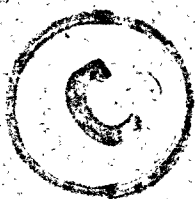


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Report on Vaccination Madras
1989-90



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REPORT ON VACCINATION

THE MADRAS PRESIDENCY

FOR THE YEAR

1889-90.

MADRAS:

PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS.

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REPORT ON VACCINATION

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THE MADRAS PRESIDENCY

FOR THE YEAR

1889-90.

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MADRAS:
PRINTED BY THE SUPERINTENDENT, GOVERNMENT PRESS.
1890.

OFFICE OF SANITARY COMMISSIONER,
FORT ST. GEORGE,
18th July 1890.

No. 2619a.

From

SURGEON-MAJOR W. G. KING, M.B., &C.,
*Acting Inspector of Vaccination and
Deputy Sanitary Commissioner, Madras,*

To

THE SANITARY COMMISSIONER FOR MADRAS.

SIR,

I HAVE the honor to forward, herewith, a report for the past official year on the working of the Vaccination Department. You will remember that in my letter, No. 2161, dated 20th June 1890, acknowledged by Government in G.O., No. 1574 L, dated 23rd June 1890, Sir, I fully explained the cause of probable late submission of this report.

2. In addition to remarks made in this report, I have thought it desirable, in the interest of the department, to make certain suggestions as to the effecting of a complete reorganization, and, with reference to the prevention of the present appalling death-rate from small-pox, to advise that compulsory vaccination should be introduced in all parts of the Presidency, except the Hill Tracts. I have thought it better, although these subjects are directly connected with the administration of the department, that they should be presented to you in a form more convenient for being dealt with by Government than if submitted as an integral part of the usual report. I therefore forward, for favor of communication to Government, a supplement to the annual report, in which they are discussed.

3. With reference to the prolixity of the report, I would remind you that under G.O., No. 1455, dated 12th July 1886, it is required that triennially the condition of the Vaccination Department should be fully detailed.

I have the honor to be,

Sir,

Your most obedient servant,

W. G. KING, Surgeon-Major, M.B., &C., D.P.H., &C.,
*Acting Inspector of Vaccination and
Deputy Sanitary Commissioner,
Madras.*

Memo. No.

Forwarded to Government, Local and Municipal Department.

W. G. KING, Surgeon-Major, M.B., &C., D.P.H., &C.,

OFFICE OF SANITARY COMMISSIONER,
FORT ST. GEORGE,
1890.

*Acting Sanitary Commissioner
for Madras.*

REPORT ON VACCINATION IN THE MADRAS PRESIDENCY DURING 1889-90.

STAFF OF THE VACCINATION DEPARTMENT.

1. During the year no important changes were made in the constitution of the vaccination staff. In *Local Fund Circles*, 32 Deputy Inspectors of the first class, drawing Rs. 60 and Rs. 70, and 20 of the second class, on Rs. 40 per mensem, formed the inspecting staff; whilst vaccinators of the first and second class, drawing Rs. 18 and Rs. 10 respectively, carried out the executive work. In *Municipalities*, 106 vaccinators were employed on salaries varying from Rs. 10 to Rs. 18, according to class. Government employed 6 vaccinators in *Cantonments*, and 22 in the *Hill Tracts* of Ganjam and Vizagapatam.

2. The areas under the charge of each subordinate employed by District Boards are shown in Table XII attached. It will be seen that they differ within considerable limits, although there is a certain amount of tendency to uniformity. The question of area, of course, is not a simple one; as often apparently disproportionately large tracts under one man's charge may be chiefly of uninhabited mountain ranges, &c., whilst those entrusted to another, of actually smaller area, may include well inhabited villages but small distances apart. No conclusion need, therefore, be arrived at solely by a consultation of this table; but I have thought the information conveyed may be useful to local authorities, with reference to questions that must from time to time be referred to them. Thus, during the year, in consideration of the very large areas under the two Deputy Inspectors attached to the Malabar district, it was found necessary to appoint a third man.

3. Two females were employed by District Boards as vaccinators on Rs. 18 and Rs. 10 per mensem, and five by Municipalities on Rs. 10 each, except the woman at Cocanada, who receives Rs. 18. It is most desirable that the employment of female vaccinators be extended; indeed, where vaccination is compulsory, I think this provision should invariably be made. Possibly, as the cases where the services of a female vaccinator would be essential are limited, it would be feasible for Municipalities to unite in paying female vaccinators who could serve in each Municipality for a certain limited time.

QUANTITY OF WORK EFFECTED BY THE VARIOUS BRANCHES OF THE DEPARTMENT.

4. During the past official year 875,748 * persons were vaccinated; in 831,499 cases the results are reported to have been successful. This is the greatest number hitherto recorded, and exhibits an increase of 61,758 successful cases when compared with the outturn of the last official year. This highly satisfactory result may be ascribed to the more general use of animal vaccine lymph, and the consequent partial cessation of difficulty in procuring supplies of the virus, as well as to the special urging of attention to the question of vaccination conveyed in reviews by Government of District Board and Municipal Administration Reports, and, I may safely add, to the energy of my predecessors in office, Surgeon Dymott and the late Surgeon-Major McNally. Table II attached shows that increased activity has not been limited to any special branch of the department, but has been general, if the, in any case, small work falling to Cantonment vaccinators be excepted.

5. The total live-births recorded in the Madras Presidency during the year were 864,115, whilst there were 176,468 successful vaccinations of children below one year of age, representing a vaccination rate within the first year of life of 20.4 per cent.

* If the work of the special staff of Kurnool district be included, the total would be 893,530.

6. LOCAL FUND CIRCLES.—Marked increase of annual outturn has occurred in the following districts:—

In Kurnool, 4,026 cases in excess by the ordinary staff, and 17,582 cases by a special staff; in Trichinopoly 13,186, Vizagapatam 13,004, and Chingleput 7,947. An increase of 4,774 in Kistna is of special interest, with reference to the formerly-backward condition of the district; there is, however, still much room for improvement, as the number of successful primary vaccinations per annum amount to only 11·8 per mille of the population, affording, by a long way, the worst result in the Presidency. I have directed the special attention of the District Board of Kistna to the subject, and have received a reply from the Acting President, Mr. Wolfe-Murray, that every effort is being made to retrieve this condition of affairs, by inducing Revenue subordinates to personally aid vaccinators.

Only two cases of heavy decrease are recorded, namely, in Coimbatore and South Canara to the extent of 4,250 and 10,858 cases respectively. The decrease in Coimbatore is ascribed to the operation of a ruling that "excess cases" shall not be paid for, unless actually certified to by the Deputy Inspector, and consequent decline of incentive to operate upon more than the minimum number demanded; to the discovery of falsification of records by six vaccinators, and to labour lost during their suspension and prosecution; to difficulty in filling vacant posts, and the absence of effectual aid from village officials. No satisfactory reason for the falling off in South Canara has been advanced.

7. Classified according to ratio of successful primary vaccinations during the year to mille of population, the following districts show the best results:—Chingleput 45·3, Salem 36·4 and Trichinopoly and Bellary 33·3, each. The following Deputy Inspectors have shown increased outturns in their ranges worthy of special mention:—M. Ramasawmy Naidu of Trichinopoly circle, and K. Vurdarajulu Naidu of Saidápet circle.

8. The following Deputy Inspectors have inspected less than the minimum laid down, of fifty per cent. of the total vaccinated within their ranges:—Ramanah Naidu, Gooty range; Baliah Naidu, Chingleput range; Babu Naidu, Sidhout range; Puttabyah, Pittapur range; Rangasawmy Naidu, Permagudi range; and the Deputy Inspector of Vizianagrum range.

9. Each case will be dealt with on its merits, and where no satisfactory reason is offered their punishment will be recommended. In the case of the Deputy Inspector of the Chingleput range, whose percentage of work is lowest of all, with the exception of the Deputy Inspector of Vizianagrum, in whose case special reasons existed, it is noticed that this is the second year that this has occurred, and that an unnecessary proportion of the man's time has been consumed in travelling to and fro to attend meetings of the Chingleput District and Taluk Boards and Conjeeveram Municipality, of each of which he is a member. It seems to me, in consideration of the peculiar duties demanded of Deputy Inspectors, that their being members of Local Bodies trammels their usefulness. So long as the District Sanitary Officer is a member of the District Board, his guidance as to professional matters with respect to vaccination should suffice, without the support to be derived from opinions of the nature likely to be held by a Deputy Inspector. Moreover it does not seem to be conducive to discipline, that a Deputy Inspector should be placed in a position in which he can vote as to the conduct of matters in a department where he holds but a subordinate position.

10. In certain districts the systematic working of the department is considerably hampered, by the necessity of either First-class Vaccinators or Deputy Inspectors being specially directed to give certificates of vaccination for grant-in-aid schools. If the proportion of Vaccinators and Deputy Inspectors to population and area of country has been properly calculated, it follows that the extra duty involved is likely to affect injuriously the working powers of the department. When, therefore, schools are numerous, it would seem desirable that arrangements should be made for temporarily strengthening the local staff, debiting the cost locally to the District Board grant for education. This might be arranged by the appointment of trained probationers as acting vaccinators, thus giving First-class Vaccinators for the work, or by the use of unattached Hospital Assistants. A decrease of possible outturn is also brought about, by the extraordinary practice of detaching

vaccinators for cholera duty pursued by certain District Boards. These men can by no manner of reasoning be regarded as possessed of either the medical or sanitary knowledge requisite for such employment, and hence both in the interests of the Vaccination Department and of the adoption of correct sanitary measures with respect to cholera, their utilization for this purpose should be definitely forbidden.

11. MUNICIPALITIES.—Under Municipalities, a total decrease of two cases, when compared with last year, is recorded. Nellore exhibits a decrease of 1,912 cases. The reason for this result will be ascertained at once by special inspection; information at present available points to the incompetency of the vaccinator employed, in spite of the District Medical and Sanitary Officer's protest. In Kurnool a decrease of 903 cases is shown, but the total record must nevertheless be regarded as good, as during the previous year, special efforts being made with reference to an epidemic of small-pox, 2,596 cases were returned against 639 of the year 1887-88.

12. Compulsory vaccination is in force in 25 of the total of 55 Mofussil Municipalities in the Presidency, showing an increase of 4 towns since last report, namely, Vaniyabadi, Kurnool, Kumbakonam and Tirupati. The change from option to compulsion has in all cases been received well, the people being fully alive to the benefits of a properly conducted system of this nature. In Municipalities, where compulsion is in force, the successful vaccination of infants under one year of age to registered births bore a ratio of 64·9 per cent. against 96·5 per cent. of 8 chief towns in Scotland. In Municipal towns, where option is permitted, the ratio was 39·7 per cent.

13. LOCAL FUND HOSPITALS AND DISPENSARIES.—Returns from institutions under the charge of District Medical and Sanitary Officers show an increase of 9,022 cases, when compared with the outturn of last year. This result must be considered very satisfactory, as Medical Subordinates have certain difficulties to contend against in carrying out vaccination duty, that are not experienced by members of the Vaccination Department. In Chingleput, the admirable advance in dispensary vaccination work made in 1888-89 during the administration of Surgeon Sarkies was continued and exceeded by his successor, Surgeon-Major Nailer; so that this year more than three times the number of cases have been returned, when compared with a period of two years back. An equally good result has been effected by Surgeon-Major Sturmer in the Vizagapatam district, a three times greater number of successful vaccinations having been performed than in the previous year; Kurnool, Godáviri, Trichinopoly, North and South Arcot have each returned more than double the number of last year.

14. CANTONMENTS.—In the Cantonments of Bangalore and Secunderabad a decrease of 1,270 cases is reported. In Bangalore, the decrease would seem to a certain extent ascribable to the fact that the efforts of the vaccinators were, from the commencement of the calendar year, confined to the military services; for the most part, however, the decrease is but relative, owing to a large number of re-vaccinations having been carried out in the previous year, in consequence of the prevalence of small-pox. In Secunderabad the only reason offered by the officer in charge of the vaccination staff is that, in the absence of compulsion, difficulty is experienced in vaccinating children.

15. HILL TRACTS.—The returns from Ganjam show an increase of 9,149 operations. Gunapur has not yet returned to the position it occupied in 1887-88, but it did better this year than last by 847 cases; the remainder of a total increase of 1,236 cases represents the united efforts of Jeypore, Gudem, Bhadrachallam and Peddapur. The Hill Tracts have not kept step with the advance made by the rest of the Presidency; but it must be remembered that unusual difficulties present themselves in these parts of the country. For example, in Jeypore Hill Tracts the posts of two vaccinators were not filled during six and eleven months of the year. In reply to a query on the subject, I was informed that suitable men could not be induced to undertake the work of vaccinators on the small pay of Rs. 10 allowed by Government. Under G.O., No. 842, dated 9th April 1888, the Vaccination Department in this part of the country is practically independent of control of this office, but I venture to suggest, irrespective of the remarks made by me in a

supplement to this report with reference to the re-organization of the department, that rates of pay much above the average, should be allowed to men working in these tracts.

QUALITY OF WORK EFFECTED BY THE VARIOUS BRANCHES OF THE DEPARTMENT.

16. Nothing short of the laborious checking of the work of vaccinators as pursued during actual inspection, can testify accurately as to the value of the vaccination performed: so-called vaccination marks may be made which are of little or no value. Statements as to quality of work are forwarded to Government after special inspections of Municipalities and districts by the Sanitary Commissioner and his Deputy; but the percentage of successful operations to total performed is also a guide of some value as to the quality of lymph used and skill exhibited, when applied to statistics furnished with this report. This is shown in Table IX attached. As the number of Deputy Inspectors employed is not sufficient to verify the total cases per annum by vaccinators, a large percentage of cases have to be regarded as "successful" on the report of the operators. The average of success for Local Fund Circles, as reported by vaccinators, by all methods of vaccination, amounts to 95.7 per cent., whereas the average result after inspection by Deputy Inspectors amounts to 91.4 per cent. (including work of Municipal Vaccinators reported on by Deputy Inspectors), showing a difference of 4.3 per cent. between the two statements. It will be observed the result of inspections by the Deputy Inspectors does not show uniformly a smaller percentage than that stated by vaccinators, as might naturally be expected; but it is possible the explanation in these cases may be that the greater number of cases verified by these Deputy Inspectors, may have been in divisions where more skilful performance of the operation was effected than in others in the same range. In only one case do the rates exactly correspond. This average rate represents a degree of success by all modes of employment of lymph, namely, with lymph taken from arm to arm, stored in tubes, or between glasses and in bottles, and by the softening of scabs. It will be seen, as, indeed, should be the case, that in the majority of operations with human lymph the arm-to-arm method has been employed. According to a standard authority—Marson—an expert vaccinator ought not to fail in producing successful results more than once in one hundred and fifty cases; so that, irrespective of the deduction that should be made on account of the difference reported on inspection, the rate of success for this mode of vaccination even at 96.8 per cent. shown in Table X attached, cannot be said to bring the vaccinators employed by District Boards under the definition of experts. Where stored lymph is used, some latitude must be allowed, in consideration of climatic conditions to be contended against, when compared with European results. In Europe, it is expected that a vaccinator ought not to fail when employing this mode in more than 5 per cent. of his cases; the grade of 91.5 per cent. shown under the heading of stored lymph need not be regarded, therefore, as proving more than the imperfect skill exhibited in operating from arm to arm plus climatic conditions, with reference to the preservation of lymph. I trust, in calling attention to these points, I may not be mistaken. Vaccinators doubtless perform their duties to the best of their power; the fault, if fault there be, lies in the system which places uneducated men in the department.

17. The rate of success for all methods of primary vaccinations in the case of Municipalities is lower than that found under Local Fund Boards, namely, 93.5 per cent.—a rate uncorrected by inspection. Again, the rate for operations by Medical Subordinates attached to dispensaries and hospitals is still worse, being 86.9 per cent. This result, in the case of the latter, may be said conclusively to show that my argument as to better education of vaccinators securing better results is disproved, having regard to the medical training of these operators; but I believe that a Medical Subordinate is much more likely to be a correct judge of what is a "successful vesicle" than a District Board Vaccinator in the first place; and, in the second, the method necessarily pursued *courts* failure. It is impossible for Medical Subordinates to attend punctually, on account of other duties, for the taking of fresh lymph, and therefore they use very largely material in tubes supplied by

District Board Vaccinators. When it is possible to transmit animal lymph without deterioration, undoubtedly the superior skill of Medical Subordinates will be evident in their showing satisfactory ratios of success; under the present conditions, such results cannot be well looked for.

EXPENDITURE ON VACCINATION DURING 1889-90.

18. The total expenditure of the department was Rs. 1,85,194-9-7, of which Government contributed Rs. 7,122-11-7 on account of Government establishments and Cantonments, Municipalities Rs. 26,036-5-1, Local Fund Circles Rs. 1,51,455-11-5, and Native States Rs. 579-13-6. Although the total expenditure for the year is Rs. 4,238-6-4 in excess of last official year 1888-89, and Rs. 9,408-3-11 in excess of that of 1887-88, the cost of each successful vaccination has been reduced from Annas 3-11 in 1888-89 to Annas 3-8 in 1889-90.

ANIMAL VACCINATION.

19. This method was first introduced practically into this Presidency by Dr. Laing, now Sanitary Commissioner, in 1879. Since this period it has been adopted in district after district, till, at the present time, there are only six districts in which it is not practised. The methods employed vary; in some districts inoculated calves are sent out with the Deputy Inspectors throughout the year, and thus a fresh generation of lymph is placed at disposal of each vaccinator at the time of inspection of his division; in others, a calf is retained in a vaccinator's division for a certain number of months in the year, and is then passed on to others in the district.

20. In Kurnool, a staff—varying in number from month to month—was employed on my recommendation, as the then District Medical and Sanitary Officer, which undertook vaccination solely by animal lymph. Each vaccinator was supplied with a calf, and a total of 17,852* cases were performed at a total cost of Rs. 1,300-8-9, including all charges, except the pay of Hospital Assistants who did 1,175* cases. The experiment showed that if possessed of the large store of lymph available when using calves as vaccinifers, a fairly energetic man could perform 500 cases per month. A scheme was consequently placed before the District Board for abolishing the large staff necessary when employing humanized lymph, and for limiting them to one man per taluk, on the increased pay of Rs. 20 (against Rs. 10 and Rs. 15 formerly given) plus a fixed travelling allowance of Rs. 7-8-0. This scheme has been sanctioned by Government for the ensuing year. One of the most satisfactory features of the experiment is, that instead of the former ignorant class of men, those newly entertained have passed the Matriculation Test, with the exception of a Brahmin, who has passed the Middle School Examination. It remains to see how far this respectable class of men will be content to serve under the evil conditions of climate found at Kurnool, and it is on this account, somewhat unfortunate, that an experiment of so much importance should involve this possible element of failure. I may add that this scheme will not cost the District Board more than Rs. 1,090, over and above their usual allotment. This district is therefore the first in the Presidency to abolish *in toto* the use of humanized lymph. The readiness with which the necessity for this new order of things was grasped unanimously by the District Board of Kurnool does its administration great credit.

21. EXPENDITURE ON ANIMAL VACCINATION.—Necessarily the expenditure incurred on animal vaccination differs in various districts, as a result of the degree of facility with which animals can be hired or bought, and the varying modes of affording help to the vaccinators, or Deputy Inspectors in charge. Local authorities are doubtless best qualified to ascertain a fair price to be given for calves, but attention is required as to the variable charges made under contingencies; e.g., in one district it is thought necessary to hire eight men each time lymph is transferred, whilst elsewhere the Deputy Inspector manages to effect work with the aid of his peon, calf-watchman, and perhaps a village servant. These variations are to be expected in starting a new method, and will be rectified by this office in communication with the Presidents of District Boards. Table XI exhibits the total charges,

including pay of staff, as required in para. 6 of G.O., No. 827, dated 19th October 1889, Public; but in certain districts the Deputy Inspectors only vaccinate, and it would consequently give no result of value to compare their work on Rs. 60 a month, carried on in addition to their ordinary duties, with that of vaccinators on Rs. 10 and Rs. 15 per month, whose work is confined solely to vaccination. In such instances, the Deputy Inspector's pay has not been taken into account; but an equivalent has been found from the number of days' residence in the vaccinator's division in which the duty has been performed, as doubtless the operation in the majority of cases is carried out in reality by the vaccinator, under the Deputy Inspector's supervision. With one or two exceptions, it will be seen that the cost of each successful case by this method is very considerably below that by humanized lymph; thus a further reason is afforded, if any were required in addition to already recognized advantages, why animal vaccination should be adopted without delay throughout the Presidency. In arriving at the minimum probable cost of vaccination by animal lymph per case, some proportion of contingencies due to upkeep of the ordinary establishment ought in fairness to be debited, whereas in the returns received only expenditure on contingencies specially required for animal vaccination, are shown against it. The returns having been received exceedingly late, as formerly reported, it has been impossible to ask further information before proceeding to compile. In future, special forms and records will be arranged, by means of which it is hoped the desired information will be gained. With the staff organized, as in Kurnool, under better pay than elsewhere and performing animal vaccination only, the probable cost per case is—provided, as calculated, each man turns out 500 cases per month Rs. 0-2-7. As some difficulty occurred in getting suitable men on the pay offered at first, it is probable that the cost per case in this district may, in actual practice, be in excess. This figure is, however, I think, nearer the truth than those evolved from statistics gathered in districts where mixed systems are employed.

22. SUBSTITUTES FOR CALVES AS VACCINIFERS.—The direction of Government contained in G.O., No. 602, dated 12th July 1889, that speedy abolition of the use of humanized lymph was desired, gave, during the year, a great impetus to the more general use of animal vaccination. The circulation of a pamphlet by Surgeon-Major Barclay, detailing the modes practised in Europe, also aided in eliciting interest on this subject, in the case of Medical officers who had not had the opportunity of personally witnessing them. Apparently, as a result of the interest thus awakened, certain suggestions have been received from Medical officers. Thus, Surgeon-Major Wilkins drew attention to the mode of procuring lymph advised by a Dr. Briggs of London. It was supposed that by placing a drop of glycerine upon a vaccine vesicle, exosmosis of the lymph would occur; especially if this were aided by friction over the vesicle by a hard smooth substance, such as a glass rod. I subjected this mode to practical experiment. I found that the supposed increased size of the drop of glycerine was really due to a loss of viscosity and, perhaps, some absorption of moisture from the atmosphere, which glycerine readily takes up. It was found that without rupture of the vesicle of the vaccinator, no active lymph could be obtained. Indeed, as it has long been known that the vaccine virus exists in the form of micro-organisms, and that by filtration the liquid portion of the vaccine could be proved to be innocuous, it would seem an almost necessary deduction that the process of osmosis, even did it occur under the circumstances named, would not be favorable to the passage of the virus through the tegument of the vesicle.

23. A recommendation was made by Surgeon-Major O'Hara as to the employment of donkeys as vaccinifers. This animal is treated with scant courtesy by more than one race of mankind, and it seemed unlikely that natives would receive the suggested mode with favor. Brigade-Surgeon Fox of Trichinopoly, however, at the request of the Municipality, put the matter to the test of practice, and found, as he had supposed would be the case, that the vaccinator was more likely to excite ridicule than to prove a factor in the advance of vaccination. It is, however, desirable that Local Bodies should remember that to use donkeys when calves can be obtained readily is to go beyond the suggestion offered to them, and cannot be advised; Surgeon-Major O'Hara's original communication was circulated with G.O., No. 232 L, dated 11th February 1890, and this notified merely a sphere of usefulness

when calves could not be obtained, and pointed to the feasibility of regenerating lymph that had been subjected to prolonged transmission from calf to calf.

