

## **Triennial report on vaccination in Burma.**

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TRIENNIAL REPORT  
ON  
VACCINATION IN BURMA

FOR THE YEARS 1905-1906 TO 1907-1908



RANGOON

OFFICE OF THE SUPERINTENDENT, GOVERNMENT PRINTING, BURMA

1908

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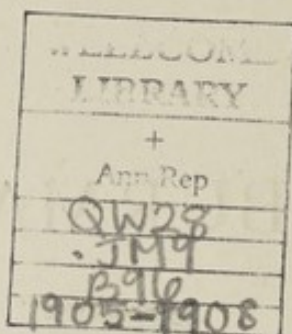


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RESOLUTION  
ON THE  
TRIENNIAL REPORT ON VACCINATION IN BURMA  
FOR THE YEARS 1905-06—1907-08.

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Extract from the Proceedings of the Government of Burma in the General Department, dated the 25th  
July 1908.

READ—

The Triennial Report on Vaccination in Burma for the years 1905-06—1907-08.

RESOLUTION.—Although in certain respects the work of the Vaccination Department in the last three years shows improvement many serious defects which have been brought to notice in previous reports still persist. The total increase in the number of operations performed in the Province outside Rangoon is only some 11,000 per annum and the number of persons successfully vaccinated each year is still about 30 in each thousand of the population. The average number of operations 1,721 performed by each vaccinator was actually less than the average of the last triennium. Geographical conditions and other circumstances that affect the work of vaccinators vary so much in different districts that it is probably impossible to lay down any hard and fast rule as to the number of operations that a vaccinator can perform in a month, or even in a year. But the difference in the results obtained in adjoining districts, where the conditions of work are similar, is striking. Thus, if a vaccinator can perform 3,100 operations a year in the Sagaing District it should be possible for vaccinators in Shwebo to perform more than 1,200. Similarly, when the average number of operations in Bassein and Myaungmya is 1,300 each the averages for Ma-ubin and Pyapôn, 550 and 390 respectively, are clearly insufficient.

2. In some towns and villages it is said that the people are hostile to vaccination, and the Sanitary Commissioner is inclined to attribute this attitude to inefficiency and want of tact on the part of the vaccination staff. Inoculation is still practised freely in rural areas and is reported to have caused outbreaks of small-pox in the Upper and Lower Chindwin Districts, Yaméthin and Pakokku. The Lieutenant-Governor is convinced that the people of this Province as a whole have no strong objection to vaccination in itself. When they prefer inoculation it is partly because inoculation is an established practice and vaccinators are not always available, partly because vaccination has not always given good results. A Bill will shortly be introduced into the Legislative Council for the purpose of empowering the Local Government to prohibit inoculation in any rural area. It is not intended to introduce this enactment into all parts of the Province at once, for until the Vaccination Department is rendered thoroughly efficient it is not reasonable to make inoculation a penal offence. At first therefore its operation will be confined to the districts of Pegu and Hanthawaddy, where the vaccination staff is being reorganized. By degrees, as full facilities for vaccination are



provided and as the confidence of the people is gained, the measure, if it becomes law, will be applied to other districts and in time there is no reason to doubt that the practice of inoculation will be as dead in Burma as it is in Europe. It is not intended to make vaccination compulsory in rural areas.

3. In order to provide for better supervision the service of Native Superintendents has been reorganized and enlarged from 16 to 44. The Lieutenant-Governor observes with pleasure that in the year 1907-08 the Native Superintendents inspected 40 per cent. of the total number of primary vaccinations and nearly 45 per cent. of the total number of re-vaccinations. These figures represent a very large advance over those of any previous year and the Lieutenant-Governor trusts that this standard of work will be maintained. The increase in the number of inspections performed by Native Superintendents is, however, counterbalanced by a continuous falling off in the number of inspections performed by the Deputy Sanitary Commissioner and Civil Surgeons. Each year of the triennium shows a decrease, and in the year 1907-08, Civil Surgeons and the Deputy Sanitary Commissioner inspected only 13 per cent. of the total number of primary vaccinations. The annual average for the triennium was 16 per cent. as compared with 20 per cent. in the previous triennium. The increase in the strength of the Native Superintendents was not intended to relieve Civil Surgeons of their duty of inspecting the work of vaccinators but to assist them in that duty. The Lieutenant-Governor hopes that Civil Surgeons will give more attention to this work than they have recently done.

4. The percentage of cases inspected by the Deputy Sanitary Commissioner and Civil Surgeons in which the operation was found to be successful shows a distinct improvement, the average number of primary vaccinations found successful by Civil Surgeons being 90 per cent. in the last as compared with 85 in the previous triennium.

5. The Lieutenant-Governor has read with much pleasure the praise bestowed in this report and in the notes for the years 1905-06 and 1906-07 on Major Entrican's work at the Vaccination Depot. Great improvement in the quality of lymph supplied from Meiktila has resulted from the care and skill with which Major Entrican has carried out his duties. The Lieutenant-Governor's thanks are due to him for his success in this work as well as for the training of Native Superintendents and Vaccinators.

6. In Rangoon the serious outbreak of small-pox which occurred in the year 1905-06 resulted in a great increase of work. 114,000 vaccinations were performed in the triennium ending 31st March 1908 as compared with 44,000 in the previous three years. Since this epidemic the Municipal Committee have given their attention to the improvement of vaccination work, the staff has been reorganized, new vaccination stations have been built at convenient places in the town, and the supply of lymph has been much improved. A Bill will shortly be introduced into the Legislative Council to afford additional facilities for the vaccination of immigrant coolies. It is believed that this class of the population, of which a large proportion is unprotected, constitutes a serious menace to the health of the town. The Lieutenant-Governor believes that with the additional power furnished in this



Bill, if it becomes law, and the improved facilities which the Municipal Committee are now providing, it should be possible to prevent the occurrence in future of such a serious epidemic as occurred two years ago.

7. The suggestion referred to in paragraph 6 of the Resolution on the last triennial Report that the performance of vaccination should be limited to certain seasons of the year has been further considered. Owing to the marked differences in climatic conditions in different parts of the Province, no general orders have been passed for the cessation of work in any specified part of the year. But it has been arranged that the grant of privilege leave to Vaccinators and Native Superintendents of Vaccination should, as far as possible, be restricted to the season of the year that is least suitable for vaccination in each district.

8. Apart from special measures to be undertaken under the new enactments referred to above, it will be necessary throughout the next three years to insist on stricter supervision by Civil Surgeons over the work of vaccinators, and both Civil and Medical Officers should endeavour to remove the prejudice that exists in some places against the Vaccination Department and to promote the popularity of vaccination as compared with inoculation. In these efforts Medical Officers will have the advantage of a staff of well-trained Native Superintendents for the supervision of vaccinators and will no longer have to contend with the difficulties that arise from an inferior supply of lymph. The Sanitary Commissioner being now a whole-time officer will be able to devote more time than hitherto to the general supervision of vaccination work. Civil Officers have good opportunities for removing any prejudice that may exist against vaccination as well as for discouraging the dangerous practice of inoculation, and the Lieutenant-Governor desires once more to impress on them the necessity for their co-operation. It is clear that vaccination is disliked in certain places in the Pegu and Irrawaddy Divisions and probably elsewhere. In order to remove this feeling it is necessary not only that the work of vaccination should be better and the supervision of Civil Surgeons closer, but also that Deputy Commissioners and Subdivisional and Township Officers should take advantage of their influence and authority to bring home to the people the danger of inoculation and the advantages of vaccination.

By order of the Lieutenant-Governor of Burma,

D. SHEARME,

*Secretary to the Government of Burma.*

Bill if it becomes law, and the improved facilities which the Medical Committee are now providing, should be possible to prevent the occurrence in future of such a serious epidemic as occurred two years ago.

The Bill which referred to in paragraph 5 of the Resolution on the last Annual Report that the performance of vaccination should be limited to certain persons of the year has been further considered. Owing to the marked differences in climatic conditions in different parts of the Province no general order has been passed for the resumption of work in any specified part of the year, but it has been arranged that the grant of convalescence leave to Vaccinators and Nurse Vaccinators of Vaccination should, as far as possible, be restricted to the season of the year that is best suitable for vaccination in each district.

8. Apart from the special measures to be undertaken under the new certificate system it will be necessary throughout the next three years to make on a strict supervision by Civil Surgeons over the work of vaccinators, and both Civil and Medical Officers should endeavor to remove the prejudice that exists in some quarters against the Vaccination Department and to promote the popularity of vaccination as compared with inoculation. In these efforts Medical Officers will have the advantage of a staff of well-trained Nurse Vaccinators for the supervision of vaccinators and will no longer have to contend with the difficulties that arise from an inferior supply of hands. The Sanitary Commission being now a whole-time office will be able to devote more time than hitherto to the general supervision of vaccination work. Civil Surgeons have found opportunities for removing any prejudice that may exist against vaccination as well as for discussing the benefits of vaccination, and the Vaccination Department has been once more in a position to assist the Sanitary Commission. It is clear that vaccination is destined to occupy a prominent place in the legal and medical and public life of the country. In order to secure this it is necessary that the work of vaccination should be better and the reputation of Civil Surgeons should be raised than they have hitherto enjoyed. Sanitary and Vaccination Officers should take advantage of their position and authority to bring home to the people the danger of inoculation and the advantages of vaccination.

THE SECRETARY OF THE SANITARY COMMISSION.

W. H. HARRIS.

Secretary to the Sanitary Commission.



# TRIENNIAL REPORT

ON

## VACCINATION IN BURMA

FOR THE YEARS 1905-1906 TO 1907-1908.

The marginal statement gives the strength of the Vaccination establishment Statement I.

Year.	District Superintendents.	Native Superintendents.	Vaccinators.
1904-05	40	15	238
1905-06	41	16	241
1906-07	41	32	244
1907-08	41	44	253
Average	41	31	246

during each of the three years under review. It will be seen that the average of the three years was 41 District Superintendents, 31 Native Superintendents and

246 vaccinators. This amounts to an increase on the average of the preceding triennium of two District Superintendents, 16 Native Superintendents and 23 vaccinators. The Native Superintendents were increased in 1906-07 from 16 to 32 and in 1907-08 to 44. The ten vaccinators sanctioned in 1907-08 were distributed to the following districts:—Northern Arakan Tracts 1, Amherst 1, Bhamo 1, Ruby Mines 1, Myitkyina 1, Southern Shan States 4, and Chin Hills 1. The staff of Thatôn District was reduced by one vaccinator, entertained temporarily for a period of six months from 1st January 1907.

The reorganisation scheme of Native Superintendents of Vaccination, described in the last Triennial Report, received the sanction of the Government of India and came into force from 1st May 1906. The fixed travelling allowance was, however, disallowed, and nominees received pay from the commencement of training. In 1906-07, 24 Native Superintendents were trained and posted to the districts named in that Report. In 1907 sanction was obtained for one more Native Superintendent, and a further seven have been under training at Meiktila since 1st March 1908.

2. *Work performed during the triennium.*—The total number of operations performed was 1,269,953 which is an increase of 103,368 over the total of the previous triennium, but of only 15,629 over that of the triennium ending in 1901-02. The returns have, however, been more reliable in each succeeding period. The increase was not general throughout the province, 17 out of 40 districts showing a decrease. Five districts show a very considerable increase, namely, Rangoon Municipality 70,722, Amherst District 26,483, Sagaing District 28,298, Akyab District 24,598, Thatôn 17,154; on the other hand four districts show a marked falling off, namely, Henzada 29,356, Tavoy 20,262, Shwebo 15,709, Prome 15,579. Only six districts show a continuous increase year by year, namely, Kyaukpyu, Sandoway, Tavoy, North Arakan Hill Tracts, Ruby Mines, and Upper Chindwin. A continuous annual decrease is shown by Rangoon, Hanthawaddy, Pegu, Tharrawaddy, Prome, Ma-ubin, Bassein, Henzada, Pyapôn, Bhamo, Minbu, Meiktila, Northern and Southern Shan States and Chin Hills.

