganas (134), Hooghly (131) and Howrah (131), while the districts of Bogra, Khulna and Darjeeling show only 5, 7, and 9 deaths respectively. It will be seen that a very large majority, 83·86 per cent. of the deaths occurred in the Eastern Bengal districts, where recent inspection by the Deputy Sanitary Commissioner revealed great laxity and want of management and supervision of vaccination by the subordinate staff. I have already brought this to the notice of Government in a separate communication with a view to remedial measures being adopted.

12. **Animal Vaccine Depot.**—During 1913-14 altogether 2,212 calves were vaccinated at the Animal Vaccination Depôt, Calcutta, against 2,253 and 1,973 in the two preceding years, the quantity of lymph manufactured therefrom being 744,054, 675,228 and 568,113 grains respectively. The average of the triennial period was 2,146 calves and 662,465 grains of lymph against 1,896 calves and 516,658 grains of lymph during the previous epoch.

13. **Different methods of vaccination.**—During the past year 21,149 primary operations were performed with lymph taken direct from calf, 595,642 with lanoline lymph, 955,768 with glycerinated lymph manufactured at the Shillong Animal Vaccination Depot, and 1,631 by the arm-to-arm method against 26,347, 619,948, 1,139,989 and 859 respectively during the preceding year and 17,689, 635,651, 1,135,619 and Nil during the year before (1911-12). The ratio per cent. of success under each of these methods of vaccination was 97·69, 98·76, 98·13 and 94·91 respectively against 98·51, 98·19, 97·28 and 90·10 respectively during 1912-13 and 99·81, 98·39, 96·75 and Nil respectively during 1911-12. The number of re-vaccinations under each of these processes of vaccination was 11,216, 65,523, 203,771, and 727 with a success of 50·98, 55·70, 63·76 and 56·67 per cent. as compared with 11,933, 48,687, 136,189 and 387 operations with a success of 44·78, 43·54, 62·55 and 77·5 per cent. during 1912-13 and 2,869, 36,031, 96,187 and 207 operations with a success of 54·13, 44·50, 63·68 and 50·24 respectively during 1911-12.

14. **Inspections.**—During 1913-14 Captain A. M. Jukes, i.m.s., Captain K. K. Mukerji, i.m.s., and Dr. R. B. Khambata, Deputy Sanitary Commissioners of the Presidency, Burdwan and Rajshahi Circles, inspected 15,566, 19,500 and 10,585 operations respectively. Dr. M. E. Sufi, Deputy Sanitary Commissioner of the Dacca Circle, was able to inspect only 4,542 cases as all his time was taken up in overcoming opposition to vaccination, checking the accuracy of previous year's vaccination figures, and organising as far as possible proper vaccination measures in the Bakarganj District. The Civil Surgeons saw 59,778 or 3·22 per cent. of the total operations performed in the Presidency. Two of them, viz., the Civil Surgeons of Midnapore and Dinajpur, saw 5,000 to 10,000 operations, 11 from 2,000 to 5,000, 3 from 1,000 to 2,000 and 11 below 1,000 cases. The Civil Surgeon of Faridpur reported that he was unable to inspect vaccination for want of time. This explanation cannot be considered satisfactory.

The Vaccination Inspectors and Sub-Inspectors inspected 1,279,122 cases or 68·87 per cent. of the total operations performed in the Presidency. No fixed percentage of inspection is now insisted on in the case of these officers. Under this Department Circular No. 15, dated the 19th July 1911, these officers are now required to pay more attention to the quality than to the quantity of work done and to report on each vaccinator's work. Every Inspector inspects the work of all the vaccinators once and every Sub-Inspector twice during the season.

15. **General remarks.**—During 1913-14, the system of antiseptic vaccination which is in force in the districts of West Bengal was introduced into the Eastern Bengal districts and it appears from the reports received from Civil Surgeons that the result has been fairly satisfactory. A revised scale of travelling allowance for the subordinate vaccination inspecting staff has been introduced with the sanction of Government. It is hoped that this, by preventing the abuses in travelling which existed before, will lead to more efficient supervision of vaccination. The increase in the number of Deputy Sanitary Commissioners has rendered it possible to organise a thorough and

systematic inspection of vaccination by the superior officers of the Department, the want of which was so keenly felt by myself and my predecessors. Already many abuses practised by the vaccinators and the Inspectors and Sub-Inspectors of Vaccination have been brought to light and prompt measures are being taken to remedy these. In some of the Eastern Bengal districts, specially Bakarganj, inaccurate figures have been for years furnished to swell the number of vaccinations in the returns, whereas on close inspection it appears that actually very little work was done. This is a serious matter and it is no wonder that mortality from small-pox has gone on increasing in these districts during the past five years. It is urgently necessary to take strong measures to put a stop to the abuses referred to. I have already in a separate communication asked for Government sanction to the entertainment of two special Supervising Officers who will help the Deputy Sanitary Commissioner in carrying out the necessary reforms.

16. The prescribed statements are appended to this report.

A. B. FRY, M.D., D.P.H., MAJOR, I.M.S.,

Offg. Sanitary Commissioner for Bengal.

CALCUTTA,

The 11th June 1914.

STATISTICAL RETURNS.

STATEMENT No. I—Showing particulars of Vaccination

No.	DISTRICT.	Population of district according to the census of 1911.	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.
					Male.	Female.	Total.	
1	2	3	4	5	6	7	8	
<i>Burdwan Division.</i>								
1	Burdwan Licensed	1,444,185	541	35	27,912	24,658	52,570	1,502
2	Birbhum { Paid by District Board Licensed	926,342	529	21	13,229	12,443	25,672	1,222
3	Bankura Licensed	1,081,464	415	57	21,951	20,461	42,412	744
4	Midnapur Do.	2,738,301	531	106	85,826	69,671	155,497	1,467
5	Hooghly Do.	938,615	811	37	17,875	16,310	34,185	924
6	Howrah Do.	741,719	1,489	24	10,845	10,422	21,267	886
Total of Burdwan Division { Paid by District Board Licensed		7,870,626	569	280	177,638	153,965	331,603	1,184
Total				281	177,726	154,068	331,794	1,181
<i>Presidency Division.</i>								
7	24 Parganas Licensed	1,885,590	950	61	29,444	23,790	58,234	954
8	Calcutta Paid by Municipality	896,067	28,002	58	46,337	22,847	69,184	1,193
9	Nadia Licensed	1,521,928	553	52	27,639	23,515	53,154	1,022
10	Murshidabad Do.	1,238,791	609	45	19,411	17,958	37,369	830
11	Jessore Do.	1,737,066	596	66	37,955	33,574	73,829	1,118
12	Khulna Do.	1,337,579	650	40	29,949	28,335	58,334	1,458
Total of Presidency Division { Paid by Calcutta Municipality Licensed		8,667,021	718	264	144,393	136,522	280,920	1,064
Total				322	190,735	159,369	350,104	1,087
<i>Rajshahi Division.</i>								
13	Rajshahi Licensed	1,448,930	554	35	23,259	22,360	48,619	1,389
14	Dinajpur Do.	1,671,918	424	37	33,924	25,685	60,009	1,622
15	Jalpaiguri Do. (a)	890,895	305	21	9,270	8,193	17,463	831
16	Darjeeling Paid by Improvement Fund	240,971	208	14	8,882	8,746	17,628	1,259
17	Rangpur Ditto ditto	2,363,901	682	63	46,470	39,343	86,414	1,371
18	Bogra Ditto ditto	970,366	715	20	11,912	10,530	22,442	1,122
19	Pabna Ditto ditto	1,384,535	754	30	19,333	16,594	35,927	1,197
20	Malda Ditto ditto	962,765	509	23	15,703	14,161	29,864	1,298
Total of Rajshahi Division { Paid by Darjeeling Improvement Fund, Licensed		9,939,281	518	229	162,871	137,867	300,738	1,313
Total				243	171,753	146,613	318,366	1,310
<i>Dacca Division.</i>								
21	Dacca Licensed	2,823,975	1,021	65	56,929	50,320	107,249	1,650
22	Mymensingh Do.	4,404,353	711	117	130,988	94,651	225,639	1,928
23	Faridpur Do.	2,089,710	815	80	47,053	41,719	88,772	1,109
24	Bakarganj Do.	2,380,293	515	72	27,313	21,880	49,193	683
Total of Dacca Division		11,698,331	724	334	262,283	208,570	470,853	1,409
<i>Chittagong Division.</i>								
25	Chittagong Licensed	1,475,289	593	59	48,135	38,925	87,060	1,475
26	Noakhali Do.	1,295,081	788	46	44,628	34,313	78,941	1,716
27	Tipperra Do.	2,372,434	954	86	60,474	52,035	112,509	1,308
28	Chittagong Hill Tracts Paid by Government	153,879	30	11	3,908	3,602	7,510	683
Total of Chittagong Division { Paid by Government Licensed		5,296,683	451	191	153,237	125,273	278,510	1,458
Total				202	157,145	128,875	286,020	1,416
Total for the Province { Paid by District Board Paid by Calcutta Municipality Licensed Paid by Darjeeling Improvement Fund, Paid by Government		43,471,942	608	1,293	900,427	762,197	1,662,624	1,281
GRAND TOTAL				1,382	959,642	797,495	1,757,137	1,271

Sum

	TOTAL NUMBER OF PERSONS VACCINATED.		TOTAL NUMBER OF OPERATIONS PERFORMED.	
	Primary.	Re-vaccination.	Primary.	Re-vaccination.
<i>By Special Staff.</i>				
Licensed	1,457,815	204,809	1,464,498	205,219
<i>By Dispensary Staff.</i>				
Municipalities, Jails, Cantonments, Dispensaries and Railways...	60,966	29,534	61,416	29,569
<i>By other agencies.</i>				
District Boards, Calcutta Corporation, Darjeeling Improvement Fund and paid by Government.	48,064	46,449	48,276	46,449
Total	1,566,845	280,792	1,574,190	281,237

(a) In Jalpaiguri 1,867 operations were performed in the Tea gardens, details of

in the districts of Bengal during the year 1913-14.

