

## **7th triennial report of vaccination in Bengal.**

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SEVENTH TRIENNIAL REPORT  
OF  
VACCINATION IN BENGAL

FOR THE YEARS

1905-1906, 1906-1907 AND 1907-1908.

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BY

F. C. CLARKSON, LIEUT.-COL., I.M.S.,  
Sanitary Commissioner for Bengal.

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Calcutta:  
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1908.

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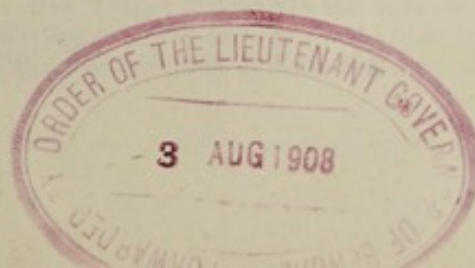
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TRIENNIAL REPORT  
OF  
VACCINATION IN BENGAL

FOR THE

YEARS 1905-06, 1906-07 and 1907-08.

THIS report deals with the triennial period 1905-06 to 1907-08.

2. Major W. W. Clemesha, I.M.S., was in charge of the Department from 1st April 1905 to 15th November 1906 and I for the rest of the triennial period. The following officers served as Deputy Sanitary Commissioners:—

*Bengal and Orissa Circle.*—Captain C. A. Gourlay, I.M.S., was in charge from the 16th to 22nd October 1905; Captain W. C. Ross, I.M.S., from 23rd October 1905 to 26th July 1906 and again from 19th October to 18th November 1906; Dr. Hay Pulipaka from 27th July to 18th October 1906, and Captain D. Munro, I.M.S., from 19th November 1906 to 31st March 1908.

*Bihar and Chota Nagpur Circle.*—Captain James Masson, I.M.S., was in charge from the 16th October 1905 to 20th August 1906; Senior Assistant Surgeon Kali Nath Banerjee from 21st August to 25th November 1906, and Captain W. C. Ross, I.M.S., from 26th November 1906 to 31st March 1908.

Prior to 16th October 1905 there were three Deputy Sanitary Commissioners under me, but the number was reduced to two owing to the transfer of 15 districts to the newly created Province of Eastern Bengal and Assam. Captain James Masson, I.M.S., was in charge of the late Northern Bengal Circle from 1st April to 15th October 1905. Assistant Surgeon Gopal Chandra Mookerjee was in charge of the late Western Bengal Circle from 1st April to 8th June 1905 and Captain W. C. Ross, I.M.S., from 9th June to 22nd October 1905. Captain C. A. Gourlay, I.M.S., was in charge of the late Metropolitan and Eastern Circle from 19th May to 15th October 1905. It was without a Deputy Sanitary Commissioner from 1st April to 18th May 1905.

3. In Calcutta the average number of inspecting officers and operators was 7 and 28, against the same number of 1903-05. In provincial rural areas and mufassal municipalities and dispensaries, etc., the inspecting staff and operators, including apprentices, numbered 194 and 2,409 and 7 and 170 respectively, against 179 and 2,348 and 8 and 170 respectively of the previous triennial period. The increase in the number of the inspecting staff in rural areas is due to the appointment of extra supervising staff in the Tributary States of Orissa. [The average figures of the previous triennial period 1903-05 shown in this report have been calculated by excluding the figures of the transferred districts.]

4. The total number of operations performed in the Province during the past year was 2,058,371, of which 1,868,290 were primary and 190,081 revaccination cases, against 2,037,273 with 1,874,976 primary and 162,297 revaccination of 1906-07 and 2,041,230 with 1,904,625 primary and 136,605 revaccination of 1905-06. The average of the triennial period under review was 2,045,624 with 1,882,630 primary and 162,994 revaccination, against 1,765,946 with 1,679,272 primary and 86,674 revaccination of 1902-03 to 1904-05. There was an average increase of 279,678 cases, of which 203,358 were in primary vaccination and 76,320 in revaccination. It is very satisfactory to notice that, notwithstanding adverse circumstances, such as the prevalence of scarcity in many parts of the Province, there has been such a large increase in the number of operations in the Province. The increase occurred not only in rural areas, but also in towns, viz., 29,289 in mufassal towns and 29,065 in Calcutta.



The ratio of success under the two different heads, primary and revaccination, was 99·22 and 69·97, against 98·77 and 61·94 respectively of 1903-05. The average work of a vaccinator was 1,000, against 891 of the previous triennial period. The average work of a licensed and paid vaccinator was 961 and 1,203, against 905 and 811 respectively of 1903-05.

Although the work of the Province was on the whole satisfactory, it may be remarked that the results would have been far better still had not the work been retarded in many districts by scarcity, which made the poor people reluctant to offer their children for vaccination owing to their inability to pay the vaccinators' fees. Applications were received during the year from the Civil Surgeons of Cuttack, Darbhanga, Midnapore, and Bankura for recouping the vaccinators the loss sustained by them on account of the non-realisation of fees from the poor. The case of Cuttack was submitted for the orders of Government, which referred the question for settlement by the Commissioner of the Orissa Division, whose final decision in the matter is not yet known. The Magistrate of Darbhanga did not support the Civil Surgeon's proposal, which had therefore to be dropped. The other two applications are under consideration.

In the absence of the compulsory law to enforce vaccination which is the true solution of the small-pox problem, this Department has to depend chiefly on persuasive measures and the good offices of District and Subdivisional Magistrates to advance the cause. But persuasion is of no avail with poor people who have not the wherewithal to pay for the bare necessities of life and can ill afford to pay for vaccination, however beneficial it might be. The result is that the vaccinators, who are unpaid men, leave unprotected the areas that are least profitable and carry on their work in places where they get their fees without difficulty and not unfrequently illegal gain in the shape of articles of food. The inspecting staff, who for the most part are promoted vaccinators, are not men of sufficient status and strength of character to be able to inspire confidence. They often share the spoils of the vaccinators and attempt to protect them, and it is only when some energetic Civil Surgeon or a Deputy Sanitary Commissioner brings to light their carelessness, neglect of duty or malpractices, that these men are roused to some activity for fear of losing their appointments. Notwithstanding these disadvantages, fairly good results are attained in districts where the executive officers give prompt and active help to the officers of this Department and where the inspecting staff are energetic and honest. Endeavours are being made to replace the worthless men as opportunities occur by properly qualified officers.

Out of the 34 districts in Bengal including the Tributary States of Orissa, there was an increase of operations in 19, while there was a decrease in 15 districts during the past year. The increase is specially noticeable in the following districts:—

Increase or decrease in vaccinations during 1907-08.

Cuttack	...	...	...	...	18,874
Tributary States of Orissa	...	...	...	...	16,321
Puri	...	...	...	...	15,987
Jessore	...	...	...	...	11,405
Manbhum	...	...	...	...	10,978
Darbhanga	...	...	...	...	9,689
Ranchi	...	...	...	...	8,269
Hazaribagh	...	...	...	...	7,128
Birbhum	...	...	...	...	6,685
Khulna	...	...	...	...	6,116

The principal decrease occurred in Darjeeling (25,590), Murshidabad (16,513), Bankura (10,416), Saran (8,386), Balasore (8,032), Purnea (6,851) Sonthal Parganas (5,243).

In Cuttack, the increase is said to be due to better supervision and to systematic arrangement of the work of the vaccinators, while in the case of Puri it is attributed to the special efforts made by the Magistrate and the Civil Surgeon to improve vaccination and to the energy displayed by the inspecting staff, and latterly by the Special Inspector of Vaccination lately sanctioned by Government for Orissa, who exhibited great energy in vaccinating and revaccinating infants and adults in many villages which had hitherto absolutely

refused vaccination. The improvement noticed in Jessore is said to be due to increasing appreciation by the public of the benefits of vaccination and to somewhat better public health of the past season, while the Civil Surgeon of Manbhum puts it down to—

- (a) increase in the number of vaccinators and apprentices;
- (b) prevalence of small-pox; and
- (c) the system of the grant of rewards to vaccinators, which acting as a stimulus to work, swelled the number of operations.

In Darbhanga, the people having been in a better condition as compared with the previous year, were more ready to accept vaccination and to pay the vaccinators' fees, hence the increase, while the prevalence of small-pox in Hazaribagh, Birbhum, and Khulna accounts, for the larger number of operations in them. No explanation has been furnished by the Civil Surgeon of Ranchi and the Political Agent of the Feudatory States, Orissa, of the increase of vaccination in these places.

The large decrease in the number of operations in Darjeeling is due to the fact that in the previous year there having been a severe epidemic of small-pox in the district, an unusually large number of operations had been performed, while in Murshidabad, the whole district having been taken up for vaccination for the first time during the year 1906-07, when the children remaining unprotected from previous years were all vaccinated, the balance remaining unprotected was small, and hence the decrease in the number of operations during the past year. In Bankura, the decrease is reported to be due chiefly to scarcity of food-grains, which compelled many poorer people to leave their homes with their families in search of employment elsewhere, while the following among other causes account for the decrease in Saran:—

- (a) scarcity; and
- (b) misapprehension as to the use of lanoline vaccine paste which the people feared to be anti-plague serum;

In Balasore, the falling off is attributed to scarcity of food-grains and the consequent difficulty in realising fees, owing to which several vaccinators deserted their posts and none could be found to succeed them. The Civil Surgeon of Purnea ascribes the decrease to (a) scarcity of food-grains, (b) migration of the people of some villages owing to floods, (c) illness among the vaccinators, and (d) the severe prevalence of cholera and fever, while the Civil Surgeon of the Sonthal Parganas reports it to be due to the emigration of the poorer classes of the people owing to bad crops.

5. During the past year 1907-08, out of 1,648,316, the estimated number of infants under one year available for vaccination, 866,068, that is, 525·42 per thousand, were successfully vaccinated, against 384·36 of 1904-05, which was the last year of the previous triennial period. It is satisfactory to notice the steady progress in infant vaccination which is being made from year to year. This seems to be due to close and constant supervision exercised by this office, the greater interest now shown by Civil Surgeons and the vaccination inspecting staff in the matter, and the introduction of the system of the grant of rewards to vaccinators, which is not as a rule given unless a fair percentage of successful infant vaccination is done.

In 19 districts (against 17 of the previous year and 9 of 1904-05), viz., Ranchi, Sambalpur, Palamau, Murshidabad, Cuttack, Hazaribagh, Bhagalpur, Nadia, Manbhum, Darjeeling, Monghyr, Midnapore, Gaya, Sonthal Parganas, Birbhum, Darbhanga, Purnea, Khulna, and Hooghly, the protection was over 500 per mille, while no district returned a lower rate than 200 per mille which was very common during previous triennial periods. In Ranchi and Sambalpur the rate recorded is above 1,000 per mille. This is accounted for by the fact that a certain portion of the children born during the previous year was vaccinated during the past year. The figures, however, seem to be of doubtful accuracy. It is very likely that some children above one year have been returned as under one.

The protection afforded to infants in municipalities is shown in Appendix VII attached to the report. It will be seen that 833·95 per mille of the surviving infant population was protected during the past year, against 872·88

of 1906-07 and 858·20 of 1905-06. 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. During the recess or non-working season of 1907-08, 187,735 operations were performed, chiefly in connection with small-pox epidemics and the up-keep of lymph for emergencies, against 162,966 of 1906-07 and 118,937 of 1905-06. The average of the triennial period under review was 156,546, against 162,787 of 1903-05. With a large rise in the mortality from small-pox during the last two years a much larger number of operations during the recess season might be reasonably looked for, but in many cases the deep-rooted prejudice of the people stands in the way. It is generally found, specially among the rural population, that when a person gets small-pox none of the household would accept vaccination until the patient is cured, and this helps the spread of the contagion. Such being the case, it is satisfactory to notice that through the active assistance of Rai Mani Lall Singh Roy Bahadur, an influential zamindar in the Burdwan district, a large number of revaccinations were done in his zamindari as well as in several other places, where small-pox was prevalent. This is the second year that this zamindar has been of great help to the subordinate officers of this Department in carrying on vaccination and in their realising the vaccinators fees.

7. During 1907-08, 817,428 successful primary operations were performed in six points, against 793,834 of 1906-07 and 730,800 of 1905-06. The number of revaccinations was 17,813, against 13,049 of 1906-07 and 6,336 of 1905-06. The average of the triennial period in primary vaccination and revaccination was 780,687 and 12,399, against 617,175 and 9,002 of the previous epoch. There was thus an increase of 163,512 successful primary and 3,397 successful revaccination cases.

8. During the past year the total number of primary and revaccination operations performed in factories and tea gardens in Bengal was 4,279 and 11,421, against 3,920 and 1,386 respectively, in 1906-07 and 3,813 and 1,745 in 1905-06. The ratio of success in primary and revaccination cases was 95·02 and 78·92, against 98·44 and 42·92 respectively during 1906-07 and 95·59 and 37·30 during the year before.

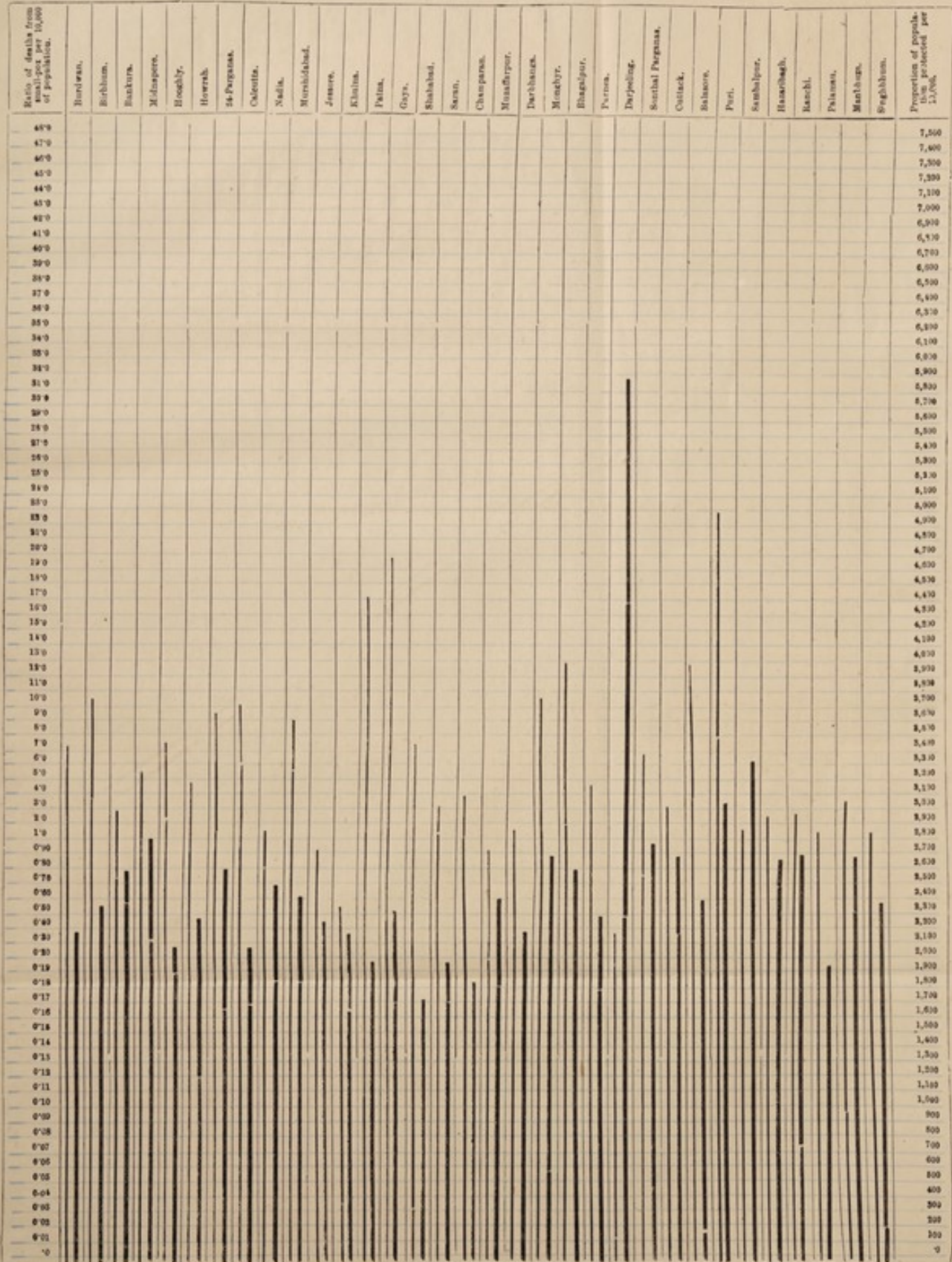
9. The total average cost of vaccination in Bengal for the triennial period under review was Rs. 1,78,233-5-2, against Rs. 1,38,928-13-9 of 1903-05, the cost of each successful vaccination being 1 anna 6 pie, against 1 anna 5 pie. The increase of cost during the period under review as compared with the previous epoch is due principally to increase of pay of the inspecting staff owing to revision of the scale of their salary sanctioned by Government, the grant of grain compensation allowance, increased expenditure in travelling and contingencies owing to increase of work and the inclusion of of the cost of the districts of Sambalpur and some of the Tributary States which was excluded from the previous report as the necessary figures were not available.