It is evident that if the increased work performed in Rangoon be omitted from the calculation, the increase for the remaining districts is only 32,646. The high average attained in Rangoon, namely, 38,135 per annum for the triennium, was partly the result of special efforts made to cope with a severe outbreak of small-pox in 1905-06 and the following year, and partly of a general improvement in organisation and working of the vaccination staff.

Statement I.



Statement I. 3. *Primary Vaccination.*—The total number of primary operations was 1,117,364, an increase of 22,389. The percentage of success was 91·05. It is a distinct improvement on that obtained in the previous triennium (86·35).

Statement I. 4. *Re-vaccination.*—One hundred and fifty-two thousand five hundred and eighty-nine operations were performed against 71,610 of the previous triennium, an increase of 80,979. The percentage of success was 54·74 against 49·80 in the earlier period.

Statement I. 5. *Average work of each Vaccinator.*—The average number of operations performed by each vaccinator was 1,721, a decrease of 20 on the last triennium. This gives an average of 143·42 per mensem for each vaccinator, which is very far below even reasonable demands. Colonel King was of opinion that each vaccinator should ordinarily perform 300 operations in a month. Efforts will be made to approach this ideal.

It has, however, been found extremely difficult in Burma to obtain vaccinators for the emoluments offered, who will take an interest in their work and apply themselves to overcoming the strong prejudices entertained by the people to the operation.

Statement I. 6. *Successful Vaccination according to ages.*—Two hundred and forty-five

*Infantile protection during the triennium in Lower Burma.*

Year.	Registered births during the calendar year.	Registered deaths under one year during calendar year.	Number of children available for vaccination.	Infants successfully vaccinated during the year ending 31st March.	Percentage of available infants protected.
1905	191,226	37,595	153,631	41,979	27·32
1906	189,026	38,408	141,617	29,346	27·71
1907	181,884	33,258	148,626	38,861	29·20
Total	551,085	109,261	443,824	116,586	26·27

thousand nine hundred and thirty-nine infants under one year of age were successfully vaccinated, an increase of 14,567 on the previous record; 534,128 children successfully

vaccinated were between one and six years. The total number of successful operations performed on children below six years was 780,067. The total increase is 31,646 over the previous triennium. At the Census of 1901 the population between 0 and 5 years was stated to be 1,448,174 and the infants up to one year of age totalled 248,380. The highest number of infants vaccinated in one year during the period under review was 87,562 in 1905-06. The average for the three years is 81,980. The births recorded for about nine-tenths of the population total 278,533 (which is probably considerably below the actual), of whom about one-fifth died within the year. It is thus evident that about one-third of available infants are at present vaccinated before they attain 12 months of age. Since vaccination is performed subject to the approval of parents and the Burmans are averse to allowing their children to be operated on before they have reached two years of age, or even more, improvement in these particulars will depend very much upon the tact and personal influence of the vaccinator, and the circumstances afford an argument for employing a better stamp of men than the department attracts at present. The figures for children available for vaccination, and the number protected during the triennium, will be found in the marginal statement (information is only available for Lower Burma).

Statement I. 7. *Protection to population.*—The proportion per mille of population successfully vaccinated during the triennium was 33·16 compared with 30·38 for the preceding three years. The average ratio per thousand of the population protected by vaccination during the quinquennial period preceding each of the three years under review was 32·01.

Appendix A gives the ratio for the number of persons per ten thousand of the population successfully vaccinated during the five years preceding the last year of the triennium ending with 1907-08, and the ratio of deaths from small-pox during the same period. The ratio of protection is lower than in the previous quinquennium, and that of mortality from small-pox is also rather less. The improvement in the mortality from small-pox, which had been almost continuous since 1899, was disturbed by the severe epidemics of the disease in 1905 and 1906. The tendency



for small-pox to recur in severe epidemics every fifth or sixth year is well shown in this table.

8. *Inoculation and attitude of the people towards Vaccination.*—Inoculation appears to be unknown to, and unpractised among, the Shans of Loimwe (Kēngtūng State), although in vogue among their Chinese and Burmese neighbours.

The Burmese population as a whole maintains a passive attitude towards vaccination, while Karens accept it readily. In Myaungmya three-quarters of the operations performed are on Karens. In the districts of Tharrawaddy, Pakōkku and Amherst the population is said to be antagonistic to the operation. In the Northern Shan States there is active opposition and progress is likely to be very slow. The officials of the Native States, however, do their best to assist the vaccinators.

In 1907-08 inoculation is referred to as being the cause of mortality from small-pox in the Lower Chindwin District, where 93 cases of small-pox occurred with four deaths due to this operation, and in Upper Chindwin District where 22 deaths followed on 141 operations.

In Yamèthin small-pox was propagated by inoculation. In the Kawa Township of Pegu District an inoculator holding a vaccinator's certificate from the Health Officer, Rangoon Municipality, openly practised inoculation, showing the certificate to the villagers as his authority to inoculate. He also produced a copy of an order passed by the Chief Court that inoculation was not illegal.

It is the general experience of District Civil Surgeons that both inoculation and vaccination are most sought after during small-pox epidemics. In consequence, in a year when there is no epidemic there is a falling off in the amount of vaccination performed.

Inoculation is still practised freely in non-Municipal areas. In the absence of facilities for obtaining the services of vaccinators, and also by reason of their distrust in the efficacy of vaccination, as a protection against small-pox, the rural populations continue to resort to inoculation whenever they are threatened by an epidemic of small-pox. This habit is illustrated by the circumstances attending the outbreak of small-pox in Pakōkku District in the earlier months of 1907, adverted to in my Sanitary Report for that year.

A Bill has been introduced into the Provincial Legislative Council for extending the prohibition against inoculation now in force in Municipalities only, into notified rural areas, and there is no reason to doubt that this measure, combined with an improved organization for meeting the demand which will necessarily arise for vaccination, will in time put an end to this dangerous practice.

9. *Results by districts.*—The heavy decline in operations performed in Tharrawaddy District, which fell from 17,252 in 1905-06 to 8,536 in 1907-08, is said by the Civil Surgeon to be due to the difficulty experienced by the vaccinators in getting subjects for operation. The following towns and villages were distinctly hostile to vaccination,—Thônzè, Letpadan, Zigôn, Gyobingauk, Minhla and Tharrawaddy. I am inclined to attribute the attitude of the people to inefficiency and want of tact on the part of the vaccination staff. Statement I.

In Akyab, the decrease of 2,520 operations in 1907-08 on the previous year's record, is attributed to the prevalence of small-pox, which has conferred protection on a large number of children. The Mohamedan population of the district is less favourable to vaccination than the Buddhist.

In Henzada there has been a remarkable and continuous decrease in the number of operations recorded during each of the three years under review, there having been only 14,923 operations performed in 1907-08 against 40,936 in 1905-06. The Civil Surgeon, Doctor McCarthy, reports that the records have been in the past quite unreliable, that the results reported by vaccinators in the district were not inspected or checked in any way, and that the number of operations performed was grossly exaggerated. He finds the people of the district opposed to vaccination, and that the Headmen of villages will give no assistance to the vaccinators.

Even in Henzada Town repeated prosecution fails in inducing parents to submit their children to vaccination. Doctor McCarthy deserves credit for throwing



light upon the true position of vaccination in this district, where active support of the vaccination staff by the Civil Authorities is urgently required.

In Rangoon there has been a continuous decline in the numbers vaccinated during the past three years. This is, however, due to the great number of operations performed in 1905-06 in the face of a severe epidemic of small-pox, when every available officer of the Sanitary and Plague Staffs was employed to push vaccination, and the mill owners gave ready assistance to the Municipal Health Officer in the work of vaccinating residents in their coolie lines. A similar procedure was continued in 1906-07, but with the decline of small-pox the interest of the public in the matter flagged, while the proportion of unprotected mill-hands was of course much smaller than before the epidemic. The success obtained in primary and re-vaccination in Rangoon has shown a marked increase since the last triennial report, and in 1907-08 96·34 per cent. of verified primary operations and 60·64 of re-vaccinations were successful, while the figures for 1905-06 were 84·86 and 55·41 respectively.

Primary operations in infants have been particularly successful during the past twelve months in Rangoon; at most of the vaccination stations in the town verified successes rarely fell below 99 per cent. in any month.

Statement  
III.

10. *Dispensary Vaccinations.*—There has been a yearly increase in the number of Dispensary vaccinations performed during the triennium, the results for each year being as follows:—

							Cases.
1905-06	...	...	...	...	...	...	17,507
1906-07	...	...	...	...	...	...	18,521
1907-08	...	...	...	...	...	...	19,131

The highest number of operations shown in any year of the previous triennium was 15,562 in 1904-05.

The percentage of verified successes in primary operations was 95·32 in 1907-08 which may be compared with 83·32, the maximum figure attained in the previous triennium.

Statement  
IV.

11. Under the head "Government," it is shown that the highest number of vaccinations and of verified successes was obtained during the triennium under review, the returns for 1905-06 (162,004 operations and 144,074 successes) being the largest of any year in the decade 1898-99 and 1907-08 and those for 1907-08 being next in order.

As regards Municipal vaccinations there has been an annual decrease during the triennium, but the figures for 1905-06 are, however, the highest recorded since 1899-1900. The continuous decrease has been chiefly due to the falling off in Rangoon Municipality already alluded to.

Under the head of "*Local Fund*" the returns of vaccination show an annual decrease during the triennium.

Dispensary vaccinations, as already stated, show a considerable and sustained increase almost throughout the last six years.

There is a falling off under the heading "Native States."

Statement  
V.

12. *Inspections.*—There has been a very considerable decline in the number of operations verified by Deputy Sanitary Commissioner and Civil Surgeons during each successive year of the triennium, and the highest number of inspections in any year is less than that of the last two years of the previous period. The return for 1907-08 (47,420 primary operations inspected) contrasts most unfavourably with the 78,238 recorded in 1904-05. This remark does not apply to verification of re-vaccination, though there is a decrease in 1907-08 under this head of over 7,000 below the returns of the two earlier years of the triennium under review.

The work of verification performed by Native Superintendents of Vaccination shows a considerable advance, nearly double the number of operations having been verified in the year 1907-08, as were inspected in 1904-05. As regards the percentage of cases found successful to the total number verified there was a marked improvement on the returns of the previous triennium, 90·52 primary and 59·25 re-vaccinations having been returned by Deputy Sanitary Commissioner



and Civil Surgeons in 1907-08 against 87·31 and 58·53, the highest figures for verification in the earlier period. A similar improvement is shown in the result verified by Native Superintendents. It is to be noticed that the Vaccinators returned a higher percentage of successes in primary operations than was verified by either class of inspecting officers, while their return of successful re-vaccinations was somewhat lower than that obtained on verification of their work.

In 1907-08 the Civil Surgeons of the Chin Hills (1·04), Akyab (6·65), Pegu (8·71), Tharrawaddy (2·56), Bassein (7·36), Henzada (3·46), Toungoo (1·61), and Thatôn (4·42), verified but a very small percentage of the operations performed.

In many cases the work at Headquarters leaves Civil Surgeons little leisure for district touring, but this cannot be said to apply to some of the stations named. The small amount of inspection duty performed at Tharrawaddy and Thatôn demands explanation. Hanthawaddy, Ma-ubin, Tavoy, Katha, Meiktila and Myingyan return a high percentage of verifications by District Superintendents.