PRIMARY VACCINATION.					RE-VACCINATION.			PERCENTAGE OF SUCCESSFUL CASES IN WHICH THE RESULTS WERE KNOWN.		Persons successfully vaccinated per 1,000 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.	Successful.			Unknown.	Total.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	Number.	Ratio per 1,000 of population.	Number.	Ratio per 1,000 of population.
8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24
52,159	25,311	22,741	52,060	8	502	226	...	99.82	45.02	36.20	.01	...	55,864	38.68	376	.26
146	39	69	144	2	45	8	...	100.00	17.77	...	...	...	33,559	36.22	233	.25
25,306	11,760	10,914	25,233	...	379	219	...	99.71	57.78	27.64	...	...	41,299	38.18	308	.28
41,993	15,722	23,286	41,956	4	419	250	...	99.92	59.66	39.02	.009	...	134,315	45.43	895	.32
105,269	44,575	42,461	101,863	202	53,430	30,442	1,006	96.95	58.06	48.31	.19	1.88	34,335	36.58	384	.40
34,103	13,617	17,124	33,737	26	447	333	...	99.00	75.61	36.30	.07	...	21,642	29.17	420	.56
21,287	7,582	12,314	21,102	23	75	25	6	99.24	36.23	28.48	.10	8.00				
146	39	69	144	2	45	8	...	100.	17.77	...	...	...	
280,117	118,567	129,340	275,953	263	55,252	31,500	1,012	99.68	58.07	39.08	1.37	1.83	321,014	40.78	2,616	.33
280,263	118,606	129,409	276,097	265	55,297	31,508	1,012	98.60	58.04	...	.09	1.83				
59,509	26,286	25,694	57,856	49	252	194	...	97.30	76.98	30.78	.08	...	62,779	33.29	516	.27
26,302	9,703	15,506	25,707	509	42,882	19,056	3,492	99.66	48.37	49.95	1.93	8.14	30,230	33.73	876	.97
52,886	29,448	22,658	52,722	17	415	203	5	99.72	49.51	31.77	.03	1.20	57,161	37.55	108	.07
36,974	19,744	16,386	36,436	193	426	278	45	99.06	72.96	28.48	.52	10.56	44,534	34.55	232	.18
72,782	33,347	34,895	72,656	8	1,047	580	...	99.83	55.39	42.16	.01	...	73,069	42.64	202	.11
57,855	27,748	26,354	57,775	24	493	367	43	99.90	81.55	43.46	.04	8.72	47,672	35.64	47	.03
26,302	9,708	15,506	25,707	509	42,882	19,056	3,492	99.66	48.37	...	1.93	8.14				
280,006	136,573	125,987	277,445	291	2,633	1,622	93	99.19	63.86	...	.10	3.53	315,445	36.39	1,981	.22
306,308	146,281	141,493	303,152	800	45,515	20,678	3,585	99.22	49.31	...	.26	7.87				
42,088	23,771	17,210	41,765	57	6,553	4,339	218	99.36	77.96	32.23	.13	3.32	50,264	34.69	269	.18
49,674	19,480	26,793	48,489	206	10,363	6,647	207	98.02	65.45	32.97	.41	1.99	59,861	35.80	781	.46
16,696	9,969	6,171	16,554	11	838	723	6	99.21	86.90	19.39	.06	.71	20,955	23.52	180	.20
14,644	5,075	5,768	14,214	419	3,097	2,253	28	99.92	73.41	68.33	2.86	.90	14,112	58.56	9	.03
84,065	24,438	54,287	82,828	241	2,377	1,304	185	98.81	59.49	35.51	.28	7.78	74,361	31.39	2,356	.99
22,181	10,013	11,122	22,131	...	309	126	8	99.77	41.86	22.93	...	2.59	23,600	24.32	797	.82
34,566	10,682	21,440	33,851	178	1,379	734	44	98.44	54.98	24.97	.51	3.19	46,905	33.87	459	.33
29,175	22,385	6,526	29,008	80	778	483	26	99.70	64.89	30.63	.27	3.34	32,257	33.49	78	.08
14,644	5,075	5,768	14,214	419	3,097	2,253	28	99.92	73.41	...	2.86	.90				
278,445	120,738	143,549	274,626	773	22,597	14,956	694	98.90	68.28	30.79	.27	3.07	322,315	32.42	4,929	.49
293,089	125,813	149,317	288,840	1,192	25,694	17,209	722	98.95	68.01	...	.40	2.81				
91,257	19,395	61,579	88,632	729	16,351	7,217	686	97.90	46.07	33.94	.79	4.19	98,427	34.85	1,046	.37
169,317	46,946	96,373	165,815	970	56,354	48,212	1,278	98.49	83.90	48.14	.57	2.26	184,432	41.87	2,633	.60
81,628	20,937	45,275	80,581	264	7,641	5,231	376	99.03	72.00	41.06	.32	4.92	123,676	59.18	248	.11
47,920	5,162	23,331	46,759	299	1,868	730	82	98.19	56.76	19.95	.62	5.99	125,166	52.58	262	.11
390,122	92,440	226,558	381,787	2,262	81,714	59,390	2,422	98.43	74.90	37.71	.57	2.96	531,701	45.45	4,189	.35
66,996	10,264	47,160	63,358	443	20,064	13,748	683	98.20	70.93	53.62	.66	3.40	69,518	47.12	186	.12
60,689	23,266	30,660	60,019	113	18,369	13,932	623	99.08	78.50	57.10	.18	3.39	65,718	50.74	94	.07
108,123	39,431	57,915	106,714	393	4,590	3,332	234	99.05	76.49	46.38	.36	5.09	99,285	41.84	436	.18
7,184	1,468	3,656	7,032	17	425	192	1	98.11	45.28	46.98	.23	.23	5,970	38.79		Not under registra- tion.
7,184	1,468	3,656	7,032	17	425	192	1	98.11	45.28	...	.23	.23				
235,808	72,961	135,735	232,091	949	43,023	31,012	1,540	98.82	74.75	...	.40	3.58	240,491	45.40	716	.13
242,992	74,429	139,391	239,123	966	43,448	31,204	1,541	98.80	74.46	...	1.39	3.54				
146	39	69	144	2	45	8	...	100.0	17.77	...	...	...	
26,302	9,708	15,506	25,707	509	42,882	19,056	3,492	99.66	48.37	...	1.93	8.14				
1,464,498	541,279	761,169	1,441,902	4,538	205,219	138,480	5,761	98.76	69.42	...	.30	2.80	1,730,966	39.81	14,431	.23
14,644	5,075	5,768	14,214	419	3,097	2,253	28	99.92	73.41	...	2.86	.90				
7,184	1,468	3,656	7,032	17	425	192	1	98.11	45.28	...	.23	.23				
1,512,774	557,569	786,168	1,488,999	5,485	251,668	159,939	9,282	98.78	66.00	...	.36	3.68				

mary.

PERCENTAGE OF SUCCESSFUL CASES IN WHICH RESULTS WERE KNOWN.		AVERAGE NUMBER OF PERSONS VACCINATED BY EACH VACCINATOR.		NUMBER OF CHILDREN SUCCESSFULLY VACCINATED.		Ratio of successful vaccinations per 1,000 of population.	Total cost of Department.	Average cost of each successful case.
Primary.	Re-vaccination.	Vaccinators employed.	Persons vaccinated by each vaccinator.	Under 1 year.	1 and under 6 years.			
98.76	69.42	1,298	1,281	541,279	761,169	37.83	198,162 8 2	Rs. A. P. 0 2 10
98.30	47.49	129	701	23,074	30,789			
99.51	50.10	84	1,125	16,290	24,999			
98.76	64.18	1,511	1,223	580,643	816,957			

which could not be had, hence they have been excluded from this statement.