24. Surgeon-Major Lancaster brought to notice that if an animal were required to take the place of the calf, it would be advisable to use the goat. He apparently made no experiments upon this subject himself, whilst all recorded evidence goes to show that this animal, if susceptible to vaccination at all, is very feebly so. I accordingly inoculated a goat; the resulting vesicles were exceedingly small, and the use of the lymph upon the human being was followed by no result. A Monsieur Hervieux, however, contends, for reasons that need not here be detailed, that the goat should be preferred to the bovine species. An account of his experiments has not yet been published, and I consider that these results may be safely awaited before any action be taken in this matter. In the meantime, having regard to Hindu modes of thought, it is well that the truth—gratefully recognized from different points of view by people of every race—that one of the most useful animals to man, viz., the cow, further proves its value in the capability of rendering the virus of a loathsome and fatal disease innocuous, should be widely acknowledged. Indeed, so far as investigations go, there is no animal which so effectually performs this function as the cow. For example, with reference to the suggested use of the donkey, there is reason to believe that the virus, instead of becoming modified, would in time become aggravated in intensity, owing to the tendency to reversion; thus, Warlomont declared, after a large number of experiments, that the soil afforded by the equine species is "detestable." But, for this very reason, the occasional "strengthening" of the lymph, by passing through the country pony, or, as suggested by Dr. O'Hara through the cheaper donkey, need by no means be regarded as otherwise than of advantage under the circumstances above referred to: but, direct transfer to the human subject need not be practised. It is well, however, with reference to facilities of supply, that local authorities should recognize that although the heifer makes the best vaccinator, young male bulls may also be employed, and that buffaloes are susceptible. In the Punjab, the latter animal has been largely utilized.

EXPERIMENTS AS TO THE PRESERVATION AND TRANSPORT OF ANIMAL LYMPH.

25. When animal lymph has been transmitted to operators in the ordinary capillary tube, it has been found that the life of the vaccine virus is limited to a period varying from 24 hours to 10 days in exceptional instances, according to the heat of the weather and mode of transport. It has been suggested that the capillary tube conduces to a condition of coagulation which is inimical; but even where specially devised tubes have been employed, it has been shown that the stored material suffers in transport. Thus, as early as 1876, I attempted introduction of animal vaccination in Trichinopoly, with lymph received in these tubes from Dr. Warlomont of Brussels; although sent by the overland route, it arrived in an inactive condition. Under these circumstances, with reference to the proposed substitution of humanized by animal lymph throughout the Presidency, it is a foregone conclusion that unless complicated apparatus be employed for transmission, either calves must be sent with vaccinators whilst on their tours, or depôts would have to be established at such frequent intervals in districts, that the undertaking would prove most expensive. Under the former mode, a certain amount of lymph may be wasted whilst waiting for cases which might not be forthcoming; in the latter, the expenditure required is found to be very heavy. Were a simple method of preservation of the lymph available, all difficulties would be effectually overcome; all the advantages of the animal lymph would be secured, whilst the monetary value of each calf employed would be reaped to its full. In connection with this subject, Government having kindly made a small money grant for the purpose, I have, with the aid of Deputy Inspector Subroya Chetty (placed at my disposal by the Health Officer of Madras), during the last four months, performed a very large number of experiments. I necessarily first employed the methods of preservation recognized in European countries, but found these useless when subjected to the severe heat of a Madras hot season. I then attempted experiments with substances that whilst capable of restraining the action of germs of decomposi-

tion, are not sufficiently active to destroy specific germs possessed of a higher grade of vitality. Partial success followed; but, as might be anticipated, prolonged contact with these substances, in the end, impaired activity. Ultimately, however, I devised an exceedingly simple mode, which I think will do all that is required. By this method, the vaccine product has been retained in an efficient condition without the aid of any extraneous mechanism, or, after first preparation, the use of any material, for forty days; whilst hawked about the town, for use during the hottest part of the last season's hot weather. The same material has also stood well the test of transport by rail and road for long distances. Certain details, as to its application to the ordinary exigencies of district work, however, remain to be worked out, and I shall then forward a complete report to Government. In the meantime, I am justified in stating that experiments have secured satisfactory results as to the main point at issue, and that a very large proportion of expenditure that would have been otherwise inevitable in carrying out animal vaccination throughout the Presidency may be saved.

THE EXTENT TO WHICH THE ADULT POPULATION IS PROTECTED BY VACCINATION.

26. On inquiry, I elicited from Medical Officers of Jails information as to the condition of the populations under their charge as to vaccination and previous affection by small-pox. The total average gained by observation of a population of 4,310 prisoners, showed that 204.8 per mille were vaccinated, 205.1 were unprotected on admission, and that 593.04 bore marks of previous attacks of small-pox, and 2.5 had both vaccination and small-pox marks. This affords a rough idea of the state of protection of the adult population of the lower classes.

RE-VACCINATION.

27. There is a field for much improvement throughout the Presidency as regards re-vaccination; in no district did the rate amount to 1 per mille with the exception of Kurnool, which showed 6.4 per mille. European statistics clearly demonstrate that re-vaccination, after the age of ten, or at least the age of puberty, is essential for the protection of adult life, and it is shown that this further vaccination so confirms the influence of the primary vaccination that most authorities are agreed that a subsequent re-vaccination is not required. At present, a large proportion of the adult population are doubtless in a condition of protection from having suffered from small-pox; but as time advances, and the influence of vaccination upon the younger members of the population increases, the adults will, in the absence of re-vaccination, suffer more from small-pox than the young—a condition actually found to have occurred in England, where re-vaccination is not as yet compulsory. I have issued a circular on this subject to the Presidents of District Boards and to Municipal Chairmen, and trust that next year's returns will show better results in this respect.

SUGGESTIONS BY DISTRICT MEDICAL OFFICERS.

28. Before compiling this report, I addressed a circular letter to District Medical and Sanitary Officers, inviting them to offer suggestions as to any improvement they might think desirable in the working of the department. I specially asked them to state the arrangements existing in each district as to modes of reporting small-pox attacks. Abstracts of their answers are given in tabular form in statement No. XIII attached, from which it will be seen that it is desirable that some definite mode of communicating with District Sanitary Officers and the Vaccination Department be brought into force, and be rigidly adhered to. In my opinion, a statement of first attacks in any village should be sent at once to the District Sanitary Officer by the Tahsildar of each taluk concerned, who should advise the Local Fund authorities of the area as to sanitary duties, whilst another intimation should be sent to the vaccinator of the circle and the Medical Officer of the nearest hospital. At each first outbreak these separate notices should be despatched; subsequently, weekly statements would suffice to the District Sanitary Officers.

CONDUCT OF THE STAFF, &c.

29. During the year one Deputy Inspector was prosecuted, convicted and dismissed for receiving illegal gratification and falsifying his returns; another was suspended for repeated negligence of duty and afterwards permitted to resign. Fines to the extent of Rs. 58 were inflicted on Deputy Inspectors for remissness in their duties.

30. The service registers of the Deputy Inspectors were all verified.

W. G. KING, Surgeon-Major, M.B., C.M., D.P.H., &c.,
Acting Inspector of Vaccination and
Deputy Sanitary Commissioner,
Madras.

MADRAS,
18th July 1890.

NOTE.—In the statements attached to this report, further information in a tabular form for convenience of reference will be found on the following points:—

- I. Table showing the work done by different establishments.
- II. Table showing the average number of operations performed by each vaccinator during the year contrasted with 1887-88 and 1888-89 by different establishments.
- III. Table showing the cost of vaccination during the year 1889-90 compared with two previous years.
- IV. Table showing the proportion of males to females vaccinated during 1889-90 by purely Local Fund agents contrasted with two previous years.
- V. Table showing the work done by Government vaccinators during 1889-90 compared with two previous years.
- VI. Table showing the work done by Native State vaccinators during 1889-90 compared with two previous years.
- VII. Table showing the work done by Cantonment vaccinators during 1889-90 compared with two previous years.
- VIII. Table showing the work done in dispensaries during the year 1889-90 compared with two previous years.
- IX. Table showing the inspection work of Deputy Inspectors of Vaccination during 1889-90.
- X. Table showing the percentage of success of the result of vaccine operations performed by different establishments during 1889-90.
- XI. Table showing the results of animal vaccination in the districts in which it was conducted during 1889-90.
- XII. Table showing the extent in square miles and strength of staff of each vaccination range.
- XIII. Abstracts of reports from District Surgeons regarding methods to be adopted for improving vaccination, &c.

W. G. K.

I.

Table showing the Work done by the different establishments.

Establishments.	Total number of persons vaccinated in 1887-88.	Total successful of primary vaccinations in 1887-88.	Ages successfully vaccinated in 1887-88.			Total successful of re-vaccinations in 1887-88.
			Under one year.	Over one and under six years.	Above six years.	
Government	9,816	2,479	686	4,078	4,715	74
Local Funds	625,795	590,853	126,492	349,271	115,090	4,259
Native States	4,042	3,885	178	1,920	1,787	...
Municipalities	75,535	67,405	17,338	29,220	20,827	2,914
Cantonment	3,937	3,293	2,182	849	262	204
Civil dispensaries	14,174	11,506	1,961	7,195	2,350	214
Medical subordinates	5,181	1,630	38	119	1,473	676
Total	738,480	689,051	148,895	392,652	146,604	8,541
—						
1888-89.						
Government	17,104	16,210	1,241	6,079	8,890	18
Local Funds	676,293	643,761	125,572	371,283	145,906	4,944
Native States	2,270	2,160	163	1,460	537	...
Municipalities	85,572	77,180	32,561	32,846	11,770	3,199
Cantonment	4,972	3,912	2,404	1,508	...	444
Civil dispensaries	18,827	15,603	2,686	9,634	3,283	275
Medical subordinates	4,379	1,517	45	247	1,225	518
Total	809,417	760,343	164,675	423,057	172,611	9,398
—						
1889-90.						
Government	28,336	27,227	2,235	7,647	17,345	70
Local Funds	718,587	680,355	133,895	399,462	146,998	8,740
Native States	5,260	5,069	606	2,475	1,988	6
Municipalities	85,570	76,215	32,975	30,715	12,525	3,361
Cantonment	3,702	3,285	2,059	1,226	...	224
Civil dispensaries	27,849	23,363	4,646	13,875	5,042	577
Medical subordinates	6,444	1,703	52	134	1,607	2,214
Total	875,748	817,307	176,468	455,334	185,505	14,192

II.

Table showing the Average Number of Operations performed per Vaccinator during the year contrasted with 1887-88 and 1888-89 in the different establishments.

Establishments.	Number of Vaccinators.			Average number of operations per man.			Increase or decrease per man.			
	1887-88.	1888-89.	1889-90.	1887-88.	1888-89.	1889-90.	1887-88.	1888-89.	1888-89.	1889-90.
							Increase.	Decrease.	Increase.	Decrease.
Local Fund Vaccinators ...	642	649	653	974	1,012	1,100	68	...	58	...
Government do. ...	16	27	22	613	633	1,288	20	...	655	...
Native States do. ...	10	4	6	404	557	877	163	...	319	...
Municipal do. ...	82	87	82	676	713	745	37	...	32	...
Madras Town do. ...	24	24	24	935	932	1,021	147	...	39	...
Cantonment do. ...	6	6	6	656	823	617	172	...	...	211
Total ...	780	797	793	922	986	1,931	64	...	75	...

III.

Table showing the Cost of Vaccination during the year 1889-90 compared with two previous years.

Establishments.	Total expenditure.			Average cost of each successful case.		
	1887-88.	1888-89.	1889-90.	1887-88.	1888-89.	1889-90.
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Government establishment	5,246 12 4	6,278 6 11	6,183 2 7	0 8 9	0 6 2	0 3 8
Local Fund do. ...	1,42,381 9 4	1,46,433 1 3	1,51,453 11 5	0 3 9	0 3 8	0 3 6
Municipal do. ...	26,185 11 0	26,970 8 11	26,036 5 1	0 5 11	0 5 5	0 5 3
Native States do. ...	1,035 0 0	334 0 2	579 13 6	0 4 3	0 2 11	0 1 9
Cantonments do. ...	937 5 0	940 2 0	939 9 0	0 4 3	0 3 6	0 4 3
Total ...	1,75,786 5 8	1,80,956 3 3	1,85,194 9 7	0 4 1	0 3 11	0 3 8

IV.

Table showing the Proportion of Males to Females vaccinated during 1889-90 by purely Local Fund Agents contrasted with two previous years.

Districts.	Population.	1887-88.			1888-89.			1889-90.		
		Total number vaccinated.	Proportion per cent. to total number vaccinated.	Females.	Total number vaccinated.	Proportion per cent. to total number vaccinated.	Females.	Total number vaccinated.	Proportion per cent. to total number vaccinated.	Females.
Anandapur	308,026	7,956	2.6	4,722	7,077	2.4	4,611	7,027	2.4	4,447
Bellary	332,567	11,152	3.3	486	10,932	3.2	487	10,804	3.2	479
Chingleput	474,520	17,915	3.7	448	18,548	3.9	479	22,717	4.8	487
Coimbatore	773,006	27,452	3.5	485	27,478	3.5	493	25,319	3.3	492
Cuddapah	541,602	7,448	1.3	460	10,565	1.9	465	11,162	2.0	473
Ganjam	850,046	14,530	1.7	18,352	14,978	1.7	18,407	10,439	1.4	452
Godavari	863,101	13,970	1.6	18,352	15,488	1.8	18,407	14,872	1.7	456
Kistna	739,731	7,582	1.0	455	6,179	0.8	434	8,619	1.1	454
Kurnool	349,717	8,439	2.4	418	9,229	2.6	422	10,377	2.7	434
Madura	989,442	24,759	2.5	471	23,494	2.4	473	26,110	2.6	475
Malabar	1,092,233	31,271	2.8	27,218	11,911	1.1	304	28,798	2.6	308
Nellore	597,353	14,164	2.3	12,554	11,790	2.0	484	15,068	2.5	483
Nidgeris	41,950	1,253	3.0	1,194	617	1.5	340	1,189	2.8	388
North Arcot	884,832	18,912	2.1	16,648	14,398	1.6	463	19,011	2.1	468
Salem	753,899	24,570	3.2	27,362	26,404	3.5	491	29,274	3.8	483
South Arcot	875,354	14,078	1.6	16,711	12,413	1.4	445	17,900	2.0	4503
South Canara	455,697	20,427	4.4	19,949	16,730	3.6	456	14,234	3.1	448
Tanjore	930,826	17,556	1.8	23,343	20,789	2.2	471	23,977	2.5	468
Tinnevely	797,821	27,810	3.4	27,020	21,942	2.6	448	30,709	3.8	439
Tritchinopoly	535,854	10,759	2.0	12,993	11,903	2.4	479	19,546	3.6	488
Vizagapatam	1,217,039	17,103	1.4	18,088	15,429	1.3	461	21,736	1.8	474
Total	14,428,680	341,498	2.3	366,939	309,284	2.1	457	390,680	2.7	456

V.

Table showing the Work done by Government Vaccinators during 1889-90 compared with two previous years.

Hill Tracts.	Number of vaccinators.	Number vaccinated.			Primary vaccination.				Revaccination.		Percentage of success.		Cost of each successful case.	Average number of operations per man.	
		Males.	Females.	Total.	Total.	Successful.			Total.	Successful.	Primary vaccination.	Revaccination.			
						Under one year.	Over one and under six years.	Above six years.							
													RS. A. P.		
Ganjam ...	1887-88 ...	6	3,159	2,907	6,066	5,992	466	2,242	3,114	74	73	97.1	94.6	0 5 6	1,011
	1888-89 ...	7	4,852	4,442	9,294	9,232	740	2,623	5,469	12	9	95.3	75.0	0 3 10	1,328
	1889-90 ...	7	9,681	8,762	18,443	18,403	1,173	3,418	13,177	40	37	96.3	92.5	0 1 9	2,634
Gunvour.	1887-88 ...	6	1,397	1,001	2,398	2,398	128	1,134	1,091	...	...	98.1	...	0 12 5	399
	1888-89 ...	4	584	485	1,069	1,069	125	478	411	...	...	94.8	...	1 7 3	267
	1889-90 ...	4	1,024	892	1,916	1,911	176	887	711	5	...	92.8	...	0 15 3	476
Jeypore ...	1887-88 ...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
	1888-89 ...	12	2,648	2,413	5,061	5,061	106	2,122	2,574	...	...	94.8	...	0 4 3	422
	1889-90 ...	5	2,792	2,685	5,477	5,477	642	2,460	2,245	...	...	97.6	...	0 4 10	1,095
Gudem ...	1887-88 ...	2	341	379	720	720	17	308	387	...	...	98.8	...	1 0 10	360
	1888-89 ...	2	395	292	687	687	57	339	281	...	...	98.5	...	1 1 5	343
	1889-90 ...	2	412	322	734	734	55	319	360	...	...	100.0	...	0 14 1	367
Bhadra-chalam.	1887-88 ...	2	333	299	632	631	75	394	123	1	1	93.8	100.0	1 1 1	316
	1888-89 ...	2	506	487	993	984	213	517	135	9	9	87.9	100.0	0 11 10	496
	1889-90 ...	3	511	480	991	957	187	458	212	31	33	89.5	97.1	*	330
Peddaparam.	1887-88 ...	1	594	181	775	Was included in Pittapur Circle.				...	...	96.4	...	0 6 5	775
	1888-89 ...														
	1889-90 ...														
Total ...	1887-88 ...	16	5,530	4,586	9,816	9,711	686	4,078	4,715	75	74	97.3	98.0	0 8 10	613
	1888-89 ...	27	8,935	8,119	17,104	17,092	1,241	6,079	8,890	21	18	94.8	85.7	0 6 2	633
	1889-90 ...	22	15,014	13,322	28,336	28,257	2,285	7,647	17,345	79	70	96.3	88.6	1 0 3 8	1,288

* Information not furnished.

† Exclusive of Bhadrachalam Hill Tracts.

VI.

Table showing the Work done by Native States during 1889-90 compared with two previous years.

Native States (Zemindaries).	Number vaccinated.			Primary vaccination.				Revac- cination.		Percentage of success.		Cost of each Successful case.	Average number of operations per man.
	Males.	Females.	Total.	Total.	Successful.			Total.	Successful.	Primary vaccination.	Revaccination.		
					Under one year.	Over one and under six years.	Above six years.						
Jeypore ...	1887-88...	...	...	...	...	...	...	...	...	...	...	Rs. A. P.	...
	1888-89...	...	...	...	...	...	...	...	...	...	...	...	...
	1889-90...	1,485	1,408	2,893	2,893	228	1,054	1,496	...	...	97.4	...	0 2 2 964
Gunapur ...	1887-88...	1,866	1,354	3,220	3,220	87	1,351	1,655	...	...	96.0	...	0 8 4 357
	1888-89...	766	686	1,442	1,442	120	891	361	...	...	95.4	...	0 3 5 481
	1889-90 ..	1,306	1,066	2,367	2,361	368	1,391	492	6	6	96.3	100.0	0 1 11 790
Total ...	1887-88...	1,866	1,354	3,220	3,220	87	1,351	1,655	...	...	96.0	...	0 8 4 357
	1888-89...	766	686	1,442	1,442	120	891	361	...	...	95.4	...	0 3 5 481
	1889-90...	2,791	2,474	5,260	5,254	606	2,475	1,988	6	6	96.4	100.0	0 1 9 877

VII.

Table showing the Work done by Cantonment Vaccinators during 1889-90 compared with two previous years.

Cantonments.		Number of vaccinators.	Total number vaccinated.			Primary vaccination.					Revaccination.		Percentage of success.		Cost of each successful case.	Average number of operations per man.
			Males.	Females.	Total.	Total.	Successful.			Total.	Successful.	Primary vaccination.	Revaccination.			
							Under one year.	Over one and under six years.	Above six years.							
Bangalore.	1887-88...	2	644	521	1,165	1,119	815	228	14	46	42	94.4	91.3	RS. A. P.	582	
	1888-89...	2	865	854	1,719	1,271	876	318	...	448	305	93.9	68.0	0 5 3	859	
	1889-90...	2	585	491	1,076	938	683	199	...	138	102	94.03	73.9	0 5 4	538	
Secunderabad.	1887-88...	4	1,553	1,219	2,772	2,256	1,367	621	248	516	162	99.1	31.3	0 3 10	693	
	1888-89...	4	1,613	1,640	3,253	3,045	1,528	1,190	...	203	139	89.2	66.8	0 3 2	812	
	1889-90...	4	1,559	1,067	2,626	2,403	1,376	1,027	...	223	122	100.0	54.7	0 3 8	656	
Total...	1887-88...	6	2,197	1,740	3,937	3,375	2,182	849	262	562	204	97.5	36.3	0 4 3	656	
	1888-89...	6	2,478	2,494	4,972	4,316	2,404	1,508	...	656	444	90.6	67.7	0 3 6	828	
	1889-90...	6	2,144	1,558	3,702	3,341	2,059	1,226	...	361	224	98.3	62.02	0 4 3	617	

VIII.

Table showing the Work done in Dispensaries during 1889-90 compared with two previous years.