In Ma-ubin, Pyapôn, Amherst, Tavoy, Myingyan and Rangoon, percentages of the total primary operations varying from 63·99 to 94·77 were verified by Native Superintendents.

Native Superintendents verified 40·05 per cent. of primary operations and 44·85 per cent. of re-vaccinations in 1907-08, but only 15·22 and 19·42 per cent. of each class of operations in 1906-07. The work done in 1907-08 was, however, a great increase on that of any year in the previous decade.

13. *Cost during the triennium under review.*—The total expenditure on account of vaccination during the triennium was Rs. 3,80,597, as compared with Rs. 2,80,309 for the previous triennium. The increased

Year.	Establishment.	Travelling allowance.	Contingencies.	Total.	Average cost per case.
	Rs.	Rs.	Rs.	Rs.	Rs. a. p.
1905-06 ... ..	77,876	24,866	11,922	1,14,664	0 4 9
1906-07 ... ..	86,261	17,721	13,546	1,17,528	0 6 1
1907-08 ... ..	92,052	34,919	11,633	1,38,604	0 6 11

Statement II.  
 account of vaccination during the triennium was Rs. 3,80,597, as compared with Rs. 2,80,309 for the previous triennium. The increased

expenditure was mainly due to the entertainment of Native Superintendents of Vaccination and apprentice vaccinators under the reorganization scheme alluded to in the last triennial report, to an increase of the number of vaccinators during the period under review, and to the adoption in additional districts of the increased rate of pay sanctioned for district vaccinators in 1905-06. The total expenditure during the year 1907-08 as shown in the attached statement was Rs. 1,38,604 as compared with Rs. 1,27,528 expended during the previous year. This increase in expenditure is largely a sequel to the entertainment of 16 additional Native Superintendents of Vaccination during the period under review. The increase began with the financial year 1906-07, but did not affect the first two months of that year. During the financial year just concluded the increase affected all months of the year, and was enhanced by the fact that these additional Native Superintendents, posted during the year to their respective districts, drew travelling allowance during the major portion of its course.

The cost of each successful vaccination has increased from 6 annas 1 pie in 1906-07 to 6 annas 11 pies in 1907-08. The increase in cost has been due to a decrease in the number of operations shown; a decrease partly attributable to improved accuracy in the returns; partly to the performance of less actual work. This latter feature has to some extent been the result directly or indirectly of the presence of plague in the province. There is no doubt, however, that in Hanthawaddy, Ma-ubin and Pyapôn Districts where the rate is exceptionally heavy, the increase was due to the small number of operations performed by comparatively large district establishments. The increase in cost during 1907-08 is partly balanced by the increase which has taken place in the vaccination establishment during that year.

During the first year of the triennium the average cost per successful case varied from 15 annas 11 pies in Northern Arakan Hill Tracts to 2 annas and 1 pie in Sagaing. During the second year the rates varied from Rs. 1-6-5 in Meiktila to 2 annas 5 pies in Sagaing. During the third year the average cost varied from Rs. 2-6-2 in the Northern Shan States to 2 annas and 8 pies in Sagaing.



Statement II.

14. *Percentage of Cost.*—The percentage of total cost borne by Government

Year.	Government.	Municipalities.	Local Funds.	Native States.
1902-03—1904-05	34'17	17'96	44'69	3'18
1905-06—1907-08	39'92	15'81	41'81	2'46

and other bodies during the triennium under review as compared with the previous triennium, is shown in the marginal table.

It will be seen that the share of cost borne by Government has increased from 34'17 per cent. in the previous triennium, to 39'92 in the triennium under review. The increase in proportion of the cost borne by Government was mainly due to the gradually increasing expenditure of the Vaccine Depôt, Meiktila, and to the cost of training of Native Superintendents of Vaccination and apprentice vaccinators.

Statement I.

15. *Lymph supply.*—During the triennium the lymph supply of the whole province, with the exception of Rangoon, has been obtained from the Vaccine Depôt, Meiktila, which has been under the continuous superintendence of Major Entrican. During the first year of the triennium 218 calves were inoculated with 182 successes, during the second year 240 with 205 successes, and during the third 263 with 239 successes. It is reported by the Superintendent that calves in good condition have of late been difficult to obtain on account of partial failure of the crops and local scarcity, the worst effect of which, however, has been the difficulty experienced in getting a sale for calves after inoculation. This was finally effected at a heavy loss. The primary success rate of the province during the first year of the triennium amounted to 90'80 per cent., during the second year to 90'65 per cent., and during the third to 91'78 per cent. These figures are an improvement upon those of the preceding triennium, namely, 87'14, 87'20 and 84'71, per cent., respectively.

The average primary success rate for Burma during the triennium is 91'05 per cent. A distinctive cause of defective results which prevails in Burma as compared with India is deterioration of lymph owing to length of time in transit, and there is no doubt that this takes place to a greater extent in this province than in India, where communications by rail and road are so much more advanced. The following statement for the last year shows the effect of delay in the transit and use of lymph:—

Chin Hills	...	...	...	...	77'76	} Percentage of success in primary vaccination.
Papun	...	...	...	...	83'74	
Southern Shan States	...	...	...	...	86'27	
Upper Chindwin	...	...	...	...	89'90	

With these rates the average for the rest of the province for the same period, namely, 92'12, is contrasted.

The present strain of vaccine at the Meiktila Depôt has been maintained for now over two years, being kept from deterioration by retro-vaccination, and by occasional inoculation of rabbits. Of these two devices Major Entrican considers that the latter gives the more reliable results: so much so that he now adopts it exclusively.

The difficulty of acquiring pure lanoline has much increased the task of keeping up a satisfactory strain of lymph. This difficulty was commented upon in the Vaccination Note for 1906-07. In spite of every effort to obtain a satisfactory product, the same difficulty recurred during last year and the Superintendent has but recently obtained a small quantity of suitable lanoline. The cause of this apparent deterioration in good brands of lanoline in transit, and storage in this climate, will be made the subject of investigation during the ensuing year, and an attempt will be made to devise some mode of preventing it. As matters stand, it is responsible for the fact that the major portion of the total lymph issued during the triennium has been glycerinated or quinated. From analysis of 225,476 cases Major Entrican has ascertained the following percentage primary success rates for each variety of lymph:—

	Per cent.
Glycerinated lymph	93'8
Quinated	91'0
Lanolinated	88'6



From these and other comparative figures which show a similar result, he is inclined to consider glycerinated lymph superior to the quinated product, and does not propose to continue the issue of the latter to the same extent as hitherto, though on account of its superior preservative power, he proposes to continue its issue to outlying stations. Major Entrican has continued his experiments with regard to the effects on glycerinated and quinated Vaccines, of sealing the containing tubes by wax dissolved in Chloroform. The results of a series of carefully conducted experiments in which "controls" were at the same time carried out, have enabled him to conclude that this method considerably reduces the number of extraneous organisms, and does not appreciably affect the longevity of the lymph, as chloroform certainly does when used in the ordinary way. He considers that the continuation of these experiments on a large scale is fully warranted not only by his laboratory investigations, but also by the practical results obtained with Vaccines so sealed, in primary vaccination. With this view I concur, and consider that much credit is due to Major Entrican for the active scientific interest he has taken in the improvement and preservation of vaccine lymph for use throughout the province.

The Health Officer, Rangoon, reports that the lymph supplied from the Municipal Vaccine Dépôt has been much better, and almost without exception, of good quality, during the last year of the triennial period under review. No attempt was made at the dépôt to pass a strain of lymph through a series of calves. It was recognised that better results were obtained by getting paste from the Bangalore stock and vaccinating calves with it, than by attempting to start a local strain of calf lymph.

16. *Training class.*—With effect from 1st May 1906, the Vaccine Dépôt, Meiktila, became a teaching centre for Native Superintendents of Vaccination and Vaccinators in Burma. Between that date and the close of the triennial period under review twenty-six Native Superintendents of Vaccination and twelve prentice Vaccinators have undergone a complete course of training, lasting in all cases for six months. All successfully passed the qualifying examination, and were duly posted to districts for vaccination work. Of the above, four Native Superintendents of Vaccination and two apprentice vaccinators, having failed at the examination which concluded the course of training, were retained under training for a period of two months and one month respectively, at the conclusion of which they were re-examined and passed successfully.

Seven vaccinators left the dépôt without leave before the course of training was concluded. At the close of the triennial period five Native Superintendents of Vaccination and 13 vaccinators remained under training at the dépôt.

The total number of Native Superintendents of Vaccination and vaccinators who have entered upon the course of training at the dépôt, since training first commenced, has been 63. Much credit is due to the Superintendent, Major Entrican, for his able and painstaking performance of this gratuitous duty. The work has presented special difficulty, expressed in his remark that the dépôt, not having been originally intended for training work, is little suited for it as regards accommodation.

17. From a study of the statistics included in this table it will be seen that out of a total of forty-four towns in which the Vaccination Act is in force, sixteen show a satisfactory grade of protection to infants by vaccination. The figures for Rangoon show an excess of 856 successful vaccinations on children below the age of one year, over the number available for the operation. This is explained by the fact that many children whose births are not recorded in municipal limits are brought into residence at Rangoon during the first year of life, by parents who are immigrants from outlying towns and districts; these children being vaccinated in common with the rest. A similar excess is shewn in the case of Ma-ubin, Kyaiklat, Myaungmya, Zalun, Myanaung, Tavoy, Mergui, Thatôn, Thayetmyo, Mandalay, Yamèthin, Pyinmana, Myingyan and Pakôkku. It probably arises from the same cause as in the case of Rangoon.

Form Medical Vaccination 19, devised in the office of the late Sanitary Commissioner, and sanctioned by Government during the year, will, when Civil Surgeons have become familiarised with it and understand its use, considerably facilitate



the submission of accurate statistics regarding towns in which the Vaccination Act is in force. The mistakes, however, at present made in its compilation, interfere considerably with its usefulness.

18. *Vaccination equipment.*—The proposed portable haversack for vaccinators, alluded to in last year's vaccination note, has been finally elaborated. The haversack and its contents are the joint result of the labours of the Deputy Sanitary Commissioner and of Captain Saigol, I.M.S., the best features of whose separate designs this equipment combines. Quotations for the manufacture of fifty of these haversacks have recently been asked for. Its issue will at first be restricted, in order to see in practical use, whether alteration or addition may not prove necessary before the haversack is issued to all district vaccinators in the province.

Proposals for a general reorganization of the Vaccination Department are at present under consideration, and will be submitted to Government during the course of the ensuing year.

C. E. WILLIAMS, M.D., D.P.H., MAJOR, I.M.S.,

*Supdt.-Genl. of Vaccination, Burma.*

RANGOON, 29th May 1908.