STATEMENT II.—Showing the cost of Vaccination in the

															EXPEN-
No.	CIRCLE AND DISTRICT.	European Super- vising Officers.	Pay.	Native Super- vising Officers.	Pay.	Paid vaccinators.	Pay.	Licensed vacci- nators.	Pay.	Clerks.	Pay.	Peons, etc.	Pay.	Total pay of establishment.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	
			Rs. A. P.				Rs. A. P.				Rs. A. P.				Rs. A. P.
<i>Burdwan Division.</i>															
1	Burdwan ... ..	...	...	5	1,872 0 0	...	...	35	...	...	...	...	...	1,872 0 0
2	Birbhum ... ..	...	...	3	1,225 0 0	1	43 6 4	21	32 4 0	...	...	...	...	1,300 10 4
3	Bankura ... ..	...	...	3	1,140 0 0	...	...	57	...	...	...	...	...	1,140 0 0
4	Midnapore ... ..	...	...	7	2,636 13 0	...	...	106	2,221 0 0	...	...	...	...	4,857 13 0
5	Hooghly ... ..	...	...	4	1,613 1 8	...	...	37	31 4 0	...	...	...	...	1,644 5 8
6	Howrah ... ..	...	...	3	1,050 0 0	...	...	24	...	...	...	...	...	1,050 0 0
Total of Burdwan Division.		...	...	25	9,536 14 8	1	43 6 4	280	2,234 8 0	...	...	...	...	11,864 13 0
<i>Presidency Division.</i>															
7	21-Parganas ... ..	...	...	7	2,520 0 0	...	...	61	...	...	...	...	...	2,520 0 0
8	Calcutta Animal Vaccina- tion Depot for manufac- turing lymph.	...	...	5	4,848 6 1	...	...	...	...	1	240 0 0	20	2,138 11 1	7,227 1 2
9	Calcutta (b) ... ..	...	...	9	6,559 5 0	58	14,483 4 2	...	...	...	...	18	2,066 2 8	23,107 11 10
10	Nadia ... ..	...	...	6	2,194 14 4	...	...	52	...	...	...	...	...	2,194 14 4
11	Murshidabad ... ..	...	...	5	1,889 0 11	...	...	45	...	...	...	...	...	1,889 0 11
12	Jessore ... ..	...	...	6	2,116 11 2	...	...	66	...	...	...	...	...	2,116 11 2
13	Khulna ... ..	...	...	4	1,691 7 1	...	...	40	...	...	...	...	...	1,691 7 1
Total of Presidency Division.		...	...	42	21,819 12 7	58	14,482 4 2	264	...	1	240 0 0	38	4,204 13 9	40,746 14 6
<i>Rajshahi Division.</i>															
14	Rajshahi ... ..	...	...	4	1,525 7 6	...	...	35	...	...	...	...	...	1,525 7 6
15	Dinajpur ... ..	...	...	4	1,500 0 0	...	...	37	...	...	...	...	...	1,500 0 0
16	Jalapaiguri ... ..	...	...	3	1,331 1 9	...	...	21	6 12 0	...	...	...	...	1,337 13 9
17	Darjeeling ... ..	...	...	3	1,980 0 0	15(c)	1,375 12 9	...	...	...	...	...	...	3,355 12 9
18	Rangpur ... ..	...	...	5	2,064 7 11	...	...	63	31 0 0	...	...	...	...	2,095 7 11
19	Bogra ... ..	...	...	2	957 0 0	...	...	20	...	...	...	...	...	957 0 0
20	Pabna ... ..	...	...	3	1,157 4 3	...	...	30	...	...	...	...	...	1,157 4 3
21	Malda ... ..	...	...	2	840 0 0	...	...	23	19 8 5	...	...	...	...	859 8 5
Total of Rajshahi Division.		...	...	26	11,355 5 5	15	1,375 12 9	229	57 4 5	...	...	...	...	12,788 6 7
<i>Dacca Division.</i>															
22	Dacca ... ..	...	...	5	2,171 14 5	...	...	65	454 9 0	...	...	...	...	2,626 7 5
23	Mymensingh ... ..	...	...	7	2,634 0 11	...	...	117	210 12 0	...	...	...	...	2,844 12 11
24	Faridpur ... ..	...	...	6	2,214 11 9	...	...	80	141 12 0	...	...	...	...	2,356 7 9
25	Bakarganj ... ..	...	...	5	1,740 0 0	...	...	72	...	...	...	...	...	1,740 0 0
Total of Dacca Division.		...	...	23	8,760 11 1	...	...	334	807 1 0	...	...	...	...	9,567 12 1
<i>Chittagong Division.</i>															
26	Chittagong ... ..	...	...	3	1,121 2 0	...	...	59	130 8 0	...	...	...	...	1,251 10 0
27	Noakhali ... ..	...	...	4	1,662 2 6	...	...	46	134 12 0	...	...	...	...	1,796 14 6
28	Tippera ... ..	...	...	4	1,498 5 8	...	...	86	91 4 0	...	...	...	...	1,589 9 8
29	Chittagang Hill Tracts ...	...	...	3	1,620 0 0	11	948 0 0	...	...	...	...	...	...	2,568 0 0
Total of Chittagong Division.		...	...	14	5,901 10 2	11	948 0 0	191	356 8 0	...	...	...	...	7,206 2 2
Total of the Vaccina- tion Circles.		...	...	130	57,374 5 11	85	16,849 7 3	1,298	3,505 5 5	1	240 0 0	38	4,204 13 9	82,174 0 4
30	Establishment of the Deputy Sanitary Commis- sioners.	4	25,348 0 7	...	...	...	...	...	...	5	2,021 11 3	6	404 2 5	27,773 14 3
Total of the Province ...		4	25,348 0 7	130(e)	57,374 5 11	85	16,849 7 3	1,298	3,505 5 5	6	2,261 11 3	44	4,609 0 2	1,09,947 14 7	
31	Municipalities ... ..	...	...	4	2,409 0 0	129	14,184 6 2	...	...	...	...	2	205 6 9	16,798 12 11
32	Railway Vaccination ...	...	...	...	...	...	...	...	...	...	...	...	...	...
GRAND TOTAL ...		4	25,348 0 7	134	59,783 5 11	214	31,033 13 5	1,298	(d) 3,505 5 5	6	2,261 11 3	46	4,814 6 11	1,26,746 11 6	

The cost of each successful

(a) Includes Rs. 1,850 as compensation to
 (b) In Calcutta 9 Inspectors include 2
 (c) In Darjeeling 15 paid vaccinators include
 (d) Depuration allowance paid to vacci-
 (e) In addition to this there are 3 supernu

districts of Bengal during the year 1913-14.

EXPENDITURE.				PAID FROM—							Number of all successful vaccinations and re-vaccinations.	Average cost of each successful case.
Travelling allowance.	Contingencies.		Total cost.	Imperial fund.	Provincial fund.	Local fund.	Municipalities.	Native States.	Total.			
	Cost of lymph.	Other contingencies.										
16	17	18	19	20	21	22	23	24	25	26	27	
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.		Rs. A. P.	
1,483 9 0	...	208 0 0	3,563 9 0	...	3,563 9 0	...	...	...	3,563 9 0	52,286	0 1 1
825 13 0	...	140 13 9	2,267 5 1	...	2,223 14 9	43 6 4	...	...	2,267 5 1	25,604	0 1 5
960 15 6	...	164 0 0	2,264 15 6	...	2,264 15 6	...	...	...	2,264 15 6	42,206	0 0 10
1,974 1 1	135 0 0	392 0 0	7,358 14 1	...	5,108 14 1	2,250 0 0	...	...	7,358 14 1	132,307	0 0 10
597 4 11	24 12 0	131 5 0	2,397 11 7	...	2,372 15 7	24 12 0	...	...	2,397 11 7	34,075	0 1 1
446 14 6	...	120 11 9	1,617 10 3	...	1,617 10 3	...	...	...	1,617 10 3	21,127	0 1 2
6,288 10 0	159 12 0	1,156 14 6	19,470 1 6	...	17,151 15 2	2,318 2 4	...	...	19,470 1 6	307,605	...
1,726 12 0	...	219 0 6	4,465 12 6	...	4,465 12 6	...	...	...	4,465 12 6	58,050	0 1 2
...	...	12,100 0 0	19,327 1 2	...	19,327 1 2	...	...	...	19,327 1 2	...	...
227 9 2	5,777 11 2	1,876 15 6	30,989 15 8	...	...	...	30,989 15 8	...	30,989 15 8	44,763	0 11 1
1,611 14 0	...	229 15 0	4,036 11 4	...	4,036 11 4	...	...	...	4,036 11 4	52,925	0 1 2
1,365 5 6	...	207 0 0	3,461 6 5	...	3,461 6 5	...	...	...	3,461 6 5	36,714	0 1 6
1,550 6 6	...	165 0 0	3,832 1 8	...	3,832 1 8	...	...	...	3,832 1 8	73,236	0 0 10
958 5 11	...	197 1 0	2,846 14 0	...	2,846 14 0	...	...	...	2,846 14 0	58,142	0 0 9
7,440 5 1	5,777 11 2	14,995 0 0	68,959 14 9	...	37,969 15 1	...	30,989 15 8	...	68,959 14 9	323,830	...	
1,063 3 3	...	173 0 0	2,761 10 9	...	2,761 10 9	...	...	...	2,761 10 9	46,704	0 0 11
1,198 4 0	...	161 6 9	2,859 10 9	...	2,859 10 9	...	...	...	2,859 10 9	55,136	0 0 9
694 6 6	...	137 12 2	2,170 0 5	...	2,170 0 5	...	...	...	2,170 0 5	17,277	0 2 0
1,900 1 9	...	95 0 0	5,350 14 6	...	3,265 1 9	2,085 12 9	...	...	5,350 14 6	16,467	0 5 2
1,033 15 0	...	280 0 0	3,409 6 11	...	3,409 6 11	...	...	...	3,409 6 11	84,132	0 0 7
338 8 6	...	107 4 0	1,402 12 6	...	1,402 12 6	...	...	...	1,402 12 6	22,257	0 1 0
837 4 3	...	135 14 0	2,130 6 6	...	2,130 6 6	...	...	...	2,130 6 6	34,585	0 0 11
488 3 6	...	147 0 0	1,494 11 11	...	1,475 3 6	19 8 5	...	...	1,494 11 11	29,491	0 0 9
7,553 14 9	...	1,237 4 11	21,579 10 3	...	19,474 5 1	2,105 5 2	...	...	21,579 10 3	306,049	...
2,066 11 6	...	387 8 0	5,080 10 11	...	5,080 10 11	...	...	...	5,080 10 11	95,849	0 0 10
1,885 12 6	...	607 14 0	5,338 7 5	...	5,138 7 5	200 0 0	...	...	5,338 7 5	212,027	0 0 4
2,180 10 3	...	232 0 0	4,769 2 0	...	4,769 2 0	...	...	...	4,769 2 0	85,812	0 0 10
3,056 7 0	...	200 0 0	4,996 7 0	...	4,996 7 0	...	...	...	4,996 7 0	47,489	0 1 8
9,189 9 3	...	1,427 6 0	20,184 11 4	...	19,984 11 4	200 0 0	...	...	20,184 11 4	441,177	...
883 4 9	...	119 15 3	2,254 14 0	...	2,254 14 0	...	...	...	2,254 14 0	79,106	0 0 5
1,333 9 6	...	155 4 0	3,285 12 0	...	3,285 12 0	...	...	...	3,285 12 0	73,951	0 0 8
1,427 2 0	...	89 15 0	3,106 10 8	...	3,106 10 8	...	...	...	3,106 10 8	110,046	0 0 5
501 12 0	...	84 4 0	3,154 0 0	...	3,154 0 0	...	...	...	3,154 0 0	7,224	0 6 11
4,145 12 3	...	449 6 3	11,801 4 8	...	11,801 4 8	...	...	...	11,801 4 8	270,327	...
34,618 3 4	5,937 7 2	19,265 15 8	1,41,995 10 6	...	1,06,382 3 4	4,623 7 6	30,989 15 8	...	1,41,995 10 6	1,648,988	0 1 4	
6,276 11 0	...	3,672 8 7	37,723 1 10	...	37,723 1 10	...	...	...	37,723 1 10	...	...
40,894 14 4	5,937 7 2	22,938 8 3	1,79,718 12 4	...	1,44,105 5 2	4,623 7 6	30,989 15 8	...	1,79,718 12 4	1,648,988	0 1 9	
...	96 5 3	1,548 9 8	18,443 11 10	...	1,305 0 0	100 10 6	17,038 1 4	...	18,443 11 10	68,951	0 4 3	
...	...	...	...	...	...	...	...	...	...	3,052	...
40,894 14 4	6,033 12 5	24,487 1 11	1,98,162 8 2	...	1,45,410 5 2	4,724 2 0	48,028 1 0	...	1,98,162 8 2	1,720,991	0 1 10	