Districts.		Number of dispensaries.	Number vaccinated.			Number vaccinated successfully.			Percentage of success.			Average number vaccinated at each dispensary.	Success of primary vaccination.		
			Primary vaccination.	Revaccination.	Total.	Primary vaccination.	Revaccination.	Total.	Primary vaccination.	Revaccination.	Total.		Under one year.	Above one and under six years.	Above six years.
Anantapur.	1887-88 ...	8	232	1	293	278	1	279	95.2	100.0	95.2	37	80	154	44
	1888-89 ...	8	460	2	462	439	2	441	95.4	100.0	95.4	58	117	268	54
	1889-90 ...	8	569	24	593	523	12	545	93.5	50.0	93.5	73	253	243	27
Bellary	1887-88 ...	15	679	...	679	644	...	674	94.0	...	94.0	45	376	244	24
	1888-89 ...	16	723	...	723	676	...	676	93.4	...	93.4	45	387	273	16
	1889-90 ...	17	706	5	711 ^p	667	4	671	94.4	80.0	94.3	42	442	196	29
Chingleput.	1887-88 ...	14	1,130	96	1,226	859	24	893	76.9	25.0	78.5	87	114	624	131
	1888-89 ...	13	2,512	167	2,679	2,096	53	2,149	83.4	31.7	80.2	206	314	1,534	248
	1889-90 ...	14	3,581	115	3,699	3,237	52	3,289	90.3	45.2	88.8	264	820	1,964	453
Coimbatore.	1887-88 ...	14	598	15	613	510	8	518	85.2	53.3	84.5	44	106	350	54
	1888-89 ...	15	733	13	746	598	6	604	81.5	46.1	80.9	49	213	375	10
	1889-90 ...	16	1,006	5	1,005	933	5	938	93.8	100.0	93.3	63	259	523	148
Cuddapah...	1887-88 ...	11	279	22	301	174	17	191	62.9	77.2	63.4	27	58	83	33
	1888-89 ...	12	328	5	333	186	5	191	56.7	100.0	57.3	28	20	103	63
	1889-90 ...	11	877	26	903	747	4	751	85.2	15.4	83.2	82	121	449	177
Ganjam	1887-88 ...	10	380	7	387	285	2	287	75.0	28.5	74.1	39	23	162	90
	1888-89 ...	12	1,340	19	1,359	1,156	15	1,171	86.2	78.9	86.1	113	189	689	378
	1889-90 ...	14	355	3	358	297	3	300	83.6	100.0	83.8	26	27	142	128
Godavari	1887-88 ...	18	450	5	455	304	3	307	67.5	60.0	67.4	25	22	197	85
	1888-89 ...	19	639	24	663	551	16	567	83.6	66.7	83.0	36	26	304	221
	1889-90 ...	18	1,872	17	1,889	967	8	975	79.5	47.0	70.2	78	65	642	260
Kistna	1887-88 ...	18	321	5	326	240	3	243	74.7	60.0	74.5	13	11	177	52
	1888-89 ...	19	515	15	530	495	10	509	96.3	66.6	96.0	27	27	335	137
	1889-90 ...	20	732	25	757	645	14	659	90.1	66.5	87.1	37	90	421	125
Kurnool	1887-88 ...	12	447	9	456	322	3	325	72.0	33.3	71.2	38	59	263	60
	1888-89 ...	16	1,007	26	1,033	804	12	816	70.8	48.1	78.9	65	145	464	195
	1889-90 ...	16	1,815	342	2,157	1,408	204	1,612	77.6	59.6	74.7	154	235	691	482
Madras Town.	1887-88 ...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
	1888-89 ...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
	1889-90 ...	4	...	...	...	...	...	...	...	...	...	...	...	...	...
Madura	1887-88 ...	31	995	26	1,021	845	14	859	85.9	51.5	84.1	33	224	540	81
	1888-89 ...	34	1,619	37	1,656	1,345	14	1,359	83.0	37.8	82.1	47	361	848	136
	1889-90 ...	35	2,004	42	2,046	1,767	24	1,791	88.1	57.1	87.5	58	437	1,103	227
Malabar	1887-88 ...	15	377	...	377	303	...	303	80.4	...	80.4	25	21	167	115
	1888-89 ...	17	358	11	369	272	6	278	75.9	54.5	75.3	21	17	145	110
	1889-90 ...	20	626	16	642	373	7	380	59.5	43.7	59.2	32	14	153	201
Nellore	1887-88 ...	18	1,440	23	1,463	1,304	20	1,324	90.5	86.8	90.4	81	133	855	316
	1888-89 ...	21	962	7	969	826	3	829	85.8	42.8	85.5	46	117	565	150
	1889-90 ...	22	1,231	3	1,234	1,053	3	1,056	85.5	100.0	85.6	56	116	657	280
Nilgiris	1887-88 ...	5	52	5	57	35	1	36	67.3	20.0	68.1	11	15	18	2
	1888-89 ...	5	123	36	159	93	25	118	75.6	69.4	74.2	32	10	28	55
	1889-90 ...	5	137	12	149	105	7	112	76.6	58.3	75.2	30	30	46	29
North Arcot.	1887-88 ...	15	377	...	377	329	1	330	88.7	50.0	88.4	25	61	220	48
	1888-89 ...	17	417	...	417	381	...	381	91.3	...	91.3	24	78	239	64
	1889-90 ...	17	938	12	1,010	919	4	923	92.0	33.3	91.3	59	222	512	185
Salem	1887-88 ...	15	935	31	966	781	8	789	83.5	25.8	81.6	63	161	500	120
	1888-89 ...	17	983	8	991	828	3	831	80.1	37.5	83.8	58	146	551	131
	1889-90 ...	23	1,114	12	1,126	1,013	10	1,023	90.9	83.3	90.3	49	195	728	90
South Arcot.	1887-88 ...	13	689	15	704	565	4	569	82.0	26.6	80.8	53	69	397	99
	1888-89 ...	15	690	16	706	578	2	580	83.7	12.5	82.1	47	65	371	142
	1889-90 ...	18	1,727	21	1,748	1,489	9	1,498	86.2	42.9	85.7	97	210	947	332
South Canara.	1887-88 ...	13	596	40	636	446	22	468	74.8	55.0	73.5	49	44	189	213
	1888-89 ...	15	320	35	355	260	20	280	83.8	57.1	78.6	25	18	115	127
	1889-90 ...	16	426	31	457	329	18	347	77.2	58.1	75.9	29	33	159	137
Tanjore	1887-88 ...	37	1,742	35	1,777	1,452	18	1,500	85.1	51.4	84.4	48	151	1,010	321
	1888-89 ...	37	2,281	53	2,334	1,996	37	2,033	87.5	69.8	95.2	58	214	1,332	450
	1889-90 ...	37	2,527	95	2,622	2,116	47	2,163	83.7	49.5	82.4	71	234	1,307	575
Tinnevely.	1887-88 ...	22	880	12	892	780	9	789	88.6	75.0	88.4	41	75	434	271
	1888-89 ...	23	962	17	979	833	11	844	86.6	64.7	86.2	42	93	484	256
	1889-90 ...	23	1,302	7	1,309	1,264	6	1,270	97.0	85.7	97.0	57	115	783	366
Trichino-poly.	1887-88 ...	11	341	8	349	322	...	322	94.4	...	94.4	32	28	220	74
	1888-89 ...	11	677	5	682	614	5	619	90.6	100.0	90.7	62	45	374	195
	1889-90 ...	14	1,628	43	1,671	1,503	40	1,543	92.3	93.0	92.3	119	184	573	441
Vizaga-patam.	1887-88 ...	15	742	81	823	688	56	744	92.7	69.1	90.4	65	120	451	117
	1888-89 ...	17	614	48	662	572	30	602	94.7	62.5	90.9	39	90	337	145
	1889-90 ...	19	2,150	123	2,273	2,008	96	2,104	93.3	78.0	92.5	119	535	1,123	350
Total ...	1887-88 ...	334	13,736	438	14,174	11,506	214	11,720	83.7	48.9	82.6	42	1,961	7,195	2,350
	1888-89 ...	363	18,233	544	18,777	15,603	275	15,878	85.3	50.6	84.3	52	2,686	9,634	3,283
	1889-90 ...	387	26,870	979	27,849	23,363	577	23,940	86.9	58.9	85.6	72	4,646	13,675	5,042

IX.

Table showing the Inspection work of Deputy Inspector of Vaccination during 1889-90.

Circles.	Number of inspecting officers.		Number of villages inspected.		Total number of persons vaccinated as reported by Vaccinators.	Total successful as reported by Vaccinators.	Percentage of success as reported by Vaccinators.	Number of days on inspection duty.	Number of cases verified by Deputy Inspectors.		Proportion per cent. of inspection to total number vaccinated.		Total number of cases inspected by Deputy Inspector of all sorts.	Total number of successful cases inspected by Deputy Inspectors.	Percentage of successful cases to total number inspected, as reported by Deputy Inspectors.	
	First-class Deputy Inspectors.	Second-class Deputy Inspectors.	First-class Deputy Inspectors.	Second-class Deputy Inspectors.					First-class Deputy Inspectors.	Second-class Deputy Inspectors.	First-class Deputy Inspectors.	Second-class Deputy Inspectors.				
Gooty ...	1	...	317	...	8,804	8,355	95.3	192	3,618	...	41.1	...	3,618	2,951	81.6	
Penukondah ...	...	1	429	...	6,908	6,729	97.4	258	...	3,766	...	54.5	...	3,766	3,445	91.5
Bellary ...	1	...	369	...	13,800	13,485	97.7	200	7,254	...	52.6	...	7,254	6,595	90.9	
Harpanahalli ...	...	1	...	320	8,312	8,198	98.6	256	...	5,363	...	60.9	...	5,063	3,838	75.8
Chingleput ...	1	...	391	...	27,371	25,371	92.7	163	8,791	...	32.1	...	8,791	8,210	93.4	
Saidápet ...	1	...	533	...	19,279	17,752	92.2	257	13,771	...	71.0	...	13,771	11,085	80.5	
North Coimba- tore ...	1	...	† 561	...	* 15,510	15,144	97.6	260	8,655	...	55.8	...	8,655	8,410	97.2	
South Coimba- tore ...	...	1	...	619	12,691	12,413	97.8	184	...	12,225	...	96.3	† 12,225	10,722	87.7	
East Coimba- tore ...	1	...	1,232	...	* 25,925	25,622	98.8	250	16,867	...	65.1	...	16,867	16,671	98.8	
Cuddapah ...	1	...	384	...	* 7,363	6,920	94.1	250	5,731	...	77.1	...	5,731	5,167	90.2	
Madanapalle ...	1	...	626	...	8,321	8,102	97.3	255	4,902	...	59.9	...	4,902	4,581	93.5	
Sidhont ...	...	1	...	184	8,728	8,232	94.3	191	...	3,159	...	36.2	...	3,158	3,023	95.7
Chattrapur ...	1	...	513	...	13,772	13,654	99.1	217	11,179	...	81.2	...	11,179	10,945	89.8	
Chicacole ...	1	...	478	...	9,390	9,316	99.2	231	7,950	...	84.6	...	7,950	7,836	98.6	
Ganjam Hill tracts ...	1	...	272	...	18,443	17,805	96.5	96	8,812	...	47.7	...	8,812	8,547	96.9	
Ellore ...	1	...	294	...	10,715	10,369	96.2	191	6,773	...	63.2	...	6,773	5,614	82.9	
Pithápuram ...	...	1	...	174	8,891	8,566	96.3	167	...	4,315	...	48.5	...	4,315	3,624	83.9
Rajahmundry ...	1	...	372	...	14,727	14,404	97.7	193	11,984	...	81.4	...	11,984	11,717	97.7	
Guntur ...	1	...	242	...	5,323	4,732	89.8	155	3,939	...	74.0	...	3,939	3,307	83.9	
Masulipatam ...	1	...	304	...	9,003	8,626	95.8	164	4,957	...	55.1	...	4,957	4,731	95.4	
Vinnkonda ...	...	1	251	...	4,670	4,418	94.6	249	...	3,769	...	80.7	...	3,769	3,298	87.5
Cumbam ...	1	...	377	...	10,861	10,408	96.2	295	9,237	...	85.0	...	9,237	8,750	94.6	
Kurnool ...	1	...	425	...	* 16,699	15,323	91.1	250	9,274	...	55.5	...	9,274	7,457	80.4	
Dindigul ...	1	...	406	...	* 18,718	18,216	97.3	221	11,140	...	59.5	...	11,140	10,927	98.1	
Madura ...	...	1	326	...	14,074	13,888	98.6	196	...	8,006	...	56.6	...	8,006	7,797	97.3
Paramakudi ...	1	...	360	...	23,355	22,519	96.3	196	10,695	...	45.7	...	10,695	10,400	97.2	
Tellicherry ...	...	1	200	...	* 12,791	10,816	85.4	228	...	7,017	...	54.8	...	7,017	6,914	98.5
Calicut ...	1	...	280	...	15,858	14,481	91.3	235	9,518	...	60.0	...	9,518	8,885	93.3	
Pálghat ...	...	1	...	193	13,895	12,863	92.6	155	...	7,049	...	50.7	...	7,049	6,767	96.0
Kárvelli ...	...	1	...	452	8,973	8,436	94.0	231	...	6,601	...	73.5	...	6,601	5,415	82.0
Nellore ...	1	...	416	...	11,398	11,091	97.3	229	8,075	...	71.4	...	8,075	7,882	97.6	
Ongole ...	...	1	312	...	8,883	7,981	89.8	188	...	6,157	...	69.3	...	6,157	5,684	92.3
Chittoor ...	1	...	663	...	* 14,295	14,060	98.4	207	7,845	...	54.8	...	7,845	7,532	96.0	
Kárvetnagar ...	...	1	419	...	7,797	7,577	97.2	240	...	5,132	...	65.8	...	5,132	5,012	97.6
Vellore ...	1	...	294	...	13,969	13,171	94.3	124	7,124	...	50.9	...	7,124	6,973	97.8	
Krishnagiri ...	...	1	...	513	14,185	14,099	99.4	251	...	7,766	...	54.7	...	7,766	7,499	96.5
Námakal ...	...	1	433	...	23,101	22,011	95.3	195	...	13,756	...	59.5	...	13,756	12,099	88.0
Salem ...	1	...	† 413	...	19,864	19,173	96.6	215	10,423	...	52.5	...	10,423	10,174	97.6	
Cuddalore ...	1	...	456	...	21,815	20,813	95.4	237	12,856	...	58.9	...	12,856	12,596	97.9	
Vírdháchalam. ...	...	1	...	370	10,915	10,552	96.6	207	...	8,108	...	74.3	...	8,108	7,803	96.2
No. I. South Canara ...	1	...	270	...	15,287	13,780	90.1	181	9,156	...	59.9	...	9,156	8,901	97.2	
No. II. South Canara ...	...	1	...	284	10,534	10,006	94.9	202	...	7,001	...	66.4	...	7,001	6,856	97.9
Negapatam ...	1	...	538	...	18,524	17,784	96.0	232	10,407	...	56.1	...	10,407	10,145	97.4	
Tanjore ...	1	...	594	...	* 29,658	27,023	91.1	253	15,997	...	53.5	...	15,997	15,036	94.5	
Sátur ...	...	1	...	365	16,155	15,657	96.9	266	...	8,346	...	51.7	...	8,346	7,914	94.8
Thernadevi ...	...	1	...	737	19,460	18,991	97.6	299	...	15,565	...	79.9	...	15,565	14,151	90.9
Shírnevelly ...	1	...	560	...	19,154	18,643	97.3	223	12,445	...	64.9	...	12,445	12,036	96.7	
Trichinopoly ...	1	...	563	...	38,172	37,451	98.1	183	22,769	...	59.6	...	22,769	21,979	96.5	
Ganapur ...	1	...	1,235	...	4,283	4,031	94.1	256	3,165	...	73.8	...	3,165	3,039	96.0	
Vizagapatam ...	1	...	382	...	* 21,839	21,336	97.7	227	12,568	...	57.5	...	12,568	12,365	98.4	
Vizianagrum ...	...	1	...	204	33,003	32,654	98.9	203	...	9,008	...	27.3	...	9,008	8,500	94.3
Jeypoze ...	...	1	...	321	8,370	8,165	97.5	236	...	6,069	...	72.5	...	6,069	5,765	94.9
Total ...	32	20	15,040	7,106	773,771	741,146	95.7	11,291	307,787	147,877	58.8	58.6	453,664	416,670	91.4	

* Includes the work of Municipal Vaccinators.

† Includes hamlets also.

‡ Includes the cases of the previous year inspected during the present year.

Table showing the Percentage of Success of the Result of Vaccine Operations performed by different methods during 1889-90.

Districts.	Circles.	Result of Vaccine operations										Percentage of Success.							
		From lymph in capillary tubes.		From lymph in plates of glass.		From lymph in bottles.		From arm to arm.		From lymph prepared from scabs.		From animal lymph.		From lymph in capillary tubes.	From lymph in plates of glass.	From lymph in bottles.	From arm to arm.	From lymph prepared from scabs.	From lymph from animal lymph.
		Total.	Success-ful.	Total.	Success-ful.	Total.	Success-ful.	Total.	Success-ful.	Total.	Success-ful.	Total.	Success-ful.						
Anantapur.	Gooty ...	1,325	1,550	1,476	1,399	[28]	[25]	3,143	3,049	2,532	2,872	...	...	95.3	94.9	[9.3]	97.0	93.6	...
	Penakonda ...	679	664	898	824	123	117	2,568	2,543	2,700	2,573	...	...	97.8	95.3	95.1	99.2	95.4	...
	Total of district ...	2,304	2,214	2,374	2,223	151	142	5,711	5,597	5,232	4,948	...	...	90.0	99.1	94.0	98.0	94.5	...
Bellary.	Bellary ...	911	895	1,570	1,529	554	536	5,801	5,711	1,491	1,392	* 3,473	* 3,422	98.2	97.4	96.8	98.4	93.4	98.5
	Harpanahalli ...	891	232	988	976	398	390	3,702	3,672	819	797	...	...	31.7	98.8	97.9	99.2	97.3	...
	Total of districts ...	1,802	1,127	2,558	2,505	952	926	9,503	9,383	2,310	2,189	3,473	3,422	65.3	97.9	97.2	98.7	94.7	98.5
Chingleput.	Chingleput ...	4,372	4,155	831	774	...	...	22,042	20,347	106	[92]	...	...	95.0	93.1	...	92.4	[89.6]	...
	Saidapet ...	1,519	1,321	[10]	[9]	...	...	16,800	15,639	950	723	...	...	86.9	[90.0]	...	93.4	76.1	...
	Total of district ...	5,891	5,476	841	783	...	...	38,842	36,046	1,056	818	...	...	92.9	93.1	...	92.7	77.4	...
Coimbatore.	N. Coimbatore ...	1,183	1,163	4,210	4,108	[29]	[29]	8,360	8,197	166	154	...	...	97.7	97.5	[100.0]	98.1	92.7	...
	S. Do. ...	518	504	3,027	2,913	...	...	8,674	8,548	474	450	...	...	97.7	98.2	...	98.5	94.9	...
	Total of district ...	1,714	1,680	7,306	7,099	[6]	[6]	15,017	14,920	167	164	...	...	98.0	98.0	[100.0]	99.2	98.3	...
Cuddapah.	Cuddapah ...	3,418	3,347	15,143	14,320	95	35	32,081	31,663	807	768	...	...	97.0	97.8	100.0	98.6	95.1	...
	Madanapalle ...	2,985	2,838	640	604	[20]	[19]	1,762	1,734	1,530	1,399	...	...	95.1	93.1	[95.0]	98.4	91.4	...
	Total of district ...	6,585	6,285	1,578	1,409	229	215	6,092	5,930	6,311	6,011	3,268	3,268	95.4	91.9	97.7	98.3	95.8	91.4
Ganjam.	Chatrapur ...	1,740	1,685	2,007	1,931	...	...	10,016	9,969	[9]	[9]	...	...	97.4	95.7	...	99.5	[100.0]	...
	Chitacole ...	2,034	1,938	3,557	3,581	189	189	3,548	3,557	...	...	...	...	98.2	99.2	100.0	99.7	[89.8]	...
	Total of district ...	4,392	4,314	6,001	5,931	189	189	30,576	30,069	37	32	...	...	96.8	98.8	100.0	98.1	96.2	...
Godavari.	Ellore ...	2,871	2,849	[74]	[71]	...	...	7,742	7,682	[24]	[11]	...	...	88.4	[95.9]	...	98.9	[49.8]	...
	Pitapur ...	1,434	1,356	...	...	...	...	6,063	6,363	...	...	...	...	86.4	...	...	98.4	...	...
	Total of district ...	5,161	4,332	616	578	...	...	18,418	18,087	2,183	1,859	...	...	87.8	93.8	...	98.0	85.1	77.6
Kistna.	Guntur ...	2,686	2,198	[17]	[16]	...	...	2,277	2,225	343	293	...	...	81.8	[94.1]	...	97.7	85.4	...
	Masulipatam ...	3,941	3,651	782	754	...	...	4,095	4,911	[67]	[64]	...	...	92.6	...	...	98.3	[95.5]	...
	Total of district ...	7,033	6,588	739	770	...	...	8,598	8,445	1,856	1,673	...	...	88.8	96.3	...	98.2	90.4	...

Includes the work of Medical subordinates.

X.

Table showing the Percentage of Success of the Result of Vaccine Operations performed by different methods during 1889-90—continued.

Districts.	Circles.	Result of Vaccine operations.						Percentage of Success.					
		From lymph in capillary tubes.		From lymph in plates of glass.		From lymph in bottles.		From arm to arm.		From lymph prepared from scabs.		From lymph.	
		Total.	Success-ful.	Total.	Success-ful.	Total.	Success-ful.	Total.	Success-ful.	Total.	Success-ful.	Total.	Success-ful.
Kannool.	Cambam ...	3,045	2,954	605	592	235	235	1,302	1,350	836	704	4,783	4,573
	Kurnool ...	4,290	3,882	1,511	1,328	646	555	5,046	4,693	[53]	[49]	5,133	4,785
	Total of district ...	7,335	6,836	2,116	1,920	881	820	6,408	6,042	879	753	9,941	9,359
Madhura.	Dindigul ...	576	547	4,191	4,043	[35]	[35]	10,898	10,605	[14]	[13]	1,784	1,752
	Madura ...	141	141	3,720	3,681	[15]	[15]	6,712	6,539	[31]	[29]	3,448	3,390
	Permagudi ...	347	325	5,851	5,575	[96]	[96]	15,065	15,179	221	204	1,265	1,140
	Total of district ...	1,064	1,013	13,762	13,299	136	136	33,155	32,443	265	229	6,497	6,282
Malabar.	Tollicherry ...	2,650	2,386	3,975	3,746	...	...	4,774	4,620	[66]	[64]	...	...
	Calicut ...	4,370	3,702	8,145	7,743	...	...	6,478	6,156	...	...	...	...
	Palghat ...	1,075	992	8,145	7,743	...	...	4,645	4,208	[7]	[6]	...	...
	Total of district ...	8,095	6,980	15,450	14,590	...	...	15,897	14,984	69	64	...	...
Nellore.	Kavali ...	1,490	1,404	1,033	557	3,603	3,502	...	...	957	832	1,881	1,741
	Nellore ...	1,411	1,328	1,313	1,290	...	...	7,403	7,382	[4]	[4]	1,087	997
	Ongole ...	837	727	542	507	...	...	4,013	3,862	2,155	1,848	1,336	1,037
	Total of district ...	3,717	3,459	2,888	2,554	3,603	3,502	11,506	11,244	3,116	2,684	4,304	3,775
North Arcot.	Chittoore ...	1,198	1,168	6,383	6,242	342	340	6,357	6,296	[15]	[14]	...	...
	Vellore ...	1,973	1,815	4,114	3,872	...	...	6,225	6,049	1,008	822	640	614
	Karvetnaggar ...	235	196	3,511	3,558	...	...	3,256	3,244	[40]	[29]	455	450
	Total of district ...	3,406	3,179	14,308	13,772	342	340	15,838	15,589	1,063	865	1,104	1,063
Salem.	Krishnagiri ...	996	981	3,395	3,346	...	...	7,716	7,704	[59]	[59]	2,019	2,009
	Salem ...	158	155	4,544	4,531	...	...	12,012	12,462	[33]	[33]	2,517	2,172
	Namakkal ...	1,947	1,826	4,700	4,833	[94]	[91]	12,984	12,626	104	[96]	3,272	3,139
	Total of district ...	3,101	2,962	12,639	12,030	94	91	33,312	32,692	193	193	7,808	7,320
South Arcot.	Cuddalore ...	1,211	1,087	3,401	3,283	[76]	[75]	10,891	10,550	974	862	5,288	5,041
	Vridachalam ...	1,235	1,158	1,869	1,774	[21]	[21]	7,078	6,948	211	168	501	485
	Total of district ...	2,446	2,245	5,300	5,057	97	95	17,839	17,498	1,185	1,030	5,789	5,524

X.

Table showing the Percentage of Success of the Result of Vaccine Operations performed by different methods during 1889-90—continued.

Districts.	Circles.	Result of Vaccine operations.						Percentage of Success.					
		From lymph in capillary tubes.		From lymph in plates of glass.		From lymph in bottles.		From arm to arm.		From lymph prepared from scabs.		From lymph.	
		Total.	Success-ful.	Total.	Success-ful.	Total.	Success-ful.	Total.	Success-ful.	Total.	Success-ful.	Total.	Success-ful.
South Arcot.	No. I. S. Canara ...	1,167	1,070	7,074	6,215	...	...	6,723	6,486	[20]	[9]	...	...
	No. II. do. ...	1,221	1,127	3,766	3,513	[3]	[3]	5,523	5,361	[1]	...	...	...
	Total of district ...	2,688	2,197	10,840	9,730	3	3	12,246	11,847	21	9	...	...
Tanjore.	Vengalpetam ...	1,692	1,409	2,785	2,538	...	...	14,075	13,693	162	81	...	...
	Tanjore ...	2,049	1,917	5,106	4,503	...	...	22,297	20,501	276	207	...	...
	Total of district ...	3,611	3,226	7,891	7,101	...	...	36,302	34,194	378	291	...	...
Tinnevely.	Saifur ...	991	925	4,076	3,924	...	...	8,741	8,017	[9]	[7]	2,339	2,184
	Shermadavi ...	391	376	3,539	3,304	[28]	[26]	12,547	12,390	[37]	[37]	2,018	1,883
	Tinnevely ...	413	377	4,519	4,374	[54]	[51]	9,386	9,239	[34]	[33]	4,713	4,579
	Total of district ...	1,795	1,678	12,134	11,602	82	77	30,674	30,136	80	77	6,974	6,601
Tritchinopoly.	Tritchinopoly ...	1,121	1,087	6,809	6,716	[36]	[36]	23,060	22,795	...	...	6,030	5,817
	Total of district ...	1,121	1,087	6,809	6,716	36	36	23,060	22,795	...	...	6,030	5,817
	Vinayapattam ...	3,207	3,097	5,760	5,470	[11]	[10]	12,476	12,361	[10]	[9]	894	887
	Vinayapattam ...	2,541	2,119	2,577	2,436	[4]	[4]	16,786	15,638	[37]	[37]	2,018	1,883
Vizagapatnam.	Guampur ...	881	789	523	487	[57]	[57]	2,803	2,740	[13]	[13]	...	...
	Joyipore ...	362	347	145	135	[17]	[13]	5,791	5,736	2,652	1,933	...	...
	Total of district ...	7,084	6,652	9,965	8,551	[89]	[84]	36,556	35,520	3,673	2,964	894	887
Grand Total.	Grand Total ...	82,090	75,997	148,501	135,755	6,398	6,134	424,063	410,171	23,648	20,869	60,319	57,143

Note.—Ratios or figures below 100 shown in square brackets have been excluded in calculating the total average per cent. of success.