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## A.—VACCINATION

STATEMENT NO. I.—Showing particulars of Vaccination in the

No.	Circles and Districts.	Population of district according to census of 1901.	Average population per square mile.	Average number of vaccinators employed throughout the year.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	PRIMARY VACCINATION.				
									Total.	Successful.			Un-known.
					Males.	Females.	Total.	Under one year.		One and under six years.	Total of all ages.		
1	2	3	4	5	6	7	8	9	10	11	12		
<b>ARAKAN DIVISION.</b>													
1	Akyab ...	481,066	94	10	9,309	8,540	18,809	1,861	17,397	1,534	7,118	15,077	609
2	Hill Tracts, Northern	...	...	...	...	...	...	...	...	...	...	...	...
3	Arakan ...	20,682	4	2	826	633	1,454	737	1,269	2	158	1,391	21
4	Kyaukpadaung ...	128,227	24	6	4,078	3,875	7,748	1,291	7,259	869	2,600	5,795	567
4	Sandoway ...	91,927	24	3	1,639	1,516	3,205	1,068	3,144	192	1,345	2,764	...
	Total ...	762,102	41	21	16,867	14,369	30,936	1,478	29,749	2,577	11,221	24,889	1,197
<b>PEGU DIVISION.</b>													
5	Rangoon ...	352,155	8,930	3	26,894	3,787	30,761	10,254	6,402	3,694	1,139	5,441	752
6	Hanthawaddy ...	497,537	155	6	2,203	2,401	4,606	768	3,705	607	1,908	3,064	92
7	Pegu ...	39,372	79	8	4,604	4,428	8,932	1,117	8,762	1,859	5,199	8,711	245
8	Tharrawaddy ...	195,570	139	8	4,108	4,298	8,536	1,067	8,510	2,375	4,634	7,718	81
9	Prome ...	335,904	125	12	6,945	5,096	12,041	1,563	11,566	3,384	5,683	10,616	466
	Total ...	1,320,638	139	37	44,684	30,792	65,476	1,770	38,945	11,889	18,593	55,012	1,637
<b>IRRAWADDY DIVISION.</b>													
10	Maubin ...	283,347	173	4	1,152	1,071	2,223	556	1,931	788	811	1,861	22
11	Pyawon ...	221,959	106	6	1,178	1,105	2,344	391	2,542	718	1,332	3,078	42
12	Bassain ...	321,427	95	10	7,111	6,221	13,343	1,731	12,764	3,059	6,490	17,854	510
13	Hevada ...	484,653	169	15	7,912	7,011	14,923	995	14,372	3,641	6,823	11,773	1,554
14	Myingmya ...	279,398	105	7	4,865	4,573	9,441	1,349	9,301	1,233	5,390	8,194	382
	Total ...	1,663,660	124	42	22,731	20,983	42,874	1,007	40,530	9,419	20,396	58,760	2,128
<b>TENASSERIM DIVISION.</b>													
15	Amherst ...	300,173	43	9	13,422	9,127	22,149	2,461	20,374	2,494	7,230	18,047	778
16	Tavoy ...	109,929	21	5	4,719	5,745	10,475	2,095	6,980	2,247	2,887	6,188	378
17	Mergul ...	88,744	9	4	3,694	3,544	7,238	1,800	7,172	810	2,781	6,491	119
18	Toungoo ...	279,313	45	7	4,779	3,510	8,089	1,186	6,829	1,607	2,526	5,933	353
19	Thaung ...	343,310	61	6	6,448	5,479	11,927	1,755	10,181	2,417	3,894	8,799	...
20	Salween ...	37,837	14	1	798	502	1,300	1,280	804	15	170	690	10
	Total ...	1,180,568	32	32	32,330	27,638	59,738	1,265	52,321	9,648	19,677	45,083	1,638
<b>MANDALAY DIVISION.</b>													
21	Mandalay ...	366,507	173	10	7,877	6,821	14,698	1,400	12,193	6,156	5,202	1,831	16
22	Bhamo ...	79,515	19	4	2,016	1,822	3,897	974	3,513	1,510	1,277	3,342	189
23	Katha ...	176,221	25	2	2,259	1,133	3,393	1,192	4,371	75	2,311	4,080	30
24	Ruby Mines ...	87,694	16	4	1,898	1,801	3,709	809	2,987	980	1,245	2,608	18
25	Myittha ...	67,399	6	2	741	623	1,369	685	1,309	164	643	1,195	23
	Total ...	777,536	26	22	18,986	15,960	36,841	1,220	21,738	9,485	10,638	23,016	274
<b>SAGAING DIVISION.</b>													
26	Shwedo ...	236,201	51	8	5,075	5,719	10,214	1,281	9,245	1,818	5,492	7,821	516
27	Sagaing ...	232,653	162	6	8,248	10,191	19,047	3,178	16,840	870	7,663	16,753	238
28	Lower Chindwin ...	276,383	79	6	7,685	8,174	15,830	2,635	15,247	4,719	8,474	14,724	191
29	Upper Chindwin ...	151,551	8	6	5,019	5,434	10,453	1,742	10,453	631	6,091	8,512	61
	Total ...	1,000,488	33	16	26,528	29,036	55,564	2,137	42,255	15,418	26,133	47,112	1,094
<b>MAGWE DIVISION.</b>													
30	Thayetmyo ...	239,706	50	8	7,556	7,485	15,041	1,880	14,416	1,828	4,401	9,600	2,121
31	Pakokku ...	365,489	57	6	8,155	7,303	15,458	2,576	14,182	2,107	5,913	11,771	1,618
32	Minbu ...	233,377	71	7	3,570	3,635	7,205	1,028	7,125	1,998	3,781	6,437	95
33	Magwe ...	246,798	25	3	6,988	6,741	13,729	1,674	12,455	3,004	7,959	11,291	445
	Total ...	1,076,260	63	29	26,379	25,145	50,524	1,742	43,181	9,927	22,024	49,069	4,280
<b>MEIKTILA DIVISION.</b>													
34	Meiktila ...	352,365	116	5	4,267	4,500	8,767	1,753	8,675	1,224	6,354	8,190	189
35	Yamethin ...	215,197	57	7	5,444	5,765	11,209	1,601	11,075	4,138	5,779	10,093	435
36	Kyaukse ...	141,253	111	3	2,655	2,951	5,646	1,582	5,439	3,003	1,016	7,119	95
37	Myingyan ...	55,092	114	7	7,605	8,135	15,760	2,251	14,675	3,223	7,363	12,866	416
	Total ...	963,907	91	22	20,021	21,611	41,831	1,881	39,905	12,285	21,717	38,145	1,115
<b>SHAN STATES.</b>													
38	Northern Shan States ...	821,990	21	8	1,291	1,153	2,441	306	2,359	29	1,381	1,909	85
39	Southern Shan States ...	816,354	19	11	5,163	5,163	10,321	990	10,188	1,660	4,460	8,783	59
	Total ...	1,137,444	20	19	6,361	6,321	12,682	607	12,547	1,689	6,211	10,677	144
<b>CHIN HILLS.</b>													
40	Chin Hills ...	87,189	11	3	1,303	627	2,010	670	1,530	2	315	1,210	280
	GRAND TOTAL FOR 1907-08	10,477,508	45	233	230,170	178,132	337,402	1,631	240,132	81,609	186,970	258,979	14,777
	GRAND TOTAL FOR 1906-07	10,477,508	45	244	234,374	186,157	411,131	1,635	309,709	76,963	172,532	313,724	13,616
	GRAND TOTAL FOR 1905-06	10,477,508	45	241	237,800	213,620	471,420	1,636	417,123	87,562	204,606	361,883	16,381

\* Statistics of Pyawon ha ve  
Note.—Area and population of the



DEPARTMENT.

Province of Burma during the year 1907-08 (Paragraphs 1 to 7, 9 and 15).

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.		No.
Total.	Successful.	Unknown.	Primary.	Re-vaccination.		Primary.	Re-vaccination.	No.	Ratio per 1,000.	No.	Ratio per 1,000.	
13	14	15	16	17	18	19	20	21	22	23	24	25
1,112	816	93	83-81	80-47	33-00	3-50	8-81	9,657	10-03	42	5-00	1
105	87	...	85-57	82-86	61-94	1-53	...	891	43-03	...	...	2
503	415	40	80-86	80-70	36-79	7-63	7-66	5,598	33-16	36	...	3
61	11	...	87-01	13-03	10-52	...	...	1,379	10-56	14	...	4
1,787	1,330	133	88-83	80-65	34-33	4-11	7-72	18,615	24-64	92	...	5
24,339	11,433	5,505	90-34	60-64	66-93	11-75	12-60	10,000	40-79	427	...	6
901	278	278	84-80	38-45	7-15	2-44	19-76	3,645	7-63	5-5	...	7
179	99	34	91-95	72-79	24-35	2-81	20-00	10,474	30-84	21-6	...	8
26	7	1	91-66	28-00	19-53	...	...	12,372	31-28	241	...	9
1,075	461	219	95-64	54-49	30-23	4-03	21-30	16,164	44-19	200	...	10
26,531	12,278	5,947	93-85	59-65	25-97	4-20	22-42	12,637	23-92	1,772	...	11
272	198	...	95-98	72-79	7-27	1-64	...	6,143	12-32	465	...	12
102	41	12	94-45	41-56	9-82	1-87	11-76	...	...	...	...	13
579	205	74	95-74	40-39	30-81	4-00	12-78	16,002	40-88	288	...	14
551	162	158	91-83	65-83	24-84	10-00	27-77	35,336	70-03	104	...	15
140	117	8	95-07	60-43	29-75	6-33	3-33	9,023	31-24	275	...	16
1,744	823	247	94-67	54-95	21-99	6-71	11-16	67,523	40-59	1,282	...	17
1,815	917	179	92-33	55-71	63-18	3-83	9-81	16,986	56-59	98	...	18
2,435	1,374	195	93-65	41-64	68-71	5-42	5-58	9,787	88-99	4	...	19
26	9	...	92-03	34-62	73-24	1-66	...	4,634	52-22	12	...	20
1,269	623	100	91-65	53-71	51-43	5-17	7-91	8,146	29-16	115	...	21
346	218	...	89-84	63-61	36-07	...	...	4,654	13-64	133	...	22
446	112	9	83-74	43-94	23-31	1-20	2-02	672	17-76	...	...	23
7,328	3,333	483	90-93	43-20	42-62	3-13	6-53	44,909	33-73	362	...	24
1,505	1,023	...	94-82	67-97	35-97	...	...	11,588	32-44	113	...	25
384	128	40	97-83	54-65	43-14	5-33	10-42	3,140	39-43	...	...	26
12	7	...	93-99	58-33	23-19	...	...	2,861	12-40	...	...	27
212	191	4	90-31	91-83	32-91	...	1-89	2,515	23-63	...	...	28
...	...	...	83-78	...	17-73	1-68	...	1,003	14-96	...	...	29
2,113	1,409	44	91-22	68-10	31-46	1-11	2-08	20,912	25-90	113	...	30
399	194	19	84-04	51-05	27-94	5-44	4-76	12,478	43-49	28	...	31
2,307	1,272	131	95-17	61-27	60-23	1-71	5-94	11,799	41-74	16	...	32
663	320	...	96-69	67-50	54-65	...	...	11,514	41-66	13	...	33
...	...	...	89-90	...	57-02	6-23	...	8,924	57-81	...	...	34
3,180	1,843	150	92-57	61-15	43-93	2-85	4-73	44,726	44-70	123	...	35
626	353	32	78-08	59-76	41-53	14-71	5-11	14,077	61-23	25	...	36
1,276	420	477	91-69	60-57	34-29	11-41	87-38	6,497	18-22	46	...	37
70	54	1	91-56	78-25	27-81	1-33	1-43	6,226	27-97	13	...	38
371	224	64	94-00	72-26	46-67	3-38	17-25	10,628	43-08	27	...	39
2,343	1,153	574	89-05	69-53	37-31	8-88	24-50	38,828	36-61	112	...	40
91	54	7	96-27	64-23	20-67	1-95	7-69	8,946	35-46	47	...	41
194	95	27	94-77	85-79	41-85	3-93	20-15	9,640	39-64	67	...	42
166	149	7	91-23	93-71	36-59	1-73	4-02	4,546	32-59	2	...	43
1,038	362	135	90-16	38-11	37-12	2-83	12-44	10,638	29-85	98	...	44
1,476	669	176	93-19	50-77	37-97	2-79	11-92	33,860	34-11	213	...	45
92	66	...	85-27	93-48	6-31	3-60	...	5,313	16-55	...	...	46
43	27	...	86-27	62-79	10-74	...	...	7,704	9-44	...	...	47
135	113	...	86-08	83-70	9-49	1-15	...	13,017	11-44	...	...	48
174	90	47	77-76	70-87	14-91	15-25	27-01	1,037	12-47	...	...	49
45,870	22,935	7,806	91-78	58-71	30-72	4-34	16-05	335,041	31-95	...	...	50
51,412	21,246	10,869	90-65	52-39	31-97	3-79	21-14	329,957	31-49	...	...	51
54,207	21,497	13,929	90-80	53-25	36-78	3-93	25-65	326,127	32-57	...	...	52

been included in Mawbin.  
Pakokke Chin Hills have been excluded.