case by the special staff is 0-1-4 one anna and four pies.

vaccinators in the flooded areas.
 temporary inspectors and 58 vaccinators include 14 temporary vaccinators.
 1 head or supervising vaccinator and 1 temporary vaccinator.
 nators.
 merary native supervising officers.

STATEMENT No. III.—Showing particulars of Vaccination performed by Vaccinators attached to Municipalities, Dispensaries, etc., in the Province of Bengal during the year 1913-14.

DISTRICT,	Number of municipalities dispensaries, etc., in each district to which a vaccinator is attached.	Average number of vaccinators attached to municipalities, dispensaries, etc., during the year.	Total number of persons vaccinated.	Average number of persons vaccinated by each vaccinator.	NUMBER OF CASES PRIMARILY VACCINATED.					NUMBER OF CASES RE-VACCINATED.			PERCENTAGE OF SUCCESSFUL CASES IN WHICH THE RESULTS WERE KNOWN.		PERCENTAGE OF UNKNOWN CASES TO TOTAL CASES.	
					Total.	Successful.			Unknown.	Total.	Successful.	Unknown.	Primary.	Re-vaccination.	Primary.	Re-vaccination.
						Under 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	15	16	17
Burdwan	6	6	5,356	892	3,682	1,304	1,907	3,644	29	1,682	810	128	99.75	52.12	.78	7.61
Birbhum	1	1	829	829	308	91	217	308	...	521	291	3	100.	56.18	...	.57
Bankura	3	3	3,455	1,151	2,060	965	852	2,050	...	1,395	353	58	99.51	26.40	...	4.16
Midnapore	7	8	4,344	543	2,272	1,012	1,132	2,267	2	2,075	863	287	99.87	48.26	.09	13.83
Hooghly	8	9	5,114	568	3,723	1,318	1,785	3,634	13	1,474	892	23	97.95	61.47	.35	1.56
Howrah	2	7	6,455	922	5,698	1,992	3,433	5,510	52	834	432	79	99.35	53.66	.93	8.93
24-Parganas	27	32	17,702	553	15,904	7,755	7,572	15,776	14	1,917	820	1	99.29	42.79	.09	.05
Nadia	9	9	3,629	403	2,659	1,157	1,374	2,645	13	971	295	310	99.96	44.63	.49	31.92
Murshidabad	6	7	3,374	482	2,456	801	1,433	2,315	60	932	229	72	96.62	26.62	2.44	7.72
Jessore	3	3	1,295	431	483	173	281	482	...	812	369	56	99.79	48.81	...	6.89
Khulna	3	3	1,620	540	1,027	438	412	1,011	6	593	401	18	99.02	79.74	.58	3.03
Rajshahi	2	2	2,154	1,077	959	382	547	948	4	1,195	469	134	99.26	44.20	.41	11.21
Dinajpur	1	1	733	733	285	76	160	257	8	448	292	36	92.77	70.87	2.81	8.03
Jalpaiguri	1	1	819	819	377	145	159	358	11	443	220	52	97.81	56.26	2.91	11.73
Darjeeling	2	2	2,658	1,329	1,078	520	304	1,012	61	1,580	526	161	99.51	37.06	5.65	10.18
Rangpur	1	1	1,378	659	571	124	370	539	29	807	241	140	99.44	36.13	5.08	17.34
Bogra	2	2	1,202	601	652	246	370	629	17	553	190	65	99.05	38.93	2.60	11.75
Pabna	2	2	1,589	794	1,133	626	436	1,102	18	457	211	64	98.63	53.69	1.58	14.00
Malda	3	3	874	291	745	523	185	737	1	129	49	21	99.06	45.37	.13	16.27
Dacca	2	5	7,770	1,554	3,800	701	2,423	3,241	186	4,161	1,185	532	98.68	32.65	4.89	12.78
Mymensingh	8	8	5,376	672	3,176	964	1,792	3,091	37	2,200	1,162	118	98.47	55.81	1.16	5.36
Faridpur	2	2	1,748	874	1,089	143	745	1,083	6	659	281	133	100.	53.42	.55	20.18
Bakarganj	5	5	3,211	642	2,294	245	680	1,993	229	921	439	160	96.51	57.68	9.98	17.37
Chittagong	2	2	1,323	661	902	125	614	837	46	421	218	73	97.78	62.64	5.09	17.34
Noakhali	1	1	764	764	328	59	191	326	2	447	200	54	100.	50.88	.61	12.08
Tippera	3	3	1,866	622	2,596	819	590	1,556	38	289	162	66	99.87	72.64	2.38	22.83
Total	112	129	86,638	671	59,157	22,704	29,964	57,351	882	27,966	11,600	2,844	98.41	46.17	1.49	10.17
Vaccination performed by Railway staff.	...	...	3,862	...	2,259	370	825	2,088	70	1,603	964	271	95.38	72.37	3.09	16.90
Grand Total	112	129	90,500	701	61,416	23,074	30,789	59,439	952	29,569	12,564	3,115	98.30	47.49	1.55	10.53

In Jails and Railways operations were performed by their medical men.

COMPARATIVE STATEMENT NO. IV—Showing the number of Persons primarily vaccinated, and the number of those Persons who were successfully vaccinated in each of the undermentioned official years.

ESTABLISHMENT.		PERSONS PRIMARILY VACCINATED.																			
		1904-1905.		1905-1906.		1906-1907.		1907-1908.		1908-1909.		1909-1910.		1910-1911.		1911-1912.		1912-1913.		1913-1914.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	
Government ...	19,166	18,978	20,701	20,577	19,294	19,022	18,835	18,659	5,850	5,686	6,798	6,487	6,204	5,900	6,907	4,986	6,618	6,481	7,085	7,032	
Municipal ...	73,387	69,060	96,126	90,178	86,438	82,314	81,016	78,412	90,061	87,445	82,357	78,824	84,395	76,752	89,495	85,222	87,525	85,263	84,480	82,601	
Local Fund ...	3,685	3,407	483	477	2,368	2,316	2,143	2,128	1,225	1,225	15,038	14,987	12,734	12,651	10,989	10,816	12,079	12,078	14,677	14,245	
Dispensaries ...	799	766	2,849	2,522	2,985	2,338	1,551	1,440	1,313	1,172	1,294	1,179	223	153	1,428	1,247	2,777	2,535	2,788	2,532	
Work done by ex-Inoculator ...	1,537,213	1,510,704	1,613,655	1,586,477	1,487,417	1,463,063	1,532,495	1,504,682	1,622,835	1,597,818	1,601,179	1,542,850	1,593,351	1,540,951	1,693,179	1,630,184	1,665,033	1,636,925	1,457,815	1,438,277	
Total ...	1,634,250	1,602,915	1,733,814	1,700,231	1,598,502	1,569,053	1,636,040	1,605,351	1,732,334	1,704,377	1,706,666	1,644,327	1,696,907	1,636,407	1,801,598	1,732,455	1,774,032	1,742,682	1,566,845	1,544,687	

STATEMENT No. VI—Showing, side by side, the ratios per 1,000 of population, of deaths from Small-pox and the number of successful Vaccinations during the ten years ending 1913-14.