XI.

Table showing the Results of Animal Vaccination in the districts in which it was conducted during 1889-90.

Circles.	Number of months animal vaccination was carried on.	Number of calves inoculated.	Total vaccinated.	Successful.	Unsuccessful.	Unknown.	Percentage of success.	Total cost.	Average cost of each successful case.	Total cost including the pay of vaccinators, &c.	Average cost of each successful case including the pay of vaccinators.
								RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Bellary	9 months	251	3,674	3,622	35	17	98.5	590 15 0	0 2 7	1,330 8 7	10 5 11
Harpanahalli.	Whole year	88	1,693	1,654	24	15	97.6	163 7 0	0 1 6	383 1 8	0 3 8
Chingleput	Do.	143	14,602	12,946	906	750	89.6	490 0 0	0 0 7	1,155 0 0	0 1 5
Saidāpet	Do.	192	16,081	14,995	754	332	93.2	390 0 8	0 0 5	1,655 6 10	0 1 9
Sidhout	6 months	72	3,268	2,986	207	75	91.3	116 10 4	0 0 7	1,070 0 7	0 5 9
Cumbum	Whole year	68	4,788	4,573	148	67	95.5	417 9 3	0 1 5	712 2 2	0 2 7
Kurnool	Do.	72	5,153	4,786	59	308	92.8	335 14 8	0 1 2	780 15 3	0 2 7
Dindigul	4 months	23	1,784	1,752	24	8	98.2	101 3 11	0 0 11	253 4 11	0 2 3
Madura	Do.	24	3,448	3,390	58	—	98.3	103 11 0	0 0 6	167 1 0	0 0 9
Permagudi	3 months	24	1,265	1,140	50	75	90.1	111 2 6	0 1 6	208 4 9	0 2 11
Calicut	Whole year	73	Information received imperfect.					434 7 3	...	...	...
Kāvali	4 months and 26 days	27	1,881	1,741	74	66	92.5	103 3 2	0 0 11	259 3 1	0 2 5
Nellore	5 months and 21 days	34	1,087	997	71	19	91.7	153 11 2	0 2 6	320 1 6	0 5 2
Ongole.	11 months and 15 days	16	1,336	1,037	173	126	77.6	56 6 0	0 0 10	138 10 5	0 2 2
Chittoor	2 months	12	643	607	17	19	94.4	61 12 4	0 1 7	139 9 6	0 3 8
Vellore	Do.	12	649	614	22	13	94.6	63 8 9	0 1 9	107 9 2	0 2 9
Kārvetnagar.	Do.	11	455	450	1	4	98.9	66 2 4	0 2 4	117 8 3	0 2 4
Krishnagiri	Whole year	68	2,019	2,009	10	—	99.5	185 5 0	0 1 6	394 1 10	0 3 2
Nāmakal	7 months	41	3,272	3,139	109	24	95.9	43 14 9	0 0 3	337 5 0	0 1 8
Salem	Whole year	60	2,517	2,172	250	95	80.2	238 15 11	0 1 11	436 7 11	0 3 3
Cuddalore	7 months	105	5,288	5,041	147	100	95.3	494 6 4	0 1 6	615 6 5	0 1 11
Vriddhachalam	2 months	10	501	483	10	8	96.4	40 15 5	0 1 8	99 2 1	0 3 3
Negapatam	8 months	39	941	905	16	20	96.1	109 14 11	0 1 11	152 9 0	0 2 8
Tanjore	Whole year	73	5,526	4,986	264	276	90.2	220 12 5	0 0 9	782 3 4	0 2 6
Sāttūr	4 months and 20 days	29	2,338	2,184	112	42	93.4	75 7 3	0 0 6	271 7 7	0 2 0
Shermādevi.	5 months	30	2,918	2,838	25	55	97.2	55 10 6	0 0 7	201 11 4	0 1 3
Tinnevely	8 months and 14 days	52	4,718	4,579	57	82	97.0	145 1 6	0 0 8	576 15 10	0 2 0
Trichinopoly.	6 months and 4 days	38	6,050	5,817	233	—	96.1	104 6 11	0 0 3	449 6 11	0 1 3
Vizagapatam.	1 month and 17 days	6	894	887	3	4	99.2	31 3 9	0 0 7	105 9 1	0 1 11
Nilgiris	Whole year	69	12,364	2,031	212	121	85.9	255 0 1	0 2 0	Not available.	
Total		1,762	101,153	94,361	4,071	2,721	93.2	5,845 0 1	0 1 0	13,220 14 0	0 2 3

* Includes the work done by Medical Subordinates.

† Excludes the pay of Medical Subordinates.

‡ Includes the work of Medical Subordinates and Municipal Vaccinators.

XII.

Table showing the Extent in Square Miles and Strength of Staff of each Vaccination Range.

Districts.	Circles.	Number of Deputy Inspectors employed during 1889-90.	Number of Vaccinators employed during 1889-90.	Average area for each Deputy Inspector.	Average area of each Vaccinator.
Anantapur	Gooty	1	11	2,471	225
	Penukonda	1	6	2,641	440
	Total	2	17	5,085	299
Bellary	Bellary	1	15	3,735	249
	Harpanahalli	1	9	2,008	223
	Total	2	24	5,755	239
Chingleput	Chingleput	1	12	1,697	141
	Saidāpet	1	9	1,169	133
	Total	2	21	2,843	135
Coimbatore	North/Coimbatore	1	12	3,031	253
	South do.	1	9	2,036	226
	East do.	1	18	2,748	153
	Total	3	39	7,841	201
Cuddapah	Cuddapah	1	12	2,541	212
	Madanapalle	1	14	3,858	275
	Sidhout	1	9	2,858	291
	Total	3	35	8,747	250
Ganjam	Chatrapur	1	18	1,987	110
	Chicacole	1	12	1,151	96
	Ganjam H. T.	1	7	5,240	740
	Total	3	37	8,377	227
Godāvari	Ellore	1	17	2,523	148
	Pittāpore	1	13	1,248	93
	Rajahmundry	1	16	2,725	170
	Total	3	46	5,745	125
Kistna	Guntūr	1	14	2,524	180
	Masulipatam	1	20	3,502	175
	Vizukonda	1	9	2,436	271
	Total	3	43	8,487	196
Kurnool	Cumbum	1	9	4,099	455
	Kurnool	1	13	3,447	265
	Total	2	22	7,395	...
Madura	Dindigul	1	14	3,149	225
	Madura	1	10	1,587	159
	Paramagudi	1	19	3,672	193
	Total	3	43	8,393	194
Malabar	Calicut	1	12	...	...
	Tellicherry	1	10	5,742	169
	Pālgat	1	12	...	...
	Total	3	34	5,742	169
Nellore	Kāvali	1	9	2,631	315
	Nellore	1	12	2,604	242
	Ongole	1	9	2,985	332
	Total	3	30	8,702	290
Nilgiris	Nilgiris	...	3	936	311
	Total	...	3	936	311
North Arcot	Chittoor	1	15	2,835	188
	Vellore	1	12	1,975	165
	Kārvetnagar	1	9	2,299	194
	Total	3	36	7,131	194

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XII.

Table showing the Extent in Square Miles and Strength of Staff of each Vaccination Range—continued.

Districts.	Circles.	Number of Deputy Inspectors employed during 1889-90.	Number of Vaccinators employed during 1889-90.	Average area for each Deputy Inspector.	Average area of each Vaccinator.
Salem ...	Krishnagiri ...	1	12	2,616	218
	Salem ...	1	18	2,865	159
	Namakkal ...	1	17	2,121	125
	Total ...	3	47	7,574	159
South Arcot ...	Cuddalore ...	1	17	3,302	194
	Vridhdhachalam ...	1	12	1,567	131
	Total ...	2	29	4,865	168
South Canara ...	No. I, South Canara ...	1	14	1,910	137
	No. II, do. ...	1	10	1,990	199
	Total ...	2	24	3,896	162
Tanjore ...	Negapatam ...	1	16	1,463	91
	Tanjore ...	1	21	2,165	103
	Total ...	2	37	3,623	98
Tinnevely ...	Sátur ...	1	12	1,823	152
	Shermádevi ...	1	14	1,594	114
	Tinnevely ...	1	16	1,949	122
	Total ...	3	42	5,394	128
Trichinopoly ...	Trichinopoly ...	1	23	3,549	415
	Total ...	1	23	3,549	154
Vizagapatam ...	Gunapur ...	1	7	13,893	868
	Jeypore ...	1	9	1,761	98
	Vizagapatam ...	1	18	1,693	100
	Vizianagarum ...	1	17	1,693	100
	Total ...	4	50	17,466	349

XIII.

Abstract of Replies of District Surgeons to Circular No. 1095 of 21st April 1890 regarding Methods to be adopted for improving Vaccination, &c.

Number.	District.	Minimum number of cases required by	Mode of punishment of Vaccinators for short work.	Examinations passed or not.	Animal lymph—Extent of employment.	Arrangement for procuring calves.	Arrangement for instruction of small-pox to District Surgeons, Deputy Inspectors and Vaccinators.	Suggestion by District Surgeons for promotion of vaccination.
1	Annam.	First-class Vaccinators. 125 Second-class Vaccinators. 100 Probationers. 60	Pay reduced rateably ... Pay reduced proportionately for short work. Fined 1 anna for each case short of minimum.	Qualifications not stated. No information given. Have passed no examination.	No animal vaccination. Lymph obtained from Madras on payment. Not stated ... Animal vaccination is conducted throughout the district.	No animal vaccination. Procured by medical sub-officials from Revenue authorities on payment and recognised by the District Surgeon. Revenue subordinates, by order of Collector, help Vaccinators in procuring calves, and in their work. Special rewards are given to officials for zeal and willing co-operation.	Deputy Inspectors and the District Surgeon. Reported by Registrars of Births and Deaths and occasionally by Tahsildars, through the Collector. Police promptly report occurrence of small-pox to the nearest Magistrate, who at once orders a vaccination, if available, to prevent the spread of the disease. The District Surgeon also is apprised of the same and the steps taken.	Compulsory vaccination should be introduced in all head-quarters of Tahsildars, and in all sub-divisions. None. None. Rewards might be given to Village Amildars, who have promoted the cause of vaccination. None.
2	Cuddalore.	60 80 100 125	Fined 1 anna for each case short of minimum. Fined 1 anna for each case short of the minimum. If the less number exceed 20, 2 annas for each such case; if more than half, half pay stopped, if the operations in the month be less than 20, pay and extra are disallowed.	Have passed no examination; are promoted according to seniority. Have passed no examination.	Animal vaccination is not in force. Animal vaccination conducted only in Sirkout range.	Tahsildars, by order of Collector, supply calves at 1 rupee each.	Tahsildars report to Deputy Inspectors and the District Surgeon. Village officers report to Tahsildars, who intimate the same to Vaccinators and Deputy Inspectors. Vaccinators are directed to visit the affected localities and promote vaccination. When they have no important work to be attended to, Deputy Inspectors also visit the affected localities.	Compulsory vaccination should be introduced in all head-quarters of Tahsildars, and in all sub-divisions. None. None. Rewards might be given to Village Amildars, who have promoted the cause of vaccination. None.
3	Chingleput.	160	Fined 1 anna for each case short of minimum.	Have passed no examination.	Animal vaccination is not in force.	Tahsildars, by order of Collector, supply calves at 1 rupee each.	Tahsildars report to Deputy Inspectors and the District Surgeon. Village officers report to Tahsildars, who intimate the same to Vaccinators and Deputy Inspectors. Vaccinators are directed to visit the affected localities and promote vaccination. When they have no important work to be attended to, Deputy Inspectors also visit the affected localities.	Compulsory vaccination should be introduced in all head-quarters of Tahsildars, and in all sub-divisions. None. None. Rewards might be given to Village Amildars, who have promoted the cause of vaccination. None.
4	Chingleput.	160	Fined 1 anna for each case short of minimum.	Have passed no examination.	Animal vaccination is not in force.	Tahsildars, by order of Collector, supply calves at 1 rupee each.	Tahsildars report to Deputy Inspectors and the District Surgeon. Village officers report to Tahsildars, who intimate the same to Vaccinators and Deputy Inspectors. Vaccinators are directed to visit the affected localities and promote vaccination. When they have no important work to be attended to, Deputy Inspectors also visit the affected localities.	Compulsory vaccination should be introduced in all head-quarters of Tahsildars, and in all sub-divisions. None. None. Rewards might be given to Village Amildars, who have promoted the cause of vaccination. None.
5	Bellary.	75 100 125	Pay reduced rateably ... Pay reduced proportionately for short work. Fined 1 anna for each case short of minimum.	Qualifications not stated. No information given. Have passed no examination.	No animal vaccination. Lymph obtained from Madras on payment. Not stated ... Animal vaccination is conducted throughout the district.	No animal vaccination. Procured by medical sub-officials from Revenue authorities on payment and recognised by the District Surgeon. Revenue subordinates, by order of Collector, help Vaccinators in procuring calves, and in their work. Special rewards are given to officials for zeal and willing co-operation.	Deputy Inspectors and the District Surgeon. Reported by Registrars of Births and Deaths and occasionally by Tahsildars, through the Collector. Police promptly report occurrence of small-pox to the nearest Magistrate, who at once orders a vaccination, if available, to prevent the spread of the disease. The District Surgeon also is apprised of the same and the steps taken.	Compulsory vaccination should be introduced in all head-quarters of Tahsildars, and in all sub-divisions. None. None. Rewards might be given to Village Amildars, who have promoted the cause of vaccination. None.

Abstract of Replies of District Surgeons to Circular No. V of 21st April 1890 regarding Methods to be adopted for improving Vaccination, &c.—continued.

Number.	District.	Minimum number of cases required by	Mode of punishment of Vaccinators for short work.	Examinations passed or not.	Animal lymph—Extent of employment.	Arrangement for procuring calves.	Arrangement for information of small-pox to District Surgeons, Deputy Inspectors and Vaccinators.	Suggestion by District Surgeons for promotion of vaccination.
9	Ganjam.	100 100 40	Fined 1 anna for every case short of minimum number, and rewarded 1 anna for every case above.	No examination passed by any.	Not introduced.		Deputy Tahsildars report to the Deputy Inspectors, who deputize vaccinators to visit the affected localities.	Vaccinators should pass in the Vaccination Code and Dr. Shortt's Manual of Vaccination. A small bonus should be given to those who pass.
1	Godavari.	100 70 Not fixed.	Two annas and 1 anna deducted from pay (first and second class vaccinators, respectively,) for each case below minimum number.	Qualifications not stated.	No animal vaccination owing to difficulty of getting calves; it is carried on in Ellore and Rajahmundry towns.		No reports are made.	None.
8	Kurnool.	150 100 30 to 50	Fined from 1 to 5 rupees, according to circumstances.	Appointed after passing examination held by the District Surgeon.	Animal vaccination is conducted throughout the district, expertly, in superintendence of humanized lymph.	Divisional officers and Tahsildars are required by circular orders from Collector to help vaccinators as much as possible. Calves are supplied by Reddies on requisition of vaccine staff.	Special reports as to each fresh outbreak are sent direct to District Medical Officer, and subsequently weekly reports are submitted by Tahsildars when small-pox is prevalent, which are communicated to Deputy Inspectors for information and guidance.	A thorough reorganization of the entire Vaccination Department should be made, and educated men should be employed as vaccinators.
9	Madura.	125 100 50	Fined	Have passed no examination.	Animal vaccination is conducted throughout the district for four months in the year in each range.	Subordinate Revenue officials by order of the Collector, render necessary help in procuring calves.	Not reported to District Surgeon. Village officials report to Tahsildars, who report to the Collector and to nearest vaccinators or Deputy Inspectors.	Daily reports of small-pox should be introduced like reports of cholera.
10	Malabar.	150 100 60	Fined 1 anna for every case short of minimum.	None have passed any examination.	Is conducted under the supervision of the Deputy Inspectors; inoculated calves are taken with him on his tours.	Calves are supplied by contractors.	Tahsildars and Deputy Tahsildars report fortnightly the presence of small-pox.	Vaccination should be compulsory, and animal vaccination be extended.

Abstract of Replies of District Surgeons to Circular No. V of 21st April 1890 regarding Methods to be adopted for improving Vaccination, &c.—continued.

Number.	District.	Minimum number of cases required by	Mode of punishment of Vaccinators for short work.	Examinations passed or not.	Animal lymph—Extent of employment.	Arrangement for procuring calves.	Arrangement for information of small-pox to District Surgeons, Deputy Inspectors and Vaccinators.	Suggestion by District Surgeons for promotion of vaccination.
11	Nellore.	100 100 70	One anna deducted from pay and 1 anna from travelling batta for every case short of minimum number, and no batta is allowed on days when no vaccination is done; batta is altogether withheld unless one-half of the minimum is done for the month.	No examination required.	Animal vaccination is conducted in the three circles of the district.	In Ongole and Kaval, Tahsildars have been ordered by Divisional officers to render assistance in procuring calves; in Nellore no assistance is given.	Tahsildars are supposed to report to Deputy Inspectors, but they neglect to do so.	(1) District Surgeon should have power to punish vaccinators and also to promote them, subject to sanction of President. (2) Deputy Inspectors should note, in their monthly returns, the numbers vaccinated in the corresponding month of the previous year, and the total up to date for the year as compared with the same period of previous years.
12	North Arcot.	100 100 Nil.	Pay reduced proportionately for short work.	No record of their having passed any examination.	Employed in almost all cases.	Deputy Tahsildars procure calves by order of Collector.	Village officials report to Tahsildars, which is communicated to the District Surgeon, who forwards the report to vaccinators for action.	None.
13	North Arcot.	100 100 Not fixed.	Fined according to circumstances.	All have passed necessary examination, except two.	Throughout the district.	Tahsildars and Deputy Tahsildars, by order of Collector, render necessary assistance in procuring calves and coolies.	Village officials report to Tahsildars, who intimate the same to the Deputy Inspector and divisional vaccinator.	None.
14	Balem.	125 100 75	Fined in proportion for shortness of work.	No examination passed by any, none being required.	Is employed under the superintendence of the Deputy Inspectors, who take the calves with them on their tours.	Tahsildars, by order of Collector, procure calves for the Deputy Inspectors.	Not reported to the District Surgeon. Tahsildars report to Deputy Inspectors and vaccinators.	More than 1 or 2 calves as at present, should be inoculated every week. Each first-class vaccinator should have a calf once a week. Vaccinators should be prohibited from working in villages under a population of 3,000, where medical subordinates are stationed, thus making the latter responsible for the state of vaccination in their respective towns or villages.

XIII.

Abstract of Replies of District Surgeons to Circular No. 1095 of 21st April 1890 regarding Methods to be adopted for improving Vaccination, &c.—continued.

Number.	District.	Minimum number of cases required by			Mode of punishment of Vaccinators for short work.	Examinations passed or not.	Animal lymph.—Extent of employment.	Arrangement for procuring calves.	Arrangement for intimation of small-pox to District Surgeons, Deputy Inspectors and Vaccinators.	Suggestion by District Surgeons for promotion of vaccination.
		First-class Vaccinators.	Second-class Vaccinators.	Probationers.						
15	South Arcot.	100	75	Not fixed.	Recommended for fine ...	Qualification not stated.	Animal lymph is taken in tubos or glasses.	Orders are issued by the Collector to Revenue authorities to procure calves.	Revenue authorities report the prevalence of small-pox to Deputy Inspectors or vaccinators, who immediately visit the affected localities and prosecute vaccination.	None.
16	South Canara.	120	100	80	None defined ...	Qualification not stated.	Not in force ...		Is reported by Revenue authorities to tank officers, who direct vaccinators to proceed to the affected locality reporting the same to the Deputy Inspector.	None.
17	Tanjore.	150	125	...	Generally fixed ...	Qualification not stated.	Animal vaccination is carried out throughout the year.	Revenue officials are directed by Presidents to supply calves at 1 rupee per head per week.	Outbreaks of small-pox are promptly communicated by Revenue officials to the District Surgeon, Deputy Inspectors of Vaccination, and vaccinators.	None.
18	Tinnevely.	145	120	80	A fine of 2 annas for each case below minimum and reward of 1 anna for each case above.	Were appointed after passing examination according to Vaccination Code.	Employed throughout the districts.	Revenue subordinates supply calves by order of the Collector.	Not reported to District Surgeon. Village officials report, through Tahsildars, to Deputy Inspectors, who communicate the same to vaccinators.	(1) Daily batta should be given to vaccinators for distances above five miles from head-quarters. (2) Kurnams and mirasidars should supply vaccinators with monthly lists of births in each village. (3) Kurnams and mirasidars should report outbreaks of small-pox direct to vaccinators, who should proceed forthwith to the affected localities and prosecute vaccination.

XIII.

Abstract of Replies of District Surgeons to Circular No. 1095 of 21st April 1890 regarding Methods to be adopted for improving Vaccination, &c.—continued.

Number.	District.	Minimum number of cases required by			Mode of punishment of Vaccinators for short work.	Examinations passed or not.	Animal lymph.—Extent of employment.	Arrangement for procuring calves.	Arrangement for intimation of small-pox to District Surgeons, Deputy Inspectors and Vaccinators.	Suggestion by District Surgeons for promotion of vaccination.
		First-class Vaccinators.	Second-class Vaccinators.	Probationers.						
19	Trichinopoly.	115	90	50	Fined for short work and rewarded 2 annas for every successful case over 125.—first-class Vaccinators over 90, second-class and probationers at the rate of 1 Rupee for every 50 successful cases.	Appointed after passing examination prescribed by the Vaccination Code.	Throughout the district conducted by the Deputy Inspector, tahuk a month.	Revenue subordinates ordered by Collector to afford every assistance. Calves are hired at one rupee per head.	Tahsildars and Deputy Tahsildars strictly ordered by Collector to submit, direct to the Deputy Inspector, weekly returns of small-pox, whether prevalent or not. If prevalent, vaccinators are told off to visit the affected localities and Deputy Inspector also repairs to the spot, where mostly prevalent.	Vaccination should be made compulsory in all the unions.
20	Vizagapatnam.	100	75	30	Are first warned; then fined; and finally dismissed.	Are examined when about to be promoted and when District Surgeon goes on tour.	A calf depot is maintained at head-quarters, which supplies Vaccinators and medical subordinates in the district with lymph. Cocanada and Chicacole also indent on this depot for lymph.	Not stated ...	Is reported by Vaccinators to Deputy Inspectors. Revenue officials also report and request for the services of a Vaccinator.	Better man should be appointed as Deputy Inspectors by the head office. Each district should appoint its Deputy Inspector from among its own Vaccinators.

APPENDIX.

VACCINATION RETURNS.

A—VACCINE DEPARTMENT.

STATEMENT No. 1 showing the Particulars of Vaccination in the Madras Presidency during the official year 1889-90.