## A.—VACCINATION

STATEMENT NO. II.—Showing the cost of the Department in the

No.	Circles and Districts.	EXPENDITURE.										Total pay of establishment.
		European super- vising officers.	Pay.	Native super- vising officers.	Pay.	Vaccinators.	Pay.	Clerks.	Pay.	Pencs, etc.	Pay.	
1	2	3	4	5	6	7	8	9	10	11	12	13
ARAKAN DIVISION.												
1	Akyab ...		Rs. A. P.	2	900 0 0	10	2,771 0 8					3,671 0 8
2	Hill Tracts, Northern Arakan...					2	55 0 0					55 0 0
3	Kyaukpadaung ...			*1		6	1,818 10 1					1,818 10 1
4	Sandoway ...			*1		3	98 6 0					98 6 0
	Total ...			4	900 0 0	21	6,728 0 9					6,628 0 9
PEGU DIVISION.												
5	Rangoon...					3	3,190 0 0			4	572 2 0	3,762 2 0
6	Hanthawaddy ...			1	400 0 0	6	1,557 0 5					1,957 0 5
7	Pegu ...				974 3 1	8	2,200 10 10					2,474 13 11
8	Tharawaddy ...			1	700 13 6	8	2,452 8 7					3,170 8 1
9	Prome ...			1	600 0 0	12	2,976 9 9					3,576 9 9
	Total ...			4	1,975 2 7	37	12,328 13 7			4	572 2 0	14,941 2 2
IRRAWADDY DIVISION.												
10	Ma-nbin ...			1	600 0 0	4	1,140 2 10					1,740 2 10
11	Pyawon ...				6 0 0 0	6	1,797 5 2					2,397 5 2
12	Bassein ...			2	835 0 0	10	2,540 9 8					3,375 9 8
13	Henzada ...			1	600 0 0	15	3,605 11 5					4,205 11 5
14	Myaungmya ...			1	598 0 0	7	1,900 0 0					2,498 0 0
	Total ...			6	3,233 0 0	42	11,026 13 1					14,259 13 1
TENASSERIM DIVISION.												
15	Amherst ...			2	1,295 0 0	9	2,397 4 9	1	120 0 0			3,772 4 9
16	Taroy ...			1	600 0 0	5	1,425 14 0					2,025 14 0
17	Mergui ...			1	300 0 0	4	971 1 2					1,271 1 2
18	Toungoo ...			1	600 0 0	7	1,499 11 2					2,099 11 2
19	Thaton ...			1	450 0 0	6	1,712 0 0					2,162 0 0
20	Salween ...					1	300 0 0					300 0 0
	Total ...			6	3,245 0 0	32	8,365 15 1	1	120 0 0			11,690 15 1
MANDALAY DIVISION.												
21	Mandalay ...			1	450 0 0	10	3,663 7 2					4,113 7 2
22	Bhamo ...					4	915 14 0					915 14 0
23	Katha ...					2	507 0 0					507 0 0
24	Ruby Mines ...			*1		4	1,743 11 6					1,743 11 6
25	Myitkyina ...					2	489 2 6					489 2 6
	Total ...			2	450 0 0	22	6,822 3 2					7,279 3 2
SAGAING DIVISION.												
26	Shwebo ...			1	600 0 0	8	1,865 11 1					2,465 11 1
27	Sagaing ...			*1		6	1,784 12 0					1,784 12 0
28	Lower Chindwin ...			1	600 0 0	6	1,679 8 0					2,279 8 0
29	Upper Chindwin ...			*1		6	1,586 6 5					1,586 6 5
	Total ...			4	1,200 0 0	21	6,920 5 6					8,126 5 6
MAGWE DIVISION.												
30	Thayetmyo ...			1	550 0 0	8	2,303 5 3					2,853 5 3
31	Pakokku ...			1	525 1 2	6	1,825 13 4					2,350 14 6
32	Minbu ...			1	300 0 0	7	1,838 4 7					2,138 4 7
33	Magwe ...			2	705 0 2	8	2,109 0 0					2,814 0 2
	Total ...			5	2,180 1 4	29	8,135 7 2					10,316 8 6
MEIKTILA DIVISION.												
34	Meiktila Vaccine Depot ...	1	600 0 0	1	1,437 2 3		7674 9 11	2	1,172 1 6	8	1,356 1 0	5,139 14 8
35	Meiktila ...				1,810 14 0	5	1,174 7 8					2,985 5 0
36	Yamethin ...			2	739 13 0	7	1,827 13 5					2,566 10 5
37	Kyaukse ...			*1		3	903 0 0					903 0 0
38	Myingya ...			1	450 0 0	7	1,724 10 4					2,174 10 4
	Total ...	1	600 0 0	6	4,137 13 3	22	6,404 9 4	2	1,172 1 6	8	1,356 1 0	18,570 9 1
SHAN STATES.												
39	Northern Shan States ...			2	950 0 0	8	1,600 7 8					2,550 7 8
40	Southern Shan States ...			15		11	1,287 13 8					1,287 13 8
	Total ...			7	950 0 0	19	3,488 5 4					4,438 5 4
41	Chin Hills ...					3	711 0 5					711 0 5
	GRAND TOTAL FOR 1907-08 ...	1	600 0 0	44	18,181 1 2	253	70,150 9 5	3	1,202 1 6	12	1,828 3 0	92,061 15 1
	GRAND TOTAL FOR 1906-07 ...	1	600 0 0	32	14,935 1 10	244	68,142 7 6	2	720 0 0	13	1,813 3 2	86,260 12 5
	GRAND TOTAL FOR 1905-06 ...	1	600 0 0	16	7,672 0 0	241	66,880 3 5	2	716 10 8	12	1,807 0 0	77,675 14 1

† Apprentice

‡ This amount includes pay of Native Superintendents of Vaccination of certain

\* Under training

§ One has since joined the



## DEPARTMENT.

Province of Burma during the year 1907-08 (Paragraphs 13 and 14).

Travelling allowance.	Contingen- cies.	Total cost.	PAID FROM					Total.	Number of all success- ful vaccinations and revaccinations.	Average cost of each successful case.	No.
			Imperial Funds.	Provincial Funds.	Local Funds.	Municipali- ties.	Native States.				
14	15	16	17	18	19	20	21	22	23	24	25
Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
1,294 10 3	207 2 9	5,172 13 8	.....	.....	4,788 13 8	384 0 0	.....	5,172 13 8	15,793	0 5 2	1
117 14 0	.....	642 14 0	.....	642 14 0	.....	.....	.....	642 14 0	1,221	0 8 0	2
1,604 7 0	.....	2,921 1 1	.....	.....	2,493 1 1	120 0 0	.....	2,623 1 1	6,211	0 6 6	3
393 3 0	25 1 0	1,447 10 0	.....	.....	1,257 10 0	120 0 0	.....	1,407 10 0	2,775	0 8 1	4
2,815 2 3	233 3 9	9,746 6 9	.....	642 14 0	8,479 8 9	624 0 0	.....	9,746 6 9	25,160	0 6 0	
54 10 6	3,659 13 0	7,475 9 6	.....	451 12 0	.....	7,024 13 6	.....	7,475 9 6	16,876	0 7 1	5
1,458 13 6	113 12 4	3,599 12 3	.....	.....	3,5 9 12 3	.....	.....	3,599 12 3	3,242	1 1 3	6
995 15 0	.....	3,473 11 11	.....	.....	1,863 11 11	610 0 0	.....	3,473 11 11	8,270	0 6 9	7
1,315 14 6	.....	4,486 6 7	.....	.....	4,486 6 7	.....	.....	4,486 6 7	7,753	0 9 4	8
1,071 4 6	.....	4,047 14 3	.....	.....	3,684 14 3	963 0 0	.....	4,047 14 3	11,077	0 6 9	9
4,899 11 0	3,343 9 4	21,681 6 6	.....	451 12 0	14,631 13 0	3,497 13 6	.....	21,681 6 6	47,290	0 8 0	
539 5 0	69 0 0	2,339 7 10	.....	.....	2,339 7 10	.....	.....	2,339 7 10	2,059	1 2 2	10
641 3 6	.....	3,038 10 8	.....	.....	2,487 10 8	551 0 0	.....	3,038 10 8	2,119	1 6 11	11
1,600 2 6	.....	4,975 12 2	.....	.....	4,2 8 10 2	767 2 0	.....	4,975 12 2	12,0 9	0 6 7	12
1,431 1 9	.....	3,729 13 2	.....	.....	4,041 2 10	1,6 8 10 4	.....	3,729 13 2	12,085	0 7 7	13
1,109 8 0	10 0 0	3,577 8 0	.....	.....	3,520 12 0	256 12 0	.....	3,577 8 0	8,311	0 6 11	14
5,821 6 9	20 0 0	19,661 3 10	.....	.....	17,997 11 6	3,263 8 4	.....	19,661 3 10	36,533	0 8 7	
1,442 12 0	.....	5,215 0 9	.....	.....	4,163 0 9	1,050 0 0	.....	5,215 0 9	18,964	0 4 5	15
644 12 0	.....	2,668 10 0	.....	.....	2,163 10 8	472 15 4	.....	2,668 10 0	5,537	0 5 8	16
763 15 3	.....	4,040 0 3	.....	.....	1,810 2 1	329 14 4	.....	2,040 0 3	6,590	0 5 0	17
1,023 3 3	15 9 0	3,140 7 3	.....	.....	2,629 7 5	430 0 0	.....	3,140 7 3	6,558	0 7 8	18
1,196 1 3	.....	3,408 1 3	.....	.....	3,148 1 3	260 0 0	.....	3,408 1 3	8,367	0 6 1	19
131 0 0	.....	431 0 0	.....	.....	431 0 0	.....	.....	431 0 0	882	0 7 10	20
5,196 11 9	15 9 0	16,503 3 10	.....	.....	14,410 6 2	2,492 13 8	.....	16,503 3 10	49,413	0 5 6	
933 12 6	22 3 4	3,059 7 0	.....	2,7 5 0 8	.....	2,314 6 4	.....	3,059 7 0	12,854	0 6 4	21
235 9 3	.....	1,211 7 3	.....	931 9 3	.....	270 14 0	.....	1,211 7 3	3,430	0 5 8	22
269 13 10	.....	836 13 10	.....	.....	.....	.....	.....	836 13 10	4,087	0 3 3	23
319 7 0	.....	1,063 2 6	.....	.....	977 9 0	.....	5 35 9 6	1,063 2 6	2,889	0 8 8	24
393 13 3	.....	632 15 9	.....	.....	632 15 9	.....	.....	632 15 9	1,195	0 8 9	25
2,012 7 10	12 3 4	9,313 14 4	.....	6,124 0 6	.....	2,604 4 4	585 9 6	9,313 14 4	24,455	0 6 1	
961 0 6	.....	3,426 11 7	.....	3,176 5 9	.....	210 5 10	.....	3,426 11 7	8,017	0 6 10	26
1,014 14 6	.....	2,409 10 6	.....	2,809 10 6	.....	.....	.....	2,409 10 6	17,025	0 2 8	27
691 9 9	.....	2,671 1 9	.....	2,633 1 9	.....	318 0 0	.....	2,671 1 9	16,304	0 3 0	28
893 11 10	.....	2,520 2 3	.....	2,520 2 3	.....	.....	.....	2,520 2 3	8,812	0 4 8	29
3,421 4 7	.....	11,687 10 1	.....	11,119 4 3	.....	153 5 10	.....	11,687 10 1	48,958	0 3 10	
1,395 5 0	.....	4,249 10 3	.....	.....	3,023 7 3	621 3 0	.....	4,249 10 3	9,955	0 6 10	30
1,032 1 6	.....	3,383 0 0	.....	3,190 0 0	.....	263 0 0	.....	3,383 0 0	12,191	0 4 5	31
609 9 0	.....	2,747 13 7	.....	2,147 13 7	.....	600 0 0	.....	2,747 13 7	6,491	0 6 9	32
919 3 5	.....	3,753 3 7	.....	2,933 3 7	.....	780 0 0	.....	3,753 3 7	11,515	0 5 2	33
3,847 2 11	.....	14,113 11 5	.....	8,231 1 2	3,628 7 3	5,254 3 0	.....	14,113 11 5	40,162	0 5 7	
262 7 6	7,495 10 0	11,539 0 2	.....	13,829 0 2	.....	.....	.....	12,859 0 2	.....	.....	34
1,135 4 0	.....	3,929 9 8	.....	3,909 11 8	.....	10 14 6	.....	3,929 9 8	8,244	0 7 7	35
1,133 15 6	.....	3,701 9 11	.....	3,077 9 11	.....	624 0 0	.....	3,701 9 11	10,178	0 5 11	36
476 10 0	.....	1,3 9 10 0	.....	1,379 10 0	.....	.....	.....	1,379 10 0	5,163	0 4 3	37
621 2 9	1 14 0	2,997 11 1	.....	2,444 7 1	.....	183 4 0	.....	2,997 11 1	12,413	0 3 8	38
3,829 7 9	7,438 8 0	24,533 8 10	.....	23,070 6 10	.....	1,108 2 0	.....	24,533 8 10	66,508	0 10 10	
223 14 0	.....	4,834 5 8	.....	1,914 13 9	.....	.....	2,389 7 11	4,834 5 8	2,025	2 6 2	39
814 1 0	.....	2,701 14 8	.....	2,701 14 8	.....	.....	.....	2,701 14 8	8,765	0 4 11	40
3,097 15 0	.....	7,5 6 4 4	.....	4,646 12 5	.....	.....	2,889 7 11	7,536 4 4	10,710	0 11 2	
408 1 0	.....	1,119 1 5	.....	1,119 1 5	.....	.....	.....	1,119 1 5	1,300	0 13 9	41
31,919 6 10	11,633 1 5	1,31,604 7 4	.....	56,015 4 7	37,530 14 8	21,563 2 8	3,475 1 5	1,38,614 7 4	1,21,914	0 6 11	
27,721 3 7	13,546 5 9	1,27,528 5 9	4,427 4 5	48,317 1 3	52,159 6 1	19,886 1 4	2,768 8 8	1,27,528 5 9	3,34,970	0 6 7	
24,965 15 0	11,922 2 2	1,14,463 15 3	4,579 10 1	38,603 7 0	49,426 6 11	18,752 12 3	3,101 11 0	1,14,463 15 3	3,65,330	0 4 9	