Out of the total average cost of vaccination as shown above, Rs. 7,943 were contributed by District Boards, Rs. 8,035 by Native States, and Rs. 219 from other sources, the corresponding figures for the preceding triennial period being Rs. 3,575, Rs. 2,235, and Rs. 212 respectively.

Diagram illustrating death-rates from small-pox, and degree of protection afforded.

10. The following diagram illustrates the death-rates from small-pox in each district with side by side the proportion of population protected against the disease by vaccination during the past seven years :—

1901—1908.



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

( 3 )

10. The following is a list of the names of the persons who have been appointed to the various positions in the office of the Secretary of the Board of Education, and the date of their appointment.

1001-1001

No.	Name	Date of Appointment
1001	...	...
1002	...	...
1003	...	...
1004	...	...
1005	...	...
1006	...	...
1007	...	...
1008	...	...
1009	...	...
1010	...	...
1011	...	...
1012	...	...
1013	...	...
1014	...	...
1015	...	...
1016	...	...
1017	...	...
1018	...	...
1019	...	...
1020	...	...
1021	...	...
1022	...	...
1023	...	...
1024	...	...
1025	...	...
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1032	...	...
1033	...	...
1034	...	...
1035	...	...
1036	...	...
1037	...	...
1038	...	...
1039	...	...
1040	...	...
1041	...	...
1042	...	...
1043	...	...
1044	...	...
1045	...	...
1046	...	...
1047	...	...
1048	...	...
1049	...	...
1050	...	...

11. During the past year the total number of deaths from small-pox in the Province was 31,614, against 23,543 of 1906-07 and 12,090 of 1905-06, the ratio of deaths per 1,000 of the population being .59, against .43 and .22 of 1906-07 and 1905-06. The largest number of deaths was recorded in the districts of Gaya (3,987), Patna (2,758), Bhagalpur (2,627), Puri (2,284), Monghyr (2,074), 24-Parganas (1,950), Midnapore (1,456), Shahabad (1,400), Balasore (1,347), Sonthal Parganas (1,196), Murshidabad (1,147), Burdwan (1,099), Birbhum (926), Calcutta (812), Purnea (772), Hooghly (751), Saran (719), Champaran (698), and Cuttack (614), while the mortality was lowest in the districts of Darjeeling (9), Khulna (65), Singhbhum (78), Sambalpur (93), and Palamau (93). Epidemic outbreaks of small-pox in a district have a sort of periodicity, it being more or less prevalent in epidemic form once in five years. The only means of eradicating the disease is the introduction of the Compulsory Vaccination Act throughout the Province, which under present circumstances is quite out of the question.

Out of 31,614 persons who succumbed to this disease as noted above, 13,515 were reported as protected by vaccination and 11,943 unprotected, while in 6,156 cases nothing could be ascertained. These figures being reported by chaukidars, cannot be relied on as accurate.

12. In the Animal Vaccination Depôts at Calcutta and Darjeeling, the average number of calves vaccinated during the period under report was 1,438 and 223 respectively, against 795 and 223 of the previous triennial period. The average quantity of lanoline paste in grains manufactured was 278,340 and 67,801 respectively against 127,243 and 50,245 during 1903-1905. The increased outturn of the Calcutta Depôt is due to the abolition of arm-to-arm vaccination and the general introduction of lanoline lymph vaccination in the districts of the Presidency, Burdwan, and Orissa Divisions under Government order No. 2977S., dated the 30th December 1905. But the lymph supply of the Darjeeling Depôt is almost stationary, as it is not capable of further extension. For this reason I submitted a proposal to Government last year to start another vaccination depôt at Ranchi with a view to extend the lymph supply of the Bihar and Chota Nagpur districts with the ultimate object of supplanting arm-to-arm vaccination altogether in those regions as quickly as possible. The question has been kept in abeyance, as it is intended to introduce a new and more expeditious method of lymph preparation, which, if successful, might obviate the necessity of constructing a new depôt. This matter is at present under my consideration.

During the year 1906 07 there was a failure in the lymph supply of the Darjeeling Depôt owing to deterioration of the quality of the lymph. This caused much inconvenience, especially as there was at the time an epidemic outbreak of small-pox in Darjeeling. Prompt measures were, however, adopted to re-establish the lymph, but it was not until a new strain of lymph was introduced which had lately arrived from England and which had been rendered more potent by passage through rabbits that the lymph was brought to a high standard of efficiency. Captain D. Munro, I.M.S., Officiating Deputy Sanitary Commissioner, Bengal and Orissa Circle, by introducing the routine method of passing the lymph frequently through rabbits, both in the Calcutta and the Darjeeling Depôts, has ensured the quality of the lymph remaining good. He has also introduced the custom of testing the prepared paste on rabbits so as to ensure the lymph being potent when issued from the depôt.

During the past year a series of experiments was conducted by Captain Munro, I.M.S., to test the efficacy of the two different kinds of lymph, viz., lanoline lymph and glycerinated lymph, and he was impressed with the superiority of the latter variety. I quote below two extracts from Captain Munro's reports on the experiments, as they may be of interest:—

"With the exception of tubes 7, 8, and 9 of Calcutta lymph the results were very good—indeed, the Calcutta lymph which had been exposed to heat for five weeks, reacted much better than the Darjeeling lymph which had been stored in comparative coolness. I can offer no explanation as to why the third set of tubes from Calcutta was not so successful as the others. The glycerine was obviously exercising its inhibitive effect on extraneous organisms originally present. Witness 15 colonies on the plate from tubes 7, 8, and 9 as against 41 from tubes 4, 5, and 6. That the virus was not weakened, is shown by the results

of tubes 10, 11, and 12 which gave 100 per cent. success in children, and a powerful reaction in 1-000 dilution on the rabbit. It seems then as if glycerinated lymph were not unsuitable for Bengal owing to the climate, as in an ordinary way it would not be required to stand such a severe test as in these experiments. As lymph it is obviously more suitable than the lanolinated variety, for (1) it contains few or no organisms and inflamed arms should never occur as they do with lanolinated lymph; (2) it need not be used in such a hurry. When lanolinated lymph is used too long after its preparation it is overgrown with extraneous organisms and the virus is weakened. Many failures in vaccination occur from this cause. The maximum period I can find record of, which has occurred between the issue of lymph from the Calcutta Depot and its use is five weeks. The results were unsatisfactory. Glycerinated lymph would be at about its best five weeks after preparation, and is probably potent even longer. These experiments, to be complete, should have gone on until the lymph was found to be losing its potency. I fixed six weeks as the period of the experiments, partly to suit my own convenience, and partly because this is about the maximum period which might elapse before the use of the lymph, supposing it were issued after a fortnight's storage when the glycerine has commenced its preservative action and the virus is potent.

"The tubes I experimented on were not capillary tubes, but ordinary small glass tubes with corks, such as are in use at present for issuing lanolinated lymph. They proved very satisfactory.

"With regard to cost I have not worked out the figures exactly, but glycerine is cheaper than lanolin, and a higher dilution is used. If cold storage were used, the expenses would, of course, be heavier. I am aware that glycerinated lymph is always stored in the cold, usually in the ice-box, but the success of these experiments is to me so striking that I am of opinion that cold storage may be found to be unnecessary. Anyway glycerinated lymph, with or without cold storage, might be given a trial in Bengal in some selected area, say a small district, and I shall be surprised if the results are not worth it.

"I have the honour to give below the results of comparison made between glycerinated and lanolinated lymphs prepared on the same day as to their bacteriological purity after being for various times at 37° C., and should be obliged if you would add this as a supplement to my 'Report of experiments as to the effects of heat on glycerinated calf lymph' forwarded to you under cover of my No. 329S., dated 26th June 1907:—

*Sample I prepared on 4th December 1907.*

1st examination on 5th December 1907.	{	Lanolinated lymph ·005 grm. = 160 colonies.
		Glycerinated lymph ·005 grm. = 170 colonies.
2nd examination on 13th December 1907.	{	Lanolinated lymph ·005 grm. = uncountable.
		Glycerinated lymph ·005 grm. = 80 colonies.
3rd examination on 20th December 1907.	{	Lanolinated lymph ·005 grm. = uncountable.
		Glycerinated lymph ·005 grm. = 20 colonies.

*Sample II prepared on 8th January 1908.*

1st examination on 8th January 1908	{	Lanolinated lymph ·005 grm. = 150 colonies.
		Glycerinated lymph ·005 grm. = 180 colonies.
2nd examination on 15th January 1908.	{	Lanolinated lymph ·005 grm. = uncountable.
		Glycerinated lymph ·005 grm. = 90 colonies.

*Sample III prepared on 13th January 1908.*

1st examination on 13th January 1908.	{	Lanolinated lymph ·005 grm. = 320 colonies.
		Glycerinated lymph ·005 grm. = 700 colonies.
2nd examination on 20th January 1908.	{	Lanolinated lymph ·005 grm. = uncountable.
		Glycerinated lymph ·005 grm. = 180 colonies.

*Sample IV prepared on 20th January 1908.*

1st examination on 20th January 1908.	{	Lanolinated lymph ·005 grm. = 260 colonies.
		Glycerinated lymph ·005 grm. = 750 colonies.
2nd examination on 28th January 1908.	{	Lanolinated lymph ·005 grm. = uncountable.
		Glycerinated lymph ·005 grm. = 120 colonies.

"The method employed was to weigh out carefully ·005 grm. of each of the lymphs to be tested and spread on a sterile agar plate (freshly poured) with a sterile glass bent rod.

"It will be seen that the results all point to the action of glycerine in causing the colonies to die out whilst in lanoline they increase."

13. During the past year, excluding 44,820 vaccination operations performed in the Tributary States of Patna and Sonapur in Orissa, which could not be classified for want of necessary information, 93,049 primary vaccinations were performed with lymph taken direct from the calf, 775,319 with lanoline lymph, and 979,753 by the arm-to-arm method, against 87,803, 696,415 and 1,090,758 respectively during the preceding year and 151,080, 400,847, and 1,352,698 of the year before (1905-06.) The ratio per cent. of

Different methods of vaccination.

success under each of these methods of vaccination was 99·01, 98·59, and 98·99 respectively, against 99·08, 98·25, and 99·13 of 1906-07 and 98·92, 96·57, and 99·21 of 1905-06.

The number of revaccinations under each of these processes of vaccination was 4,704, 107,697, and 53,029 with a success of 74·70, 64·77, 75·73 per cent. respectively, against 5,718, 96,801, and 59,778 with a success of 66·73, 56·29, and 77·75 during 1906-07 and 6,680, 98,861, and 31,062 with a success of 58·81, 53·98, and 78·02 during 1905-06.

14. During 1907-08 one hundred and ten grains of lymph were supplied from the Darjeeling Animal Vaccination Depôt to the Nepal Darbar. Seven hundred and seventy grains were also supplied to the Sikkim State from the same depôt. The results are reported to have been satisfactory.

Supply of lymph to the Nepal Darbar.

The average quantity of lymph supplied annually to the Nepal Darbar and the Sikkim State during the triennial period under review was 280 and 1,003 grains respectively, against 420 and 621 grains during the previous triennial epoch.

15. During the past year the Deputy Sanitary Commissioners of the Bengal and Orissa, and of the Bihar and Chota Nagpur Circles inspected each 10,375 and 57,351 cases respectively. The percentage of successful operations to total number of operations inspected by them was 98·53 and 96·62 respectively. The amount of work done by Captain Ross is very creditable. He thoroughly examined the work of the vaccinators and the subordinate inspecting staff in addition to multifarious other duties.

Inspections.

Among Civil Surgeons one, viz., the Civil Surgeon of Sonthal Parganas, inspected over 10,000 operations, 17 between 5,000 and 10,000, 11 between 2,000 and 5,000, 4 between 1,000 and 2,000, and 1 less than 1,000. The percentage of success in primary and revaccination cases inspected by them was 98·74 and 68·71 respectively.

Of the subordinate staff, 16 District Inspectors of Vaccination inspected more than 50 per cent. of the primary operations in their respective charges, 6 between 40 and 50 per cent., and 9 between 20 and 40 per cent., and 1 only 6 per cent.

In 12 districts the Sub-Inspectors of Vaccination inspected more than 80 per cent. of the primary operations performed in their jurisdictions, in 21 districts between 50 and 80 per cent., and in 1 below 50 per cent.

The percentage of success reported by the Inspectors and Sub-Inspectors of Vaccination was 98·65 and 98·82 in primary cases, and 59·54 and 67·37 in revaccination, the success reported by the vaccinators in the returns being 98·83 and 68·56 respectively under the above heads.

Suitable notice has, as usual, been taken departmentally of the inadequate inspections performed by the subordinate inspecting staff.

16. I am glad to record that the period under review has witnessed the introduction of several useful reforms into the Department which have tended to better work and to greater efficiency. The chief among these are—

General remarks.

(a) *Increase of pay of the Subordinate Inspecting Staff with a view to secure greater efficiency.*—This has not yet attained the desired result, and I believe that so long as the present system of recruiting the Inspectors from the class of vaccinators continues, no improvement can be hoped for. It is not expected that vaccinators, whose education is as a rule poor and whose character is ill-formed, will by mere reason of promotion to Inspectorship suddenly change their habits and be able to control their brother vaccinators.

(b) *Better Education of the Inspecting Staff and the Vaccinators.*—Since the year 1906, instructions on the modern methods of vaccination are being given every year in the month of September to the Inspectors of Vaccination by the Deputy Sanitary Commissioners and the Civil Surgeon, Cuttack, at selected centres. The instructions received by the Inspectors are imparted by them in turn to the Sub-Inspectors and vaccinators under them. This is a really useful reform which is sure in the end to lead to greater efficiency.



- (c) *General introduction of antiseptic vaccination throughout the Province.*—This has been attended with beneficial results, there being a general diminution of sore arms. Unfavourable reports have, however, been received from a very few districts. The failure is, I believe, due to the neglect of the vaccinators in using the wool properly and to the want of proper supervision by the inspecting staff. Steps are being taken to remedy the defects where they exist.
- (d) *General introduction of the system of the grant of rewards to vaccinators.*—This has led in most districts to a competition of work among vaccinators, and one of the causes of the gradually increasing success in infant vaccination is due to it.
- (e) *General introduction of lanoline lymph in the districts comprised within the Bengal and Orissa Circle.*—Superiority of this method of vaccination over the arm-to-arm process is beyond question. It is liked not only by the educated community, but also by the masses.
- (f) *Supply of lymph direct to vaccinators in the districts supplied by the Calcutta Depot.*—This has undoubtedly facilitated work and prevents the lymph from deteriorating.
- (g) *Special measures adopted for pushing on vaccination in Orissa.*—Owing to the abnormally high mortality from small-pox in Orissa for years past, a special and thorough enquiry was made into the matter last year and it was discovered that this unsatisfactory result was mainly due to the backward state of vaccination there which was the inevitable result of opposition to vaccination, specially in the case of infants under one year of age, and to some extent of the want of co-operation between the vaccination and the district executive staff. I held a conference with the Magistrate of Puri, Mr. Hamilton, and the Civil Surgeon, Captain King, and also moved the Divisional Commissioner on the above points, and as a result of this, steps have been taken to furnish the Civil Surgeon with the tour programme of the District Magistrate, so that the subordinate vaccination inspecting officers may appear before him in the mufassal and invoke his aid whenever necessary. Other measures are also being adopted for the removal of the drawbacks mentioned above, as far as possible, and I am glad to say that the result so far has been very satisfactory. The appointment of the Special Inspector, lately sanctioned by Government, for Orissa is proving invaluable and will, it is hoped, materially help in lessening the incidence of small-pox there in a few years.