DISTRICT.	1904-05.		1905-06.		1906-07.		1907-08.		1908-09.		1909-10.		1910-11.		1911-12.		1912-13.		1913-14.	
	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.	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	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21
Bardwan	.26	53,111	.31	51,423	1.19	51,210	.71	49,340	.50	59,859	.48	61,759	.15	56,164	.11	60,238	.08	63,524	.04	56,740
Birbhum	.78	37,420	.14	31,359	.39	24,025	1.02	30,954	.73	38,883	.38	39,521	.05	31,925	.03	39,683	.05	31,652	.01	26,203
Bankura	.07	46,685	.07	47,921	.26	46,180	.28	35,800	.37	39,901	.43	45,218	.63	46,157	.008	46,818	.03	38,463	.02	44,609
Midnapore	.16	107,815	.11	124,204	.38	123,488	.52	128,400	.61	136,950	.86	143,751	.13	140,050	.08	130,263	.03	143,734	.14	135,437
Hooghly	.03	28,754	.20	30,789	.73	34,265	.71	33,291	.89	33,759	.91	37,782	.15	37,139	.08	34,248	.12	44,207	.12	38,601
Hoxrah	.03	24,863	.79	31,893	1.26	26,188	.47	26,401	2.17	29,435	1.75	28,378	.09	25,404	.01	26,137	.10	44,207	.13	27,069
24-Parganas	.05	76,301	.12	80,490	.65	74,693	.93	75,965	.89	82,580	.64	80,610	.07	77,475	.02	77,839	.02	78,223	.03	74,646
Calcutta	.14	21,346	2.34	52,329	2.09	29,394	.95	25,082	3.75	46,583	1.19	27,065	.05	22,657	.05	26,861	.10	27,981	.35	44,763
Nadia	.11	60,102	.05	71,093	.08	62,1978	.12	64,698	.14	66,119	.20	57,324	.01	58,241	.009	58,901	.01	62,467	.01	55,865
Murshidabad	.17	41,748	.48	42,964	.56	64,305	.86	47,481	.30	48,365	.32	49,257	.20	49,257	.13	50,447	.02	42,344	.03	39,258
Jessore	.003	52,250	.04	64,283	.09	53,437	.09	64,534	.08	67,093	.23	77,098	.12	73,804	.11	75,565	.01	76,008	.009	74,087
Khulna	.003	37,386	.02	31,970	.04	37,463	.03	43,316	.05	41,944	.12	41,344	.005	45,006	.008	62,916	.001	51,502	.003	59,554
Rajshahi	.02	49,475	.02	53,292	.27	55,707	.25	54,955	.13	55,033	.59	45,384	.16	52,092	.02	54,756	.01	49,617	.02	48,121
Dinajpur	.22	41,375	.11	45,921	.15	43,789	.17	39,973	.44	54,594	1.53	92,698	.35	51,975	.09	48,862	.07	53,455	.21	55,685
Jalpaiguri	.92	23,287	.04	27,684	.02	23,737	.06	28,253	.28	25,697	.26	20,417	.40	21,129	.14	20,425	.01	18,993	.01	17,855
Darjeeling	.03	16,032	.02	20,758	.45	29,445	.03	17,594	.03	17,835	.08	19,076	.07	15,106	...	14,146	...	15,289	.03	18,005
Rangpur	.74	64,629	.01	70,834	.03	57,700	.12	74,539	1.47	84,115	3.45	86,501	.37	67,487	.12	67,898	.02	69,166	.04	84,912
Bogra	.12	23,327	.14	23,748	.27	24,546	.28	23,929	.80	26,523	3.25	26,450	.56	25,644	.03	20,925	.04	21,888	.003	23,076
Pabna	.73	42,960	.10	46,701	.06	47,275	.33	51,182	.95	47,674	.54	32,897	.06	51,043	.04	37,987	.05	52,351	.06	35,898
Malda	.02	31,705	.001	32,032	.10	31,474	.19	31,353	.07	33,178	.45	39,909	.20	35,497	.01	31,409	.02	26,356	.07	30,277
Dacca	.53	106,289	.17	88,154	.10	79,548	.12	96,851	.18	94,843	.35	96,721	.23	108,211	.35	99,663	.84	113,116	.70	100,275
Mymensingh	.11	163,386	.16	166,830	.07	145,931	.05	156,267	.10	181,983	.59	171,114	.96	179,780	.81	201,244	.68	209,144	.31	216,280
Faridpur	.01	123,866	.02	141,847	.04	111,316	.05	114,277	.09	131,135	.22	123,821	.07	128,793	.10	114,561	.13	123,702	.10	87,176
Bakarganj	.02	127,154	.16	116,892	.07	113,538	.19	132,134	.21	146,408	.21	144,758	.03	101,416	.03	127,943	.04	116,514	.07	49,921
Chittagong	.02	78,428	.55	130,419	1.10	99,752	.40	60,398	.03	63,926	.01	63,926	.01	58,774	.06	73,837	.51	90,877	.97	80,161
Noukhal	.01	56,564	.19	67,485	.39	62,033	.11	67,264	.05	68,016	.08	55,360	.008	58,999	.09	74,176	.13	78,368	.23	74,477
Tippera	.10	77,198	.08	67,860	.08	75,434	.14	91,445	.03	88,080	.03	90,959	.02	95,134	.13	110,608	.63	121,193	.17	111,764
Chittagong Hill Tracts	...	5,889	...	5,751	...	5,482	.17	6,543	...	5,444	...	6,377	...	6,005	.05	5,399	not under registration.	6,623	not under registration.	7,224
Railway vaccination	...	...	...	...	...	3,347	...	2,366	...	2,184	...	2,346	...	1,076	...	1,725	...	2,270	...	3,052
Total	.18	1,619,346	.16	1,773,926	.36	1,639,630	.32	1,705,921	.42	1,824,365	.76	1,811,088	.22	1,715,020	.14	1,813,490	.21	1,853,699	.17	1,720,991

STATEMENT NO. VII—Showing the protection afforded to Infants in each Town in the Province of Bengal during the year 1913-14.

DISTRICT.	Town.	Number of births during the year.	Number of deaths amongst children under 1 year during the year.	Number of successful vaccinations on children under 1 year during the year ending 31st March 1913.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6
BURDWAN ...	Burdwan ..	198	22	306	1st July 1883.
	Kalna ...	113	40	178	1st „ „
	Katwa ...	85	22	236	1st „ „
	Dainhat ...	93	35	216	1st „ „
	Raniganj ...	350	57	298	1st „ „
	Asansol ...	184	16	70	14th September 1910.
	Total ...	1,023	192	1,304	
BIRBHUM ...	Suri ...	111	24	91	1st July 1881.
BANKURA ...	Bankura ...	516	92	375	1st „ 1883.
	Vishnupur ...	491	79	359	1st „ „
	Sonamukhi ...	323	70	231	6th June 1892.
	Total ...	1,330	241	965	
MIDNAPORE	Midnapore ...	538	115	312	1st July 1883.
	Ghatal ...	236	62	212	1st „ „
	Kharar ...	187	44	118	16th August 1889.
	Chandrakona...	158	41	66	1st July 1883.
	Ramjibanpur...	209	42	130	1st „ „
	Khirpai ...	108	22	63	1st „ „
	Tamluk ...	244	25	111	1st „ „
	Total ...	1,680	351	1,012	
HOOGHLY ...	Hooghly and Chinsura.	646	187	263	1st September 1881.
	Bansberia ...	70	29	35	1st July 1883.
	Arambagh ...	102	22	79	11th February 1889.
	Serampore ...	957	213	441	1st March 1883.
	Uttarpara ...	124	22	95	1st April „
	Kotrung ...	142	19	90	1st July „
	Baidyabati ...	393	91	185	1st „ „
	Bhadreswar ...	257	67	130	1st „ „
	Total ...	2,691	650	1,318	
HOWRAH ...	Howrah ...	3,851	1,107	1,397	1st April 1882.
	Bally ...	376	85	595	1st October 1884.
	Total ...	4,227	1,192	1,992	
	Total of the Burdwan Division.	11,062	2,650	6,682	
24-PARGANAS.	Cossipore-Chitpur.	856	296	830	1st October 1883.
	Manicktala ...	702	364	810	1st „ „
	South Suburban	791	95	949	1st „ „
	Tollygunge ...	334	31	370	Ditto. (It formerly formed a part of the South Suburban Municipality).