Vaccinators.

other districts for the period of their training at Meiktila.

at Meiktila.

training class.

## B.—DISPENSARY

STATEMENT No. III.—Showing Dispensary Vaccination in the

No.	Districts.	Number of dispensaries in each district in which a vaccinator is attached.	Average number of vaccinators attached to dispensaries during the year.	Total number of persons vaccinated.	Average number of persons vaccinated by each vaccinator.	Total.
1	2	3	4	5	6	7
<b>ARAKAN DIVISION.</b>						
1	Akyab	...	...	...	...	...
2	Hill Tracts, Northern Arakan	...	...	16	...	82
3	Kyaukpyu	...	...	1,788	...	1,832
4	Sandoway	...	...	324	...	281
	<b>Total</b>	...	...	<b>2,133</b>	...	<b>1,817</b>
<b>PEGU DIVISION.</b>						
5	Rangoon	...	...	...	...	...
6	Hanthawaddy	...	...	2,908	...	545
7	Pegu	...	...	99	...	99
8	Tharrawaddy	...	...	51	...	52
9	Prome	...	...	...	...	...
	<b>Total</b>	...	...	<b>6,061</b>	...	<b>696</b>
<b>IRRAWADDY DIVISION.</b>						
10	Ma-nbin	...	...	1,737	...	172
11	Pyapon	...	...	...	...	...
12	Bassein	...	...	211	...	66
13	Henzada	...	...	1,708	...	638
14	Myanngmya	...	...	1,230	...	78
	<b>Total</b>	...	...	<b>4,886</b>	...	<b>1,104</b>
<b>TENASSERIM DIVISION.</b>						
15	Amherst	...	...	26	...	26
16	Taroy	...	...	245	...	216
17	Mergui	...	...	83	...	36
18	Toungoo	...	...	18	...	9
19	Thaton	...	...	26	...	25
20	Salween	...	...	17	...	17
	<b>Total</b>	...	...	<b>410</b>	...	<b>328</b>
<b>MANDALAY DIVISION.</b>						
21	Mandalay	...	...	207	...	206
22	Bhamo	...	...	27	...	27
23	Katha	...	...	349	...	51
24	Ruby Mines	...	...	6	...	6
25	Myitkyina	...	...	401	...	199
	<b>Total</b>	...	...	<b>990</b>	...	<b>489</b>
<b>SAGAING DIVISION.</b>						
26	Shwebo	...	...	270	...	225
27	Sagaing	...	...	180	...	180
28	Lower Chindwin	...	...	61	...	61
29	Upper Chindwin	...	...	532	...	519
	<b>Total</b>	...	...	<b>1,043</b>	...	<b>985</b>
<b>MAGWE DIVISION.</b>						
30	Thayetanyo	...	...	1,136	...	850
31	Pakokku	...	...	1,482	...	1,335
32	Minbu	...	...	...	...	...
33	Magwe	...	...	...	...	...
	<b>Total</b>	...	...	<b>2,618</b>	...	<b>2,185</b>
<b>MEIKTILA DIVISION.</b>						
34	Meiktila	...	...	723	...	196
35	Yamethin	...	...	78	...	78
36	Kyaukse	...	...	21	...	21
37	Myingyan	...	...	186	...	180
	<b>Total</b>	...	...	<b>1,008</b>	...	<b>475</b>
<b>SHAN STATES.</b>						
38	Northern Shan States	...	...	123	...	163
39	Southern Shan States	...	...	183	...	181
	<b>Total</b>	...	...	<b>411</b>	...	<b>344</b>
40	Chin Hills	...	...	2,361	...	2,000
	<b>GRAND TOTAL FOR 1907-08</b>	...	...	<b>19,151</b>	...	<b>10,443</b>
	<b>GRAND TOTAL FOR 1906-07</b>	...	...	<b>18,521</b>	...	<b>10,690</b>
	<b>GRAND TOTAL FOR 1905-06</b>	...	...	<b>17,507</b>	...	<b>9,812</b>



VACCINATION.

Province of Burma for the year 1907-08 (Paragraph 10).

PRIMARY VACCINATION.			RE-VACCINATION.				PERCENTAGE OF SUCCESSFUL CASES IN WHICH THE RESULTS WERE KNOWN.		PERCENTAGE OF UNKNOWN CASES TO TOTAL CASES.		No.
Successful.			Unknown.	Total.	Successful.	Unknown.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	
Under one year.	One and under six years.	Total of all ages.									
8	9	10	11	12	13	14	15	16	17	18	19
...	...	...	...	...	...	...	...	...	...	...	1
74	14	55	7	4	2	2	100-00	100-00	21-88	50-00	2
...	528	1,234	194	321	157	34	95-99	83-96	12-01	15-38	3
...	...	241	...	71	26	...	96-44	76-62	...	...	4
74	542	1,563	191	191	185	36	66-13	71-15	10-51	12-16	
...	...	...	...	...	...	...	...	...	...	...	5
66	161	487	9	2,363	1,901	8	90-86	86-72	1-03	34	6
40	41	95	...	...	...	...	95-96	...	...	...	7
9	30	46	6	2	2	...	100-00	100-00	11-54	...	8
...	...	...	...	...	...	...	...	...	...	...	9
115	232	638	15	2,365	1,903	8	92-22	80-74	2-16	34	
14	16	172	...	1,565	729	27	100-00	47-40	...	1-73	10
...	...	...	...	...	...	...	...	...	...	...	11
15	8	42	20	145	52	51	01-30	55-32	30-20	23-17	12
15-6	191	578	279	1,015	351	3	90-10	34-68	40-25	8	13
...	...	56	2	1,157	298	121	78-87	28-76	2-74	10-46	14
155	225	643	301	3,882	1,430	202	91-47	38-86	29-98	5-20	
1	2	25	...	...	...	...	95-15	...	...	...	15
16	16	52	184	69	20	13	110-00	35-71	85-19	12-84	16
1	9	30	...	3	1	...	85-71	31-33	...	...	17
5	...	9	...	9	2	...	100-00	22-22	...	...	18
15	6	22	...	1	1	...	88-60	110-00	...	...	19
...	...	16	1	...	...	...	100-00	...	5-88	...	20
38	33	134	185	82	24	13	93-71	34-78	56-40	15-85	
62	125	193	7	1	1	...	96-98	100-00	3-40	...	21
4	10	19	...	...	...	...	92-59	...	...	...	22
...	2	48	5	298	173	31	91-43	64-79	9-10	10-40	23
4	2	6	...	...	...	...	100-00	...	...	...	24
41	91	181	9	202	139	...	95-26	73-75	4-52	...	25
113	230	443	21	501	323	31	95-73	68-72	4-29	6-19	
18	163	196	13	45	33	...	94-69	73-33	8-00	...	26
11-4	7-1	176	1	...	...	...	98-32	...	35	...	27
3	49	60	...	...	...	...	98-36	...	...	...	28
56	96-3	481	9	43	33	...	94-31	76-74	1-73	...	29
181	50-9	913	28	88	66	...	95-40	75-00	2-84	...	
145	401	508	15	576	447	2	95-62	77-87	1-74	35	30
66	370	1,314	8	147	189	...	99-02	94-56	60	...	31
...	...	...	...	...	...	...	...	...	...	...	32
...	...	...	...	...	...	...	...	...	...	...	33
201	773	2,122	23	728	586	2	90-70	81-28	1-05	28	
31	115	172	22	527	290	106	98-65	90-34	11-22	39-19	34
61	13	78	...	...	...	...	100-00	...	...	...	35
5	13	18	1	...	...	...	90-00	...	4-7	...	36
87	80	170	...	6	4	...	94-44	65-67	...	...	37
184	221	438	23	533	294	106	90-90	80-91	4-34	38-53	
11	40	87	85	45	33	...	88-78	73-33	46-45	...	38
19	111	150	30	2	2	...	10-34	100-00	19-57	...	39
30	157	237	115	47	35	...	95-18	74-47	31-59	...	
6	128	331	1,718	171	65	30	88-98	46-10	82-30	17-54	40
1,097	3,100	7,457	2,630	8,838	4,911	528	95-32	69-18	29-09	0-08	
190	2,544	7,189	2,723	7,831	4,246	676	90-12	59-34	25-47	8-63	
1,579	3,420	7,372	1,771	7,695	3,801	627	90-44	53-78	18-05	8-15	