F. C. CLARKSON, LIEUT.-COL., I.M.S.,

*Sanitary Commissioner for Bengal.*

CALCUTTA,

The 6th June 1908.

STATISTICAL RETURNS.

No. of persons		No. of persons		No. of persons		No. of persons		No. of persons		No. of persons		No. of persons		No. of persons		No. of persons		No. of persons		No. of persons			
Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female	Male	Female		
100	50	200	100	300	150	400	200	500	250	600	300	700	350	800	400	900	450	1000	500	1100	550	1200	600
1300	650	1400	700	1500	750	1600	800	1700	850	1800	900	1900	950	2000	1000	2100	1050	2200	1100	2300	1150	2400	1200
2500	1250	2600	1300	2700	1350	2800	1400	2900	1450	3000	1500	3100	1550	3200	1600	3300	1650	3400	1700	3500	1750	3600	1800
3700	1850	3800	1900	3900	1950	4000	2000	4100	2050	4200	2100	4300	2150	4400	2200	4500	2250	4600	2300	4700	2350	4800	2400
4900	2450	5000	2500	5100	2550	5200	2600	5300	2650	5400	2700	5500	2750	5600	2800	5700	2850	5800	2900	5900	2950	6000	3000
6100	3050	6200	3100	6300	3150	6400	3200	6500	3250	6600	3300	6700	3350	6800	3400	6900	3450	7000	3500	7100	3550	7200	3600
7300	3650	7400	3700	7500	3750	7600	3800	7700	3850	7800	3900	7900	3950	8000	4000	8100	4050	8200	4100	8300	4150	8400	4200
8500	4250	8600	4300	8700	4350	8800	4400	8900	4450	9000	4500	9100	4550	9200	4600	9300	4650	9400	4700	9500	4750	9600	4800
9700	4850	9800	4900	9900	4950	10000	5000	10100	5050	10200	5100	10300	5150	10400	5200	10500	5250	10600	5300	10700	5350	10800	5400
10900	5450	11000	5500	11100	5550	11200	5600	11300	5650	11400	5700	11500	5750	11600	5800	11700	5850	11800	5900	11900	5950	12000	6000

STATISTICAL RETURNS.

STATEMENT No. I—Showing particulars of Vaccination in the

No.	DISTRICT.	POPULATION.	Average population per square mile.	AVERAGE NUMBER OF VACCINATORS EMPLOYED THROUGHOUT THE YEAR.		TOTAL NUMBER OF PERSONS VACCINATED (INCLUDING THOSE VACCINATED BY APPRENTICES).				Average number of persons vaccinated by each vaccinator [(6 minus 6d) divided by 5a].	PRIMARY VACCINATION		
				a	b	Males.	Females.	Total.	Total number of persons vaccinated by apprentices.		Total.	Success	
												Under one year.	One year and under six years.
1	2	3	4	5	6	7	8	9	10	11	12		
<i>Burdwan Division.</i>													
1	Burdwan	1,445,744	542	50	2	23,832	22,690	46,522	103	1,541	42,025	20,220	19,280
2	Birbhum	823,588	510	16	...	700	860	1,560	...	600	624	402	203
3	Bankura	1,063,196	408	53	...	18,828	13,244	32,072	...	1,122	28,103	13,660	11,747
4	Midnapore	2,080,238	323	41	47	66,807	59,923	126,730	9,882	1,283	121,005	52,906	20,383
5	Hooghly	915,149	700	32	4	15,347	14,305	29,652	627	909	28,202	14,373	9,880
6	Howrah	679,691	1,564	3	...	840	728	1,568	...	523	1,480	434	286
				23	5	10,559	10,112	20,671	...	930	20,580	8,114	11,323
				5	...	1,000	1,258	2,258	...	577	2,143	840	1,080
	Total of Burdwan Division.	7,696,546	556	254	55	103,154	138,525	241,679	10,712	1,102	271,298	115,015	120,007
				259	58	153,754	180,816	293,570	10,712	1,692	273,441	115,538	130,186
<i>Presidency Division.</i>													
7	24-Parganas	1,680,229	846	29	3	30,036	28,770	58,806	...	1,007	58,808	22,781	32,153
8	Calcutta	847,796	42,389	28	...	18,776	12,379	31,155	...	1,112	22,741	4,875	16,189
9	Nadia	1,572,126	571	49	14	31,345	29,433	60,778	1,030	1,206	59,338	33,522	24,462
10	Murshidabad	1,257,277	393	46	19	23,047	20,430	43,477	3,705	865	40,706	31,208	9,402
11	Jessore	1,791,856	614	72	26	33,546	31,489	65,035	2,185	874	61,001	25,612	32,871
12	Khulna	1,226,782	596	33	16	22,510	20,830	43,340	4,148	1,188	43,597	18,733	19,012
				28	...	18,776	12,379	31,155	...	1,112	22,741	4,875	16,189
	Total of Presidency Division.	8,374,076	708	259	80	141,156	130,962	272,117	11,729	1,695	261,370	129,884	117,933
				287	80	159,951	143,341	293,292	11,729	1,616	284,111	133,730	134,042
<i>Patna Division.</i>													
13	Patna	1,410,722	600	67	45	23,197	21,085	44,282	7,207	528	44,660	14,227	28,588
14	Gaya	1,972,236	420	8	...	4,061	3,491	7,552	...	944	6,974	3,563	2,051
15	Shahabad	1,844,506	425	109	7	25,741	23,314	49,055	571	445	49,664	19,148	20,311
16	Saran	2,338,489	578	60	47	34,266	30,728	64,994	11,786	846	64,394	25,920	34,333
17	Champanan	1,722,037	497	47	47	25,389	24,224	49,613	10,125	891	50,440	19,139	23,096
18	Muzaffarnur	2,666,978	804	58	58	60,833	47,501	108,334	26,347	1,256	97,783	39,420	37,881
19	Darbhanga	2,869,319	848	52	52	44,478	41,891	86,369	15,950	1,354	86,323	31,111	34,514
				8	...	4,061	3,491	7,552	...	944	6,974	3,563	2,051
	Total of Patna Division.	14,794,374	627	459	295	237,180	220,806	457,986	72,989	839	467,107	198,345	240,659
				467	295	241,241	224,326	465,567	72,989	841	464,141	201,911	243,610
<i>Bhagalpur Division.</i>													
20	Monghyr	2,013,966	515	41	41	30,249	27,456	57,705	23,723	1,291	74,523	36,976	39,327
21	Bhagalpur	2,007,451	476	51	46	37,490	38,110	75,600	12,969	1,170	72,491	40,742	25,332
22	Purnea	1,844,044	370	46	42	26,904	25,247	52,151	11,507	877	51,714	22,547	21,240
23	Darjeeling	...	...	11	...	8,412	7,561	15,973	...	1,470	12,807	4,464	4,117
24	Darjeeling Bovine Vaccine Depot—Paid by Government.	227,724	197	3	...	188	150	338	...	169	338	68	172
	Total of Bhagalpur Division.	7,881,204	327	63	16	20,994	20,990	41,984	1,526	882	53,300	32,633	20,329
				13	...	8,800	7,711	16,511	...	1,270	13,145	4,532	4,280
				201	145	133,737	124,822	258,559	50,025	1,037	254,028	145,098	106,147
				214	145	142,537	133,535	276,072	50,025	1,051	267,173	150,630	110,436
<i>Orissa Division.</i>													
25	Cuttack	1,984,038	548	4	...	4,833	4,307	9,140	...	2,185	7,038	3,550	3,014
26	Balasore	1,400,317	511	37	...	42,100	38,947	81,047	5,210	1,433	77,712	36,417	35,440
27	Angul	191,911	114	13	1	5,182	3,987	9,169	207	804	5,256	2,519	1,679
28	Puri	987,900	302	28	...	29,987	25,282	55,269	...	1,974	54,539	9,751	34,367
29	Bambalpur	692,904	311	9	1	14,601	13,063	27,664	...	3,007	24,800	15,008	8,900
30	Tributary States of Orissa—* Kalahandi, Ranpur, Nilgiri, Khandpara, Gangpur, Bonai, Nayagarh, and Tegoria.	...	...	37	1	36,603	27,423	64,027	...	1,737	34,100	5,878	22,198
	Talcher, Athgarh, Pal-Lahera, Koonjhar, Narasingpur, Ath- malik, Hindol, Bisenkanal, Saramba, Mayurbhanj, Boud and Dhaulpala.	2,375,504	117	115	...	37,764	29,376	67,140	...	584	55,748	21,018	31,296
				61	1	48,521	42,552	91,073	...	2,221	86,874	31,709	42,387
	Total of Orissa Division.	7,392,714	142	37	1	36,622	27,026	64,277	...	1,737	34,100	5,878	22,198
				214	45	105,056	83,380	188,436	5,557	840	107,083	63,274	81,737
				229	47	185,329	158,507	343,796	5,557	1,145	288,623	105,861	146,242

districts of Bengal during the year 1907-08.

POPULATION.		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 PREVIOUS FIVE YEARS.		AVERAGE ANNUAL NUMBER OF DEATHS FROM SMALL-POX DURING PREVIOUS FIVE YEARS.	
Total of all ages.	Un-known.	Total.	Successful.	Un-known.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	Number.	Ratio per 1,000 of population.	Number.	Ratio per 1,000 of population.
11	12	13	14	15	16	17	18	19	20	21	22	23	24
42,555	16	3,707	2,628	29	99'87	72'26	31'27	·03	·78	45,723	31'02	740	'51
654	---	666	591	---	100'	88'73	33'74	---	·18	29,675	34'32	391	'43
27,569	2	1,069	998	2	99'53	87'72	31'25	·002	·18	41,256	38'80	431	'40
30,580	1	7,261	2,573	66	99'59	88'07	43'83	·14	4'43	105,982	39'23	3,101	1'14
120,478	171	5,725	5,219	254	99'70	88'05	32'85	·21	2'74	23,963	28'37	265	'26
28,605	61	1,540	1,336	33	99'39	84'92	32'46	·40	19'12	22,431	33'03	371	'54
1,474	6	79	39	8	99'77	55'55	---	·17	1'21	---	---	---	---
20,505	36	82	43	1	---	---	---	---	---	---	---	---	---
2,128	6	745	639	8	99'57	85'48	---	·28	1'07	---	---	---	---
270,073	286	10,384	10,328	285	99'05	87'15	36'88	·10	1'08	2,72,030	35'34	5,279	'68
172,201	292	20,129	11,488	303	99'65	89'20	---	·10	1'05	---	---	---	---
88,772	---	578	315	---	99'83	58'55	37'18	---	---	62,814	37'38	567	'33
21,563	869	8,414	2,819	1,098	98'54	48'10	29'58	3'77	13'04	26,254	31'32	895	'94
29,828	79	1,261	969	---	99'02	69'82	38'16	·13	---	54,693	34'09	785	'85
45,453	149	2,771	2,318	25	99'74	84'41	34'02	·34	·90	42,132	33'31	348	'37
69,743	65	4,054	2,974	92	99'35	72'53	35'76	·10	2'26	55,329	30'89	66	'03
41,214	1	2,038	1,233	3	99'77	69'73	34'80	·002	·14	36,322	29'08	20	'01
21,563	829	8,414	3,519	1,064	98'54	48'10	---	3'77	13'04	---	---	---	---
260,183	285	10,777	7,649	120	99'69	71'77	34'08	·10	1'11	277,674	33'15	1,391	'25
281,849	1,144	19,191	11,168	1,218	99'00	62'13	---	·40	6'34	---	---	---	---
44,303	156	232	149	---	99'54	61'20	31'20	·34	---	36,248	25'69	1,397	'99
6,458	34	678	355	121	98'74	77'63	---	·49	90'03	---	---	---	---
63,189	165	214	171	6	99'06	82'21	30'78	·25	2'88	62,878	31'67	1,071	'84
48,090	180	1	---	---	98'33	---	26'07	·30	---	46,339	25'11	336	'18
62,407	1,781	---	154	5	99'30	92'06	30'74	2'74	1'21	66,272	25'77	633	'63
49,816	234	164	---	10	99'59	72'19	28'52	·46	1'21	49,382	28'18	494	'83
97,283	8	251	174	10	99'59	72'19	28'52	·068	3'08	80,212	33'45	722	'87
85,294	19	46	50	---	99'64	65'21	30'63	·02	---	83,691	30'47	352	'13
6,813	34	578	355	121	98'74	77'68	---	·40	20'03	---	---	---	---
451,222	2,515	968	671	18	99'26	78'39	31'03	·45	1'08	429,921	29'05	4,544	'32
458,175	2,549	1,680	1,028	139	99'26	76'16	---	·54	9'35	---	---	---	---
76,469	2	122	82	42	99'38	74'54	28'01	·002	27'61	76,663	38'06	859	'42
72,317	29	149	117	11	99'79	84'78	36'08	'04	7'28	75,816	36'77	724	'26
51,163	53	457	169	17	99'93	25'35	27'99	'10	3'89	60,941	33'31	485	'34
12,795	14	3,306	2,316	277	100'	74'97	---	'11	8'22	---	---	---	---
331	5	---	---	---	100'	---	67'81	1'48	---	14,863	65'26	15	'96
53,616	73	3,793	2,760	127	99'66	78'28	31'19	'13	3'34	72,285	40'81	1,174	'65
18,136	19	3,306	2,516	277	100'	74'97	---	'14	8'22	---	---	---	---
252,964	187	4,531	3,068	197	99'64	70'78	24'44	·06	4'34	230,268	37'97	3,287	'61
266,999	176	7,887	5,354	474	99'66	72'53	---	·06	6'09	---	---	---	---
7,188	171	1,206	819	107	97'61	74'59	---	2'26	8'87	---	---	---	---
76,860	565	2,436	1,559	284	99'11	58'08	45'18	·72	12'07	73,919	36'75	681	'20
28,602	74	7	7	---	98'97	100'	37'23	'26	---	35,243	35'64	546	'61
4,950	140	3,913	3,333	256	96'75	91'14	43'16	2'96	6'54	7,941	39'61	Not under registration.	---
52,566	673	730	268	147	98'11	61'40	54'66	1'78	20'13	48,009	45'04	2,042	'10
24,465	216	2,264	1,343	139	99'45	90'96	42'27	'87	4'69	31,098	49'01	45	'07
22,305	580	30,177	25,122	1,812	98'07	88'57	---	1'70	6'00	---	---	---	---
54,966	321	11,392	7,777	908	99'06	74'37	---	·57	5'21	141,049	54'76	Not under registration.	---
84,202	1,360	4,199	3,119	383	98'46	81'73	---	1'56	9'12	---	---	---	---
20,205	180	29,177	25,122	1,812	98'07	88'57	43'54	1'70	6'00	331,648	64'86	3,214	'43
164,818	1,100	17,747	12,337	1,486	98'09	79'87	---	'65	8'37	---	---	---	---
281,326	3,640	68,123	46,678	3,692	98'49	83'76	---	1'05	7'06	---	---	---	---

## STATEMENT No. I.—Showing particulars of Vaccination in the

No.	DISTRICT.	POPULATION.	Average population per square mile.	AVERAGE NUMBER OF VACCINATORS EMPLOYED THROUGHOUT THE YEAR.		TOTAL NUMBER OF PERSONS VACCINATED (INCLUDING THOSE VACCINATED BY APPRENTICES).				Total number of persons actually vaccinated by apprentices.	Average number of persons vaccinated by each vaccinator (the minus <i>edj</i> divided by <i>5a</i> ).	PRIMARY VACCINATION.		
				a	b	c	d	Total.	Under one year.			One year and under six years.	Success	
													Male.	Female.
1	2	3	4	5	6				7	8	9	10		
<i>Chota Nagpur Division.</i>														
31	Hazaribagh ... .. Licensed	1,142,130	163	45	31	26,696	22,332	49,028	3,163	1,620	37,853	23,682	14,444	
32	Ranchi ... .. "	1,157,999	162	44	43	27,912	25,007	52,919	12,104	909	54,012	40,575	9,414	
33	Palamu ... .. "	618,703	124	25	7	8,308	8,114	16,422	27	630	14,028	11,994	3,370	
34	Manbhum ... .. "	1,275,825	308	34	34	34,389	30,253	64,554	5,979	1,721	45,956	27,928	28,237	
35	Singbhum ... .. "	604,926	161	16	11	9,397	8,749	18,056	992	1,005	17,843	9,633	7,755	
36	Political States of Singhbhum— (Serakela and Kharsawan) Licensed	141,079	242	4	2	2,127	1,923	4,050	343	334	3,885	1,701	2,138	
Total of Chota Nagpur Division. Licensed		4,934,915	179	168	128	107,769	96,480	204,249	23,459	1,076	182,111	114,031	65,364	
Total for the Province		51,075,829	379	54	1	54,182	47,331	101,513	...	1,879	95,691	36,112	46,427	
				78	1	64,228	47,715	111,943	...	1,430	69,596	15,263	42,596	
Total ...				1,667	753	990,491	892,113	1,882,604	174,462	1,098	1,759,640	822,650	829,980	

\* The figures from the East Indian Railway, Bamra 44,820 operations performed in the Patna and Sonour States have

OFFICE OF THE SANIT. COMME. FOR BENGAL;

The 30th May 1908.