DISTRICT.	Town.	Number of births during the year.	Number of deaths amongst children under 1 year during the year.	Number of successful vaccinations on children under 1 year during the year ending 31st March 1913.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6
24-P A R G A - NAS— concl'd.	Garden Reach	769	177	819	1st October 1883. (It formerly formed a part of the South Suburban Municipality.)
	Budge Budge...	258	28	255	18th February 1902.
	Baranagar ...	429	90	394	1st October 1883.
	Kamarhati ...	311	67	316	1st " " (It formerly formed a part of the Baranagar Municipality.)
	Rajpur ...	278	46	95	1st October 1883.
	Baruipur ...	86	10	134	1st " "
	Jaynagar ...	131	26	151	1st " "
	North Dum-Dum.	154	31	62	1st " "
	South Dum-Dum.	206	49	203	1st " "
	South Barrackpore, including Barrackpore Cantonment.	192	34	253	1st " "
	Panihati ...	186	39	148	1st " " (It formerly formed a part of the South Barrackpore Municipality.)
	North Barrackpore.	224	68	190	1st October 1883.
	Titagarh ...	194	55	79	1st " " (It formerly formed a part of the South Barrackpore Municipality.)
	Garulia ...	123	25	199	1st October 1883. (It formerly formed a part of the North Barrackpore Municipality.)
	Naihati ...	236	28	222	1st October 1883.
	Halisahar ...	236	54	147	1st " " They formerly formed parts of the Naihati Municipality.
	Bhatpara ...	459	98	250	1st October 1883.
	Barasat ...	187	32	185	1st October 1883.
	Gobardanga ...	90	28	43	1st " "
	Basirhat ...	566	64	390	1st " "
Baduria ...	285	28	212	1st " "	
Taki ..	137	26	49	1st " "	
	Total ...	8,420	1,889	7,755	
CALCUTTA ...	Calcutta ...	18,111	5,035	9,708	1880.
NADIA ...	Krishnagar ...	387	59	219	1st October 1883.
	Nadia ...	173	53	106	1st " "
	Ranaghat ...	165	33	190	1st " "
	Birnagar ...	45	23	40	1st " "

DISTRICT.	Town.	Number of birth during the year.	Number of deaths amongst children under 1 year during the year.	Number of successful vaccination on children under 1 year during the year ending 31st March 1913.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6
NADIA— <i>concl'd.</i>	Santipur ...	728	150	309	1st October 1883.
	Chakdaha ...	103	19	66	28th January 1887.
	Kushtia ...	94	20	56	1st October 1883.
	Kumarkhali ...	57	18	29	1st " "
	Meherpore ...	98	21	142	1st " "
	Total ...	1,850	396	1,157	
MURSHIDA- BAD.	Berhampore ...	560	112	317	1st October 1883.
	Murshidabad ...	369	105	59	1st " "
	Azimganj ...	276	70	58	1st " " (It formerly formed a part of the Murshid- abad Municipality.)
	Kandi ...	423	82	235	1st October 1883.
	Jangipur ...	304	57	57	1st " "
	Dhuliyān ...	297	47	75	26th June 1910.
	Total ...	2,229	473	801	
JESSORE ...	Jessore ...	56	13	43	1st October 1883.
	Kotchandpur ...	223	37	85	1st February 1884.
	Maheshpur ...	55	5	45	1st October 1883.
	Total ...	334	55	173	
KHULNA ...	Khulna ...	181	22	143	1st July 1887.
	Satkhira ...	136	17	208	7th " 1883.
	Debhatta ...	140	30	87	1st October 1883.
	Total ...	457	69	438	
	Total of the Presidency Division.	31,401	7,917	20,032	
RAJSHAHI ...	Rampur Boalia	486	83	332	1st June 1881.
	Nator ...	134	35	50	1st January 1881.
	Total ...	620	121	382	
DINAJPUR ...	Dinajpur ...	180	32	76	1st January 1887.
JALPAIGURI ...	Jalpaiguri ...	252	40	144	1st " "
DARJEELING	Darjeeling ...	377	77	231	1st September 1884.
	Kurseong ...	147	45	289	1st January 1887.
	Total ...	524	122	520	
RANGPUR ...	Rangpur ...	196	44	124	1st July 1881.
BOGRA ...	Bogra ...	146	33	169	1st January 1882.
	Sherpur ...	50	6	77	1st October 1884.
	Total ...	196	39	246	
PABNA ...	Pabna ...	195	23	210	1st February 1882.
	Sirajganj ...	378	52	416	1st January 1887.
	Total ...	573	75	626	

DISTRICT.	Town.	Number of births during the year.	Number of deaths amongst children under 1 year during the year.	Number of successful vaccinations on children under 1 year during the year ending 31st March 1913.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6
MALDA ...	English Bazar	305	60	178	1st March 1883.
	Malda ...	75	14	44	1st April 1887.
	Nawabganj ...	393	57	301	12th May 1904.
	Total ...	773	131	523	
	Total of Rajshahi Division	3,314	605	2,641	
DACCA ...	Dacca ...	2,773	717	595	1st July 1887.
	Narainganj ...	684	172	104	Ditto.
	Total ...	3,457	889	699	
M Y M E N-SINGH.	Mymensingh ...	213	29	37	1st October 1887.
	Muktagacha ...	133	24	54	Ditto.
	Netrokona ...	323	49	128	20th January 1890.
	Jamalpur	724	97	80	1st October 1887.
	Sherpur ...	492	118	276	Ditto.
	Kishorganj ...	284	70	241	Ditto.
	Bajitpur ...	263	35	43	Ditto.
	Tangail ...	337	121	105	19th February 1890.
	Total ...	2,769	543	964	
FARIDPUR ...	Faridpur ...	272	86	73	1st October 1887.
	Madaripur ...	443	80	70	Ditto.
	Total ...	715	166	143	
BAKARGANJ	Barisal ...	261	51	74	1st October 1887.
	Jhalakati ...	51	12	14	Ditto.
	Nalchiti ...	31	12	6	Ditto.
	Pirojpur ...	355	31	117	1st January 1890.
	Patuakhali ...	145	24	34	25th January 1894.
	Total ...	843	130	245	
	Total of Dacca Division.	7,784	1,728	2,051	
CHITTAGONG	Chittagong ...	502	105	41	1st April 1887.
	Cox's Bazar ...	89	24	83	14th November 1892.
	Total ...	591	129	124	
TIPPERA ...	Comilla ...	276	29	186	1st April 1887.
	Brahmanbaria	600	103	502	Ditto.
	Chandpur ...	240	64	137	22nd July 1898.
	Total ..	1,116	196	819	
NOAKHALI ...	Sudharam ...	149	20	59	1st April 1887.
	Total of Chittagong Division.	1,856	345	1,002	
	Total for the Province.	55,417	13,244	32,408	

PROVINCIAL STATEMENT A—*Showing the degree of protection afforded to infants during the year 1913-14.*

DISTRICT.	Rural population among which vaccinations were performed.	Estimated birth at 34·77 per 1,000 of population, being the actual birth-rate for the Province during the year 1913.	Mortality among infants under one year.	Surviving population under one year available for vaccination.	Number successfully vaccinated.	Proportion of persons successfully vaccinated per 1,000 of population as shown in column 5.	Proportion of persons successfully vaccinated per 1,000 of population in 1912-13.
1	2	3	4	5	6	7	8
Malda ..	962,765	33,475	7,590	25,885	22,385	864·78	762·63
Darjeeling ...	240,971	8,379	1,976	6,403	5,075	792·70	611·95
Khulna ...	1,337,579	46,508	10,733	35,775	27,748	775·62	553·23
Nadia ...	1,521,928	52,917	13,856	39,061	29,448	753·89	785·01
Jessore ...	1,737,066	60,398	10,627	49,771	33,347	67·02	783·16
Burdwan ...	1,444,185	50,214	11,158	39,056	2,311	648·07	733·02
Rajshahi ...	1,448,930	50,379	13,334	37,045	23,771	641·67	588·08
Noakhali ...	1,295,081	45,030	8,153	36,877	23,266	630·92	869·65
Murshidabad ...	1,288,791	44,811	12,398	32,413	19,744	609·14	771·14
Midnapore ...	2,738,301	95,211	17,895	77,316	44,575	576·53	668·09
Tipperah ...	2,372,424	82,489	12,803	69,686	39,431	565·84	475·34
Bankura ...	1,081,464	37,602	8,959	28,643	15,722	548·89	365·11
Hooghly ...	938,615	32,636	6,354	26,282	13,617	518·11	669·03
Birbhum ...	926,342	32,209	8,071	24,138	11,799	488·77	483·56
24-Parganas ...	1,885,590	65,562	10,374	55,188	26,286	476·29	580·73
Dinajpur ...	1,671,918	58,133	15,780	42,353	19,480	459·93	346·31
Jalpaiguri ...	890,895	30,976	7,855	23,121	9,969	431·16	421·94
Rangpur ...	2,368,901	82,367	18,963	63,404	24,438	385·38	313·37
Faridpur ...	2,089,710	72,659	16,616	56,043	20,937	373·59	547·39
Mymensingh ...	4,404,353	153,139	25,728	127,411	46,946	368·46	304·02
Howrah ...	741,719	25,790	5,026	20,764	7,582	365·15	422·28
Bogra ...	970,366	33,740	5,585	28,155	10,013	355·63	281·48
Chittagong Hill Tracts.	153,879	5,350	1,163	4,187	1,468	334·62	382·18
Pabna ...	1,384,535	48,140	11,046	37,094	10,682	287·97	393·60
Chittagong ...	1,475,289	51,296	10,268	41,028	10,264	250·16	300·38
Dacca ...	2,823,975	98,190	20,199	77,991	19,395	248·68	280·99
Bakarganj ...	2,380,293	82,763	21,042	61,721	5,162	83·63	231·66
Total of Rural Circle	42,575,875	1,480,363	313,552	1,166,811	547,861	469·54	488·74
Calcutta ...	896,067	31,156	5,035	26,121	9,708	371·65	320·45
Mufassal Municipalities.	2,011,184	69,929	8,209	61,720	22,700	} 373·78	397·35
Railways ...	...	...	...	...	370		
GRAND TOTAL ...	45,483,126	1,581,448	326,796	1,254,652	580,639	462·78	480·79

Registration of births and deaths is not carried on here. The number of deaths among infants has been calculated at the rate of infant mortality (209·59) obtaining in this Province.