Number.	Districts.	Circles.	Population of district or circle according to the census of 1881.	Average population per square mile.	Average number of vaccinators employed throughout the season.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary vaccination.			Revaccination.		Percentage of successful cases.		Persons successfully vaccinated per 1,000 of population.		Average annual number of persons successfully vaccinated during previous 5 years.		Average annual number of deaths from small-pox during previous 5 years.		
1	2	3	4	5	6	7			8	9	10	11	12	13	14	15	16	17	17a	18	19	20	21
						Males.	Females.	Total.		Total.	Under 1 year.	Over 1 and under 5 years.	Total of all ages.	Total.	Successful.	Primary vaccination.	Revaccination.	Primary vaccination.	Revaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.
1	Anantapur.	Goety circle ...	296,470	120	11	4,594	3,340	8,934	800	8,772	3,385	4,414	8,308	32	29	95.3	90.6	28.2	0.1	...	...	...	...
		Panchimala circle ...	238,512	115	6	3,721	3,187	6,908	1,161	6,879	2,075	3,938	6,710	29	19	97.5	85.5	22.4	0.1	...	...	...	...
		Total of district ...	534,982	117	17	8,365	7,027	15,712	924	15,861	5,766	8,356	15,076	61	48	96.8	78.7	27.8	0.1	13,907	23.3	591	0.9
2	Bellary.	Bellary circle ...	420,492	115	15	7,258	6,512	13,500	920	13,893	9,908	4,914	13,485	...	...	97.7	...	31.4	...	...	...	...	...
		Harpurathall circle ...	220,582	110	9	4,290	4,682	8,972	924	8,312	8,008	3,904	8,108	...	...	98.6	...	37.1	...	...	...	...	...
		Total of district ...	640,374	113	24	11,508	10,604	22,112	924	22,112	13,916	7,834	21,688	...	...	98.06	...	33.3	...	20,755	31.9	675	1.0
3	Chingleput.	Chingleput circle ...	483,650	288	12	14,017	13,554	27,571	2,293	26,982	5,701	15,643	23,157	360	246	93.1	63.2	51.4	0.5	...	...	...	...
		Saddipet do. ...	453,417	881	9	9,916	9,393	19,276	2,142	19,159	5,786	9,759	17,573	120	79	92.2	65.8	38.8	0.2	...	...	...	...
		Total of district ...	937,067	332	21	23,933	22,717	46,650	2,231	46,111	11,527	23,396	42,708	509	325	93.2	63.9	45.3	0.3	28,925	30.6	828	0.9
4	Coimbatore.	North Coimbatore circle	457,672	151	12	7,036	6,887	13,923	1,103	12,951	2,160	7,785	13,619	2	2	97.5	100.0	29.8	...	...	...	...	...
		South do. do.	438,872	245	9	6,177	5,213	12,631	1,410	12,670	1,846	6,775	12,337	21	16	97.8	78.1	24.8	0.03	...	...	...	...
		East do. do.	413,110	234	18	12,632	12,218	24,810	1,320	24,754	4,007	14,057	24,991	85	86	98.8	100.0	38.1	0.1	...	...	...	...
5	Cuddapah.	Total of district ...	1,599,654	204	39	26,173	25,319	51,484	1,320	51,375	13,913	28,712	50,527	100	104	98.3	95.4	31.6	0.1	47,309	29.6	721	0.5
6		Cuddapah circle	408,629	160	12	3,759	3,117	6,876	679	6,941	882	4,641	8,280	6	4	94.9	80.0	16.2	0.01	...	...	...	...
7		Madanapalle circle	419,470	109	14	4,372	8,849	6,321	534	8,310	1,106	5,207	8,692	11	10	97.4	90.9	19.3	0.02	...	...	...	...
8	Ganjam.	Sillont do. ...	275,887	117	9	4,582	4,168	8,728	975	8,654	1,436	5,154	8,301	74	28	94.8	87.8	20.7	0.1	...	...	...	...
9		Total of district ...	1,102,056	125	35	12,833	11,162	23,995	686	23,905	3,517	14,973	22,880	90	42	95.7	46.6	20.7	0.03	12,494	11.3	2,509	2.6
10		Chattanapet circle	508,219	156	13	7,075	6,087	13,772	705	13,614	397	9,015	13,460	153	158	99.1	100.0	14.8	0.2	...	...	...	...
11	Ganjam.	Chitole do. ...	538,816	469	12	5,015	4,372	9,390	753	8,724	1,732	6,481	8,970	639	625	99.2	98.4	16.6	1.2	...	...	...	...
12		Ganjam hill tracts	243,363	47	7	9,681	8,762	18,413	2,634	18,438	1,773	3,418	17,783	40	37	98.3	92.6	72.1	0.1	...	...	...	...
13		Total of district ...	1,692,338	202	37	23,874	19,231	41,605	1,124	40,751	5,332	17,958	39,564	624	341	97.9	98.4	23.7	0.5	32,501	19.2	913	0.6

A—VACCINE DEPARTMENT.

[STATEMENT No. I showing the Particulars of Vaccination in the Madras Presidency during the official year 1889-90—continued.]

Number.	Districts.	Circles.	Population of district or circle according to the census of 1881.	Average population per square mile.	Average number of vaccinators employed throughout the season.	Total number of persons vaccinated.			Average number of persons vaccinated by each vaccinator.	Primary vaccination.				Re-vaccination.		Percentage of successful cases.		Persons successfully vaccinated per 1,000 of population.		Average annual number of persons successfully vaccinated during previous 5 years.		Average annual number of deaths from small-pox during previous 5 years.	
						Males.	Females.	Total.		Total.	Under 1 year.	Over 1 and under 6 years.	Total of all ages.	Total.	Successful.	Primary vaccination.	Re-vaccination.	Primary vaccination.	Re-vaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.
16	Godavari.	Ellore circle	580,463	230	17	5,556	4,459	10,015	590	734	6,605	9,921	5	4	98.8	80.0	17.1	0.01	...	...	...	...	
17		Ellore do.	320,653	264	12	4,398	3,718	8,116	676	232	5,292	7,819	...	...	96.3	...	46.3	...	...	...	...	...	
18		Government (Peddapur taluqa.)	790,387	290	16	594	181	775	775	1,347	8,404	14,172	14	12	96.4	85.7	19.0	0.06	...	...	...	...	
19	Kistna.	Basamundry circle	1,700,525	296	49	18,800	15,533	34,333	7,001	2,512	20,954	33,516	53	49	97.1	92.4	19.7	0.02	24,444	14.4	4,038	2.4	
20		Basamundry do.	562,803	223	14	2,834	2,439	5,273	390	533	3,504	4,732	172	155	88.9	90.1	8.4	...	...	...	...	...	
21		Basamundry do.	609,408	174	20	4,993	4,010	9,003	450	831	6,399	8,471	...	...	95.9	90.1	13.9	0.1	...	...	...	...	
22	Kurnool.	Vinnakonda	321,587	132	9	2,500	2,170	4,670	512	4,670	800	4,418	...	...	94.6	...	13.7	...	...	...	...	...	
23		Total of district	1,408,778	176	43	10,377	8,019	18,396	442	1,272	9,320	17,621	172	155	93.6	90.1	11.8	0.1	17,142	11.5	284	0.2	
24		Gumbum circle	323,837	79	9	6,213	4,648	10,861	1,207	1,276	6,349	9,939	455	449	95.7	98.6	30.7	1.4	...	...	...	...	
25	Madura.	Kurnool do.	334,255	97	13	10,269	4,737	15,006	1,154	2,110	5,319	9,886	3,828	3,818	88.4	99.7	29.5	1.1	...	...	...	...	
26		Total of district	658,222	89	22	16,482	9,385	25,867	1,232	3,386	11,638	19,845	4,283	4,267	91.1	99.6	30.1	6.4	13,766	20.9	952	1.5	
27		Dindigul circle	664,478	311	14	8,943	8,195	17,138	1,245	7,329	8,313	16,890	150	103	97.7	70.0	20.3	0.1	...	...	...	...	
28	Malabar.	Madura do.	486,398	314	10	7,393	6,081	14,074	1,407	4,343	8,420	13,872	20	16	98.7	80.0	27.8	0.03	...	...	...	...	
29		Permagudy do.	883,014	241	19	12,451	10,934	23,385	1,330	5,375	13,913	22,325	250	194	93.6	69.2	25.2	2.01	...	...	...	...	
30		Total of district	2,017,890	244	43	28,787	24,110	52,897	1,277	17,647	30,845	63,087	450	315	97.5	70.0	25.9	0.7	49,080	23.9	1,246	0.6	
31	Malabar.	Tallicherry circle	2,204,946	384	10	8,071	3,394	11,465	1,146	1,441	3,924	10,812	4	4	94.3	100.0	17.2	0.01	...	...	...	...	
32		Calicut do.	2,204,946	384	12	11,639	4,219	15,858	1,321	1,755	3,080	14,465	22	15	91.3	68.1	...	...	...	...	...	...	
33		Paleghat do.	2,204,946	384	12	9,083	4,897	13,980	1,159	3,841	4,058	12,855	19	8	92.6	42.1	...	...	...	...	...	...	
34	Total of district	2,204,946	384	34	28,788	12,420	41,208	1,312	41,173	703,10,962	38,138	45	27	92.6	60.0	17.2	0.01	38,514	17.3	3,139	1.4		

30	Nellore.	Kavali circle	373,748	132	9	4,614	4,359	8,973	997	8,933	955	5,430	37	36	94.0	97.3	22.4	0.1	...	...	...	...
31		Nellore do.	377,873	137	12	5,906	6,492	12,398	912	11,197	580	7,430	111	82	97.5	73.8	27.4	0.2	...	...	...	...
32		Total of district	411,910	138	9	4,343	4,355	8,698	987	8,873	619	6,070	10	5	89.8	50.0	19.3	0.01	...	...	...	...
33	Mylapore.	Nagari Circle	73,921	79	3	1,189	753	1,942	647	1,891	50	822	51	44	85.1	86.2	21.7	0.6	...	...	...	...
34		Nagari do.	73,921	79	3	1,189	753	1,942	647	1,891	50	822	51	44	85.1	86.2	21.7	0.6	...	...	...	...
35		Total of district	73,921	79	3	1,189	753	1,942	647	1,891	50	822	51	44	85.1	86.2	21.7	0.6	...	...	...	...
36	North Arcot.	Chittoor circle	657,795	232	15	7,288	6,715	14,003	933	13,078	4,868	7,346	25	14	98.4	56.0	20.9	0.02	...	...	...	...
37		Chittoor do.	473,771	203	9	4,142	3,655	7,797	866	7,787	1,565	4,710	10	10	97.1	100.0	15.9	0.02	...	...	...	...
38		Total of district	608,443	308	12	7,551	6,388	13,939	1,164	13,864	1,296	9,613	75	52	94.4	69.3	21.5	0.03	...	...	...	...
39	Salern.	Krishnagiri circle	392,465	150	12	7,329	6,856	14,185	1,182	14,145	6,350	6,884	40	40	99.4	100.0	35.8	0.1	...	...	...	...
40		Krishnagiri do.	512,829	179	19	10,123	9,736	19,859	1,104	19,553	3,270	12,039	311	146	97.3	46.6	37.1	0.3	...	...	...	...
41		Total of district	604,459	283	17	11,517	11,284	22,801	1,359	23,028	3,337	15,417	73	71	95.3	97.2	36.2	0.1	...	...	...	...
42	South Arcot.	Cuddalore circle	1,502,753	202	47	20,274	27,876	57,150	1,216	56,736	12,356	35,000	424	257	97.01	60.6	36.4	0.1	42,583	28.0	1,136	0.8
43		Cuddalore do.	1,122,846	340	17	11,359	9,836	21,195	1,283	21,815	2,156	13,808	202	205	95.4	70.2	23.7	0.3	...	...	...	...
44		Total of district	628,510	401	12	6,081	4,884	10,965	910	10,915	1,519	7,354	27	10	95.1	37.08	28.2	0.03	...	...	...	...
45	Canara.	Madhavaram circle	1,751,356	360	23	17,990	14,740	32,730	1,128	32,730	3,675	21,222	319	215	92.4	67.4	25.4	0.2	33,251	35.8	640	0.7
46		Madhavaram do.	573,167	300	14	8,325	6,931	15,257	1,091	14,995	674	6,100	202	205	90.5	70.2	23.7	0.3	...	...	...	...
47		Total of district	351,218	178	10	5,908	4,626	10,534	1,053	10,507	620	3,781	27	10	95.1	37.08	28.2	0.03	...	...	...	...
48	Tanjore.	Negapatam circle	927,415	238	24	14,234	11,587	25,821	1,078	25,502	1,294	9,881	319	215	92.4	67.4	25.4	0.2	33,251	35.8	640	0.7
49		Negapatam do.	881,387	601	16	9,821	8,703	18,524	1,157	18,497	2,420	12,850	27	20	90.6	74.1	20.1	0.02	...	...	...	...
50		Total of district	1,047,924	481	21	14,156	12,887	27,043	1,264	23,957	4,842	11,500	586	395	91.2	67.4	23.6	0.3	...	...	...	...
51	Tinnevely.	St. Mary's circle	1,029,311	531	37	23,977	21,090	45,067	1,218	44,454	7,262	26,910	613	415	93.2	67.7	21.4	0.2	40,079	20.7	1,356	0.7
52		St. Mary's do.	495,558	271	12	9,017	7,138	16,155	1,340	16,148	2,248	10,314	7	5	96.9	71.4	31.5	0.01	...	...	...	...
53		Total of district	479,404	301	11	10,298	8,522	19,460	1,390	19,437	3,459	11,637	23	19	97.6	82.6	39.5	0.01	...	...	...	...
54	Tiruchinopoly.	Shenmudai circle	666,819	312	16	10,754	8,400	19,154	1,197	19,132	2,479	12,137	22	16	97.3	72.7	27.9	0.02	...	...	...	...
55		Shenmudai do.	1,642,231	305	42	30,709	24,080	54,789	1,304	54,717	8,186	34,088	52	40	97.3	76.9	32.4	0.02	43,532	26.5	1,977	0.8
56		Total of district	1,110,811	313	23	19,546	15,626	35,172	1,600	37,754	4,482	23,506	418	389	96.1	93.1	33.3	0.3	...	...	...	...
57	Vizianagala.	Tiruchinopoly circle	1,110,811	313	23	19,546	15,626	35,172	1,600	37,754	4,482	23,506	418	389	96.1	93.1	33.3	0.3	21,359	19.2	449	0.4
58		Tiruchinopoly do.	694,673	50	4	1,024	892	1,916	478	1,911	176	837	5	...	92.8	100.0	...	0.008	...	...	...	...
59		Total of district	694,673	50	4	1,024	892	1,916	478	1,911	176	837	5	...	92.8	100.0	...	0.008	...	...	...	...

Number.	Districts.	Circles.	Population* according to the census of 1881.	Average population per square mile.	Average number of vaccinators employed throughout the season.	Total number of persons vaccinated.		Average number of persons vaccinated by each vaccinator.	Primary vaccination.				Revaccination.		Percentage of successful cases.		Persons successfully vaccinated per 1,000 of population.		Average annual number of persons successfully vaccinated during previous 5 years.		Average annual number of deaths from small-pox during previous 5 years.		
						Males.	Females.		Total.	Under 1 year.	Over 1 and under 6 years.	Total of all ages.	Total.	Successful.	Primary vaccination.	Revaccination.	Primary vacci- nation.	Revaccination.	Number.	Ratio per 1,000.	Number.	Ratio per 1,000.	
52	Vizagapatam	Vizagapatam circle	803,291	456	16	10,394	9,023	19,417	1,213	1,926	11,905	18,360	814	670	98.7	82.3	33.7	0.8	...	...	...	...	
53		Government vaccinators (Random hills)	412	392	734	367	734	55	319	734	100.0	96.6	...	...	...	...	...	...	...	...	...	...	
		Vizianagaram circle	912,886	539	17	11,312	10,584	21,926	1,289	3,022	12,602	21,185	423	408	98.5	96.6	33.2	0.4	...	...	...	...	
		Total of district	2,470,350	138	33	28,755	25,975	54,730	1,093	5,427	30,548	52,449	1,248	1,084	98.1	86.8	31.7	0.4	44,898	18.6	1,004	0.4	
		Total of circles and districts	28,967,614	245	681	408,495	343,688	752,183	1,106	13,736	409,684	712,631	10,019	8,816	96.0	87.9	24.6	0.3	607,069	20.9	20,859	1.0	
1	Canton- ments.	Bangalore	79,487	...	2	585	491	1,076	538	683	199	882	138	102	94.03	73.9	11.1	7.2	1,309	16.4	84	1.1	
2		Secunderabad	52,000	...	4	1,559	1,067	2,626	656	1,276	1,927	2,403	223	122	130.0	54.7	46.2	2.3	2,101	40.4	10	0.2	
		Total of cantonments	131,487	...	6	2,144	1,558	3,702	617	2,059	1,226	3,285	361	224	98.3	62.02	24.9	1.7	3,410	28.1	94	0.7	
		* Medical Subordinates.	...	...	...	5,039	505	6,411	...	52	131	1,763	3,367	1,214	58.2	36.0	...	...	...	...	...	...	
1	Medical Subordinates.	Adoni	22,441	7,486	1	535	523	1,058	1,058	617	338	1,005	12	11	95.1	91.7	44.7	0.4	854	35.0	43	2.2	
2		Anantapur	4,997	5,515	1	202	165	367	357	201	76	287	63	45	97.6	73.01	58.4	4.3	242	49.3	1	0.2	
3		Anakapalle	13,341	1,112	1	295	134	429	429	288	70	100	257	141	1.0	99.6	85.1	8.9	669	50.1	36	2.7	
4		Bellary	22,465	2,056	2	1,271	632	1,903	976	1,556	652	263	1,738	17	12	92.8	76.6	33.6	0.2	1,726	39.3	57	1.1
5		Beknary	23,399	4,720	3	269	167	436	135	405	75	166	338	...	...	88.2	...	...	...	622	22.1	18	0.7
6		Bewalka	9,856	...	2	414	385	799	800	501	168	359	603	69	79	94.2	79.7	70.6	8.4	...	...	...	...
7		Bhadrachalam	8,353	2,145	1	249	280	529	529	439	147	223	445	70	62	97.2	88.6	34.9	7.2	444	51.7	1	0.1
8		Calicut	67,085	4,391	3	1,897	438	2,335	778	84	545	1,984	...	...	...	84.9	...	...	...	2,227	30.0	170	2.3
9		Channarayana	23,486	6,506	2	592	634	1,326	663	1,326	308	594	1,126	...	...	84.9	...	...	...	1,437	51.4	30	1.1
10		Chicacole	18,302	5,445	2	293	145	348	348	848	63	163	217	...	...	76.7	...	...	...	682	86.1	7	0.4
11		Chidambaram	19,597	9,918	1	469	418	887	887	887	235	546	830	...	...	94.6	...	...	...	787	39.6	20	1.0
12		Cochin	15,638	15,638	1	804	277	1,081	1,081	1,033	145	340	987	22	14	93.2	62.7	62.3	0.6	591	53.3	107	6.8
13		Cocanada	30,441	5,771	1	584	217	501	501	459	25	118	159	12	5	30.4	41.7	63.1	0.1	820	26.9	79	2.6

14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	101	102	103	104	105	106	107	108	109	110	111	112	113	114	115	116	117	118	119	120	121	122	123	124	125	126	127	128	129	130	131	132	133	134	135	136	137	138	139	140	141	142	143	144	145	146	147	148	149	150	151	152	153	154	155	156	157	158	159	160	161	162	163	164	165	166	167	168	169	170	171	172	173	174	175	176	177	178	179	180	181	182	183	184	185	186	187	188	189	190	191	192	193	194	195	196	197	198	199	200	201	202	203	204	205	206	207	208	209	210	211	212	213	214	215	216	217	218	219	220	221	222	223	224	225	226	227	228	229	230	231	232	233	234	235	236	237	238	239	240	241	242	243	244	245	246	247	248	249	250	251	252	253	254	255	256	257	258	259	260	261	262	263	264	265	266	267	268	269	270	271	272	273	274	275	276	277	278	279	280	281	282	283	284	285	286	287	288	289	290	291	292	293	294	295	296	297	298	299	300	301	302	303	304	305	306	307	308	309	310	311	312	313	314	315	316	317	318	319	320	321	322	323	324	325	326	327	328	329	330	331	332	333	334	335	336	337	338	339	340	341	342	343	344	345	346	347	348	349	350	351	352	353	354	355	356	357	358	359	360	361	362	363	364	365	366	367	368	369	370	371	372	373	374	375	376	377	378	379	380	381	382	383	384	385	386	387	388	389	390	391	392	393	394	395	396	397	398	399	400	401	402	403	404	405	406	407	408	409	410	411	412	413	414	415	416	417	418	419	420	421	422	423	424	425	426	427	428	429	430	431	432	433	434	435	436	437	438	439	440	441	442	443	444	445	446	447	448	449	450	451	452	453	454	455	456	457	458	459	460	461	462	463	464	465	466	467	468	469	470	471	472	473	474	475	476	477	478	479	480	481	482	483	484	485	486	487	488	489	490	491	492	493	494	495	496	497	498	499	500	501	502	503	504	505	506	507	508	509	510	511	512	513	514	515	516	517	518	519	520	521	522	523	524	525	526	527	528	529	530	531	532	533	534	535	536	537	538	539	540	541	542	543	544	545	546	547	548	549	550	551	552	553	554	555	556	557	558	559	560	561	562	563	564	565	566	567	568	569	570	571	572	573	574	575	576	577	578	579	580	581	582	583	584	585	586	587	588	589	590	591	592	593	594	595	596	597	598	599	600	601	602	603	604	605	606	607	608	609	610	611	612	613	614	615	616	617	618	619	620	621	622	623	624	625	626	627	628	629	630	631	632	633	634	635	636	637	638	639	640	641	642	643	644	645	646	647	648	649	650	651	652	653	654	655	656	657	658	659	660	661	662	663	664	665	666	667	668	669	670	671	672	673	674	675	676	677	678	679	680	681	682	683	684	685	686	687	688	689	690	691	692	693	694	695	696	697	698	699	700	701	702	703	704	705	706	707	708	709	710	711	712	713	714	715	716	717	718	719	720	721	722	723	724	725	726	727	728	729	730	731	732	733	734	735	736	737	738	739	740	741	742	743	744	745	746	747	748	749	750	751	752	753	754	755	756	757	758	759	760	761	762	763	764	765	766	767	768	769	770	771	772	773	774	775	776	777	778	779	780	781	782	783	784	785	786	787	788	789	790	791	792	793	794	795	796	797	798	799	800	801	802	803	804	805	806	807	808	809	810	811	812	813	814	815	816	817	818	819	820	821	822	823	824	825	826	827	828	829	830	831	832	833	834	835	836	837	838	839	840	841	842	843	844	845	846	847	848	849	850	851	852	853	854	855	856	857	858	859	860	861	862	863	864	865	866	867	868	869	870	871	872	873	874	875	876	877	878	879	880	881	882	883	884	885	886	887	888	889	890	891	892	893	894	895	896	897	898	899	900	901	902	903	904	905	906	907	908	909	910	911	912	913	914	915	916	917	918	919	920	921	922	923	924	925	926	927	928	929	930	931	932	933	934	935	936	937	938	939	940	941	942	943	944	945	946	947	948	949	950	951	952	953	954	955	956	957	958	959	960	961	962	963	964	965	966	967	968	969	970	971	972	973	974	975	976	977	978	979	980	981	982	983	984	985	986	987	988	989	990	991	992	993	994	995	996	997	998	999	1000	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	1026	1027	1028	1029	1030	1031	1032	1033	1034	1035	1036	1037	1038	1039	1040	1041	1042	1043	1044	1045	1046	1047	1048	1049	1050	1051	1052	1053	1054	1055	1056	1057	1058	1059	1060	1061	1062	1063	1064	1065	1066	1067	1068	1069	1070	1071	1072	1073	1074	1075	1076	1077	1078	1079	1080	1081	1082	1083	1084	1085	1086	1087	1088	1089	1090	1091	1092	1093	1094	1095	1096	1097	1098	1099	1100	1101	1102	1103	1104	1105	1106	1107	1108	1109	1110	1111	1112	1113	1114	1115	1116	1117	1118	1119	1120	1121	1122	1123	1124	1125	1126	1127	1128	1129	1130	1131	1132	1133	1134	1135	1136	1137	1138	1139	1140	1141	1142	1143	1144	1145	1146	1147	1148	1149	1150	1151	1152	1153	1154	1155	1156	1157	1158	1159	1160	1161	1162	1163	1164	1165	1166	1167	1168	1169	1170	1171	1172	1173	1174	1175	1176	1177	1178	1179	1180	1181	1182	1183	1184	1185	1186	1187	1188	1189	1190	1191	1192	1193	1194	1195	1196	1197	1198	1199	1200	1201	1202	1203	1204	1205	1206	1207	1208	1209	1210	1211	1212	1213	1214	1215	1216	1217	1218	1219	1220	1221	1222	1223	1224	1225	1226	1227	12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* Work performed in jails, police hospitals, revenue and other departments.

+ In finding the average, the total work of medical subordinates is excluded.