Districts of Bengal during the year 1907-08—concluded.

NATION.		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 of all ages.	Un-known.	Total.	Successful.	Un-known.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	Number.	Ratio per 1,000 of population.	Number.	Ratio per 1,000 of population.
11	12	13	14	15	16	17	18	19	20	21	22	23	24
37,629	38	11,175	9,105	780	96'61	87'59	40'94	'10	6'97	43,269	37'91	147	'15
50,579	16	1,467	1,076	14	99'96	72'55	44'60	'03	'73	43,743	37'77	83	'07
15,453	208	294	333	43	97'88	94'87	25'72	1'29	10'91	17,166	27'96	208	'35
25,916	3	8,024	6,609	7	99'98	69'73	48'56	'005	'08	47,111	29'34	498	'39
17,719	9	253	178	1	99'98	70'63	29'58	'05	'39	19,411	32'08	557	'97
3,365	15	195	122	...	99'87	62'46	28'36	'38	...	4,971	33'23	Not under registration.	
181,201	289	22,138	16,923	845	99'65	79'00	40'12	'15	2'81	175,701	35'00	1,522	'50
93,183	1,400	5,532	4,104	512	98'40	81'91	33'77	1'45	9'27	1,796,343	34'97	20,007	39
66,894	1,458	41,207	30,207	3,188	97'61	79'87		2'08	7'59				
1,580,763	4,633	75,484	51,406	3,051	99'47	70'98		'29	4'04				
1,749,840	7,400	122,964	86,467	6,751	99'34	74'40		'42	5'40				

and Mairakhal States have not been received. not been included in this statement as they were received too late, and in an incomplete State.

F. C. CLARKSON, L.S.BUT.-COL., I.M.S.,

Sanitary Commissioner for Bengal.

## STATEMENT No. II—Showing the cost of Vaccination in the

No.	CIRCLE AND DISTRICT.	EXPENDITURE												
		European supervising officers.	Pay.	Native officers supervising.	Pay.	Paid vaccinators.	Pay.	Licensed vaccinators.	Pay.	Clarks.	Pay.	Peons.	Pay.	Total pay of establishment.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
	<b>Burdwan Division.</b>		Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.		Rs. A. P.	
1	Burdwan			5	1,952 11 11			30	203 8 0					2,314 3 11
2	Birbhum			3	1,236 12 3	2	39 0 5	26	139 14 0					1,435 10 8
3	Bankura			3	1,340 0 0			23	160 0 0					1,540 0 0
4	Midnapore			7	2,605 10 10			91	234 8 0					2,849 2 10
5	Hooghly			4	1,472 0 0			31	180 8 0					1,672 8 0
6	Howrah			3	1,332 2 6	3	325 0 0	21						1,537 2 6
	<b>Total of the Burdwan Division</b>			25	9,850 5 6	5	384 0 5	254	1,016 6 0					11,150 11 11
	<b>Presidency Division.</b>													
7	24 Parganas			6	2,470 1 6			59						2,470 1 6
8	Calcutta Animal Vaccination Depot (for manufacturing lymph).			1	1,975 0 0	(a)4	1,326 8 0			1	115 0 0	19	1,500 0 0	5,296 8 6
9	Calcutta			7	5,360 0 0	28	8,410 0 0					18	1,040 0 0	15,396 0 0
10	Nadia			6	2,314 7 7			40	84 12 0					2,299 3 7
11	Murshidabad			5	1,958 0 0			45	51 8 0					2,019 8 0
12	Jessore			6	2,391 9 2			72	166 0 0					2,467 9 2
13	Khulna			4	1,630 3 4			33	80 0 0					1,659 3 4
	<b>Total of the Presidency Division</b>			35	17,868 6 2	32	9,742 8 0	219	352 4 0	1	115 0 0	27	3,530 0 0	31,598 2 2
	<b>Patna Division.</b>													
14	Patna			5	1,943 0 0			67	145 4 0					2,088 4 0
15	Gaya			5	1,923 2 10	8	696 11 7	65	578 12 0					2,198 10 5
16	Shahabad			5	2,035 7 7			102	284 4 0					2,319 11 7
17	Baran			4	1,528 0 0			60	7 4 0					1,535 4 0
18	Champanan			3	1,142 0 0			47	254 0 0					1,426 0 0
19	Muzaffarpur			4	1,455 0 0			58	10 13 0					1,465 13 0
20	Darbhanga			4	1,513 8 9			33	57 8 0					1,571 0 9
	<b>Total of the Patna Division</b>			30	11,540 3 2	8	696 11 7	459	1,565 13 0					13,602 11 9
	<b>Bhagalpur Division.</b>													
21	Monghyr			4	1,447 0 8			41	116 0 0					1,563 0 8
22	Bhagalpur			5	1,944 0 0			81	330 0 0					2,274 0 0
23	Purnea			4	1,638 0 0			46	85 0 0					1,743 0 0
24	Darjeeling Animal Vaccination Depot (for manufacturing lymph).			1	995 0 0	2	487 2 0					7	822 0 0	2,304 2 0
25	Darjeeling			3	1,572 0 0	(b)11	1,336 0 0							2,608 0 0
26	Southern Parganas			7	2,640 13 0			65	112 2 0					2,761 15 0
	<b>Total</b>			24	9,960 13 0	15	1,823 2 0	201	643 2 0			7	822 0 0	13,254 1 0
	<b>Orissa Division.</b>													
27	Cuttack			4	1,485 5 2	4	475 3 6	53	107 0 0					2,127 7 8
28	Balasore			3	1,054 15 9			27	76 4 0					1,131 3 9
29	Angul			3	1,020 0 0			10						1,030 0 0
30	Puri			(c)4	1,340 5 10	18	5,381 14 2							4,662 4 0
31	Sambalpur			2	1,300 0 0	9	1,308 0 0					2	42 13 6	2,350 13 6
32	Tributary States of Orissa.			(d)25	5,195 15 0	37	2,910 1 3	115						8,106 0 3
	<b>Total</b>			41	12,096 9 9	78	8,075 1 11	214	243 4 0			2	42 13 6	20,457 13 2
	<b>Chota Nagpur Division.</b>													
33	Hazaribagh			4	1,404 7 0			45	19 0 0					1,513 7 0
34	Ranchi			3	1,140 0 0			44						1,180 0 0
35	Palamu			2	960 0 0			25	15 10 0					975 10 0
36	Manbhum			3	1,317 4 2			24						1,317 4 2
37	Singbhum			2				10	7 8 0					
38	Political States of Singbhum (Kharaswan and Serukhela).			1	1,200 0 0			4						1,207 8 0
	<b>Total</b>			15	6,011 11 2			168	39 3 0					6,050 13 2
	<b>Total of Vaccination Circles</b>			170	67,342 0 9	136	20,611 7 11	1,555	3,659 15 0*	1	115 0 0	46	4,394 15 6	96,123 5 2
	<b>Establishment of the Deputy Sanitary Commissioners—</b>													
	Bengal and Orissa Circle	1	9,515 11 11							2	1,101 0 0	2	154 8 3	10,771 4 2
	Etihar and Chota Nagpur Circle	1	9,313 13 1							2	909 5 2	2	204 0 0	10,427 2 3
	<b>Total</b>	2	18,829 9 0							4	2,010 5 2	4	358 8 3	21,248 6 5
	<b>Total for the Province</b>	2	18,829 9 0	170	67,342 0 9	136	20,611 7 11	1,555	3,659 15 0*	5	2,175 5 2	50	4,733 5 9	1,17,371 11 7
	<b>Municipalities</b>			7	2,705 0 0	165	16,031 14 10			2	120 0 0	8	473 13 11	19,330 12 9
	<b>GRAND TOTAL</b>	2	18,829 9 0	177	70,047 0 9	301	36,643 6 9	1,555	3,659 15 0*	7	2,295 5 2	58	5,227 3 8	1,36,702 8 4

\* Deputation allowance paid to  
+ This includes Rs. 1,008 spent by  
(a) in Calcutta Animal Vaccination  
(b) in Darjeeling 11 includes 1 head  
(c) in Puri 4 includes one special  
(d) in Tributary States 25 includes

district of Bengal during the year 1907-08.

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.		
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.
830 5 2	...	211 12 0	3,356 5 1	...	3,356 5 1	...	...	...	3,356 5 1	45,213	0 1 2
816 7 11	...	133 15 0	2,078 1 7	...	2,078 1 7	...	0 12 0	...	2,078 1 7	30,150	0 1 1
871 1 6	...	153 5 10	2,396 7 4	...	2,396 7 4	100 0 0	...	...	2,396 7 4	33,332	0 1 1
1,288 12 0	209 2 0	278 8 0	5,111 8 10	...	4,712 6 10	399 2 0	...	...	5,111 8 10	123,688	0 0 7
1,108 10 6	25 3 9	109 14 0	2,914 4 3	...	2,880 0 6	33 3 9	...	...	2,914 4 3	39,342	0 1 7
696 2 6	...	102 14 6	2,356 3 6	...	2,131 3 6	225 0 0	...	...	2,356 3 6	22,064	0 1 8
5,616 7 7	424 5 9	982 5 4	15,182 14 7	...	17,373 12 5	808 6 2	0 12 0	...	15,182 14 7	253,649	...
2,309 14 3	...	200 0 6	5,063 0 3	...	5,063 0 3	...	...	...	5,063 0 3	59,047	0 1 4
...	...	9,213 8 0	15,350 0 0	...	15,350 0 0	...	...	...	15,350 0 0	Nil.	...
60 0 0	5,635 7 9	323 15 6	21,415 7 3	...	...	...	21,415 7 3	...	21,415 7 3	25,082	0 13 7
1,432 3 3	...	215 8 0	3,946 14 10	...	3,946 14 10	...	...	...	3,946 14 10	60,002	0 1 0
968 15 6	41 0 0	187 8 0	3,216 15 6	...	3,175 15 6	41 0 0	...	...	3,216 15 6	42,781	0 1 2
1,220 12 6	...	292 7 10	3,850 14 1	...	3,850 14 1	...	...	...	3,850 14 1	63,617	0 0 11
839 8 0	...	119 0 0	2,607 11 4	...	2,607 11 4	...	...	...	2,607 11 4	42,447	0 1 0
4,914 5 6	5,676 7 9	11,211 15 10	55,400 15 3	...	53,944 8 0	41 0 0	21,415 7 3	...	55,400 15 3	293,016	...
942 0 6	...	133 8 0	3,161 12 0	...	3,161 12 0	...	...	...	3,161 12 0	44,445	0 1 1
1,065 14 0	...	317 1 6	4,581 9 11	...	3,996 12 10	714 13 1	...	...	4,581 9 11	70,878	0 1 0
1,007 8 6	...	285 6 0	3,632 10 1	...	3,632 10 1	100 0 0	...	...	3,632 10 1	48,190	0 1 2
558 15 0	...	203 8 0	2,327 11 0	...	2,317 11 0	...	...	...	2,327 11 0	62,537	0 0 7
739 1 6	...	183 8 0	2,339 9 6	...	2,339 9 6	...	...	...	2,339 9 6	40,970	0 0 8
691 13 6	...	153 0 0	2,313 10 6	...	2,313 10 6	...	...	...	2,313 10 6	37,357	0 0 4
900 0 0	...	190 0 0	2,661 0 9	...	2,661 0 9	...	...	...	2,661 0 9	46,024	0 0 5
5,974 4 6	...	1,430 15 6	21,016 15 9	...	20,392 2 8	814 13 1	...	...	21,016 15 9	457,301	...
1,217 8 3	...	119 3 0	2,899 11 3	...	2,899 11 3	...	...	...	2,899 11 3	76,551	0 0 7
849 9 6	...	169 12 0	3,284 5 6	...	3,284 5 6	...	...	...	3,284 5 6	72,434	0 0 8
1,049 1 10	...	162 1 6	2,954 3 4	...	2,954 3 4	...	...	...	2,954 3 4	51,271	0 0 11
797 14 0	...	1,028 0 0	4,130 0 0	...	4,130 0 0	...	...	...	4,130 0 0	333	0 14 9
3,603 9 6	...	95 0 0	6,306 9 6	...	4,610 7 5	1,696 2 1	...	...	6,306 9 6	18,109	0 1 3
1,491 15 0	...	130 0 0	4,383 14 0	...	4,271 12 0	112 2 0	...	...	4,383 14 0	45,776	0 1 3
9,009 10 1	...	1,695 0 6	23,968 11 7	...	22,150 7 6	1,805 4 1	...	...	23,968 11 7	271,474	...
846 12 6	...	412 12 0	3,397 0 8	...	2,891 14 2	495 2 6	...	...	3,397 0 8	55,687	0 0 7
411 6 6	...	125 7 6	1,868 1 9	...	1,868 1 9	...	...	...	1,868 1 9	28,609	0 1 0
1,018 9 0	...	91 0 0	3,029 9 0	...	3,029 9 0	...	...	...	3,029 9 0	8,283	0 5 10
1,138 1 0	...	203 11 0	5,396 0 0	...	2,884 1 10	3,581 14 2	...	...	5,396 0 0	52,914	0 1 9
...	...	44 7 0	2,595 4 6	...	...	2,595 4 6	...	...	2,595 4 6	26,400	0 1 6
...	...	...	8,106 0 3	...	...	8,106 0 3	...	8,106 0 3	8,106 0 3	120,010	0 1 1
3,614 13 6	...	879 5 6	24,952 0 2	...	10,373 10 9	6,472 5 2	...	8,106 0 3	24,952 0 2	321,303	...
720 11 6	...	168 0 0	2,492 3 6	...	2,492 3 6	...	...	...	2,492 3 6	46,774	0 0 9
695 13 6	...	138 0 0	1,971 13 6	...	1,971 13 6	...	...	...	1,971 13 6	51,658	0 0 7
390 1 6	...	122 6 6	1,445 3 0	...	1,430 9 0	24 9 0	...	...	1,445 3 0	15,786	0 1 5
837 3 6	...	117 5 3	2,171 11 11	...	2,171 11 11	...	...	...	2,171 11 11	61,935	0 0 6
927 2 6	1 0 0	128 2 6	2,563 13 0	...	2,067 12 0	...	...	296 1 0	2,563 13 0	17,897	0 1 7
...	...	...	...	...	...	...	...	...	...	3,987	...
3,541 15 6	1 0 0	670 14 3	10,264 10 11	...	10,034 0 11	24 9 0	...	296 1 0	10,264 10 11	108,284	...
34,071 8 8	6,101 13 6	16,879 8 11*	153,776 4 3	...	114,078 10 3	9,069 5 6	21,416 3 3	8,312 1 3	153,776 4 3	1,527,307	0 1 4
1,963 0 6	...	724 5 0	13,457 9 8	...	13,457 9 8	...	...	...	13,457 9 8	...	...
3,730 9 9	...	560 0 0	14,776 12 0	...	14,776 12 0	...	...	...	14,776 12 0	...	...
5,791 10 3	...	1,284 5 0	28,234 5 8	...	28,234 5 8	...	...	...	28,234 5 8	...	...
40,373 2 11	6,101 13 6	16,163 13 11	182,010 9 11	...	142,512 15 11	9,969 5 6	21,416 3 3	8,312 1 3	182,010 9 11	1,527,307	0 1 7
390 0 0	410 11 3	1,615 4 1	21,652 12 1	...	1,250 0 0	297 12 0	19,349 0 1	169 0 0	21,652 12 1	112,619	0 3 1
40,673 2 11	6,512 8 9	19,779 2 0†	203,067 6 0	...	142,592 15 11	10,367 1 6	41,265 3 4	8,472 1 3	203,067 6 0	1,929,926	0 1 8

licensed vaccinator on small-pox duty during recess.  
 Civil Surgeons on a count of antiseptic vaccination and Rs. 1,370 paid as rewards to vaccinators.  
 Deputy includes 1 head vaccinator.  
 vacinator and one temporary vaccinator employed 1 for three months on small-pox duty.  
 Inspector appointed from February 1908.  
 \* Head or supervising vaccinators.