PROVINCIAL STATEMENT B.—Showing the different kinds of lymph used and their rates of success during the year 1913-14.

RE-VACCINATIONS.

DISTRICTS.	PRIMARY VACCINATION.										RE-VACCINATIONS.																
	DIRECT FROM CALF.					WITH LANOLINE LYMPH.					ARM-TO-ARM VACCINATION.					LANOLINE LYMPH.					ARM-TO-ARM VACCINATION.						
	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of success.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of success.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of success.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of success.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of success.		
1	2	3	6	7	8	9	10	11	12	13	14	15	16	17	18	19	21	22	23	24	25	26	27	28	29	30	31
Bardwan	55,841	55,704	100	37	99.75	...	...	...	...	...	...	...	...	...	2,184	1,036	1,020	128	47.43	...	...	...	...	...
Birbhum	25,760	25,685	73	2	99.70	...	...	...	...	...	...	...	...	...	...	945	518	424	3	54.81	...	...	...	...
Bankura	44,053	44,006	48	4	99.89	...	...	...	...	...	...	...	...	...	...	1,814	603	1,153	58	33.24	...	...	...	...
Midnapur	20,883	19,896	481	84,236	84,158	2,724	188	96.64	...	...	...	...	...	11,216	5,718	5,233	265	44,289	25,587	17,674	1,028	57.77	...	...	...	...
Hooahly	18,169	17,961	32	32	98.85	...	...	...	...	...	...	...	...	...	...	1,018	649	369	...	63.75	...	...	...	...
Serampore	18,891	18,644	240	7	98.69	...	...	...	...	...	...	...	...	...	...	903	581	299	23	64.34	...	...	...	...
Howrah	26,885	26,612	198	75	98.98	...	...	...	...	...	...	...	...	...	...	959	457	4.7	85	47.65	...	...	...	...
Total	21,149	20,662	481	276,757	272,848	3,554	355	...	...	...	...	...	...	11,216	5,718	5,233	265	52,112	29,431	21,356	1,325	...	...	...	...	...
24-Parganas	75,413	73,632	1,718	63	97.63	...	...	...	...	...	...	...	...	...	...	2,169	1,014	1,154	1	46.74	...	...	...	...
Calcutta	26,302	25,707	86	509	97.73	...	...	...	...	...	...	...	...	...	...	42,882	19,056	20,334	3,492	44.43	...	...	...	...
Nadia	55,545	55,367	148	30	99.67	...	...	...	...	...	...	...	...	...	...	1,386	498	573	315	35.93	...	...	...	...
Murshidabad	39,430	38,751	426	253	98.27	...	...	...	...	...	...	...	...	...	...	1,358	507	734	117	37.33	...	...	...	...
Jessore	73,265	73,138	119	8	99.82	...	...	...	...	...	...	...	...	...	...	1,859	949	854	56	51.04	...	...	...	...
Khulna	58,882	58,786	66	30	99.83	...	...	...	...	...	...	...	...	...	...	1,086	768	257	61	70.71	...	...	...	...
Total	328,637	325,381	2,563	893	...	...	...	...	...	...	...	...	...	...	...	50,740	22,792	23,906	4,042	...	...	...	...	...
Rajshahi	43,047	42,713	273	61	99.22	...	...	...	...	...	...	...	...	...	...	7,748	5,408	1,988	352	69.79	...	...	...	...
Dinajpur	49,959	48,746	999	214	97.57	...	...	...	...	...	...	...	...	...	...	10,811	6,939	3,629	243	64.18	...	...	...	...
Jalpaiguri	17,073	16,912	139	22	99.05	...	...	...	...	...	...	...	...	...	...	1,281	943	280	58	73.61	...	...	...	...
Darjeeling	14,091	13,678	14	399	97.06	1,631	1,548	2	81	94.91	...	...	...	...	3,990	2,367	1,426	157	59.92	727	412	283	32	56.67
Rangpur	84,636	83,367	999	270	98.50	...	...	...	...	...	...	...	...	...	...	3,184	1,545	1,314	325	48.32	...	...	...	...
Bogra	22,833	22,760	56	17	99.68	...	...	...	...	...	...	...	...	...	...	862	316	473	73	56.65	...	...	...	...
Pabna	35,699	34,953	550	196	97.91	...	...	...	...	...	...	...	...	...	...	1,836	945	783	108	51.47	...	...	...	...
Malda	29,920	29,745	94	81	99.41	...	...	...	...	...	...	...	...	...	...	907	532	328	47	58.65	...	...	...	...
Total	297,258	292,874	3,124	1,260	...	1,631	1,548	2	81	...	...	...	...	...	...	30,579	18,995	10,221	1,363	...	727	412	283	32
Dacca	95,057	91,873	2,269	915	96.65	...	...	...	...	...	...	...	...	...	...	20,512	8,402	10,892	1,218	40.96	...	...	...	...
Mymensing	172,493	168,906	2,580	1,007	97.92	...	...	...	...	...	...	...	...	...	...	58,534	47,374	9,784	1,396	80.90	...	...	...	...
Faridpur	82,717	81,664	783	270	98.72	...	...	...	...	...	...	...	...	...	...	8,300	5,312	2,279	509	66.40	...	...	...	...
Bakerganj	50,214	48,752	934	528	97.08	...	...	...	...	...	...	...	...	...	...	2,289	1,169	878	242	51.07	...	...	...	...
Total	400,481	391,195	6,566	2,720	...	...	...	...	...	...	...	...	...	...	...	89,655	62,457	23,833	3,365	...	...	...	...	...
Chittagong	67,898	66,195	1,214	489	97.49	...	...	...	...	...	...	...	...	...	...	20,485	13,966	5,763	756	68.17	...	...	...	...
Noakhali	61,017	60,345	557	113	98.89	...	...	...	...	...	...	...	...	...	...	18,816	14,132	4,007	677	75.10	...	...	...	...
Tippura	109,719	108,270	1,018	431	98.67	...	...	...	...	...	...	...	...	...	...	4,879	3,494	1,085	300	71.61	...	...	...	...
Chittagong Tracts.	7,184	7,032	135	17	97.88	...	...	...	...	...	...	...	...	...	...	425	192	232	1	45.17	...	...	...	...
Total	245,818	241,842	2,924	1,032	...	...	...	...	...	...	...	...	...	...	...	44,605	31,784	11,087	1,734	...	...	...	...	...
Railway	2,259	2,088	101	70	92.43	...	...	...	...	...	...	...	...	...	...	1,603	964	368	271	60.13	...	...	...	...
Total for the Province.	21,149	20,662	481	1,551,410	1,526,228	18,832	6,350	98.37	1,631	1,548	2	81	94.91	11,216	5,718	5,233	265	269,294	166,423	90,771	12,100	6,179	727	412	283	32	56.67

In Calcutta and in the Districts of the Rajshahi, Dacca and Chittagong Divisions (except Darjeeling) all operations were performed with Glycerinized lymph.

GENERAL DEPARTMENT.

SANITATION.

CALCUTTA, THE 13TH AUGUST 1914.

RESOLUTION—No. 792 San.

READ—

The reports of the Sanitary Commissioner, the Sanitary Board and the Sanitary Engineer, Bengal, for the year 1913.

Read also—

The Triennial Report on Vaccination in Bengal for the years 1911-12 to 1913-14.

MAJOR W. W. CLEMESHA, I.M.S., was in charge of the office of the Sanitary Commissioner, Bengal, for the whole of the year under review. Mr. G. B. Williams held the post of Sanitary Engineer except for the period from the 8th August to the 3rd October 1913 during which he was on privilege leave, and Mr. A. G. Maffin, Assistant Sanitary Engineer, officiated.

2. *Climatic conditions.*—The rainfall in February was above the average, while in March and April it was generally deficient. May was very wet, especially in Eastern Bengal. The monsoon rains commenced on the 12th of June and the rainfall was on the whole well distributed. In the early part of August heavy rain fell in Bihar and Chota Nagpur, causing disastrous floods in the Damodar river which submerged large tracts in the Howrah, Hooghly and Burdwan districts. The Contai, Ghatal and Tamruk subdivisions and parts of Bankura and Birbhum also suffered severely from inundation. Contrary to expectation these floods did not give rise to outbreaks of cholera and malaria, but appear to have had a salutary effect in flushing and cleansing insanitary tanks and villages.

3. *Births and deaths.*—Both birth and death rates declined, the figures being 33·75 and 29·38 per mille as compared with 35·30 and 29·77 per mille in 1912. The decrease in the number of births is attributed to the high prices of food-grains in 1912 and to the general unhealthiness of that year. The decrease in the death-rate was mainly under the heads "Cholera" and "Other causes." These rates compare less favourably with those of other Provinces than in the previous year; the excess of 198,053 births over the number of deaths is, however, satisfactory. From a comparison of the divisional statistics it appears that Dacca and Chittagong had the lowest death-rates, while Rajshahi and Chittagong had the highest birth-rates. On the whole, Chittagong maintained its place as the healthiest division although it showed a large increase in cholera mortality, the death-rate from this disease being higher in Noakhali than in any other district.

Infantile mortality shows a slight decrease, the death-rate being 20·95 per cent. as against 21·23 in 1912. Calcutta has again headed the list, the districts of Jalpaiguri and Burdwan now occupying the second and third places respectively.

The further rise of prices in 1913 has pressed heavily on the poorer classes, who find it difficult to purchase the necessaries of life. The Sanitary Commissioner anticipates a further drop in the birth-rate for 1914.