A—VACCINE

STATEMENT No. II showing the Cost of the Department

Number.	Districts.	Circles.	Establishment.							Expenditure.		
			Inspector of Vaccination and Deputy Sanitary Commissioner.	Deputy Inspectors.	Deputy Inspectors.	Vaccinators.		Probationers.	Peons.	Pay of establishment.	Travelling allowance.	Contingencies.
						First class.	Second class.					
1	2	3	4	5	6	7	8	9	10	11	12	13
										RS. A. P.	RS. A. P.	RS. A. P.
1	Anantapur.	Gooty circle	...	1	...	3	5	3	1	1,839 7 3	230 2 8	144 11 9
2		Pezukondah circle	...	...	1	2	2	1	1	1,377 4 3	251 1 0	181 14 6
		Total of district	...	1	1	5	8	4	2	3,216 11 6	483 3 8	326 10 3
3	Bollary.	Bollary circle	...	1	...	5	8	2	1	2,541 5 4	1,809 1 8	55 0 0
4		Harpanahalli circle	...	...	1	3	5	1	1	1,639 2 4	748 6 0	4 0 0
		Total of district	...	1	1	8	13	3	2	4,210 7 8	2,057 7 8	59 0 0
5	Chingleput.	Chingleput circle	...	1	...	4	7	1	1	2,652 7 11	604 11 9	1,269 10 4
6		Saidapet do.	...	1	...	3	5	1	1	2,159 7 2	486 7 2	753 13 11
		Total of district	...	2	...	7	12	2	2	4,811 16 1	1,091 2 11	2,017 3 3
7	Coimbatore.	North Coimbatore circle	...	1	...	3	7	2	1	2,213 2 6	373 12 4	256 5 4
8		South do. do.	...	...	1	3	6	...	1	1,787 12 6	187 5 0	180 13 0
9		East do. do.	...	1	...	4	11	3	1	3,031 3 0	529 10 1	331 11 3
		Total of district	...	2	1	10	24	5	3	7,032 5 0	790 11 5	778 13 7
10	Cuddapah.	Cuddapah circle	...	1	...	4	7	1	1	2,044 2 7	1,050 11 8	224 0 9
11		Madanapalle do.	...	1	...	3	2	1	1	1,943 1 5	692 3 3	173 4 8
12		Sidhout do.	...	...	1	8	5	1	1	1,643 15 5	675 1 4	341 9 4
		Total of district	...	2	1	11	20	4	3	5,631 3 9	2,418 0 3	738 14 9
13	Ganjam.	Chatrapur circle	...	1	...	5	11	2	1	3,431 15 5	249 15 0	994 12 6
14		Chicacole do.	...	1	...	3	8	1	1	2,291 7 3	208 0 0	30 11 4
15		Ganjam Hill tracts	...	1	...	...	7	...	1	1,615 5 8	310 9 11	12 8 6
		Total of district	...	3	...	8	26	3	3	7,338 12 4	768 8 11	398 0 4
16	Godavari.	Ellore circle	...	1	...	4	10	3	1	2,603 9 6	803 3 6	61 4 0
17		Pittapur do.	...	...	1	3	7	2	1	1,917 7 10	616 12 0	51 4 9
		Government vaccinators (Peddapur Agency).	...	...	1	...	...	...	...	205 11 9	89 6 0	5 0 0
18	Godavari.	Rajahmundry circle	...	1	...	5	8	3	1	2,879 5 2	1,077 12 10	120 9 8
		Government vaccinators (Bhadrachalam.)	...	...	...	...	...	...	...	...	...	...
		Total of district	...	2	1	13	25	8	3	7,606 2 3	2,587 2 4	308 2 5
19	Kistna.	Guntur circle	...	1	...	4	6	4	1	2,338 0 11	662 9 0	72 6 0
20		Masulipatam circle	...	1	...	6	9	5	1	3,132 14 6	899 8 0	102 8 0
21		Vinukonda do.	...	...	1	3	3	3	1	1,566 14 9	525 9 0	49 9 0
		Total of district	...	2	1	13	18	12	3	7,037 14 2	2,087 10 0	224 7 0
22	Kurnool.	Cumbum circle	...	1	...	3	4	2	1	1,618 14 1	393 12 0	446 1 9
23		Kurnool do.	...	1	...	5	5	3	1	1,793 14 3	415 15 9	387 8 2
		Total of district	...	2	...	8	9	5	2	3,432 12 4	812 11 9	833 9 11
24	Madura.	Dindigul circle	...	1	...	5	7	2	1	2,769 9 7	233 14 0	317 3 1
25		Madura do.	...	...	1	3	5	2	1	2,017 13 11	207 2 0	294 10 2
26		Pernagudi do.	...	1	...	7	10	2	1	3,573 7 9	284 9 0	326 13 5
		Total of district	...	2	1	15	22	6	3	8,360 15 3	755 9 0	938 10 8
27	Malabar.	Tellicherry circle	...	...	1	3	4	3	1	1,831 15 1	360 6 6	73 9 4
28		Calicut do.	...	1	...	3	7	2	1	2,567 1 10	429 13 1	114 6 8
29		Palghat do.	...	...	1	4	5	3	1	1,641 10 6	276 12 0	89 3 4
		Total of district	...	1	2	10	16	8	3	6,040 11 5	1,066 15 7	277 3 4

* Information not furnished.

DEPARTMENT.

in the Madras Presidency during the official year 1889-90.

Paid from								
Total cost.	Imperial funds.	Provincial funds.	Local funds.	Municipalities.	Native states, zemindars, or private funds.	Total.	Number of all successful vaccinations and revaccinations.	Average cost of each successful case.
14	15	16	17	18	19	20	21	22
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.
2,223 5 8	...	...	2,223 5 8	...	...	2,223 5 8	8,395	0 4 3
1,813 3 9	...	...	1,813 3 9	...	...	1,813 3 9	6,720	0 4 3
4,036 9 5	...	...	4,036 9 5	...	...	4,036 9 5	15,124	0 4 2
3,905 7 0	...	...	3,905 7 0	...	...	3,905 7 0	13,485	0 4 7
2,421 8 4	...	...	2,421 8 4	...	...	2,421 8 4	8,198	0 4 9
6,326 15 4	...	...	6,326 15 4	...	...	6,326 15 4	21,683	0 4 6
4,517 14 0	...	...	4,517 14 0	...	...	4,517 14 0	25,371	0 2 10
3,402 12 3	...	...	3,402 12 3	...	...	3,402 12 3	17,752	0 3 1
7,920 10 3	...	...	7,920 10 3	...	...	7,920 10 3	43,123	0 3 0
2,843 4 2	...	...	2,843 4 2	...	...	2,843 4 2	13,651	0 3 4
2,133 14 8	...	...	2,133 14 8	...	...	2,133 14 8	12,413	0 2 9
3,622 11 4	...	...	3,622 11 4	...	...	3,622 11 4	22,567	0 2 4
8,301 14 0	...	...	8,301 14 0	...	...	8,301 14 0	50,631	0 2 9
3,318 15 0	...	...	3,318 15 0	...	...	3,318 15 0	6,594	0 8 1
2,808 9 4	...	...	2,808 9 4	...	...	2,808 9 4	8,102	0 5 7
2,660 10 5	...	...	2,660 10 5	...	...	2,660 10 5	8,232	0 5 2
8,788 2 9	...	...	8,788 2 9	...	...	8,788 2 9	22,928	0 6 1
4,026 10 11	...	...	4,026 10 11	...	...	4,026 10 11	13,654	0 4 8
2,590 2 7	...	...	2,590 2 7	...	...	2,590 2 7	9,316	0 4 5
1,938 8 1	...	1,938 8 1	...	...	...	1,938 8 1	17,805	0 1 9
8,555 6 7	...	1,938 8 1	6,616 13 6	...	...	8,555 5 7	40,775	0 3 4
3,468 1 0	...	...	3,468 1 0	...	...	3,468 1 0	9,925	0 5 7
2,585 8 7	...	...	2,585 8 7	...	...	2,585 8 7	7,819	0 5 3
300 1 9	...	300 1 9	...	...	...	300 1 9	747	0 6 5
4,147 11 8	...	...	4,147 11 8	...	...	4,147 11 8	14,184	0 4 8
...	...	...	...	...	...	...	...	...
10,501 7 0	...	300 1 9	10,201 5 3	...	...	10,501 7 0	32,376	0 5 2
3,072 15 11	...	...	3,072 15 11	...	...	3,072 15 11	4,732	0 10 5
4,134 14 6	...	...	4,134 14 6	...	...	4,134 14 6	8,926	0 7 8
2,142 0 9	...	...	2,142 0 9	...	...	2,142 0 9	4,118	0 7 9
9,349 15 2	...	...	9,349 15 2	...	...	9,349 15 2	17,776	0 8 5
2,481 11 10	...	...	2,481 11 10	...	...	2,481 11 10	10,408	0 3 10
2,597 6 2	...	...	2,597 6 2	...	...	2,597 6 2	13,704	0 3 0
5,079 2 0	...	...	5,079 2 0	...	...	5,079 2 0	24,112	0 3 4
3,370 16 8	...	...	3,370 10 8	...	...	3,370 10 8	16,995	0 3 2
2,519 10 1	...	...	2,519 10 1	...	...	2,519 10 1	13,888	0 2 11
4,184 14 2	...	...	4,184 14 2	...	...	4,184 14 2	22,519	0 2 11
10,075 2 11	...	...	10,075 2 11	...	...	10,075 2 11	53,402	0 3 0
2,265 14 11	...	...	2,265 14 11	...	...	2,265 14 11	10,816	0 3 4
3,111 5 7	...	...	3,111 5 7	...	...	3,111 5 7	14,481	0 3 5
2,007 9 10	...	...	2,007 9 10	...	...	2,007 9 10	12,863	0 2 6
7,384 14 4	...	...	7,384 14 4	...	...	7,384 14 4	33,100	0 3 1

A—VACCINE

STATEMENT No. II showing the Cost of the Department in the

Number.	Districts.	Circles.	Establishment.							Expenditure.		
			Inspector of Vaccination and Deputy Sanitary Commissioner.	First-class Deputy Inspectors.	Second-class Deputy Inspectors.	Vaccinators.	First class.	Second class.	Probationers.	Pay of establishment.	Travelling allowance.	Contingencies.
1	2	3	4	5	6	7	8	9	10	11	12	13
										RS. A. P.	RS. A. P.	RS. A. P.
30	Nellore.	Kávali circle	...	...	1	3	5	1	1	1,661 5 10	441 11 0	152 0 2
31		Neilore do.	...	1	...	3	6	3	1	2,590 2 6	816 5 0	262 10 6
32		Ongole do.	...	...	1	3	5	1	1	1,669 7 0	485 6 0	131 2 3
		Total of district ...	...	1	2	9	16	5	3	5,860 15 4	1,743 6 0	545 12 11
33	Nilgiris.	Nílgeris	...	...	...	3	...	...	...	681 8 5	292 5 7	62 4 0
		Total of district ...	...	...	...	3	...	...	...	681 8 5	292 5 7	62 4 0
34		Chittoor circle	...	1	...	6	6	3	1	2,715 10 1	869 15 3	124 8 9
35	North Arcot.	Karvetnaggar circle ...	...	...	1	3	5	1	1	1,671 14 9	629 6 7	158 1 1
36		Vellore circle	...	1	...	5	5	2	1	2,501 8 1	811 6 0	142 2 11
		Total of district ...	...	2	1	14	16	6	3	6,889 0 11	2,310 11 10	404 12 9
37	Madras Presidency.	Madras Presidency ...	1	...	...	...	...	...	...	11,224 13 2	1,712 3 10	...
		Total of district ...	1	...	...	...	...	...	...	11,224 13 2	1,712 3 10	...
38		Krishnagiri circle ...	...	...	1	3	6	3	1	2,097 11 8	109 0 0	344 6 7
39	Salem.	Salem do.	...	1	...	3	12	3	1	3,010 10 6	232 14 6	248 3 4
40		Námakal do.	...	...	1	3	11	3	1	2,600 3 4	140 2 0	149 5 3
		Total of district ...	...	1	2	9	29	9	3	7,738 9 6	572 0 6	741 15 2
41	South Arcot.	Cuddalore circle ...	...	1	...	5	12	...	1	3,371 12 3	252 4 0	603 0 4
42		Vridhachalam circle ...	...	...	1	3	9	...	1	1,963 12 2	154 4 0	72 4 2
		Total of district ...	...	1	1	8	21	...	2	5,335 8 5	406 8 0	675 4 0
43	South Canara.	No. I, South Canara circle ...	...	1	...	3	6	3	1	2,181 1 4	214 2 0	97 6 4
44		No. II, do. do.	...	...	1	2	4	4	1	1,775 11 9	236 14 11	81 12 4
		Total of district ...	...	1	1	5	10	9	2	3,956 13 1	451 0 11	178 2 8
45	Tanjore.	Negapatam circle ...	...	1	...	5	9	2	1	2,650 14 8	393 8 0	303 5 10
46		Tanjore do.	...	1	...	4	15	2	1	3,759 9 13	312 11 0	443 13 10
		Total of district ...	...	2	...	9	24	4	2	6,410 8 7	605 3 0	746 3 8
47	Tinnevely.	Satár circle	...	...	1	3	8	1	1	2,187 0 11	244 3 6	272 3 6
48		Shermádevi circle ...	...	...	1	4	7	3	1	2,551 7 0	180 10 0	333 6 8
49		Tinnevely do.	...	1	...	4	10	2	1	2,974 7 9	322 9 0	337 13 5
		Total of district ...	...	1	2	11	25	6	3	7,712 16 8	747 6 6	1,003 7 7
50	Trichinopoly.	Trichinopoly circle ...	...	1	...	5	18	5	1	3,509 0 11	342 14 0	1,030 12 6
		Total of district ...	...	1	...	5	18	5	1	3,509 0 11	342 14 0	1,030 12 6
51		Gunapur circle ...	...	1	...	2	2	1	...	1,018 7 2	583 9 0	60 1 4
52	Vizagapatam.	Zemindary vaccinators ...	...	...	...	3	...	...	...	252 3 0	18 12 0	...
		Jeypure circle	...	...	1	4	1	1	...	1,095 13 4	522 2 6	77 7 11
		Zemindary vaccinators ...	...	...	...	3	...	...	...	234 7 6	74 2 0	...
		Total of Hill tracts ...	...	1	1	12	3	2	...	2,541 6 0	1,198 9 6	137 9 3
53	Vizagapatam.	Vizagapatam circle ...	...	1	...	7	6	3	1	2,852 4 11	173 15 0	255 10 0
		Government vaccinators (Gudem hills) ...	...	...	2	...	...	...	...	315 0 0	299 13 6	2 0 0
54		Vizianagaram circle ...	...	...	1	7	7	3	1	2,719 2 8	81 13 0	89 0 0
		Total of district ...	...	2	2	16	25	9	4	8,487 13 7	1,754 3 0	425 3 3
		Grand Total of district ...	1	32	20	197	372	113	52	1,32,597 10 4	23,878 2 8	12,679 15 6

DEPARTMENT.

Madras Presidency during the official year 1889-90—continued.

Total cost.	Paid from:					Total.	Number of all successful vaccinations and revaccinations.	Average cost of each successful case.
	Imperial funds.	Provincial funds.	Local funds.	Municipalities.	Native states, zemindars, or private funds.			
14	15	16	17	18	19	20	21	22
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.
2,255 1 0	...	...	2,255 1 0	...	...	2,255 1 0	8,436	0 4 4
3,609 2 0	...	...	3,609 2 0	...	...	3,609 2 0	11,001	0 5 3
2,235 15 3	...	...	2,235 15 3	...	...	2,235 15 3	7,981	0 4 7
8,150 2 3	...	...	8,150 2 3	...	...	8,150 2 3	27,418	0 4 9
1,036 2 0	...	...	1,036 2 0	...	...	1,036 2 0	1,654	0 10 0
1,036 2 0	...	...	1,036 2 0	...	...	1,036 2 0	1,654	0 10 0
3,710 2 1	...	...	3,710 2 1	...	...	3,710 2 1	13,773	0 4 4
2,439 6 5	...	...	2,439 6 5	...	...	2,439 6 5	7,577	0 5 2
3,455 1 0	...	...	3,455 1 0	...	...	3,455 1 0	13,171	0 4 2
9,604 9 6	...	...	9,604 9 6	...	...	9,604 9 6	34,523	0 4 5
12,937 1 0	...	12,937 1 0	...	...	...	12,937 1 0	...	...
12,937 1 0	...	12,937 1 0	...	...	...	12,937 1 0	...	...
2,641 2 3	...	...	2,641 2 3	...	...	2,641 2 3	11,102	0 2 11
3,521 12 4	...	...	3,521 12 4	...	...	3,521 12 4	19,178	0 2 11
2,889 10 7	...	...	2,889 10 7	...	...	2,889 10 7	22,011	0 2 1
9,052 9 2	...	...	9,052 9 2	...	...	9,052 9 2	55,286	0 2 10
4,227 0 7	...	...	4,227 0 7	...	...	4,227 0 7	20,813	0 3 3
2,190 4 4	...	...	2,190 4 4	...	...	2,190 4 4	10,652	0 3 4
6,417 4 11	...	...	6,417 4 11	...	...	6,417 4 11	31,365	0 3 3
2,492 9 8	...	...	2,492 9 8	...	...	2,492 9 8	13,780	0 2 10
2,094 7 0	...	...	2,094 7 0	...	...	2,094 7 0	10,066	0 3 4
4,587 0 8	...	...	4,587 0 8	...	...	4,587 0 8	23,786	0 3 1
3,257 12 6	...	...	3,257 12 6	...	...	3,257 12 6	17,784	0 2 4
4,479 2 9	...	...	4,479 2 9	...	...	4,479 2 9	22,097	0 3 0
7,736 15 3	...	...	7,736 15 3	...	...	7,736 15 3	41,871	0 2 11
2,703 7 11	...	...	2,703 7 11	...	...	2,703 7 11	15,657	0 2 9
3,125 7 8	...	...	3,125 7 8	...	...	3,125 7 8	18,991	0 2 8
3,634 14 2	...	...	3,634 14 2	...	...	3,634 14 2	18,633	0 3 1
9,463 13 9	...	...	9,463 13 9	...	...	9,463 13 9	53,281	0 2 10
4,882 11 5	...	...	4,882 11 5	...	...	4,882 11 5	37,451	0 2 1
4,882 11 5	...	...	4,882 11 5	...	...	4,882 11 5	37,451	0 2 1
1,692 1 6	...	1,692 1 6	...	...	...	1,692 1 6	1,774	0 15 3
271 4 0	...	...	...	...	271 4 0	271 4 0	2,257	0 1 11
1,605 9 9	...	1,605 9 9	...	...	...	1,605 9 9	5,347	0 4 10
308 9 5	...	...	...	...	308 9 6	308 9 6	2,818	0 2 2
3,877 8 9	...	3,297 11 3	...	...	579 13 6	3,577 9	12,196	0 5 1
3,311 13 11	...	...	3,311 13 11	...	...	3,311 13 11	19,030	0 2 9
646 13 6	...	646 13 6	...	...	...	646 13 6	734	0 14 1
2,830 15 8	...	...	2,830 15 8	...	...	2,830 15 8	21,593	0 2 1
10,667 3 10	...	3,944 8 9	6,142 18 7	...	579 12 6	10,667 3 10	53,553	0 4 1
1,71,155 12 6	...	19,120 3 7	1,51,455 11 5	...	579 13 6	1,71,155 12 6	173,057	0 3 9

† Exclusive of Bhadrachalam Hill Tracts.

A—VACCINE

STATEMENT No. II showing the Cost of the Department in the

Number.	Municipalities.	Establishment.								Expenditure.		
		Inspector of Vaccination and Deputy Sanitary Commissioner.	Deputy Inspectors.	Second-class Inspectors.	Vaccinators.		Probationers.	Peons.	Pay of establishment.	Travelling allowance.	Contingencies.	
					First class.	Second class.						
1	2	3	4	5	6	7	8	9	10	11	12	13
1	Adoni					1				Rs. A. P.	Rs. A. P.	Rs. A. P.
2	Anantapur					1				175 8 0	1 0 9	8 0 4
3	Anakapalle					1				180 0 0		18 2 5
4	Bellary					1				120 0 0		57 13 3
5	Berhampore					1	1	1		293 2 10		114 4 2
6	Bezvada					1				48 10 0	3 12 0	8 0 6
7	Bimlipatam					1	1			180 0 0		26 10 5
8	Calicut							3		180 0 0		30 0 0
9	Cannanore					1	1			354 8 7		
10	Chicacole					1				300 0 0		14 14 10
11	Chidambaram					1				181 8 0		11 3 0
12	Cochin					1				180 0 0		116 12 0
13	Cocanada					1				180 0 0		13 5 1
14	Coimbatore					1	2			19 13 5		48 6 9
15	Coujeeveram							1	1	233 5 9		50 5 8
16	Coonoor					1				175 13 9	7 0 0	128 3 10
17	Cuddalore					1	1			180 0 0		5 0 0
18	Cuddapah									228 0 0		112 8 3
19	Dindigul					1			1	173 2 4		57 14 8
20	Ellore					1				247 0 0		91 4 9
21	Erode					1				190 0 0		102 7 3
22	Gadivatham							1		178 8 3		3 8 0
23	Guntur						1			118 1 0		0 14 0
24	Karur					1				183 0 0		149 12 3
25	Kumbakonam					1	1			108 0 0		14 6 0
26	Kurnool					1				290 15 10		291 15 10
27	Madras		1	4		8	8	8	1	180 0 0		196 2 3
28	Madura					1	2			6,177 1 10	154 4 2	4,544 9 7
29	Mannargudi						1			354 8 0		50 2 0
30	Mangalore					1				120 0 0		16 10 0
31	Masulipatam					1				207 13 0		52 12 0
32	Mayavaram					1				215 0 0		112 15 0
33	Nagapatam					1	1			178 8 0		258 5 0
34	Nellore						1			305 4 11		126 10 5
35	Ongole						1			148 12 11		54 0 0
36	Ootacamund					1				117 7 0		131 4 0
37	Palacottah					1	1			216 0 0		36 15 9
38	Palghat					1				180 0 0		57 11 9
39	Parakkimedi					1				261 1 0		23 4 0
40	Periyakulam						1			180 0 0		11 10 2
41	Palni					1				120 0 0		
42	Rajahmundry						2			194 2 5		249 8 9
43	Salem					1	2	1		437 2 6		137 5 7
44	Srirangam									119 8 0		12 5 10
45	Tanjore						3			358 0 0		107 13 9
46	Tellicherry						3			358 0 0		168 13 8
47	Tinnevely						1			174 0 8		22 12 11
48	Trichinopoly						1	3		649 0 0		104 2 10
49	Tirupatir						1			120 0 0		9 0 5
50	Tirupati						1			150 0 0		9 12 0
51	Tuticorin						1			180 0 0		67 12 5
52	Vaniyambadi						1	1		120 0 0		5 0 0
53	Vellore					1	1			335 12 11	13 0 0	123 11 8
54	Vizagapatam						1			216 0 0		94 12 10
55	Vizianagrum						1			203 10 4		12 0 6
56	Wajajpet						1			120 0 0	0 10 10	16 8 11
Total of Municipalities				1	4	42	51	13	2	17,566 1 3	179 11 9	8,290 8 1
1	Bangalore					1	1			336 0 0		27 9 0
2	Secunderabad					1	3			576 0 0		
Total						2	4			912 0 0		27 9 0
Grand Total			1	33	24	241	427	126	54	1,51,075 11 7	26,057 14 5	20,993 0 7

* Assistant Deputy Inspectors.

DEPARTMENT.

Madras Presidency during the official year 1889-90—continued.