F. C. CLARKSON, LIEUT.-COL., I.M.S.,

Sanitary Commissioner for Bengal.



STATEMENT No. III—Showing particulars of Vaccination performed by Vaccinators attached to Municipalities, Dispensaries, etc., in the Province of Bengal, during the year 1907-08.

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.	PRIMARY VACCINATION.					RE-VACCINATION.			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 one year.	One year and under 6 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	4,728	788	3,370	1,900	1,283	3,340	18	1,355	787	18	99-64	58-73	-53	1-32
Birbhum ...	1	1	1,102	1,102	285	112	111	281	2	817	525	75	90-29	70-48	-70	9-15
Bankura ...	3	3	3,817	1,272	2,334	1,145	974	2,218	...	1,583	350	2	90-28	22-15	...	-12
Midnapore ...	7	8	5,953	698	3,243	1,151	1,806	3,158	9	2,338	1,634	119	97-58	73-63	-27	5-08
Hooghly ...	8	9	4,255	473	3,238	1,844	1,501	3,408	22	727	451	27	90-48	64-42	-62	3-71
Howrah ...	2	2	4,577	1975	4,061	2,124	1,532	4,019	30	816	318	23	90-70	40-10	-73	2-81
24 Parganas ...	27	33	17,740	438	16,513	7,992	7,085	16,237	6	1,437	642	6	99-57	44-07	-93	...
Nadia ...	9	9	4,358	550	3,703	1,941	1,530	3,673	21	1,255	1,018	...	99-75	83-51	-56	2-56
Murshidabad ...	9	6	6,538	1,693	2,610	1,340	958	2,477	46	3,948	2,223	206	90-56	59-60	1-72	6-21
Jessore ...	3	3	1,179	393	348	180	120	344	...	831	573	46	98-85	72-99	...	6-53
Khulna ...	3	3	973	324	759	388	313	755	3	214	114	51	99-87	69-94	...	23-83
Patna ...	5	10	8,962	866	7,374	3,806	3,148	7,062	215	1,188	702	113	98-65	69-96	3-91	9-61
Gaya ...	3	5	3,766	753	2,694	1,591	1,153	2,939	121	672	464	68	98-82	76-82	3-91	10-11
Shahabad ...	6	7	3,461	494	2,722	1,446	845	2,591	68	739	355	83	97-02	30-32	2-40	11-23
Saran ...	3	6	3,866	775	3,095	1,881	942	2,907	83	771	541	162	96-51	65-73	2-68	33-79
Champanan ...	3	3	2,948	683	1,637	846	287	1,513	65	411	239	89	96-24	72-20	3-97	10-46
Muzaffarpur ...	4	8	4,153	692	3,644	1,719	1,306	2,984	9	1,109	731	3	98-31	67-93	...	...
Darbhanga ...	2	4	4,619	592	3,397	1,859	1,380	3,318	16	622	542	24	98-13	90-63	-47	3-85
Monghyr ...	2	4	4,689	1,172	3,671	1,920	1,698	3,650	...	1,018	645	141	99-42	73-04	...	13-85
Rhagalpur ...	3	3	4,733	1,578	1,715	910	716	1,780	5	3,018	2,178	35	99-41	73-01	...	1-15
Purnea ...	3	3	805	268	893	407	371	783	3	2	...	1	97-87	...	...	50-00
Darjeeling ...	3	3	2,617	1,308	1,159	369	300	1,129	26	1,458	1,023	131	99-64	77-09	2-24	8-98
Sonthal Parganas ...	3	3	3,354	1,118	1,247	655	414	1,204	6	2,107	1,370	116	97-01	68-80	-48	5-50
Cuttack ...	4	7	11,803	1,686	5,050	2,325	1,896	4,394	599	6,732	4,006	1,105	98-71	88-64	1-86	16-36
Balaasore ...	1	1	1,676	1,676	1,128	169	512	969	191	448	239	74	94-25	61-22	8-25	16-61
Puri ...	1	1	2,743	2,743	2,415	439	1,159	2,327	36	328	241	53	97-51	87-63	1-49	16-15
Sambalpur ...	1	1	1,273	1,273	886	630	212	872	3	357	169	19	98-75	45-02	...	4-99
Hazaribagh ...	2	2	2,498	833	1,482	1,061	313	1,422	...	1,076	703	21	100-	66-63	...	1-95
Kanchi ...	1	1	2,803	1,401	1,454	708	566	1,453	...	1,349	825	17	99-93	61-93	...	1-26
Palasna ...	1	1	636	636	382	142	59	277	94	254	178	27	98-18	78-41	24-00	10-62
Manbhum ...	3	3	2,079	690	980	492	489	948	24	1,090	635	192	99-16	70-71	2-44	17-61
Singbhum ...	1	1	836	836	465	210	122	373	1	431	257	1	92-32	59-76	-24	-23
Total ...	131	165	128,100	776	87,546	43,841	35,460	84,814	1,631	40,554	25,439	3,167	98-65	68-70	1-87	7-58
Vaccination performed by railway staff.	...	...	(a) 2,847	...	935	177	460	843	25	1,912	1,523	55	...	...	...	...
GRAND TOTAL ...	131	165	130,947	793	88,481	44,018	35,920	85,657	1,656	42,466	26,962	3,222	...	...	...	...

(a) These operations were performed by the Railway Medical Staff.

OFFICE OF THE SANIT. COMM. FOR BENGAL,

The 30th May 1908.

F. C. CLARKSON, LIEUT.-COL., I.M.S.,

Sanitary Commissioner for Bengal.

COMPARATIVE STATEMENT No. IV - Showing the results of operations for the years ending 1917 and 1916

1917		1916		1915		1914		Description
Debit	Credit	Debit	Credit	Debit	Credit	Debit	Credit	
1,375.00	1,000.00	1,200.00	1,100.00	1,100.00	1,000.00	1,000.00	1,000.00	Operating Expenses
500.00	400.00	450.00	400.00	400.00	350.00	300.00	300.00	Depreciation
200.00	150.00	180.00	150.00	150.00	120.00	100.00	100.00	Interest
100.00	80.00	90.00	80.00	80.00	70.00	60.00	60.00	Income Tax
100.00	80.00	90.00	80.00	80.00	70.00	60.00	60.00	Other
1,075.00	1,000.00	980.00	900.00	900.00	800.00	700.00	700.00	Total

COMPARATIVE STATEMENT No. IV.

COMPARATIVE STATEMENT NO. IV—Showing the number of persons primarily  
of the undermen

ESTABLISHMENT.	PERSONS PRIMARILY							
	1898-99.		1899-00.		1900-01.		1901-02.	
	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.
1	2	3	4	5	6	7	8	9
Government ...	19,903	19,716	19,836	19,728	21,053	20,820	21,618	21,248
Municipal ...	78,730	75,405	86,873	83,067	89,068	85,666	96,549	93,329
Local Funds ...	42,670	41,624	56,395	54,764	42,934	41,952	56,587	55,291
Native States ...	53,185	50,399	45,124	42,904	42,100	40,322	35,701	33,703
Dispensaries ...	4,891	4,013	4,682	3,362	3,981	3,653	4,677	4,296
Work done by ex-inoculators.	1,211,900	1,191,188	1,287,813	1,262,824	1,237,463	1,215,470	1,397,066	1,377,329
Total ...	1,411,279	1,382,345	1,500,723	1,467,249	1,436,599	1,407,883	1,612,198	1,585,196

\* 20,169 Primary operations were performed in the Tributary States of Sonapur and Patna.

OFFICE OF THE SANY. COMMR. FOR BENGAL; }

The 30th May 1903. }

vaccinated and the number of those persons who were successfully vaccinated in each  
tioned official years.

## VACCINATED.

1902-03.		1903-04.		1904-05.		1905-06.		1906-07.		1907-08.	
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.	Total number.	Number successfully vaccinated.
10	11	12	13	14	15	16	17	18	19	20	21
11,170	11,009	10,201	10,171	13,130	13,089	15,231	15,171	14,848	14,741	13,145	13,126
88,735	84,114	93,840	89,343	97,397	92,823	112,418	106,220	108,209	103,881	106,617	103,297
95,539	101,936	88,887	87,091	82,470	80,295	80,163	76,370	76,958	74,795	95,991	93,183
21,618	20,506	43,622	42,060	44,332	43,257	27,679	26,719	122,039	119,409	*93,733	90,976
4,762	4,336	5,355	5,005	2,817	2,745	1,628	1,595	7,062	6,076	4,605	3,923
1,476,472	1,456,741	1,459,736	1,441,824	1,593,173	1,572,571	1,667,506	1,652,572	1,545,860	1,533,657	1,534,030	1,521,992
1,698,296	1,678,642	1,701,641	1,675,494	1,833,319	1,804,780	1,904,625	1,878,647	1,874,976	1,852,559	1,848,121	1,826,497

but they could not be included in this Statement as they were received too late.

F. C. CLARKSON, LIEUT.-COL., I.M.S.,  
Sanitary Commissioner for Bengal.

STATEMENT No. V—Showing particulars of Vaccination

DISTRICT.	TOTAL NUMBER OF PERSONS VACCINATED.		TOTAL NUMBER INSPECTED								PERCENTAGE OF INSPECTION			
			BY DEPUTY SANITARY COMMISSIONERS OR CIVIL SURGEONS.				BY NATIVE SUPERINTENDENTS OR OTHER INSPECTING OFFICERS.				BY DEPUTY SANITARY COMMISSIONERS OR CIVIL SURGEONS.			
			Deputy Sanitary Commissioners.		Civil Surgeons.		District Inspectors.		Sub-Inspectors.		Deputy Sanitary Commissioners.		Civil Surgeons.	
			Primary.	Revaccination.	Primary.	Revaccination.	Primary.	Revaccination.	Primary.	Revaccination.	Primary.	Revaccination.	Primary.	Revaccination.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
Burdwan ... ..	45,995	5,055	...	...	1,917	654	14,876	2,305	34,097	2,928	...	...	4.16	13.11
Birbhum ... ..	29,042	2,522	...	...	2,682	897	14,500	94	24,711	615	...	...	7.16	25.15
Bankura ... ..	33,008	8,844	221	...	4,632	227	14,872	4,492	25,371	6,525	60	...	14.03	5.96
Midnapore ... ..	124,250	8,063	...	...	5,624	54	64,868	4,080	109,312	4,298	...	...	4.52	6.07
Hoochly ... ..	19,295	1,815	...	...	4,255	307	13,211	795	17,256	892	...	...	23.60	16.91
Berampore ... ..	12,445	452	...	...	104	...	...	...	11,173	374	...	...	83	...
Howrah ... ..	26,139	977	1,692	...	2,138	196	(a) 18,076	359	(c) 23,729	849	6.47	...	8.17	29.06
24-Parganas ... ..	75,181	1,975	4,897	...	6,085	70	(b) 24,095	851	(d) 52,443	1,251	6.51	...	7.98	3.54
Calcutta ... ..	22,741	8,414	...	...	...	...	15,165	5,615	...	...	...	...	...	...
Nadia ... ..	63,101	2,636	3,565	...	6,079	170	33,686	1,389	53,459	1,591	5.64	...	9.63	8.45
Murshidabad ... ..	43,216	6,719	...	...	1,640	444	22,125	705	34,858	2,237	...	...	3.79	6.61
Jessore ... ..	61,439	4,885	...	...	8,376	651	21,355	1,259	47,072	3,826	...	...	13.63	13.32
Ahmednagar ... ..	42,966	2,247	...	...	6,018	263	15,283	581	25,687	797	...	...	14.39	13.44
Patna ... ..	52,651	1,420	467	...	2,034	838	20,982	351	39,519	373	89	...	3.94	59.01
Gaya ... ..	74,032	1,464	...	...	2,439	498	21,440	170	45,741	364	...	...	3.29	34.91
Shahabad ... ..	51,776	749	...	...	2,061	215	15,287	...	35,239	40	...	...	3.98	29.95
Saran ... ..	68,029	771	12,666	...	8,433	771	4,638	...	26,418	...	18.61	...	12.39	109
Champeran ... ..	53,080	575	...	...	8,239	140	31,213	51	39,413	71	...	...	13.81	24.35
Murshidpur ... ..	100,827	1,390	20,128	...	4,679	959	51,029	522	84,381	608	19.96	...	69.86	69.86
Darbhanga ... ..	89,720	608	...	...	7,261	600	46,238	43	69,312	8	...	...	8.69	59
Monghyr ... ..	80,194	1,170	2,529	...	4,562	705	69,842	58	55,584	31	11.88	...	5.61	69.26
Bhagalpur ... ..	74,268	3,167	8,672	...	1,875	...	21,283	46	51,516	...	10.87	...	5.22	...
Purnea ... ..	52,517	438	...	...	8,968	5	21,725	134	37,934	265	...	...	17.97	1.14
Darjeeling ... ..	14,304	4,834	...	...	836	268	8,267	2,479	11,567	2,662	...	...	5.77	5.35
Southal Parganas ... ..	54,547	5,969	5,465	...	9,591	1,396	11,072	761	39,476	2,873	10.07	...	17.41	23.67
Cuttack ... ..	99,297	10,393	...	...	4,579	212	44,036	814	67,251	1,967	...	...	5.97	3.94
Balasore ... ..	39,101	485	...	...	4,879	137	14,000	...	18,376	...	...	...	16.17	3.11
Angul ... ..	5,256	3,913	...	...	984	910	3,245	722	4,451	2,422	...	...	18.72	23.25
Fauji ... ..	56,904	1,058	...	...	9,627	212	29,569	456	45,320	662	...	...	13.84	21.93
Sambalpur ... ..	23,598	2,651	...	...	6,831	361	...	...	17,091	1,234	...	...	26.67	13.61
Tributary States of Orissa ... ..	89,848	4,569	...	...	(e) Not furnished.	...	...	...	...	...	...	...	...	...
Hazaribagh ... ..	39,275	12,251	...	...	3,760	653	29,067	116	28,763	8,545	...	...	9.57	2.25
Ranchi ... ..	52,060	2,846	...	...	6,178	...	19,872	529	37,344	1,315	...	...	11.86	...
Palamanu ... ..	16,410	648	...	...	1,347	233	8,725	...	4,436	355	...	...	8.20	35.95
Manbhum ... ..	26,910	3,714	994	...	2,842	975	29,705	4,315	46,071	8,045	1.74	...	4.99	10.93
Singbhum ... ..	18,208	684	...	...	7,665	347	11,917	141	15,459	246	...	...	42.99	20.73
Political States of Singbhum (Serukhola and Kharsawan) ... ..	3,885	195	...	...	(f) 1,086	145	(g) 2,347	25	2,094	158	...	...	27.95	74.26
Railway vaccination ... ..	935	1,912	...	...	Not furnished.	...	...	...	...	...	...	...	...	...
Total for the Province ... ..	1,848,121	105,430	67,726	...	159,204	14,744	782,887	34,110	1,283,682	57,725	3.66	...	8.61	8.91

(a) and (b) Include the inspections made by the Special Inspector  
(c) Ditto ditto ditto Sub-Inspector  
(d) Ditto ditto ditto Sub-Inspector  
(e) The number of successful cases inspected by the Inspecting staff  
(f) and (g) Inspection made by the Civil Surgeon and District

OFFICE OF THE SANTY. COMM. FOR BENGAL: }  
The 30th May 1908. }

verified by Inspecting Officers during the year 1907-08.