4. *Verification of vital statistics.*—Registration of vital statistics is still defective in Eastern Bengal and in the Burdwan district. Rangpur shows the high percentage of 13·66 omissions to register deaths.

5. *Chief diseases.*—The death-rate from cholera fell from 2·10 to 1·74 per mille. It was highest in Noakhali, where the people are partial to dried fish and drink freely from tanks in which jute has been steeped; the population also contains a large element of Muhammadans, whose long fasts followed by a heavy meal do not conduce to good digestion. A slight epidemic in the Jalpaiguri Terai swelled the mortality of the Darjeeling district; but a plenteous and well-distributed rainfall rendered practically immune the districts of Jessore and Rajshahi which had suffered heavily in 1912. Cholera was, as usual, most prevalent in December and April. This is due to the drying up and consequent pollution of the water-supply. As soon as the rains commence epidemics cease, the lowest death-rate being returned in July.

The mortality from small-pox shows a slight increase; that among infants, however, declined from 45·14 to 32·22 per mille. Small-pox is especially prevalent in the Dacca and Chittagong Divisions, where there is great opposition to vaccination among Muhammadans.

The number of deaths from plague shows a decrease of 1,011, the disease as usual being confined almost entirely to Calcutta and its suburbs. The mortality from dysentery and diarrhoea shows a slight increase, but the relative intensity in districts and divisions is practically unchanged.

There was a small increase in the total number of deaths from fever, the rates per mille for 1913, 1912 and the average of the five years 1908—12 being 21·30, 21·16 and 20·45, respectively. The mortality from fever in 1913 represents 72 per cent. of the number of deaths from all causes, an increase of 1 per cent. over 1912. Dinajpur and Jalpaiguri head the list with death-rates of 30·08 and 29·39 as compared with 34·13 and 32·08 in 1912. In twelve districts the death-rate exceeded 25 per mille. In the district of Malda six Additional Sub-Assistant Surgeons were employed for the distribution of quinine. The result was satisfactory, for the death-rate from fever fell from 35·83 in 1912 to 28·93 in 1913; no reference, however, is made in the report to the special enquiry which the Sanitary Commissioner was asked to make into the unhealthiness of this district. In Nadia and Murshidabad the death-rate continued to increase, though slightly, notwithstanding the deputation of Sub-Assistant Surgeons to these districts. The reason for this continued increase cannot be ascribed to any antipathy to the services of these officers, for it is stated in the report that their work was generally appreciated. In the Burdwan Division twenty-five Sub-Assistant Surgeons were deputed to the flooded areas to render gratuitous medical aid. The subsidence of the floods, however, was not marked by any unusual prevalence of fever; in Burdwan town, on the contrary, the almost complete absence of mosquitoes and flies attracted the attention of the Civil Surgeon. The travelling dispensaries previously established in Dinajpur and Rajshahi were transferred to Jalpaiguri for work in the Western Duars for a period of one year. Quinine in "treatment" form is reported to be increasing in popularity, and its use is being encouraged, as far as possible, by advertisement and by the appointment of quinine vendors. The Provincial Malaria Committee dealt chiefly with this question of the popularisation of quinine, but jungle-cutting experiments were also considered. Major Fry, one of the two Special Deputy Sanitary Commissioners for Malaria Research, was on leave from March. His reports, containing many important researches, have since been received. Dr. Bentley drew up two experimental anti-malaria schemes, which have been approved by the Malaria Committee and submitted for sanction with the proposal that the grant made for jungle-clearing be utilized in carrying them out.

6. *Vaccination.*—The report on vaccination covers the triennial period 1911-12 to 1913-14. The number of operations performed each year averaged 1,929,425, of which 1,722,101 were primary and 207,324 re-vaccination cases; these figures are all slightly higher than those of the preceding triennium. In Bakarganj there was a very large decrease in 1912-13; but it is reported that the figures of the previous years were totally

unreliable and that even those now furnished are very doubtful. The figures for Tippera and Dacca are also suspected to be unreliable.

The Governor in Council notices with regret that the percentage of infants vaccinated fell from 48 in 1912-13 to 46 in 1913-14. Malda now heads the list with the excellent percentage of 86 and Bakarganj stands last with the almost incredibly low figure of 8.3. His Excellency in Council trusts that in future greater attention will be paid to the vaccination of infants.

The six-puncture system of vaccination was introduced into many districts in Eastern Bengal during 1912-13, but it was not adopted in every district till 1913-14. In that year the number of infant vaccinations performed under this system was more than double that of the year before, while the number of re-vaccinations was 47,899 against 7,563 and 3,301 during the two preceding years.

The system of anti-septic vaccination was introduced into the Eastern Bengal districts during 1913-14 with fairly satisfactory results. The average annual cost of vaccination was Rs. 1,79,381 as compared with Rs. 1,62,068 during the years 1908-09 to 1910-11.

The increase in the number of Deputy Sanitary Commissioners has rendered possible a more thorough inspection of vaccination. Many abuses have already been brought to light, especially in the Dacca Circle, where the Sanitary Commissioner has recently recommended the appointment of two special supervising officers to assist the Deputy Sanitary Commissioner. This proposal is under the consideration of Government.

7. *Sanitary improvements.*—The total Municipal expenditure under all heads of sanitation during the financial year 1912-13 increased by more than Rs. 1,75,000 over that of the previous year. The expenditure on water-supply shows a large increase, for which Hooghly-Chinsurah, Kurseong and Howrah are mainly responsible. A waterworks scheme was also completed for Chandpur Old Market and several other schemes were under consideration. The expenditure on conservancy rose slightly in most municipalities, but in spite of this the total fell by more than a lakh of rupees. This is accounted for partly by the absence of any heavy expenditure such as had been incurred in the previous year on the Dacca conservancy tram, and partly by the reduction in expenditure on the Darjeeling sewage scheme now nearing completion. Something was done during the year under report to improve village sanitation in Birbhum, Hooghly, Midnapore, Bakarganj and Rangpur; but the Deputy Commissioner of the Presidency Circle reports that these sanitary measures receive no local support and are often rendered ineffective by lack of co-operation on the part of the educated classes.

8. *Sanitary Board.*—The Board was strengthened during the year by the inclusion of three non-official members. At the same time the Sanitary Engineer's Department was removed from its control. Rules giving effect to this arrangement were issued in November. Two meetings of the Board—one ordinary and one special—were held. Only four water-supply and three drainage schemes were considered during the year, but many have since come up.

9. *Sanitary Engineer's Department.*—A separate report on the work of the Sanitary Engineer's Department is submitted this year for the first time, as this department is no longer under the control of the Sanitary Board. An additional Assistant Sanitary Engineer was appointed during the year, and Government sanction was accorded to the appointment of two sub-engineers, four surveyors, two assistant draftsmen and an accountant.

In addition to his own duties the Sanitary Engineer prepared detailed schemes for the water-supply of the Jherria coal-fields, his services being lent to the Government of Bihar and Orissa for two months for this purpose. The Sanitary Engineer was also a member of the Committee appointed to consider questions relating to Calcutta sewage and in this connection he designed experimental sewage works at Entally. Many sketch and detailed projects were drawn up and in course of preparation during the year. The progress made in engineering work showed some improvement; of ten water-supply and eleven drainage schemes under construction, five waterworks and two drainage schemes were completed. The Burdwan drainage scheme was seriously interrupted by the floods, but satisfactory progress has been

made since the close of the year. The Governor in Council hopes that the improvement in the progress of works under construction will continue, and that municipalities will not be slow to make full use of the facilities that are now offered for the preparation and carrying out of sanitary schemes. No reasonable assistance in the shape of grants will be refused.

10. *Staff.*—At the beginning of the year there was only one Deputy Sanitary Commissioner, but three officers were subsequently appointed for the Dacca, Rajshahi and Burdwan Circles. There was, however, only one special officer for the malaria investigation work during the greater part of the year, as the officer sent to relieve Major Fry was appointed to one of the additional posts of Deputy Sanitary Commissioner.

11. The Bengal Municipal (Sanitary Officers) Act was passed after the close of the year under report, and steps are now being taken to extend it to municipalities. Six Health Officers and one Sanitary Inspector were appointed last year, and classes are being held for the training of Sanitary Inspectors to meet the requirements of municipalities.

12. In conclusion the Governor in Council desires to place on record his appreciation of the excellent work done during the past year by Major W. W. Clemesha, Sanitary Commissioner, Mr. G. B. Williams, Sanitary Engineer, and Major Fry and Dr. Bentley, Deputy Sanitary Commissioners.

By order of the Governor in Council,

H. F. SAMMAN,

Secretary to the Govt. of Bengal.

Nos. 781—791San.

COPY [with copies of reports] forwarded to—

- [] For (1) and (2).
- (1) all Commissioners of Divisions for information and for communication to all District Officers in their respective divisions.
 - (2) the Inspector-General of Civil Hospitals,
Inspector-General of Prisons,
Inspector-General of Police, Bengal, for information.
 - (3) the Sanitary Commissioner,
Secretary to the Sanitary Board,
Sanitary Engineer, Bengal, for information.

[] For Sanitary Commissioner only.

[2. His attention is specially drawn to the remarks contained in paragraph 6 of the Resolution.]

By order of the Governor in Council,

R. B. STEELE,

Under-Secy. to the Govt. of Bengal.

CALCUTTA,

The 13th August 1914.