Paid from								
Total cost.	Imperial funds.	Provincial funds.	Local funds.	Municipalities.	Native states, zemindars, or private funds.	Total.	Number of all successful vaccinations and revaccinations.	Average cost of each successful case.
14	15	16	17	18	19	20	21	22
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.
184 9 1	...	...	...	184 9 1	...	184 9 1	1,016	0 2 11
198 2 5	...	...	...	198 2 5	...	198 2 5	333	0 9 6
177 13 3	...	...	...	177 13 3	...	177 13 3	407	0 6 11
407 7 0	...	...	...	407 7 0	...	407 7 0	1,810	0 3 7
110 6 6	...	...	...	110 6 6	...	110 6 6	358	0 4 11
206 10 5	...	...	...	206 10 5	...	206 10 5	739	0 4 6
210 0 0	...	...	...	210 0 0	...	210 0 0	508	0 6 7
354 8 7	...	...	...	354 8 7	...	354 8 7	1,984	0 2 10
314 14 10	...	...	...	314 14 10	...	314 14 10	1,126	0 4 5
192 11 0	...	...	...	192 11 0	...	192 11 0	267	0 11 6
296 12 0	...	...	...	296 12 0	...	296 12 0	839	0 5 7
193 5 1	...	...	...	193 5 1	...	193 5 1	1,001	0 3 1
68 4 2	...	...	...	68 4 2	...	68 4 2	198	0 5 6
283 11 5	...	...	...	283 11 5	...	283 11 5	1,494	0 3 0
311 3 7	...	...	...	311 3 7	...	311 3 7	1,791	0 2 9
185 0 0	...	...	...	185 0 0	...	185 0 0	579	0 5 1
340 8 3	...	...	...	340 8 3	...	340 8 3	1,194	0 4 7
231 1 0	...	...	...	231 1 0	...	231 1 0	306	0 12 1
338 4 9	...	...	...	338 4 9	...	338 4 9	1,221	0 4 5
292 7 3	...	...	...	292 7 3	...	292 7 3	1,323	0 3 0
182 0 3	...	...	...	182 0 3	...	182 0 3	668	0 4 3
118 15 0	...	...	...	118 15 0	...	118 15 0	285	0 6 8
332 12 3	...	...	...	332 1 3	...	332 12 3	923	0 5 9
122 6 0	...	...	...	122 6 0	...	122 6 0	388	0 5 1
582 15 8	...	...	...	582 15 8	...	582 15 8	1,312	0 7 1
376 2 3	...	...	...	376 2 3	...	376 2 3	1,619	0 2 8
10,875 15 7	...	...	...	10,875 15 7	...	10,875 15 7	23,504	0 7 2
354 8 0	...	...	...	354 8 0	...	354 8 0	3,015	0 1 11
170 2 0	...	...	...	170 2 0	...	170 2 0	556	0 4 10
224 7 0	...	...	...	224 7 0	...	224 7 0	1,373	0 2 7
267 12 0	...	...	...	267 12 0	...	267 12 0	1,223	0 3 6
291 7 10	...	...	...	291 7 10	...	291 7 10	836	0 5 7
563 9 11	...	...	...	563 9 11	...	563 9 11	1,826	0 4 11
275 7 4	...	...	...	275 7 4	...	275 7 4	995	0 4 5
171 7 0	...	...	...	171 7 0	...	171 7 0	721	0 3 10
347 4 0	...	...	...	347 4 0	...	347 4 0	892	0 6 3
216 15 9	...	...	...	216 15 9	...	216 15 9	823	0 4 3
318 12 9	...	...	...	318 12 9	...	318 12 9	1,152	0 4 5
203 4 0	...	...	50 4 0	153 0 0	...	203 4 0	726	0 4 3
131 10 2	...	...	...	131 10 2	...	131 10 2	355	0 5 11
120 0 0	...	...	...	120 0 0	...	120 0 0	483	0 4 0
443 11 2	...	...	...	443 11 2	...	443 11 2	464	0 13 4
574 8 1	...	...	...	574 8 1	...	574 8 1	1,913	0 4 9
131 13 10	...	...	...	131 13 10	...	131 13 10	1,343	0 1 7
465 13 9	...	...	...	465 13 9	...	465 13 9	1,629	0 4 7
526 13 8	...	...	...	526 13 8	...	526 13 8	890	0 9 6
196 13 7	...	...	...	196 13 7	...	196 13 7	739	0 4 3
753 2 10	...	...	...	753 2 10	...	753 2 10	4,711	0 2 7
129 0 5	...	...	...	129 0 5	...	129 0 5	450	0 4 7
159 12 0	...	...	...	159 12 0	...	159 12 0	163	1 0 0
247 12 5	...	...	...	247 12 5	...	247 12 5	761	0 5 2
125 0 0	...	...	...	125 0 0	...	125 0 0	381	0 5 3
472 8 7	...	...	...	472 8 7	...	472 8 7	1,451	0 5 2
310 12 10	...	...	...	310 12 10	...	310 12 10	1,165	0 4 3
215 10 10	...	...	...	215 10 10	...	215 10 10	1,059	0 3 3
137 3 9	...	...	...	137 3 9	...	137 3 9	285	0 7 8
26,036 5 1	...	...	50 4 0	25,986 1 1	...	26,036 5 1	79,576	0 5 3
363 9 0	363 9 0	...	...	...	...	363 9 0	984	0 5 4
576 0 0	336 0 0	...	...	240 0 0	...	576 0 0	2,325	0 3 8
939 9 0	699 9 0	...	...	240 0 0	...	939 9 0	3,509	0 4 3
1,98,131 10 7	699 9 0	19,120 3 7	1,51,505 15 5	26,226 1 1	579 13 6	1,98,131 10 7	8,03,662	0 3 11

† Inclusive of the pay and allowances of the Inspector of Vaccination and Deputy Sanitary Commissioner.

B-DISPENSARY VACCINATION.

STATEMENT No. III showing Dispensary Vaccination in the Madras Presidency during the official year 1889-90.

Districts.	Number of dispensaries in each district to 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.	Primary vaccination.			Revaccination.		Percentage of successful cases.		
					Total.	Successful.			Total.	Successful.	Primary vaccination.	Revaccination.
						Under 1 year.	Above 1 and under 5 years.	Total of all ages.				
1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Anantapur district.</i>												
Anantapur	...	...	21	...	5	5	...	5	16	12	100.0	75.0
Dharmavaram	...	...	80	...	73	23	43	58	7	...	84.1	...
Gooty	...	...	69	...	69	28	29	59	...	...	85.5	...
Hindapur	...	...	65	...	65	22	35	63	...	...	96.9	...
Kalyandurg	...	...	50	...	49	19	25	44	1	...	89.8	...
Ooravacunda	...	...	141	...	141	71	63	137	...	...	97.1	...
Pentakonda	...	...	102	...	102	54	26	102	...	...	100.0	...
Tadpatri	...	...	53	...	55	31	22	55	...	...	100.0	...
Total	...	...	583	...	559	253	243	523	24	12	93.5	50.0
<i>Bellary district.</i>												
Adoni	...	...	24	...	23	14	6	22	1	1	95.6	100.0
Alur	...	...	23	...	23	7	15	22	...	...	95.6	...
Bellary	...	...	20	...	20	8	...	20	...	...	100.0	...
Brucepettah	...	...	37	...	37	23	11	34	...	...	91.9	...
Cowle Bazaar	...	...	44	...	44	34	3	37	...	...	84.1	...
Hospet	...	...	50	...	50	35	15	50	...	...	100.0	...
Harpalahalli	...	...	123	...	123	92	18	122	...	...	99.2	...
Hadagally	...	...	42	...	42	33	9	42	...	...	100.0	...
Kamptee	...	...	28	...	28	11	17	28	...	...	100.0	...
Kudligi	...	...	55	...	52	36	10	46	3	3	88.4	100.0
Karacal	...	...	53	...	53	51	2	53	...	...	100.0	...
Kowtalam	...	...	24	...	23	7	12	19	1	...	82.6	...
Kurugode	...	...	10	...	10	8	2	10	...	...	100.0	...
Rayadrug	...	...	61	...	61	27	34	61	...	...	100.0	...
Sandur	...	...	48	...	48	8	28	38	...	...	89.2	...
Siruguppa	...	...	57	...	57	43	8	52	...	...	91.2	...
Yemmiganur	...	...	12	...	12	5	6	11	...	...	91.7	...
Total	...	...	711	...	706	442	196	667	5	4	94.4	80.0
<i>Chingleput district.</i>												
Chingleput	...	...	234	...	233	39	116	192	1	...	85.4	...
Conjeeveram	...	...	131	...	127	23	71	121	4	2	95.3	50.0
Madurantakam	...	...	459	...	371	76	140	317	88	29	85.4	44.3
Nagalapuram	...	...	348	...	348	86	228	346	...	...	99.4	...
Poonamallee	...	...	401	...	401	70	254	371	...	...	92.5	...
Pennéri	...	...	105	...	105	50	44	102	...	...	97.1	...
Sripurumbudur	...	...	258	...	258	27	159	241	...	...	93.4	...
Sathiyavadi	...	...	237	...	237	89	86	203	...	...	85.6	...
St. Thomas' Mount	...	...	13	...	13	...	...	1	...	...	7.7	...
Saidapet	...	...	337	...	335	1	303	304	2	...	90.7	...
Seethiam	...	...	314	...	312	90	156	262	2	1	83.9	50.0
Tirupérur	...	...	190	...	187	65	77	161	3	...	86.1	...
Thiruvallur	...	...	405	...	398	166	161	369	6	2	92.5	33.3
Uttamarur	...	...	267	...	258	38	169	247	9	8	95.7	88.8
Total	...	...	3,699	...	3,584	829	1,964	3,237	115	52	80.3	45.2
<i>Coimbatore district.</i>												
Aravakurichi	...	...	56	...	56	7	30	42	...	...	75.0	...
Bharani	...	...	99	...	99	33	50	97	...	...	97.9	...
Coimbatore	...	...	5	...	5	3	2	5	...	...	100.0	...
Do. branch	...	...	87	...	86	6	24	76	1	1	88.3	100.0
Dhárápúram	...	...	91	...	91	24	60	90	...	...	98.9	...
Erode	...	...	62	...	62	20	13	59	...	...	90.3	...
Gopichettipalayam	...	...	51	...	51	21	23	47	...	...	92.1	...
Karur	...	...	66	...	64	4	38	62	2	2	96.8	100.0
Kollegal	...	...	120	...	120	46	72	120	...	...	100.0	...
Mettupalayam	...	...	16	...	16	4	5	14	...	...	87.5	...
Palladam	...	...	39	...	39	4	29	37	...	...	91.8	...

B-DISPENSARY VACCINATION.

STATEMENT No. III showing Dispensary Vaccination in the Madras Presidency during the official year 1889-90—continued.

Districts.	Number of dispensaries in each district to 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.	Primary vaccination.			Revaccination.		Percentage of successful cases.		
					Total.	Successful.			Total.	Successful.	Primary vaccination.	Revaccination.
						Under 1 year.	Above 1 and under 5 years.	Total of all ages.				
1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Coimbatore district—cont.</i>												
Pollachi	...	...	88	...	88	19	55	81	...	...	92.0	...
Satyamangalam	...	...	82	...	82	28	50	81	...	...	98.7	...
Tirupér	...	...	25	...	25	8	22	34	...	...	97.1	...
Udamalpet	...	...	60	...	58	29	21	55	2	2	94.8	100.0
Vattakarampudur	...	...	48	...	48	3	18	33	...	...	68.7	...
Total	...	...	1,005	...	1,000	239	526	933	5	5	93.3	100.0
<i>Cuddapah district.</i>												
Badvel	...	...	76	...	76	4	27	51	...	...	67.1	...
Chitvel	...	...	25	...	19	...	3	4	6	1	21.0	16.6
Cuddapah	...	...	78	...	78	...	...	69	...	...	88.4	...
Jammalamadugu	...	...	68	...	62	6	36	49	6	...	79.0	...
Kadiri	...	...	66	...	66	6	29	49	...	...	74.2	...
Madanapalle	...	...	386	...	372	72	273	372	14	3	100.0	21.4
Pilér	...	...	46	...	46	7	19	36	...	...	78.0	...
Proddutur	...	...	62	...	62	19	24	44	...	...	70.9	...
Pulivendla	...	...	45	...	45	7	21	28	...	...	84.4	...
Pullamper	...	...	9	...	9	...	...	6	...	...	66.6	...
Rayachoti	...	...	42	...	42	...	17	29	...	...	69.0	...
Total	...	...	903	...	877	121	449	747	26	4	85.2	15.4
<i>Ganjam district.</i>												
Aska	...	...	44	...	44	5	16	41	...	...	93.1	...
Berhampore	...	...	18	...	18	3	8	18	...	...	100.0	...
Calingapatam	...	...	52	...	49	2	8	35	3	3	71.4	100.0
Chitacole	...	...	38	...	38	5	16	30	...	...	78.9	...
Ganjam	...	...	25	...	25	...	9	17	...	...	66.0	...
Gopalpur	...	...	44	...	41	2	18	32	...	...	72.7	...
Rebapur	...	...	12	...	12	...	2	7	...	...	58.3	...
Parlakimedi	...	...	48	...	48	1	25	45	...	...	93.7	...
Parushottapur	...	...	2	...	2	...	...	...	...	...	...	...
Sompot	...	...	22	...	22	1	16	22	...	...	100.0	...
Sarada	...	...	11	...	11	1	8	11	...	...	100.0	...
Telkuli	...	...	6	...	5	...	2	4	...	...	80.0	...
Udayagiri	...	...	23	...	23	5	3	21	...	...	91.3	...
Varanasi	...	...	14	...	14	2	10	14	...	...	100.0	...
Total	...	...	358	...	355	27	142	297	3	3	83.6	100.0
<i>Goddari district.</i>												
Amalapuram	...	...	38	...	38	1	23	34	...	...	89.4	...
Bhadrachallam	...	...	45	...	43	2	10	33	2	1	76.7	50.0
Canimada	...	...	227	...	219	10	57	82	8	...	37.4	...
Chintalapudi	...	...	41	...	41	...	25	28	...	...	68.3	...
Dowlaiswaram	...	...	...	...	...	...	...	...	...	...	...	...
Ellore	...	...	180	...	180	19	98	165	...	...	91.6	...
Gokaram	...	...	42	...	42	...	9	11	...	...	26.1	...
Bhimavaram	...	...	87	...	87	3	37	57	...	...	65.5	...
Narsapur	...	...	142	...	136	...	60	88	6	6	64.7	100.0
Pithapuram	...	...	72	...	72	7	43	57	...	...	79.1	...
Peddapuram	...	...	92	...	92	1	59	85	...	...	92.3	...
Rameswaram	...	...	77	...	77	3	39	61	...	...	79.2	...
Rajahmundry	...	...	20	...	20	3	16	20	...	...	100.0	...
Sivakodu	...	...	78	...	78	2	31	67	...	...	85.8	...
Tannuku	...	...	111	...	111	10	66	88	...	...	79.2	...
Tallapudi	...	...	61	...	60	4	32	39	1	1	85.0	100.0
Tuni	...	...	50	...	50	...	23	34	...	...	63.0	...
Yelcswaram	...	...	26	...	26	...	14	18	...	...	69.2	...
Total	...	...	1,389	...	1,372	65	642	967	17	8	70.5	47.0

B—DISPENSARY VACCINATION.

STATEMENT No. III showing Dispensary Vaccination in the Madras Presidency during the official year 1889-90—continued.

Districts.	Number of dispensaries in each district to which a vaccinators 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.	Primary vaccination.				Revaccination.		Percentage of successful cases.	
					Total.	Successful.			Total.	Successful.	Primary vaccination.	Revaccination.
						Under 1 year.	Above 1 and under 6 years.	Total of all ages.				
1	2	3	4	5	6	7	8	9	10	11	12	13
Kistna district.												
Bapatla	...	...	62	...	62	9	42	60	...	...	96.7	...
Bezada	...	...	31	...	31	4	21	31	...	...	100.0	...
Chiralla	...	...	126	...	126	4	61	103	...	...	81.7	...
Challapalle	...	...	4	...	4	...	...	...	...	...	...	...
Dachepalle	...	...	103	...	102	28	59	101	1	1	99.2	100.0
Daggirala	...	...	2	...	2	...	2	2	...	...	100.0	...
Gudivada	...	...	42	...	41	4	27	41	1	1	100.0	100.0
Guntur	...	...	34	...	14	...	10	14	20	10	100.0	50.0
Jaggayapet	...	...	2	...	2	1	1	2	...	...	100.0	...
Karempoody	...	...	89	...	89	11	62	81	...	...	91.0	...
Masulipatam	...	...	34	...	34	...	28	34	...	...	100.0	...
Nandigama	...	...	1	...	1	...	1	1	...	...	100.0	...
Narsaraopet	...	...	30	...	30	8	16	26	...	...	86.6	...
Nazvid	...	...	61	...	61	10	27	57	...	...	93.4	...
Repalle	...	...	1	...	1	...	...	...	1	1	...	100.0
Sattenapalle	...	...	12	...	12	...	10	10	...	...	82.3	...
Tenali	...	...	4	...	4	2	1	3	...	...	75.0	...
Tiruvur	...	...	36	...	34	4	10	16	2	1	...	50.0
Tumacode	...	...	12	...	12	2	6	12	...	...	100.0	...
Vinukonda	...	...	71	...	71	12	37	51	...	...	71.8	...
Total	...	...	757	...	732	99	421	645	25	14	90.1	56.5
Kurnool district.												
Atmakur	...	...	316	...	316	30	55	286	...	...	90.5	...
Chagalmurri	...	...	297	...	128	24	83	116	169	94	90.6	55.6
Gembam	...	...	116	...	116	...	60	100	...	...	86.2	...
Dhosa	...	...	59	...	57	6	34	44	2	1	77.2	50.0
Giddulore	...	...	63	...	63	4	45	51	...	...	80.9	...
Kalva	...	...	78	...	70	5	16	81	8	...	47.3	...
Kodamar	...	...	29	...	29	4	8	15	...	...	51.7	...
Koilkuntla	...	...	473	...	372	69	82	228	101	52	61.3	51.4
Kurnool	...	...	137	...	137	40	60	126	...	...	91.2	...
Markapur	...	...	89	...	89	12	40	56	...	...	62.9	...
Nandyal	...	...	133	...	128	11	25	96	5	5	75.0	100.0
Nandikotkur	...	...	43	...	43	8	30	43	...	...	100.0	...
Owka	...	...	33	...	31	19	19	19	2	...	61.3	...
Patikonda	...	...	93	...	70	11	32	49	23	20	70.0	86.9
Sirvel	...	...	186	...	154	8	96	139	32	32	40.2	100.0
Yernagoodapoliem	...	...	12	...	12	3	6	9	...	...	75.0	...
Total	...	...	2,157	...	1,815	235	691	1,408	342	204	77.6	59.6
Madras town.												
Black Town, North Side	...	...	...	...	...	...	...	...	...	...	...	...
Native Infirmary	...	...	...	...	...	...	...	...	...	...	...	...
Triphicane	...	...	...	...	...	...	...	...	...	...	...	...
Hospital for Women & Children, Madras	...	...	...	...	...	...	...	...	...	...	...	...
Total	...	...	...	...	...	...	...	...	...	...	...	...
Madura district.												
Arupacotta	...	...	90	...	90	9	44	73	...	...	81.1	...
Bodinaikanur	...	...	10	...	10	2	4	8	...	...	80.0	...
Butlagundoo	...	...	30	...	30	9	10	20	...	...	66.6	...
Devakotta	...	...	69	...	69	15	40	69	...	...	100.0	...
Dindigul	...	...	4	...	4	...	...	...	...	...	100.0	...
Kamuthi	...	...	55	...	55	...	52	54	...	...	98.1	...
Kidakani	...	...	62	...	62	6	29	38	...	...	61.2	...
Kodaikanal	...	...	79	...	51	7	28	48	28	15	94.1	53.6
Konnavadi	...	...	28	...	28	0	20	26	...	...	92.8	...
Kayangudi	...	...	58	...	58	6	43	54	...	...	94.1	...

B—DISPENSARY VACCINATION.

STATEMENT No. III showing Dispensary Vaccination in the Madras Presidency during the official year 1889-90—continued.

Districts.	Number of dispensaries in each district to which a vaccinators 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.	Primary Vaccination.				Revaccination.		Percentage of successful cases.	
					Total.	Successful.			Total.	Successful.	Primary vaccination.	Revaccination.
						Under 1 year.	Above 1 and under 6 years.	Total of all ages.				
1	2	3	4	5	6	7	8	9	10	11	12	13
Madura district—cont.												
Madura	...	...	82	...	79	22	45	79	3	3	100.0	100.0
Mann Madura	...	...	43	...	43	2	24	33	...	...	76.7	...
Melur	...	...	81	...	81	6	59	77	...	...	95.0	...
Mutukulatūr	...	...	6	...	6	1	2	5	...	...	83.3	...
Nutham	...	...	101	...	100	40	45	93	1	1	93.0	100.0
Palni	...	...	11	...	11	4	7	11	...	...	100.0	...
Pamban	...	...	232	...	228	102	115	221	4	4	96.9	100.0
Periyakulam	...	...	9	...	9	3	6	9	...	...	100.0	...
Paramakudi	...	...	111	...	111	7	49	84	...	...	75.6	...
Rajasingumangalam	...	...	6	...	6	...	4	4	...	...	66.6	...
Rameswaram	...	...	109	...	109	21	42	93	...	...	85.3	...
Rannad	...	...	35	...	35	6	13	28	...	...	80.0	...
Sapoor	...	...	31	...	31	1	19	28	...	...	80.3	...
Sholavandan	...	...	62	...	62	...	47	47	...	...	80.3	...
Sivaganga	...	...	92	...	92	23	59	91	...	...	98.9	...
Tirumangalam	...	...	64	...	64	25	30	56	...	...	87.5	...
Tirupuramam	...	...	53	...	53	1	33	39	...	...	73.5	...
Tirushuli	...	...	120	...	119	41	68	117	1	1	98.2	100.0
Tirupatūr	...	...	39	...	39	1	28	35	...	...	89.7	...
Tiruvadanai	...	...	35	...	35	1	1	15	...	...	42.8	...
Udumalpetty	...	...	43	...	43	10	33	43	...	...	89.5	...
Uttamapattinam	...	...	67	...	67	8	56	66	...	...	98.5	...
Valaandi	...	...	45	...	45	14	15	29	5	...	64.4	...
Vedavandur	...	...	47	...	47	21	19	40	...	...	83.1	...
Virupakshi	...	...	37	...	37	13	17	30	...	...	83.0	...
Total	...	...	2,046	...	2,004	437	1,163	1,767	42	24	88.1	57.1
Malabar district.												
Alatur	...	...	3	...	3	...	2	...	...	...	66.6	...
Arundiparam	...	...	36	...	36	...	17	...	...	...	47.2	...
Endanena	...	...	41	...	39	2	20	36	2	2	92.3	100.0
Calicut	...	...	...	...	...	...	...	...	...	...	...	...
Cananore	...	...	5	...	5	1	5	8	...	...	100.0	...
Chowghat	...	...	54	...	54	...	6	40	...	...	74.0	...
Cochin	...	...	91	...	91	2	29	67	...	...	73.6	...
Kuthuparamba	...	...	201	...	200	1	43	53	1	...	28.5	...
Kolengod	...	...	...	...	...	...	...	...	...	...	...	...
Manjeri	...	...	27	...	26	1	10	17	1	...	65.4	...
Manjeri	...	...	18	...	18	...	15	...	...	...	83.3	...
Nizambar	...	...	9	...	9	1	8	...	...	...	88.8	...
Palghat	...	...	2	...	2	...	2	...	...	...	100.0	...
Do. branch	...	...	...	...	...	...	...	...	...	...	...	...
Pattipori Lazareth	...	...	37	...	26	...	19	22	11	4	81.4	36.3
Pondu	...	...	30	...	30	...	16	32	...	...	64.0	...
Tellicherry	...	...	15	...	15	...	15	...	...	...	100.0	...
Taliparamba	...	...	31	...	31	...	24	...	...	...	77.4	...
Vamamessum	...	...	5	...	4	...	1	4	1	1	100.0	100.0
Vayitri	...	...	14	...	14	6	5	11	...	...	78.5	...
Total	...	...	642	...	626	14	158	373	16	7	59.6	43.7
Nellore district.												
Addanki	...	...	77	...	77	2	60	77	...	...	100.0	...
Allur	...	...	40	...	40	...	22	35	...	...	87.5	...
Atmakur	...	...	57	...	57	5	10	18	...	...	31.6	...
Darsi	...	...	30	...	30	5	14	22	...	...	73.3	...
Giddur	...	...	83	...	88	14	61	78	...	...	88.6	...
Kandukur	...	...	182	...	180	37	105	173	2	2	96.1	100.0
Kanigiri	...	...	38	...	37	2	26	30	1	1	89.1	100.0
Kavali	...	...	35	...	33	3	16	21	...	...	63.6	...
Kistnapatam	...	...	21	...	21	...	10	17	...	...	80.9	...
Kottapattam	...	...	35	...	35	1	6	13	...	...	37.1	...
Kota	...	...	84	...	84	12	52	77	...	...	91.6	...