TION TO TOTAL NUMBER VACCINATED.				PERCENTAGE OF CASES FOUND SUCCESSFUL TO TOTAL NUMBER INSPECTED.								PERCENTAGE OF SUCCESS REPORTED BY VACCINATORS.	
BY NATIVE SUPERINTENDENTS OR OTHER INSPECTING OFFICERS.				BY DEPUTY SANITARY COMMISSIONERS OR CIVIL SURGEONS.				BY NATIVE SUPERINTENDENTS OR OTHER INSPECTING OFFICERS.					
District Inspectors.		Sub-Inspectors.		Deputy Sanitary Commissioners.		Civil Surgeons.		District Inspectors.		Sub-Inspectors.			
Primary.	Revaccination.	Primary.	Revaccination.	Primary.	Revaccination.	Primary.	Revaccination.	Primary.	Revaccination.	Primary.	Revaccination.	Primary.	Revaccination.
16	17	18	19	20	21	22	23	24	25	26	27	28	29
32'34	44'72	78'41	57'81	...	...	100'	76'80	99'44	82'16	99'79	82'61	95'78	68'01
40'22	3'68	83'08	24'09	...	...	99'79	65'15	99'08	68'08	99'43	74'21	99'52	80'38
45'05	40'77	76'86	73'78	97'28	...	99'80	56'92	98'78	24'45	99'28	21'25	99'30	34'18
33'15	50'33	80'73	52'19	...	...	99'18	48'14	94'23	58'64	98'87	86'84	99'59	07'77
68'40	43'80	89'40	49'14	...	...	99'49	71'35	99'62	93'45	99'29	83'83	99'15	78'82
...	...	89'77	82'74	...	...	100'	...	...	...	98'25	43'94	99'58	53'09
...	36'54	90'74	85'97	...	...	99'85	29'29	...	99'03	51'25	39'34	99'46	41'14
60'53	15'04	79'69	18'60	...	...	...	...	...	98'91	63'94	58'67	...	...
31'92	43'08	79'65	61'82	...	...	98'28	...	99'91	91'42	99'22	40'30	99'47	99'77
25'24	19'19	79'22	25'67	...	...	...	...	...	99'09	62'27	99'90	61'34	45'45
66'42	66'73	...	...	...	...	...	...	...	99'04	57'36	...	...	94'82
53'88	22'69	84'70	40'35	98'84	...	99'90	75'85	99'41	57'09	98'76	66'31	99'46	71'19
74'16	10'49	80'47	33'29	...	...	99'69	83'75	97'83	83'60	97'56	69'82	99'13	47'58
24'77	25'59	76'61	72'18	...	...	98'28	66'51	98'65	68'00	98'31	67'18	99'42	70'56
36'33	25'85	61'90	35'97	...	...	99'93	21'48	99'16	33'97	99'46	51'44	99'76	59'94
44'10	24'72	75'93	19'15	92'73	...	99'85	72'55	99'39	28'68	99'18	61'39	98'71	62'95
28'94	11'61	61'78	24'67	...	...	97'10	76'79	99'30	28'68	98'46	47'25	98'59	47'62
29'52	...	68'94	5'49	...	...	98'16	49'30	99'44	97'28	98'95	50'09	97'88	34'88
6'81	...	53'53	...	95'61	...	99'24	44'22	99'73	...	98'58	...	96'20	44'22
20'92	8'87	55'28	12'34	...	...	98'67	97'14	99'24	94'11	98'91	90'13	98'54	68'34
61'20	40'29	83'68	49'12	97'17	...	99'48	68'10	99'70	65'94	99'17	78'89	99'54	68'01
61'64	6'44	77'25	1'20	...	...	99'44	26'60	99'22	39'53	99'28	75'00	99'54	85'62
73'86	4'98	69'31	2'05	97'79	...	99'73	74'18	99'59	39'65	99'88	33'48	99'99	62'13
28'81	1'45	69'42	...	94'97	...	97'28	...	99'44	84'78	99'66	...	99'74	72'44
41'36	28'24	72'23	46'24	...	...	98'75	...	98'69	72'28	97'67	33'59	98'91	24'82
58'49	51'30	80'86	53'11	...	...	99'63	81'34	99'85	76'11	99'81	71'28	99'55	62'21
20'29	18'90	72'37	48'69	97'20	...	19'11	56'08	99'39	58'87	99'69	66'31	99'40	70'30
49'51	7'83	74'47	18'35	...	...	99'14	78'77	98'51	64'00	98'13	63'59	97'50	67'79
46'51	...	61'64	...	...	...	95'54	...	97'45	...	...	...	98'23	51'86
61'72	18'45	84'88	61'89	...	...	91'97	92'55	99'77	89'33	97'88	50'92	94'17	85'17
61'90	43'10	79'37	62'57	...	...	98'19	83'62	97'33	78'45	97'20	68'29	96'36	56'61
...	...	66'49	46'55	...	...	98'96	82'27	...	...	98'85	84'60	98'61	79'63
...	...	...	...	...	...	95'13	67'30	98'19	86'20	98'36	96'57	99'53	80'05
59'94	55	73'03	36'40	...	...	19'66	...	99'59	76'92	100'	72'65	99'93	66'79
38'16	18'27	71'72	46'29	...	...	92'13	75'82	99'65	...	97'47	84'39	99'85	78'85
53'16	...	27'03	54'78	...	...	99'15	64'92	99'22	69'64	98'82	71'72	99'91	68'39
52'19	44'42	81'53	82'82	95'67	...	99'34	69'80	99'41	75'88	99'45	76'01	99'36	63'69
45'44	59'61	84'90	38'96	...	...	100'	64'45	99'78	52'09	99'75	67'72	99'48	62'56
69'41	12'82	61'58	81'03	...	...	...	...	...	...	...	...	...	...
...	...	...	...	...	...	...	...	...	...	...	...	...	...
42'36	30'61	69'45	34'89	96'91	...	98'74	68'71	98'65	59'54	98'82	67'37	98'83	68'56

for the Suburbs of Calcutta and Howrah Municipality.  
 attached to the Howrah Municipality.  
 attached to the Suburban Municipalities.  
 attached to the Tributary States of Orissa has not been furnished.  
 Inspector of the Singhbhum district.

F. C. CLARKSON, LIEUT.-COL., I.M.S.,  
 Sanitary Commissioner for Bengal.

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 1907-08.

Table with columns for District, Year (1903-09), and Ratio of deaths from small-pox / Number of successful vaccinations. Rows include districts like Rourkham, Bhubhan, Bankura, Midnapore, Hooghly, Howrah, 24 Parganas, Calcutta, Nadia, Murshidabad, Bardhaman, Kuluira, Patna, Gaya, Sahabad, Saran, Chhamparan, Munger, Darbhanga, Monghyr, Bhagalpur, Durnehing, South Parganas, Cuttack, Balasore, Angul, Puri, Sambalpur, Tributary States of Orissa, Hazaribagh, Ranchi, Manbhum, Singhbhum, and Political States of Singhbhum (Borakola and Kharowan). A total row is at the bottom.

\* Not under registration. † Operations performed by the East Indian Railway Staff have not been furnished.

OFFICE OF THE SANY. COMM. FOR BENGAL; } The 50th May 1908.

F. C. CLARKSON, LIEUT.-COL., L.M.S., Sanitary Commissioner for Bengal.

STATEMENT No. VII—Showing the protection afforded to infants in each Town in the Province of Bengal during the year 1907-08.

DISTRICT.	Town.	Number of births during the year.	Number of deaths amongst children under one year during the year.	Number available for vaccination after deducting the numbers who have died as shown in column 4.	Number of successful vaccinations on children under one year during the year ending 31st March. 1908	Date of extension of Vaccination Act to town.
1	2	3	4	5	6	7
Burdwan	Burdwan ...	521	86	435	879	1st July 1883.
	Kalna ...	111	37	74	139	Ditto.
	Katwa ...	159	47	112	186	Ditto.
	Dainhat ...	130	36	94	185	Ditto.
	Raniganj ...	249	45	204	226	Ditto.
	Asansol ...	258	30	228	285	Not yet extended.
	Total ...	1,428	281	1,147	1,900	
Birbhum	Suri ...	172	66	106	112	1st July 1881.
Bankura	Bankura ...	479	71	408	151	1st July 1883.
	Vishnupur ...	475	68	407	790	Ditto.
	Sonamukhi ...	387	90	297	204	6th June 1892.
	Total ...	1,341	229	1,112	1,145	
Midnapore	Midnapore ...	870	187	683	461	1st July 1883.
	Ghatal ...	338	88	250	230	Ditto.
	Kharar ...	216	39	177	112	16th August 1889.
	Chandrakona ...	201	62	139	71	1st July 1883.
	Ramjibanpur ...	224	67	157	54	Ditto.
	Khirpai ...	90	23	67	89	Ditto.
	Tamluk ...	192	21	171	131	Ditto.
	Total ...	2,131	487	1,644	1,148	



DISTRICT.	Town.	Number of births during the year.	Number of deaths amongst children under one year during the year.	Number available for vaccination after deducting the numbers who have died as shown in column 4.	Number of successful vaccinations on children under one year during the year ending 31st March 1902.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6	7
Hooghly	Hooghly and Chinsura ...	771	244	527	586	1st September 1881.
	Bansberia ...	139	41	98	230	1st July 1883.
	Arambagh ...	146	43	103	161	11th February 1889.
	Serampore ...	1,043	261	782	285	1st March 1883.
	Uttarpara ...	159	33	126	131	1st April 1883.
	Kotrung ...	127	35	92	110	1st July 1883.
	Baidyabati ...	292	75	217	166	Ditto.
	Bhadreswar ...	273	85	188	174	Ditto.
	Total ...	2,950	817	2,133	1,843	
Howrah	Howrah ...	3,675	1,147	2,528	1,828	1st April 1882.
	Bally ...	324	86	238	296	1st October 1884.
	Total ...	3,999	1,233	2,766	2,124	
	Total of the Burdwan Division.	12,021	3,113	8,908	8,272	
24-Parganas	Cossipore-Chitpur ...	449	96	353	1,081	1st October 1883.
	Manicktala ...	526	65	461	1,026	Ditto.
	South Suburban ...	738	164	574	952	Ditto.
	Tollygunge ...	329	44	285	414	Ditto. (It formerly formed a part of the South Suburban Municipality.)
	Garden Reach ...	663	104	559	855	1st October 1883. Ditto.
	Budge-Budge ...	50	6	44	226	18th February 1902.
	Baranagar ...	406	122	284	257	1st October 1883.
	Kamarhati ...	327	95	232	236	Ditto. (It formerly formed a part of the Baranagar Municipality.)

DISTRICT.	Town.	Number of births during the year.	Number of deaths amongst children under one year during the year.	Number available for vaccination after deducting the numbers who have died as shown in column 4.	Number of successful vaccinations on children under one year during the year ending 31st March 1908.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6	7
24-Parganas— concid.	Rajpur ...	31	77	304	191	1st October 1883.
	Baruipur ...	86	20	66	100	Ditto.
	Jaynager ...	157	36	121	131	Ditto.
	North Dum-Dum ...	174	52	122	91	Ditto.
	South Dum-Dum ...	345	73	272	123	Ditto.
	South Barrackpore ...	146	37	109	148	Ditto.
	Panihati ...	296	91	205	66	Ditto (It formerly formed a part of the South Barrackpore Municipality.)
	North Barrackpore ...	249	40	209	235	1st October 1883.
	Titagarh ...	119	36	83	193	Ditto (It formerly formed a part of the South Barrackpore Municipality.)
	Garulia ...	136	43	93	147	1st October 1883. (It formerly formed a part of the North Barrackpore Municipality.)
	Naihati ...	212	61	151	127	1st October 1883.
	Halisahar ...	213	54	159	203	Ditto They formerly formed parts of the Naihati Municipality.
	Bhatpara ...	363	87	276	263	1st October 1883.
	Barasat ...	124	21	103	86	Ditto.
Gobardanga ...	134	19	115	128	Ditto.	
Basirhat ...	478	88	390	586	Ditto.	
Baduria ...	294	49	245	113	Ditto.	
Taki ...	149	31	118	14	Ditto.	
	Total ..	7,544	1,611	5,933	7,992	
Calcutta ...	Calcutta ...	17,012	5,005	12,007	4,875	1880.

DISTRICT.	Town.	Number of births during the year.	Number of deaths amongst children under one year during the year.	Number available for vaccination after deducting the numbers who have died as shown in column 4.	Number of successful vaccinations on children under one year during the year ending 31st March 1908.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6	7
Nadia	Krishnagar ...	476	89	387	423	1st October 1883.
	Nadia ...	229	53	176	116	Ditto.
	Ranaghat ...	198	39	159	154	Ditto.
	Birnagar ...	78	14	64	37	Ditto.
	Santipur ...	950	200	750	837	Ditto.
	Chakdaha ...	143	53	90	114	28th January 1887.
	Kushtia ...	143	17	126	90	1st October 1883.
	Kumarkhali ...	133	27	106	69	Ditto.
	Meherpur ...	200	37	163	101	Ditto.
	Total ...	2,550	529	2,021	1,941	
Murshidabad...	Berhampore ...	624	154	470	502	Ditto.
	Murshidabad ...	357	142	215	194	Ditto.
	Azimganj ...	287	76	211	189	Ditto. (It formerly formed a part of the Murshidabad Municipality.)
	Kandi ...	390	82	308	179	1st October 1883.
	Jangipur ...	325	78	247	285	Ditto.
		Total ...	1,983	532	1,451	1,349
Jessore	Jessore ...	113	18	95	32	1st October 1883.
	Kotehandpur ...	214	37	177	121	1st February 1884.
	Maheshpur ...	103	13	90	27	1st October 1883.
		Total ...	430	68	362	180
Khulna	Khulna ...	190	33	157	147	1st July 1887.
	Satkhira ...	138	24	114	177	7th July 1883.
	Debhatta ...	160	33	127	64	1st October 1883.
		Total ...	488	90	398	388
Total of the Presidency Division.		30,007	7,835	22,172	16,725	

DISTRICT.	Town.	Number of births during the year.	Number of deaths amongst children under one year during the year.	Number available for vaccination after deducting the numbers who have died as shown in column 4.	Number of successful vaccinations on children under one year during the year ending 31st March 1908.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6	7
Patna	Patna	3,413	855	2,558	1,980	1st October 1884.
	Bihar	1,021	197	824	971	1st April 1887.
	Dinapore	461	70	391	473	28th January 1891.
	Barh	308	60	248	191	1st April 1887.
	Total	5,203	1,182	4,021	3,615	
Gaya	Gaya	2,151	824	1,327	1,285	1st January 1883.
	Tikari	295	56	239	135	3rd January 1891.
	Daudnagar	280	54	226	171	Ditto.
	Total	2,726	934	1,792	1,591	
Shahabad	Arrah	950	125	825	656	20th July 1885.
	Buxar	346	56	290	239	1st April 1887.
	Dumraon	289	58	231	110	Ditto.
	Jagadispur	416	113	303	156	20th December 1890.
	Sasaram	871	182	689	275	1st April 1887.
	Bhabhua	248	48	200	210	Ditto.
	Total	3,120	582	2,538	1,646	
Saran	Chapra	1,617	264	1,350	1,163	Ditto.
	Revelganj	482	84	398	312	12th December 1890.
	Siwan	547	109	438	406	1st April 1887.
	Total	2,643	457	2,186	1,881	
Champaran	Bettiah	738	160	578	599	Ditto.
	Motihari	384	68	316	247	Ditto.
	Total	1,122	228	894	846	