COMPARATIVE STATEMENT NO. IV.—Showing the number of persons primarily vaccinated  
Burma in each of the under-

Establishments.	PERSONS PRIMARILY									
	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.
	1893-99.		1899-1900.		1900-01.		1901-02.		1902-03.	
	1	2	3	4	5	6	7	8	9	10
Government	116,621	106,892	172,193	112,483	106,609	95,392	94,130	83,082	120,394	101,106
Municipal	81,987	78,636	72,187	69,715	62,338	58,008	52,227	46,805	55,351	47,049
Local Funds	228,334	228,367	260,518	241,803	215,111	193,719	131,107	166,233	165,218	149,585
Native States	2,108	1,941	1,764	1,631	1,574	1,420	1,322	1,553	7,053	5,451
Dispensary	8,009	7,078	6,033	5,421	6,653	4,229	3,971	3,038	6,022	5,038
ARMY.										
Europeans	53	41	28	19	23	10	30	9	25	11
Natives	546	363	782	314	391	207	111	67	359	283
Total	447,898	423,519	463,605	438,406	392,719	338,055	333,791	300,792	355,013	308,583

## STATEMENT NO. V.—Showing particulars of

No.	Districts.	TOTAL NUMBER INSPECTED					
		TOTAL NUMBER OF PERSONS VACCINATED.		By Deputy Sanitary Commissioner or Civil Surgeons.		By Native Superintendents or other Inspecting Officers.	
		Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.
		3	4	5	6	7	8
1	Akyab	17,877	1,112	1,157	478	7,891	46
2	Hill Tracts, Northern Arakan	1,401	109	.....	.....	25	2
3	Kyaukpyn	8,771	730	1,072	29	1,954	188
4	Sandoway	3,207	132	855	.....	518	87
5	Rangoon	6,492	24,359	714	2,000	4,429	12,632
6	Hanthawaddy	4,250	3,264	1,198	2,579	2,200	2,086
7	Pegu	8,881	170	772	29	2,197	84
8	Tharawaddy	8,662	28	219	.....	4,035	2
9	Prome	11,666	1,675	1,596	104	3,731	668
10	Ma-ubin	2,123	1,337	503	1,667	2,012	1,801
11	Pyapou	2,242	109	270	.....	2,083	32
12	Bassein	12,830	714	911	401	5,901	632
13	Heozada	15,065	1,566	522	801	7,193	547
14	Myaungmya	9,274	1,327	1,534	1,024	5,585	196
15	Amberst	20,350	1,825	1,181	8	16,204	1,363
16	Tavoy	7,196	3,564	2,638	610	5,536	1,233
17	Mergui	7,207	39	337	24	2,434	13
18	Toungoo	6,838	1,219	110	91	3,492	867
19	Thaton	10,206	317	451	.....	5,066	.....
20	Salween	851	446	90	15	6	.....
21	Mandalay	12,699	1,506	996	79	7,329	346
22	Bhamo	3,640	84	284	11	142	9
23	Katha	4,422	310	1,546	226	61	298
24	Ruby Mines	2,993	212	415	.....	.....	.....
25	Myitkyina	1,538	292	286	.....	250	262
26	Shwabo	10,670	444	841	43	2,776	52
27	Segaing	17,660	2,307	2,411	521	.....	.....
28	Lower Chindwin	15,308	661	1,736	194	6,999	54
29	Upper Chindwin	10,972	48	1,493	.....	510	43
30	Thayetmyo	15,276	1,262	1,719	448	8,929	704
31	Pakokku	15,517	1,473	2,646	536	4,909	235
32	Mintga	7,125	70	883	1	2,937	5
33	Magwe	12,458	371	1,093	9	3,833	180
34	Meiktila	8,872	618	4,354	334	1,191	66
35	Yamethin	11,133	181	1,874	132	3,684	6
36	Kyaukse	5,501	165	1,062	.....	178	.....
37	Myingyan	14,855	1,091	4,470	618	9,505	146
38	Northern Shan States	2,542	117	276	9	440	68
39	Southern Shan States	10,319	45	1,719	.....	2,288	2
40	Chin Hills	3,036	843	41	3	439	131
GRAND TOTAL FOR 1907-08		350,975	15,538	47,423	12,838	140,550	24,917
GRAND TOTAL FOR 1906-07		870,309	59,353	60,290	20,247	56,372	11,406
GRAND TOTAL FOR 1905-06		426,965	61,992	75,650	23,044	92,319	14,697



and the number of those persons who were successfully vaccinated in the Province of mentioned official years (Paragraph 11).

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.	Establishments.
1903-04.		1904-05.		1905-06.		1906-07.		1907-08.		
7	8	9	10	11						
135,394	119,016	138,435	109,201	162,044	144,074	126,103	111,283	148,497	133,229	Government.
53,775	44,879	59,410	46,168	64,883	52,398	53,352	48,431	48,060	41,811	Municipal.
179,917	160,516	166,339	141,626	181,999	163,428	167,418	148,271	138,772	119,609	Local Funds.
6,712	5,624	6,086	4,989	8,197	6,988	6,833	5,739	5,203	4,330	Native States.
8,924	6,915	9,516	7,152	9,812	7,272	10,690	7,180	10,443	7,457	Dispensary.
										ARMY.
...	...	25	14	66	38	14	14	59	36	Europeans.
380	222	379	215	304	183	281	143	408	279	Natives.
385,102	327,172	381,090	309,365	427,365	371,376	370,704	321,061	351,442	306,751	Total.

Vaccination verified by Inspecting Officers during the year 1907-08 (Paragraph 12).

PERCENTAGE OF INSPECTIONS TO TOTAL NUMBER VACCINATED.				PERCENTAGE OF CASES FOUND SUCCESSFUL OF TOTAL NUMBER INSPECTED.				PERCENTAGE OF SUCCESS REPORTED BY VACCINATORS.		No.
By Deputy Sanitary Commissioner or Civil Surgeons.		By Native Superintendents or other Inspecting Officers.		By Deputy Sanitary Commissioner or Civil Surgeons.		By Native Superintendents or other Inspecting Officers.		Primary.	Re-vaccination.	
Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.	Primary.	Re-vaccination.			
9	10	11	12	13	14	15	16	17	18	19
6.65	42.29	43.26	4.14	85.63	65.50	86.33	82.61	89.81	89.47	1
...	...	1.78	1.83	...	...	100.00	100.00	88.58	82.86	2
12.22	28.63	22.28	59.75	91.60	77.99	79.33	81.67	86.86	88.70	3
25.17	...	19.25	65.91	94.99	...	90.54	21.44	87.91	18.43	4
11.31	8.21	69.18	51.86	87.85	53.70	90.41	61.88	90.24	60.74	5
35.25	79.01	51.76	68.91	92.92	79.62	74.45	78.81	84.30	31.45	6
8.71	17.06	24.79	20.03	94.17	72.41	89.99	94.12	95.93	72.79	7
2.56	...	47.18	7.14	94.52	...	82.26	100.00	91.56	28.00	8
13.19	9.67	32.26	61.67	94.04	56.73	89.69	55.05	95.64	51.49	9
83.11	89.37	94.77	98.94	97.30	46.63	97.17	80.31	96.95	72.79	10
12.04	...	92.91	31.97	99.64	...	91.41	59.38	94.45	45.56	11
7.06	55.29	45.79	87.29	97.35	41.15	94.98	40.20	96.74	40.59	12
3.46	51.15	47.08	34.93	94.44	37.70	90.81	73.67	91.88	65.83	13
17.08	74.02	60.21	14.03	88.57	29.49	91.83	40.82	95.07	50.43	14
5.67	41	82.57	63.21	90.04	25.00	88.28	56.31	92.31	55.71	15
37.08	17.12	76.33	36.00	89.88	56.36	92.29	46.92	93.65	41.64	16
13.00	82.76	34.47	41.81	81.66	41.67	90.72	63.25	92.13	34.62	17
1.61	7.17	50.43	68.22	72.73	45.06	90.85	61.59	91.65	53.71	18
4.42	...	49.51	...	86.67	...	87.84	...	89.84	63.91	19
10.58	3.35	71	...	78.89	40.00	100.00	...	83.74	43.94	20
7.76	5.25	56.93	22.97	97.97	83.14	91.67	78.03	94.82	67.97	21
8.02	2.86	4.01	2.34	82.70	100.00	100.00	100.00	97.31	51.65	22
34.96	76.13	1.15	26.13	93.21	55.94	84.31	88.06	13.99	58.81	23
13.87	...	...	...	79.06	...	...	...	90.11	91.23	24
13.24	...	15.24	100.00	87.76	...	91.60	79.76	88.78	58.78	25
8.35	9.08	37.50	11.71	85.09	59.14	85.27	76.92	14.04	51.55	26
14.17	10.91	...	...	96.89	34.20	...	...	90.17	61.27	27
11.31	34.46	45.72	9.59	90.19	50.18	92.38	33.31	96.69	67.50	28
13.61	...	4.65	100.00	87.34	...	94.31	76.74	89.30	...	29
11.45	37.27	58.45	59.57	94.68	100.00	85.02	67.47	78.08	59.70	30
17.65	37.57	31.56	16.51	99.17	61.01	92.16	65.96	90.69	12.57	31
13.39	1.43	41.80	7.14	87.54	100.00	91.24	40.00	91.56	78.25	32
8.17	2.43	28.79	48.52	74.39	22.22	95.81	65.00	94.00	72.16	33
49.08	54.63	17.93	10.68	88.24	88.76	97.42	57.38	96.27	61.29	34
10.80	92.51	33.13	1.49	9.13	71.21	87.27	59.00	94.77	88.79	35
19.31	...	3.24	...	9.83	...	99.41	...	93.20	58.71	36
30.09	56.65	63.23	13.38	80.45	37.38	100.00	60.93	9.16	38.1	37
10.86	6.66	17.31	49.64	86.60	100.00	76.32	77.94	83.27	93.45	38
16.58	...	23.90	4.44	75.63	...	68.18	100.00	86.27	62.79	39
1.04	...	11.18	37.97	2.44	33.33	84.05	45.55	77.76	70.87	40
13.51	23.09	40.05	41.65	90.52	59.25	89.22	81.32	91.78	58.71	
16.28	34.7	15.22	19.42	89.20	58.43	88.24	51.11	90.65	52.89	
17.72	33.02	21.02	23.71	90.25	54.25	87.22	44.77	90.89	53.25	

APPENDIX A.

Showing the ratio per 10,000 successfully vaccinated and the mortality from small-pox by quinquennial periods for Lower Burma only (Paragraph 7).

Official year.	Ratio per 10,000 successfully vaccinated.	Quinquennial mean.	Calendar year.	Ratio per 10,000 of mortality from small-pox.	Quinquennial mean.
1	2	3	4	5	6
1892-93	257.81	71	1892	3.24	4.20
1893-94	303.46		1893	6.83	
1894-95	383.83	551.68	1894	3.85	7.73
1895-96	448.91		1895	3.41	
1896-97	554.43	350.31	1896	3.70	6.38
1897-98	586.66		1897	4.32	
1898-99	652.47	...	1898	10.70	...
1899-1900	678.31		1899	13.21	
1900-01	530.41	...	1900	6.76	...
1901-02	352.69		1901	4.45	
1902-03	328.04	...	1902	2.82	...
1903-04	353.66		1903	2.90	
1904-05	324.89	...	1904	2.33	6.38
1905-06	385.48		1905	10.10	
1906-07	359.61	...	1906	14.19	...
1907-08	300.05		1907	2.75	

APPENDIX B.