DISTRICT.	Town.	Number of births during the year.	Number of deaths amongst children under one year during the year.	Number available for vaccination after deducting the numbers who have died as shown in column 4.	Number of successful vaccinations on children under one year during the year ending 31st March 1908.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6	7
Muzaffarpur ...	Muzaffarpur ...	1,229	242	987	545	1st January 1886.
	Sitamarhi ...	353	77	276	295	1st April 1887.
	Hajipur ...	763	148	615	668	1st May 1890.
	Lalganj ...	369	68	301	217	1st April 1887.
	Total ...	2,714	535	2,179	1,725	
Darbhanga ...	Darbhanga ...	2,252	378	1,874	1,278	Date of Notification— 24th May 1884.
	Roserah ...	336	96	240	152	3rd January 1891.
	Samastipur ...	368	58	310	203	Not yet extended.
	Madhubani ...	597	86	511	133	1st April 1887.
	Total ...	3,553	618	2,935	1,766	
Total of the Patna Division		21,081	4,536	16,545	13,070	
Monghyr ...	Monghyr ...	1,288	338	950	813	15th November 1882.
	Jamalpur ...	1,262	235	1,027	1,107	Ditto.
	Total ...	2,550	573	1,977	1,920	
Bhagalpur ...	Bhagalpur ...	1,631	423	1,208	834	15th February 1884— Withdrawn on 16th October 1895. Re- extended on 18th August 1898.
	Colgong ...	123	27	96	76	15th February 1884— Withdrawn on 16th October 1895. Re- extended on the 19th December 1901.
	Total ...	1,754	450	1,304	910	
Purnea ...	Purnea ...	278	94	184	184	1st July 1887.
	Kishanganj ...	108	20	88	56	12th November 1892.
	Katihar ...	269	48	221	167	Not yet extended.
	Total ...	655	162	493	407	

DISTRICT.	Town.	Number of births during the year.	Number of deaths amongst children under one year during the year.	Number available for vaccination after deducting the numbers who have died as shown in column 4.	Number of successful vaccinations on children under one year during the year ending 31st March 1908.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6	7
Darjeeling ...	Darjeeling ...	196	42	154	188	1st September 1884.
	Kurseong ...	173	35	138	181	1st January 1887.
	Total ...	369	77	292	369	
Sonthal Parganas.	Sahibganj ...	514	99	415	290	1st May 1884.
	Deoghur ...	239	83	156	153	Ditto.
	Dumka ...	228	39	189	140	Not yet extended.
	Total ...	981	221	760	588	
Total of the Bhagalpur Division.		6,309	1,483	4,826	4,194	
Cuttaek ...	Cuttaek ...	1,263	296	967	1,321	1st September 1884.
	Kendrapara ...	472	113	359	451	7th February 1888.
	Jajpur ...	298	77	221	472	Ditto.
	Total ...	2,033	486	1,547	2,244	
Balasore ...	Balasore ...	468	93	375	169	Ditto.
Puri ...	Puri ...	620	269	351	439	Ditto.
Sambalpur ...	Sambalpur ...	430	118	312	343	7th March 1896.
Total of the Orissa Division		3,551	966	2,585	3,195	
Hazaribagh ...	Hazaribagh ...	523	103	420	689	1st January 1885.
	Chatra ...	342	98	244	214	1st August 1885.
	Giridih ...	250	39	211	157	Not yet extended.
	Total ...	1,115	240	875	1,060	

DISTRICT.	Town.	Number of births during the year.	Number of deaths amongst children under one year during the year.	Number available for vaccination after deducting the numbers who have died as shown in column 4.	Number of successful vaccinations on children under one year during the year ending 31st March 1908.	Date of extension of Vaccination Act to town.
1	2	3	4	5	6	7
Ranchi ...	Ranchi ...	615	97	518	453	1st April 1887.
	Lohardaga ...	272	60	212	252	25th June 1892.
	Total ...	887	157	730	705	
Palamau ...	Daltonganj ...	243	41	202	142	9th October 1890.
Maubhum ...	Purulia ...	328	48	280	247	1st January 1887.
	Raghunathpur ...	100	27	73	70	19th February 1894.
	Jhalda ...	106	16	90	79	9th July 1892.
	Total ...	534	91	443	396	
Singhbhum ...	Chaibassa ...	299	65	234	210	20th June 1892.
	Total of the Chota Nagpur Division.	3,078	594	2,484	2,513	
	Total for the Province ...	76,047	18,527	57,520	47,969	

OFFICE OF THE SANIT. COMM. FOR BENGAL;

The 30th May 1908.

F. C. CLARKSON, LIEUT. COL., I.M.S.,

Sanitary Commissioner for Bengal.

## PROVINCIAL STATEMENT A—Showing the degree of protection afforded to infants during the year 1907-08.

DISTRICTS.	Population among which vaccination were carried out.	Estimated birth at 38·68 per 1,000 of population (being the actual birth-rate for the province during the year 1907).	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 1906-07.
1	2	3	4	5	6	7	8
Ranchi ...	1,157,992	44,791	11,096	33,695	40,573	1,204·12	998·05
Sambalpur ...	622,994	24,097	6,576	17,521	18,608	1,062·03	925·00
Palamau ...	613,763	23,740	9,018	14,722	11,994	814·69	820·82
Murshidabad ...	1,257,277	48,632	11,130	37,502	30,206	805·45	892·71
Outtack ...	1,984,038	76,743	21,199	55,544	39,767	715·95	511·85
Hazaribagh ...	1,142,130	44,178	11,925	32,253	23,082	715·65	758·75
Bhagalpur ...	2,007,455	77,648	11,595	66,053	46,942	710·67	776·18
Nadia ...	1,572,136	60,810	13,234	47,576	33,522	704·59	606·80
Manbhum ...	1,275,025	49,318	9,900	39,418	27,028	685·67	614·66
Darjeeling ...	227,724	8,808	1,598	7,210	4,532	628·57	807·31
Monghyr ...	2,013,966	77,900	16,238	61,662	36,976	599·65	577·13
Midnapore ...	2,699,238	104,407	18,272	86,135	50,806	589·84	578·75
Gaya ...	1,972,336	76,290	19,386	56,904	32,597	572·84	760·81
Sonthal Parganas ...	1,788,015	69,161	12,021	57,140	32,633	571·10	619·19
Birbhum ...	893,588	34,564	8,330	26,234	14,066	536·17	191·48
Darbhangha ...	2,809,219	108,660	11,822	96,838	51,111	527·80	482·52
Purnea ...	1,844,044	71,328	15,236	56,092	29,547	526·75	449·35
Khulna ...	1,226,782	47,452	10,888	36,564	18,733	512·25	499·44
Hooghly ...	915,149	35,398	7,277	28,121	14,373	511·11	424·15
Burdwan ...	1,445,744	55,921	13,510	42,411	20,293	478·84	567·92
Singhbhum ...	604,926	23,399	3,095	20,304	9,653	575·42	504·60
Muzaffarpur ...	2,666,978	103,158	15,315	87,843	39,469	449·31	445·74
Angul ...	191,911	7,423	1,477	5,946	2,519	423·64	569·74
24-Parganas ...	1,680,329	64,991	9,268	55,723	22,781	408·82	428·07
Jessore ...	1,791,856	69,309	10,880	58,429	23,642	404·62	333·94
Howrah ...	679,691	26,290	4,599	21,691	8,548	394·08	343·65
Political States of Singhbhum.	141,079	5,457	1,085*	4,372	1,701	389·06	382·62
Patna ...	1,410,725	54,567	14,265	40,302	14,527	360·45	373·35
Shahabad ...	1,844,590	71,349	18,045	53,304	19,148	359·22	319·92
Champaran ...	1,752,037	67,769	12,480	55,289	19,139	346·16	302·06
Saran ...	2,338,489	90,453	14,851	5,602	25,920	342·84	375·47
Puri ...	967,950	37,440	8,872	28,568	9,751	341·32	206·53
Tributary States of Orissa	2,575,504	99,621	19,822*	79,799	26,896	337·04	318·37
Balasure ...	1,050,317	40,626	11,185	29,441	8,320	282·59	368·54
Bankura ...	1,068,136	41,122	8,238	32,884	7,772	236·34	351·17
Total of Rural Circle ...	50,228,033	1,942,820	393,728	1,549,092	817,175	527·51	510·01
Calcutta ...	847,796	32,792	5,005	27,787	4,875	175·44	162·68
Mufassal Municipalities ..	2,361,111	91,328	18,527	72,801	43,841	604·63	575·55
Railway vaccination ...	...	...	...	...	177		
GRAND TOTAL ...	53,436,940	2,066,940	417,260	1,649,680	866,068	524·99	507·29

\* Registration of births and deaths is not carried on in these places. The number of deaths among infants in them has been calculated at the rate of infant mortality (1907) obtaining in this province during the year 1907.

OFFICE OF THE SANY. COMM. FOR BENGAL,  
The 30th May 1908.

F. C. CLARKSON, LIEUT.-COL., I.M.S.,  
Sanitary Commissioner for Bengal.



PROVINCIAL STATEMENT B—Showing the different kinds of

DISTRICT.	PRIMARY VACCINATIONS.														
	Direct from Calf.					With Lanoline Lymph.					Arm-to-arm Vaccination.				
	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Hardwan ...	...	...	...	...	...	45,995	45,895	67	33	99.78	...	...	...	...	...
Birbhum ...	...	...	...	...	...	29,042	28,904	134	4	99.52	...	...	...	...	...
Bankura ...	...	...	...	...	...	31,071	30,930	141	...	99.54	1,937	1,847	89	1	95.35
Midnapore ...	37,687	37,440	200	38	99.36	79,843	79,527	174	142	99.60	6,720	6,669	60	...	99.10
Hooghly ...	...	...	...	...	...	19,295	19,235	68	...	99.08	...	...	...	...	...
Serampore ...	797	797	...	...	100*	11,048	11,472	93	83	98.48	...	...	...	...	...
Howrah ...	...	...	...	...	...	26,139	25,969	68	72	99.46	...	...	...	...	...
Calcutta*	...	...	...	...	...	76,181	75,609	166	6	99.77	...	...	...	...	...
24-Parganas ...	...	...	...	...	...	22,741	21,563	319	859	94.82	...	...	...	...	...
Nadia ...	...	...	...	...	...	45,941	46,672	194	75	99.41	17,160	17,694	41	25	99*
Murshidabad ...	2,315	2,306	13	6	99.19	41,961	40,644	178	179	99.12	...	...	...	...	41
Jessore ...	...	...	...	...	...	59,590	59,246	279	65	99.42	1,840	1,841	6	...	99.86
Khulna ...	58	58	...	...	100.	42,008	41,911	95	4	99.76	...	...	...	...	...
Patna ...	468	489	8	8	98.63	2,323	2,242	54	27	96.51	40,206	48,635	235	336	98.53
Gaya ...	...	...	...	...	...	7,077	6,860	177	40	96.93	66,955	66,130	545	280	98.45
Shahabad ...	...	...	...	...	...	3,335	3,386	106	43	90.78	48,241	47,396	771	178	98.03
Saran ...	...	...	...	...	...	1,755	1,833	138	94	86.78	66,374	63,921	583	1,770	96.44
Champaran ...	...	...	...	...	...	1,891	1,744	83	64	92.22	20,190	40,588	373	237	98.78
Muzaffarpur ...	...	...	...	...	...	1,277	1,227	50	...	96.08	99,550	99,149	303	17	99.84
Darbhanga ...	...	...	...	...	...	1,983	1,727	171	5	90.75	87,817	87,585	202	30	99.73
Monghyr ...	...	...	...	...	...	2,185	2,140	36	...	98.35	78,609	77,970	57	2	99.94
Bhagalpur ...	...	...	...	...	...	554	492	60	2	88.80	78,622	75,825	94	32	99.59
Purnea ...	...	...	...	...	...	1,094	1,478	205	11	87.24	20,825	50,467	311	45	99.29
Darjeeling ...	338	353	...	8	36.53	13,966	13,922	4	40	99.67	...	...	...	...	...
Southal Parganas ...	7,369	7,351	9	...	99.87	3,143	3,002	150	11	94.90	44,624	43,867	89	68	99.64
Cuttack ...	1,656	898	5	113	88.82	89,241	87,104	215	1,222	97.49	...	...	...	...	...
Balasore ...	...	...	...	...	...	36,101	29,570	336	175	98.23	...	...	...	...	...
Angul ...	...	...	...	...	...	5,236	4,950	106	180	94.17	...	...	...	...	...
Puri ...	...	...	...	...	...	66,934	54,883	1,062	1,069	96.27	...	...	...	...	...
Sambalpur ...	24,126	23,806	113	267	98.67	1,569	1,524	24	12	97.69	...	...	...	...	...
Tributary States of Orissa ...	...	...	...	...	...	1,473	1,292	143	38	87.71	89,848	87,111	1,536	901	97.39
Hazaribagh ...	...	...	...	...	...	242	242	...	...	100*	37,602	37,799	3	...	99.99
Ranchi ...	14,117	14,127	...	...	100*	10,131	9,709	224	198	95.83	37,667	37,633	18	16	99.90
Palaman ...	4,492	4,368	116	78	95.50	7,854	7,833	8	13	99.73	1,877	1,813	38	26	98.59
Manbhum ...	...	...	...	...	...	694	623	30	1	90.25	48,666	48,631	11	14	99.94
Singhbhum ...	248	248	...	...	100*	...	...	...	...	...	17,306	17,321	76	9	99.50
Political States of Singhbhum ...	...	...	...	...	...	...	...	...	...	...	3,828	3,855	5	15	99.45
Railway vaccination ...	...	...	...	...	...	935	843	67	25	90.16	...	...	...	...	...
<b>GRAND TOTAL</b> ...	<b>93,049</b>	<b>92,150</b>	<b>464</b>	<b>455</b>	<b>99.01</b>	<b>775,319</b>	<b>764,432</b>	<b>6,195</b>	<b>4,692</b>	<b>98.59</b>	<b>979,783</b>	<b>969,035</b>	<b>5,819</b>	<b>3,099</b>	<b>98.99</b>

\* In Calcutta all operations were

OFFICE OF THE SANY. COMM. FOR BENGAL;

The 30th May 1908.

Lymph used and their rates of success during the year 1907-08.

RE-VACCINATIONS.														
Direct from Calf.					With Lanoline Lymph.					Arm-to-arm Vaccination.				
Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.	Total.	Successful.	Unsuccessful.	Unknown.	Percentage of successful cases.
17	18	19	20	21	22	23	24	25	26	27	28	29	30	31
...	...	...	...	...	5,665	3,445	1,673	47	68'01	...	...	...	...	...
...	...	...	...	...	2,552	2,650	425	77	80'33	...	...	...	...	...
...	...	...	...	...	8,844	3,023	5,753	68	34'18	...	...	...	...	...
763	369	327	66	48'42	7,391	4,472	2,519	307	61'29	...	...	...	...	...
...	...	...	...	...	1,515	1,547	258	...	85'23	...	...	...	...	...
80	48	23	9	60'00	372	192	129	51	51'61	...	...	...	...	...
...	...	...	...	...	977	463	543	32	47'14	...	...	...	...	...
...	...	...	...	...	1,975	967	1,018	...	48'45	...	...	...	...	...
...	...	...	...	...	8,414	3,519	3,797	1,099	41'82	...	...	...	...	...
...	...	...	...	...	2,602	1,907	659	36	73'29	34	20	14	...	58'52
60	46	13	2	76'66	6,629	4,495	1,935	229	67'50	...	...	...	...	...
...	...	...	...	...	4,885	3,447	1,300	158	70'56	...	...	...	...	...
...	...	...	...	...	2,247	1,347	846	54	59'94	...	...	...	...	...
139	405	129	5	75'17	677	391	178	108	57'75	294	98	106	...	48'95
...	...	...	...	...	751	642	134	75	72'17	713	448	145	120	62'53
...	...	...	...	...	739	258	398	83	33'42	1	...	1	...	...
...	...	...	...	...	827	237	98	192	44'97	244	194	72	68	45'98
...	...	...	...	...	164	154	8	2	94'02	411	239	92	80	58'15
...	...	...	...	...	961	652	296	13	65'76	599	273	125	...	63'42
...	...	...	...	...	567	251	34	12	91'88	101	81	28	12	59'49
...	...	...	...	...	1,664	695	234	164	62'59	105	61	28	19	57'54
...	...	...	...	...	2,738	2,035	687	18	74'32	429	299	139	30	69'40
...	...	...	...	...	340	97	225	18	28'53	99	12	87	...	12'12
...	...	...	...	...	4,824	3,339	1,677	468	69'23	...	...	...	...	...
...	...	...	...	...	3,332	2,053	1,095	183	61'61	2,470	2,019	391	60	81'74
88	58	40	...	59'18	9,447	6,318	1,697	1,432	66'88	...	...	...	...	...
945	727	144	74	79'04	465	226	145	74	81'86	...	...	...	...	...
...	...	...	...	...	3,913	3,333	324	256	85'17	...	...	...	...	...
...	...	...	...	...	1,658	599	259	200	56'61	...	...	...	...	...
2,021	1,720	172	129	85'10	630	391	226	19	69'20	...	...	...	...	...
...	...	...	...	...	11,605	9,361	1,443	801	80'66	41,569	32,899	5,921	2,749	79'14
149	110	39	...	78'47	419	182	207	...	43'43	646	447	199	...	69'19
...	...	...	...	...	648	511	67	70	78'85	2,278	1,609	638	31	70'32
...	...	...	...	...	6,639	5,193	1,250	123	78'25	3,078	1,451	1,621	...	47'14
50	31	19	...	62'00	582	358	222	2	61'51	82	46	6	...	84'45
...	...	...	...	...	...	...	...	...	...	195	122	73	...	62'56
...	...	...	...	...	1,912	1,223	334	55	79'65	...	...	...	...	...
4,704	3,514	905	285	74'70	107,697	69,756	31,428	6,513	64'77	53,029	40,169	9,693	3,175	75'73

performed with glycerized lymph.

F. C. CLARKSON, LIEUT.-COL., I.M.S.,  
Sanitary Commissioner for Bengal.

Printed and sold by the Government Printer, Wellington, N.Z.

Particulars		1910-11		1911-12	
		£	s	£	s
Balance forward		100	0	100	0
To					
Revenue		50	0	50	0
Grants		50	0	50	0
Total		100	0	100	0
By					
Expenditure		100	0	100	0
Balance carried forward					
Total		100	0	100	0

H. C. CLARKE, Treasurer, N.Z. Government Printing Office.

## MUNICIPAL DEPARTMENT.

### SANITATION.

DARJEELING, THE 29TH JUNE 1908.

#### RESOLUTION No. 561T.—SAN.

READ—

The Report of the Sanitary Commissioner, Bengal, for the year 1907.

READ ALSO—

The Triennial Report on Vaccination in Bengal for the years 1905-06 to 1907-08.

Lieutenant-Colonel F. C. Clarkson, I.M.S., was in charge of the Department throughout the year 1907, and the present reports are submitted by him.

2. *Climatic conditions.*—The total rainfall of the year was below the normal throughout the Province, except in Orissa, where it was abnormal. It was not, however, so much the shortage in total fall that adversely affected the people as the very unequal distribution, and the cessation of rain at an unusually early date.

3. *Births and Deaths.*—Excluding the district of Angul, to which the system of registration of births and deaths has not yet been extended, the number of births registered in the Province was 1,905,425, as compared with 1,885,725 in the preceding year, or 37.70 per mille of population, against 37.32 per mille returned in 1906. The total number of deaths was 1,906,192, as compared with 1,823,243 in the previous year and an average of 1,749,995 in the five years 1902—1906. The ratio of deaths per mille was 37.72, against 36.08 in the previous year and 34.63, the average of the previous quinquennium. In remarkable contrast with these figures are those returned for the jails of the Province, in which the death-rate per mille decreased from 24 in 1905 to 17.5 in 1907. The jail statistics testify, as the Inspector-General of Prisons has stated, to what can be done by persistent and common sense attention to sanitation. The largest increase in deaths occurred under fever, cholera and plague. The Sanitary Commissioner attributes the rise in mortality to the greater unhealthiness of the year. He remarks that the very high prices of food grains that prevailed affected general health in many districts by compelling the poorer classes to have recourse to unsuitable food which lowered their vitality, so as to render them more susceptible to fever and other prevailing diseases and more liable to succumb to them. On the other hand, the fact that the total number of deaths from fever was considerably less than in 1905, the increase in the total number of births and the figures of infant mortality tend to show that these causes did not operate universally. The experiment of testing the accuracy of the vital statistics was continued throughout the year in certain parts of the Burdwan district, with the usual result, viz., that in a number of cases the entries as to the cause of death were found to be inaccurate.

4. *Cholera.*—The mortality from cholera was the highest recorded since 1901, the total number of deaths reported being 205,702, against 192,596 during the preceding year, and 138,999, the average of the previous quinquennium. The Sanitary Commissioner attributes this rise in mortality in a great measure to the pollution of the water-supply and to the use of unwholesome food by the poorer classes in consequence of the high prices prevailing. The disease was most virulent during the last five months of the year, especially in September. While no part of the Province enjoyed complete immunity, the districts of Champaran, Darjeeling, Sambalpur, Singhbhum and Ranchi were comparatively free from the disease. Orissa suffered most severely, the three districts of Cuttack, Balasore and Puri together reporting more than one-fourth of the

total deaths in the whole Province. From the Cuttack district alone, 31,805 deaths were reported, of which three-fourths occurred during the months of August, September and October, when the insanitary conditions that supervened on the heavy floods must have largely conduced to the spread of the disease. The Lieutenant-Governor notices with satisfaction that the treatment of wells with permanganate of potash was successfully adopted in many parts of the Province and that the people are gradually learning to appreciate this method of disinfection.

5. *Plague*.—There was a rise in the mortality from plague, as compared with the previous year, the number of deaths recorded being 83,602, against 59,619 in 1906 and 126,084 in 1905. As usual, the disease was most prevalent from January to May. More than 90 per cent. of the total number of deaths occurred in the Patna Division, the districts worst affected being Saran (30,007 deaths), Patna (21,858 deaths), Shahabad (10,067 deaths) and Gaya (7,645 deaths). Evacuation of houses continued to be the measure chiefly relied on, and most largely resorted to, by the people themselves; but there are indications that the prejudice against inoculation is gradually weakening, though this measure is still regarded with disfavour by the great mass of the people. In Calcutta 3,123 persons, and in the rest of the Province 2,766 persons, were inoculated, as compared with 101 and 1,777, respectively, in the previous year. Chemical disinfection has practically been abandoned. Rat extermination as a preventive measure was carried on in several places with comparative success, the incidence of plague being less severe than in other localities where no such measures were taken. During the year the Lieutenant-Governor convened a special conference to consider the most appropriate lines of action in view of the experience of the last ten years; and, as a result, a special leaflet was drawn up by the Sanitary Commissioner and distributed, after translation into the several vernaculars, throughout the plague affected portions of the Province. Sir Andrew Fraser was gratified to find that in the Saran district an attempt had been made to enlist the sympathies of the people themselves on the side of remedial measures, by taking advantage of the new Chaukidari Union System and enrolling the Presidents and the members of these Unions as local committees for the purpose. His Honour would like to see similar methods adopted in this respect in other districts, with a view to working through the local leaders of the people themselves, and in mutual confidence.

6. *Fever*.—The total number of deaths from fever was 1,171,540, as compared with 1,132,579 in 1906 and 1,214,487 in 1905. Even allowing for the tendency to report as due to fever deaths from various other diseases the symptoms of which cannot be correctly diagnosed by the local chaukidars, this mortality, which represents upwards of 60 per cent. of the total deaths from all causes, must be regarded as very serious. The districts which suffered most were Birbhum, Purnea, Palamau, Nadia, Monghyr and Murshidabad, which recorded a mortality, respectively, of 38.27, 36.96, 33.19, 32.38, 32.02 and 31.23 per mile. Calcutta and Puri again showed the smallest proportion of deaths from this cause. Looking to the different Divisions, Bhagalpur now heads the list with a ratio of deaths per thousand of 30.49, while Orissa (12.18) as usual stands quite apart with scarcely half the average ratio for the whole Province. The spread during the year of a malignant type of fever like a wave over the Birbhum district calls for special investigation; and the Lieutenant-Governor awaits the result of the enquiry which is to be made by the Deputy Sanitary Commissioner, Metropolitan and Orissa Circle, during the ensuing fever season. The seriously high mortality that has been reported during successive years from the Purnea district also demands the special attention of the Sanitary Commissioner. Among urban areas, Murshidabad has shown the highest mortality for the last three years in succession. The Sanitary Commissioner should, during his next visit to this town, enquire fully into the complaint made by the Civil Surgeon that no means have been provided for draining the pits and hollows by the side of the new railway embankment. The anti-malarial measures referred to last year continued to be carried on in a systematic manner at Ranaghat and Jagdispur and in certain selected areas of the North Barrackpore Municipality. The Lieutenant-Governor is pleased to learn that several Municipalities have,

at the Sanitary Commissioner's suggestion, undertaken anti-malarial measures, in many cases with useful results.

7. The report of the Drainage Committee, appointed by Government to investigate the prevalence and causes of malaria and to what extent it is due to obstructed drainage, was received during the year, and the orders of Government passed thereon. Action has already been taken in respect of most of the recommendations made. The Government of India has just sanctioned the deputation of a special I.M.S. officer for the purpose of conducting a systematic and continuous enquiry into the causes of malaria and the extent to which it prevails; while the question of creating a special engineering division for the examination of the drainage conditions of specified areas is still under the consideration of that Government. The Lieutenant-Governor has sanctioned a scheme prepared by the Inspector-General of Civil Hospitals for the deputation of a large number of selected Civil Hospital Assistants during the fever season to distribute medical aid in specially malarious tracts. A leaflet containing instructions for self-treatment with quinine, and stating where the pice packets can be obtained, has recently been widely distributed in English and in the vernaculars. His Honour desires to invite the attention of the Sanitary Commissioner to the account, given in paragraph 63 of the annual Report on the Jails in this Province for 1907, of the excellent results achieved in the jails by administering doses of quinine during the fever season. Sir Andrew Fraser considers that this and other experience point to the expediency of the Sanitary Department making an earnest effort to popularise as widely as possible the use of quinine as a febrifuge amongst the mass of the people. The question of adopting special measures in this direction will be taken up separately in consultation with the Sanitary Commissioner and the Inspector-General of Civil Hospitals.

8. *Dysentery and Diarrhoea.*—The number of deaths registered under this head was 51,670, against 48,920 in the preceding year. As remarked by the Sanitary Commissioner, the causes which contributed to cholera also helped to swell the death-rate from these diseases. As usual, the Orissa Division showed the heaviest death-rate and the Bhagalpur Division the lightest. Of individual districts, Howrah again heads the list, a position which it has maintained since 1902. No attempt has been made to assign any reason for this coincidence.

9. *Respiratory diseases.*—The total mortality from this cause was 15,039, against 12,825 in 1906. There has been a gradual increase under this head during the past few years, which is most probably due to more careful reporting. The largest number of deaths was, as usual, returned from Calcutta (5,007).

10. *Injury.*—During the year 25,283 deaths were reported under this head, against 26,695 in 1906, and an average of 24,366 in the five years 1902-1906. Of these, 3,170 were due to suicide, 1,571 to wounds, 11,327 to accidents, and 9,215 to snake-bite. In 18 districts 215 cases of snake-bite were treated, 17 with antivenene and 198 with permanganate of potash. With the former mode of treatment 70 per cent. of cases were successful, and with the latter over 88 per cent. ended in recovery. These results must be regarded so far as they go as highly satisfactory; and the Lieutenant-Governor warmly approves of the recommendation made by the Sanitary Commissioner that permanganate lancets should be widely distributed throughout the districts, so that persons bitten by venomous snakes may be able to avail themselves of the treatment without undue delay. The Sanitary Commissioner will be requested to submit separate proposals, with an estimate of cost, towards this end. Though the mass of the uneducated population still have faith in the charms and incantations of *ojhas* and quacks, still if it can be demonstrated to them that the lancet treatment is infinitely more efficacious they will gradually take to it.

11. *Sanitary Improvements.*—Sir Andrew Fraser has read with pleasure the account given in section IX of the report of the action taken by District Boards and Municipalities in the promotion of sanitary measures. The large increase in expenditure of over four lakhs of rupees by municipal bodies under important heads of sanitation is evidence of the growing interest taken in these matters. In view of the large number of septic tank installations that have been set up in the riparian Municipalities, Government has recently decided to appoint a Special Inspector, whose duty it will be to inspect these

installations periodically, and take samples of the effluent for bacteriological examination.

12. *Sanitary Board.*—During the year the Sanitary Board prepared preliminary estimates for water supply schemes for Burdwan and the Akra Brick Factory, and detailed estimates for a scheme for Puri and for remodelling the Bhagalpur scheme. The detailed scheme for a water-supply for Monghyr was also completed during the year. The details of the Gaya water supply scheme were under preparation. Besides these, eleven drainage and three water-supply schemes for various Municipalities were considered by the Board. Among the former, the most important were the Hooghly-Chinsura, Howrah, Puri and the Nawi and Sunthi Rivers Drainage projects. The last named, which is estimated to cost nearly 6 lakhs of rupees, has been taken up under the Bengal Sanitary Drainage Act. The tract of country to be benefited by the scheme comprises an area of 70 square miles, and includes the Barasat Municipality. The water-works schemes were for Darjeeling, Howrah and Kurseong.

13. *Vaccination.*—The report on vaccination is for the triennial period 1905-1906 to 1907-1908, and is a record of steady progress, notwithstanding the prevailing high prices and the consequent reluctance on the part of poorer classes to offer their children for vaccination owing to their inability to pay the fees. In Cuttack vaccination has, under the Lieutenant-Governor's orders, been given free during the current year to those unable to pay for it. Several useful reforms were introduced into the Vaccination Department during the triennial period under review, which have tended to better work and greater efficiency. The pay of the subordinate inspecting staff has been increased; arrangements have been made to give the inspecting and vaccinating staff instruction in the most approved modern methods of vaccination at selected centres; and the system of granting rewards to vaccinators has been generally introduced. Antiseptic vaccination has been employed throughout the province; and the change has been attended with satisfactory results. In order to prevent the deterioration of lymph which was noticed last year, the lymph is now supplied direct to the vaccinators from the Calcutta Depot. On account of the abnormally high mortality from small-pox in Orissa, special measures have been adopted for pushing vaccination, and a Special Inspector has been appointed for the Division.

14. The Lieutenant-Governor's acknowledgments are due to Colonel Clarkson and his subordinates for their administration of the Department; and His Honour notices the good work done by Captain Munro in connexion with certain special enquiries.

By order of the Lieutenant-Governor of Bengal,

C. A. OLDHAM,

*Secretary to the Govt. of Bengal.*

Nos. 562-6T.—San.

Copy, with a copy of the Report of the Sanitary Commissioner for 1907, and of the Triennial Report on Vaccination in Bengal for the years 1905-06

(1) Sanitary Commissioner (his attention is specially drawn to the remarks in paragraphs 5, 7 and 10 of the Resolution)

(2) Inspector-General of Civil Hospitals

(3) Inspector-General of Prisons

(4) Inspector-General of Police

(5) Sanitary Board

to 1907-08, forwarded to the

Bengal, for information.

Circular No. 4T.—San.

Copy, with a copy of the Report of the Sanitary Commissioner for 1907, and of the Triennial Report on Vaccination in Bengal for the years 1905-06 to 1907-08, forwarded to all Commissioners of Divisions for information and for communication to all District Officers in their respective Divisions.

By order of the Lieutenant-Governor of Bengal,

S. N. MITRA,

*Under-Secy. to the Govt. of Bengal.*

DARJEELING,

The 29th June 1908.

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