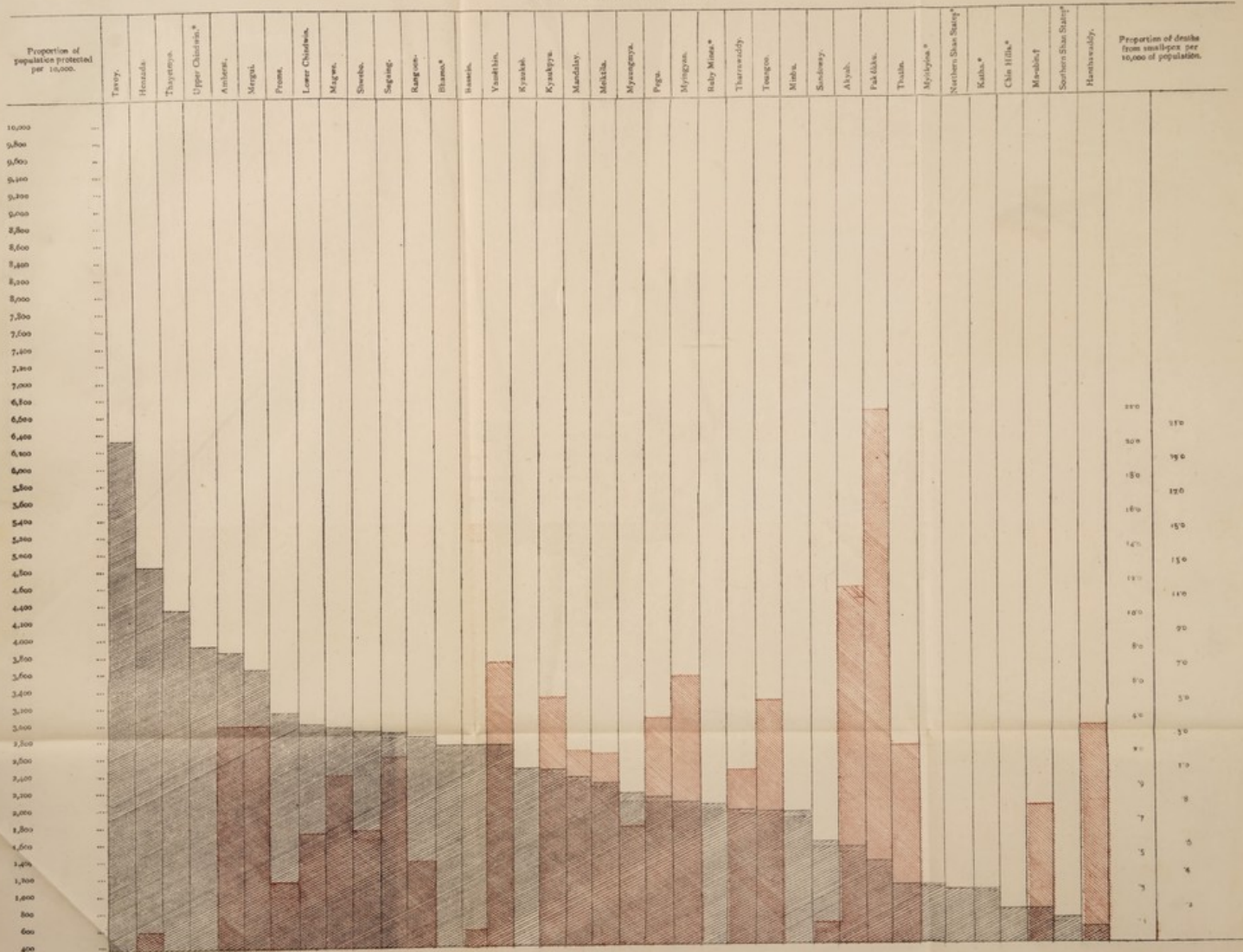
Statistics relating to the number of children under one year of age in towns available for vaccination and the number of successful operations performed on them (Paragraph 17).

Towns.	Number of births during the year 1907-08.	Number of deaths among children under one year during the year 1907-08.	Number available for vaccination after deducting the numbers who have died as shown in column 3.	Number of successful vaccinations on children under one year during the year ending 31st March 1908.	Date of extension of Vaccination Act into towns.
1	2	3	4	5	6
Akyab	614	157	457	365	August 1883.
Kyaukppe	66	15	41	21	April 1891.
Sandoway	104	12	92	63	September 1890.
Rangoon	4,528	1,529	2,999	3,855	April 1884.
Pegu	493	161	332	261	March 1893.
Prasse	840	144	705	612	June 1893.
Paungdè	317	34	283	150	August 1893.
Gyobingauk	213	64	149	74	February 1897.
Letpadan	243	60	183	95	January 1897.
Ti-ônè	225	62	163	53	October 1897.
Ma-ônin	162	29	133	157	October 1891.
Yandoon	370	64	306	281	January 1892.
Pyapôn	325	68	257	246	November 1904.
Kyaiklat	297	75	222	226	15th December 1904.
Bassein	247	280	667	584	September 1888.
Ngatholingyaung	297	33	164	96	February 1893.
Myaungmya	128	31	97	132	June 1894.
Wakema	296	42	194	126	27th April 1907.
Henzada	789	150	639	408	January 1889.
Zalon	211	33	178	343	August 1891.
Myanaung	266	50	216	464	July 1889.
Kyangin	240	30	210	133	August 1894.
Moulmein	1,380	215	1,165	1,070	August 1885.
Thaôn	412	85	327	339	October 1891.
Kyaikto	194	37	157	131	March 1897.
Tavoy	908	100	808	837	December 1889.
Mergul	393	71	322	342	October 1891.
Toungoo	478	101	377	182	May 1889.
Shwegyin	242	27	215	195	January 1890.
Mandalay	5,907	2,075	3,832	4,150	August 1891.
Sagaing	382	72	310	290	April 1894.
Monywa	305	60	246	244	March 1893.
Thayetmyo	462	164	298	223	May 1889.
Allanmye	421	58	363	257	May 1901.
Yamethin	255	64	191	209	February 1892.
Pyinmana	401	124	277	306	November 1891.
Myingyan	510	140	370	445	September 1891.
Shwebo	258	88	170	118	June 1894.
Psokoku	816	217	599	706	April 1892.
Kyaikstè	230	74	156	137	May 1891.
Mihbu	193	37	156	144	March 1896.
Salin	196	54	142	142	March 1896.
Taungwingyi	226	63	163	128	February 1893.
Meiktila	245	80	165	80	June 1906.
Total	26,633	7,129	19,509	19,330	



APPENDIX C.

Diagram showing the proportion of Population protected during the seven official years from 1901-02 to 1907-08 and the death-rate from Small-pox during the calendar year 1907 in districts where Registration is in force.

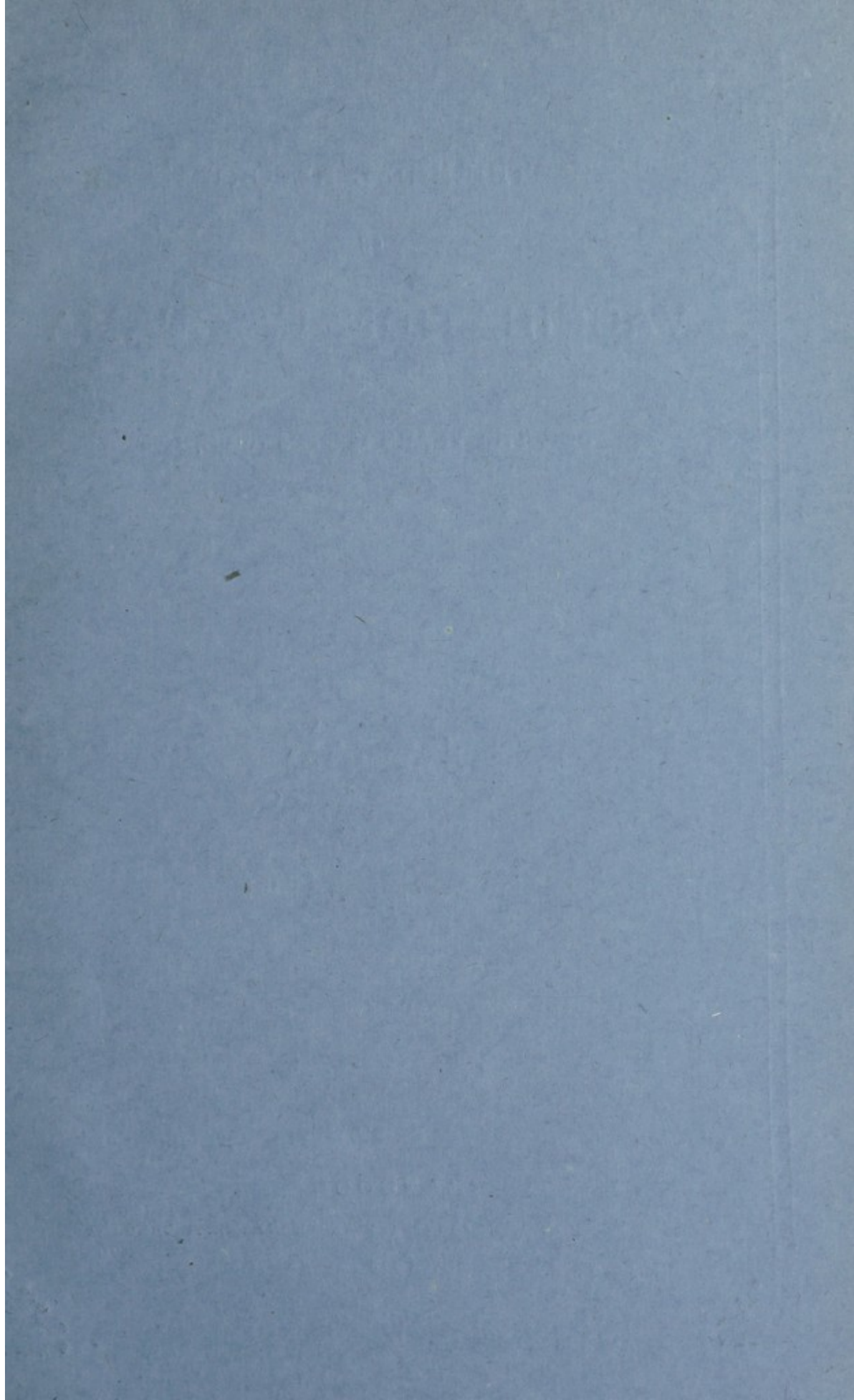


Indicates proportion of population protected per 10,000.  
 Indicates rates of deaths from small-pox per 10,000 of population.  
 \* Registration of Vital Statistics is not carried out in these districts.  
 † Statistics of Pyawge have been included in Mawbin.

Diagram showing the properties of *Polystyrene-phenol resin*  
 (Temperature: 100°C)

Property	Value
Modulus	1.00
Strength	1.00
Stiffness	1.00
Impact	1.00
Heat	1.00
Dielectric Constant	1.00
Volume	1.00
Weight	1.00
Specific Gravity	1.00
Thermal Expansion	1.00
Conductivity	1.00
Loss	1.00
Temperature of Softening	1.00





TRIENNIAL REPORT  
ON  
VACCINATION IN BURMA

FOR THE YEARS 1905-1906 TO 1907-1908



RANGOON

OFFICE OF THE SUPERINTENDENT, GOVERNMENT PRINTING, BURMA

1908