B—DISPENSARY VACCINATION.

STATEMENT No. III showing Dispensary Vaccination in the Madras Presidency during the official year 1889-90—continued.

Districts.	Number of dispensaries in each district to 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.	Primary vaccination.				Revaccination.		Percentage of successful cases.	
					Total.	Successful.			Total.	Successful.	Primary vaccination.	Revaccination.
						Under 1 year.	Above 1 and under 6 years.	Total of all ages.				
1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Nellore district—cont.</i>												
Kalavayi ...	...	...	60	...	60	4	43	50	...	...	83.3	...
Naidupet ...	...	...	5	...	5	...	3	6	...	...	100.0	...
Nellore Do. Branch ...	...	...	...	...	...	...	...	...	...	...	...	...
Ongole ...	...	...	87	...	87	2	29	82	...	...	94.2	...
Pannoor ...	...	...	64	...	64	4	42	59	...	...	92.2	...
Podili ...	...	...	40	...	40	2	29	32	...	...	80.0	...
Rāpūr ...	...	...	23	...	28	4	23	28	...	...	100.0	...
Sullurpet ...	...	...	46	...	46	1	29	42	...	...	91.3	...
Udayagiri ...	...	...	178	...	178	13	77	154	...	...	86.5	...
Venkatagiri ...	...	...	41	...	41	5	...	40	...	...	97.5	...
Total ...	...	...	1,234	...	1,231	116	657	1,053	3	3	85.5	100.0
<i>Nilgiri district.</i>												
Coonoor ...	...	...	52	...	52	4	20	40	...	...	76.9	...
Devāla ...	...	...	12	...	12	...	3	7	...	...	58.3	...
Gudalur ...	...	...	23	...	18	3	8	15	5	4	83.3	80.0
Kōtagiri ...	...	...	61	...	55	23	15	43	6	3	78.2	50.0
Ootacamund ...	...	...	1	...	...	...	...	...	1	...	...	...
Total ...	...	...	149	...	137	30	46	105	12	7	76.6	58.3
<i>North Arcot district.</i>												
Ambur ...	...	...	34	...	34	4	25	30	...	...	88.2	...
Arcot ...	...	...	134	...	134	11	45	129	...	...	91.8	...
Arni ...	...	...	29	...	29	5	21	26	...	...	89.6	...
Chittoor ...	...	...	10	...	10	2	7	9	...	...	90.0	...
Gudiyātam ...	...	...	51	...	51	2	28	38	...	...	74.5	...
Kuppam ...	...	...	25	...	25	10	11	21	...	...	84.0	...
Kālahasti ...	...	...	163	...	156	25	85	156	7	...	100.0	...
Palmaner ...	...	...	153	...	153	47	93	150	...	...	88.0	...
Pōlūr ...	...	...	31	...	31	...	24	28	...	...	90.3	...
Punganūr ...	...	...	88	...	83	16	58	83	5	4	100.0	80.0
Ranipet ...	...	...	47	...	47	25	9	34	...	...	72.3	...
Sholinghur ...	...	...	37	...	37	10	25	37	...	...	100.0	...
Tirupati ...	...	...	21	...	21	2	12	20	...	...	95.2	...
Vellore ...	...	...	106	...	106	42	31	96	...	...	90.6	...
Venkatagiricottah ...	...	...	1	...	1	...	...	1	...	...	100.0	...
Wāljāpet ...	...	...	24	...	24	2	8	18	...	...	75.0	...
Wandiwash ...	...	...	56	...	56	19	30	49	...	...	87.5	...
Total ...	...	...	1,010	...	998	222	512	919	12	4	92.0	33.3
<i>Salem district.</i>												
Attūr ...	...	...	65	...	65	22	37	63	...	...	96.9	...
Alangayam ...	...	...	30	...	30	3	25	30	...	...	100.0	...
Dhankankottah ...	...	...	29	...	29	...	22	22	...	...	75.8	...
Dharampuri ...	...	...	61	...	61	2	51	59	...	...	96.7	...
Harūr ...	...	...	31	...	31	...	30	30	...	...	96.7	...
Hosūr ...	...	...	33	...	37	9	21	30	1	...	81.0	...
Krishnagiri ...	...	...	36	...	36	8	12	36	...	...	100.0	...
Mathur ...	...	...	4	...	4	...	4	4	...	...	100.0	...
Nāmakal ...	...	...	100	...	93	3	36	92	7	7	88.9	100.0
Omālūr ...	...	...	66	...	66	14	48	64	...	...	93.9	...
Palakad ...	...	...	13	...	13	...	8	11	...	...	84.6	...
Pennagaram ...	...	...	31	...	31	17	12	29	...	...	93.5	...
Razipur ...	...	...	196	...	196	60	89	166	...	...	84.6	...
Salem ...	...	...	5	...	5	...	5	5	...	...	100.0	...
Sankaridrug ...	...	...	102	...	99	2	63	86	3	2	86.8	66.6
Sendamangalam ...	...	...	9	...	9	1	8	9	...	...	100.0	...
Thalli ...	...	...	...	...	...	...	...	...	...	...	...	...
Thamamputti ...	...	...	7	...	7	...	3	7	...	...	100.0	...

B—DISPENSARY VACCINATION.

STATEMENT No. III showing Dispensary Vaccination in the Madras Presidency during the official year 1889-90—continued.

Districts.	Number of dispensaries in each district to 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.	Primary vaccination.				Revaccination.		Percentage of successful cases.	
					Total.	Successful.			Total.	Successful.	Primary vaccination.	Revaccination.
						Under 1 year.	Above 1 and under 6 years.	Total of all ages.				
1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Salem district—cont.</i>												
Tirupattūr ...	...	...	68	...	68	1	56	60	...	...	88.2	...
Tiruchengōd ...	...	...	48	...	47	8	30	43	1	1	91.4	100.0
Ttānkaraī ...	...	...	79	...	79	32	39	74	...	...	81.0	...
Vāniyambādī ...	...	...	39	...	39	5	26	32	...	...	82.0	...
Yercaud ...	...	...	69	...	60	5	48	61	...	...	88.4	...
Total ...	...	...	1,126	...	1,114	195	728	1,013	12	10	90.9	83.3
<i>South Arcot district.</i>												
Chidambaram ...	...	...	56	...	56	10	39	52	...	...	92.9	...
Chengam ...	...	...	45	...	39	6	17	23	6	2	97.4	33.3
Gingee ...	...	...	60	...	60	3	29	47	...	...	78.3	...
Kallakurichi ...	...	...	118	...	118	26	75	117	...	...	99.1	...
Kurinjipādi ...	...	...	76	...	76	5	46	69	...	...	90.8	...
Markanān ...	...	...	100	...	99	6	69	93	1	...	93.9	...
Maanārgudi ...	...	...	80	...	76	1	25	46	4	2	60.5	50.0
New Town, Cuddalore.	...	...	191	...	191	20	121	181	...	...	94.7	...
Old Town, do. ...	...	...	33	...	30	3	10	16	3	2	53.3	66.6
Panruti ...	...	...	56	...	54	11	25	42	2	1	77.7	50.0
Sankarapuram ...	...	...	403	...	399	59	174	306	4	1	76.7	25.0
Tindivanam ...	...	...	102	...	102	28	52	101	...	...	90.0	...
Tirupāpuliūr ...	...	...	59	...	59	...	37	50	...	...	84.7	...
Tirukoilūr ...	...	...	129	...	129	7	97	129	...	...	100.0	...
Tiruvannāmalai ...	...	...	62	...	61	5	42	54	1	1	88.5	100.0
Titagudi ...	...	...	58	...	58	5	26	41	...	...	70.7	...
Villupuram ...	...	...	76	...	76	5	44	74	...	...	97.3	...
Vridhāchalam ...	...	...	44	...	44	10	19	33	...	...	75.0	...
Total ...	...	...	1,748	...	1,737	210	947	1,489	21	9	86.2	42.9
<i>South Canara district.</i>												
Amindēvi Island *	...	...	...	...	41	1	24	33	3	3	80.5	100.0
Bantwal ...	...	...	44	...	16	...	4	10	...	...	62.5	...
Beltangady ...	...	...	16	...	...	...	...	...	...	...	...	...
Gollibhattūr ...	...	...	40	...	40	...	6	26	...	...	65.0	...
Hebri ...	...	...	22	...	22	...	5	19	...	...	86.4	...
Jalsar ...	...	...	30	...	35	...	10	20	1	1	57.1	100.0
Kurhal ...	...	...	49	...	49	5	21	39	...	...	79.6	...
Kāsaragōd ...	...	...	...	...	...	...	...	...	...	...	...	...
Kollur ...	...	...	60	...	57	10	34	52	3	2	91.2	66.6
Kundapur ...	...	...	...	...	...	...	...	...	...	...	...	...
Mangalore *	...	...	47	...	47	...	15	32	...	...	68.1	...
Mociki ...	...	...	4	...	4	...	3	4	...	...	100.0	...
Mudbedri ...	...	...	127	...	103	17	37	88	24	12	85.4	50.0
Pattur ...	...	...	...	...	...	...	...	...	...	...	...	...
Udipi ...	...	...	12	...	12	...	...	6	...	...	50.0	...
Shonkarnaram ...	...	...	...	...	...	...	...	...	...	...	...	...
Total ...	...	...	457	...	426	33	159	329	31	18	77.2	58.1
<i>Tanjore district.</i>												
Ammapet ...	...	...	68	...	67	8	27	46	1	1	68.6	100.0
Arantāngi ...	...	...	101	...	101	9	68	90	...	...	89.1	...
Avadikerkōil ...	...	...	127	...	126	4	103	114	1	1	90.5	100.0
Ayyampett ...	...	...	112	...	112	3	91	105	...	...	92.7	...
Karunthattangudi ...	...	...	52	...	52	...	30	52	...	...	100.0	...
Kōdavassel ...	...	...	47	...	46	8	28	41	1	1	89.1	100.0
Kumbakōnam ...	...	...	106	...	106	28	42	93	...	...	87.7	...
Do. branch.	...	...	60	...	60	11	30	53	...	...	88.3	...
Kuttanallur ...	...	...	61	...	59	...	36	59	2	2	84.8	100.0

* Returns not received.

B—DISPENSARY VACCINATION.

STATEMENT No. III showing Dispensary Vaccination in the Madras Presidency during the official year 1889-90—continued.

Districts.	Number of dispensaries in each district to 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.	Primary vaccination.			Revaccination.		Percentage of successful cases.		
					Total.	Successful.			Total.	Successful.	Primary vaccination.	Revaccination.
						Under 1 year.	Above 1 and under 6 years.	Total of all ages.				
1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Tanjore district—cont.</i>												
Madukur	...	...	68	...	62	8	45	60	6	6	98.7	100.0
Manamalkudi	...	...	85	...	85	6	60	71	...	...	83.5	...
Manamboochavidy	...	...	52	...	14	1	7	10	38	7	71.4	18.4
Mannargudi	...	...	37	...	37	2	7	34	...	...	91.9	...
Mayavaram Webster Hospital	...	...	38	...	38	8	27	38	...	...	100.0	...
Minpassal	...	...	60	...	58	4	29	49	2	2	84.4	100.0
Mutopet	...	...	116	...	116	20	63	93	...	...	80.1	...
Nannilam	...	...	73	...	69	8	43	65	4	2	94.3	50.0
Nagore branch	...	...	40	...	15	23	40	...	...	...	100.0	...
Nagapatam	...	...	36	...	36	8	19	32	...	...	88.8	...
Nidamangalam	...	...	12	...	12	2	9	12	...	...	100.0	...
Orihanand Chuttram	...	...	74	...	66	24	21	53	8	1	87.9	12.5
Papanasam	...	...	73	...	73	3	50	58	...	...	79.4	...
Pudukota	...	...	75	...	70	...	59	68	5	4	97.1	80.0
Rajamadam	...	...	31	...	26	...	4	24	5	2	92.3	40.0
Rajah Mirasidar Hospital	...	...	56	...	56	10	36	54	...	...	96.4	...
Shiyali	...	...	103	...	102	4	52	72	1	...	70.6	...
Tirukattapalli	...	...	50	...	50	3	16	40	...	...	80.0	...
Tiruturaipundi	...	...	62	...	62	3	30	45	...	...	72.6	...
Tiruvadamardur	...	...	70	...	63	...	32	42	7	7	66.6	100.0
Tiruvadi	...	...	77	...	76	1	38	63	1	...	82.9	...
Tiruvallur	...	...	81	...	73	7	20	68	8	7	93.1	87.5
Tranquebar	...	...	53	...	51	3	20	38	2	1	74.5	50.0
Do. branch	...	...	121	...	120	7	79	106	1	1	88.4	100.0
Valangyan	...	...	75	...	74	5	33	64	1	1	88.5	100.0
Vallam	...	...	76	...	76	2	52	69	...	...	90.8	...
Vadarnam	...	...	51	...	51	7	26	51	...	...	100.0	...
Velangulam Chuttram Dispensary	...	...	63	...	62	2	40	48	1	1	77.4	100.0
Total	...	...	2,622	...	2,527	234	1,307	2,116	95	47	88.7	49.5
<i>Tinnevely district.</i>												
Ambasamudram	...	...	137	...	137	1	93	133	...	...	97.0	...
Christiansburg	...	...	16	...	16	2	9	11	...	...	68.7	...
Edyengoody	...	...	39	...	39	...	31	32	...	...	82.0	...
Mcgonanapuram	...	...	61	...	51	...	35	42	...	...	82.3	...
Nagalapuram	...	...	86	...	86	...	50	77	...	...	89.5	...
Nanganeri	...	...	39	...	39	4	30	38	...	...	97.4	...
Nazareth	...	...	5	...	5	2	2	5	...	...	100.0	...
Otapidaram	...	...	15	...	15	...	...	8	...	...	53.8	...
Palamcottah	...	...	74	...	74	6	28	68	...	...	91.8	...
Radhapuram	...	...	66	...	65	8	43	65	1	1	100.0	100.0
Satur	...	...	123	...	123	3	36	125	...	...	97.6	...
Sivakasi	...	...	23	...	23	10	9	23	...	...	100.0	...
Sankaracinarcoil	...	...	75	...	75	6	56	75	...	...	100.0	...
Sawyerapuram	...	...	90	...	90	4	66	87	...	...	96.6	...
Srivilliputtur	...	...	139	...	139	18	71	114	...	...	82.0	...
Srivaikuntham	...	...	21	...	20	2	4	14	1	1	70.0	100.0
Tenkasi	...	...	107	...	107	1	40	94	...	...	87.8	...
Tinnevely	...	...	64	...	62	8	29	47	2	1	75.8	50.0
Tirukarangudy	...	...	38	...	37	1	18	31	1	1	83.7	100.0
Trichendur	...	...	26	...	26	4	20	25	...	...	96.1	...
Tuticorin	...	...	33	...	32	4	18	24	1	1	75.0	100.0
Virakeralampudur	...	...	34	...	34	6	26	32	...	...	94.1	...
Virudnpati	...	...	103	...	102	25	60	94	1	1	92.1	100.0
Total	...	...	1,300	...	1,302	115	783	1,264	7	6	97.0	55.7

B—DISPENSARY VACCINATION.

STATEMENT No. III showing Dispensary Vaccination in the Madras Presidency during the official year 1889-90—continued.

Districts.	Number of dispensaries in each district to 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.	Primary vaccination.			Revaccination.		Percentage of successful cases.		
					Total.	Successful.			Total.	Successful.	Primary vaccination.	Revaccination.
						Under 1 year.	Above 1 and under 6 years.	Total of all ages.				
1	2	3	4	5	6	7	8	9	10	11	12	13
<i>Trichinopoly district.</i>												
Ariyalur	...	...	143	...	143	21	112	134	...	...	98.7	...
Erungaloro	...	...	56	...	56	4	37	63	...	...	94.6	...
Kulitalai	...	...	126	...	108	12	8	99	18	17	91.6	94.4
Lalandy	...	...	108	...	108	1	16	89	...	...	82.4	...
Manaparai	...	...	105	...	103	13	62	93	...	...	90.2	...
Musiri	...	...	220	...	220	33	124	220	...	...	100.0	...
Marrungapuram	...	...	121	...	121	34	50	90	...	...	74.3	...
Perambalur	...	...	118	...	95	21	19	87	23	23	91.6	100.0
Srirangam	...	...	107	...	107	20	64	105	...	...	95.1	...
Turayur	...	...	235	...	235	16	176	227	...	...	93.5	...
Trichinopoly Leper Hospital	...	...	21	...	21	...	8	21	...	...	100.0	...
Udayarpalsiyam	...	...	133	...	133	9	103	129	...	...	96.9	...
Wore Jubilee Dispensary	...	...	36	...	36	...	14	22	...	...	88.8	...
Trichinopoly	...	...	142	...	142	...	85	124	...	...	87.3	...
Total	...	...	1,671	...	1,628	184	878	1,508	43	40	92.3	93.0
<i>Vizagapatam district.</i>												
Anakapalle	...	...	55	...	39	...	8	23	16	8	58.9	50.0
Bobbili	...	...	173	...	173	16	79	166	6	5	95.9	82.3
Bondipatam	...	...	20	...	26	4	11	26	4	4	100.0	100.0
Chidavaram	...	...	200	...	200	23	154	198	...	...	99.0	...
Chidurapalle	...	...	119	...	110	23	39	101	9	5	91.8	57.5
Gajapatnagar	...	...	88	...	88	27	39	72	...	...	81.8	...
Narasipatnam	...	...	377	...	365	71	207	365	12	11	100.0	91.6
Nourangapur	...	...	5	...	5	...	1	3	...	...	60.0	...
Jeypore	...	...	...	...	...	...	...	...	...	...	...	...
Palkonda	...	...	332	...	271	63	135	237	61	53	87.4	86.8
Pavurapudi	...	...	132	...	129	52	61	119	3	3	92.2	100.0
Pattinghi	...	...	...	...	...	...	...	...	...	...	...	...
Razagada	...	...	5	...	5	3	2	5	...	...	100.0	...
Salur	...	...	464	...	461	230	202	450	3	3	97.6	100.0
Sranganapurkotta	...	...	66	...	64	...	61	62	2	...	96.8	...
Vizagapatam	...	...	...	...	...	...	...	...	...	...	...	...
Vizianagaram	...	...	97	...	90	8	54	84	7	4	93.3	57.1
Bissipkottah	...	...	22	...	22	3	11	14	...	...	63.6	...
Yellamanchilli	...	...	102	...	102	7	59	83	...	...	81.3	...
Total	...	...	2,273	...	2,150	535	1,123	2,008	123	96	93.3	78.0
Grand Total	...	...	27,849	...	26,870	4,646	13,675	23,363	979	577	86.9	58.9

Establishment.	Persons primarily vaccinated.																
	1881.	1882.	1883.	1884.	1885.	1886.	1887-88.	1888-89.	1889-90.	Number succes- fully vac- cinated.	Total number succes- fully vac- cinated.	Number succes- fully vac- cinated.					
Government vaccinators	10,194	9,663	9,136	8,741	16,897	16,310	12,386	12,033	9,970	9,701	8,511	8,204	9,749	17,092	16,210	28,257	27,227
Local fund do.	470,805	435,696	526,329	493,415	591,322	553,850	617,475	590,624	608,729	573,261	534,711	557,732	560,853	670,318	643,761	708,653	680,355
Cantonment do.	5,213	4,931	3,446	3,207	3,734	3,451	3,434	3,139	4,462	2,205	2,850	2,677	3,293	4,316	3,912	3,841	3,285
Native Stores do.	3,635	3,236	3,838	3,652	4,754	4,425	4,506	4,271	4,032	3,915	4,420	4,216	3,885	2,270	2,160	5,254	5,069
Municipalities	80,236	70,980	83,533	75,980	91,665	84,452	97,765	88,381	92,943	87,998	70,065	65,614	67,405	81,566	77,180	81,442	79,215
Private vaccinators	137	117	45	43	...	...	...	...	...	...	...	...	...	...	...	...	...
Dispensaries	9,890	8,163	10,154	8,371	12,579	10,183	21,561	17,201	22,834	16,723	16,790	13,954	11,506	16,283	15,693	26,870	23,363
Medical subordinates	9,646	5,742	10,049	7,015	9,633	6,271	8,936	5,290	7,549	4,594	6,729	3,677	1,630	2,517	1,517	3,077	1,793
Army. { European	1,916	1,332	1,957	1,357	1,940	1,158	2,840	1,737	691	597	875	694	...	...	...	...	...
Army. { Native	4,372	3,083	4,414	3,374	4,121	3,212	4,415	3,655	2,764	2,338	2,297	1,567	...	...	...	...	...
Total	595,894	543,093	622,931	605,125	736,662	633,384	773,118	716,291	752,047	708,412	637,248	639,753	688,051	796,362	760,343	850,894	817,807

14TH OCTOBER 1890, Nos. 2618, 2619 L., LOCAL AND MUNICIPAL.

GOVERNMENT OF MADRAS.
LOCAL AND MUNICIPAL DEPARTMENT.

READ—the following paper :—

From the Sanitary Commissioner for Madras, dated 9th August 1890, No. 3263-S.

ABSTRACT.—Report on Vaccination in the Madras Presidency for 1889-90.

ORDER—dated 14th October 1890, No. 2618 L., Local and Municipal.

With the endorsement read above, the Sanitary Commissioner forwards the report of the Inspector of Vaccination on the working of the Vaccination department during the year 1889-90. Under paragraph 6 of G.O., dated 25th April 1890, No. 963 L., this report was due on the 1st June last; but the Inspector of Vaccination and the Sanitary Commissioner have since represented the impracticability of submitting it by this date, owing to the delay experienced in obtaining the required information from the districts, and the Government has accordingly extended the time to the 1st July—*vide* paragraph 3 of G.O., dated 25th July 1890, No. 539, Public. The present report, being the triennial one, deals fully with the condition of the department, as required in paragraph 7 of G.O., dated 12th July 1886, No. 1455, Public.

2. The following statement shows the total number of operations performed by the several vaccine agencies, and the average cost of each successful case, during the last 5 years :—

Operations performed.	1885.	1886.	1887-88.	1888-89.	1889-90.
(a) By Government vaccinators in Agency tracts ..	9,985	8,514	9,816	17,104	28,336
(b) By Local Fund vaccinators	612,057	588,750	625,795	676,293	718,557
(c) By Municipal vaccinators including Madras ..	96,922	74,012	75,635	85,572	35,670
(d) In cantonments	2,933	3,154	3,987	4,972	3,762
(e) In dispensaries	23,616	17,243	14,174	16,827	27,849
(f) Other operations by medical subordinates ..	11,567	9,485	5,181	4,379	6,444
(g) By the Zemindary vaccinators	4,082	4,629	4,642	2,270	5,260
Total ..	731,162	705,587	738,480	609,417	875,748
Average cost of each successful case	A. P. 4 0	A. P. 4 3	A. P. 4 1	A. P. 3 11	A. P. 3 8

The figures for 1889-90 are stated to exclude 17,582 operations performed by the special staff employed in the Kurnool district in connection with the small-pox epidemic. No sufficient reason for the exclusion of this class of cases appears, and by their being added, the total number of operations is raised to 893,330. The effect of this addition on the average cost of each successful case cannot be stated, as the report does not mention what proportion of the 17,582 operations was successful.

Percentage of operations inspected by Deputy Inspectors.

1887-88	..	..	..	..	50.0
1888-89	..	..	..	..	57.9
1889-90	..	..	..	..	68.7

The work done in the year under review thus shows an advance on that of the previous year and is the largest on record.* This result is satisfactory, and in consequence the average cost of each successful case shows a decrease, while there was also a slight improvement in the amount of work done by Deputy Inspectors.

3. Excluding the work done in the cantonments of Bangalore and Secunderabad, the proportion of the total number of operations performed during the year per 1,000 of the population was 28.3, against 26.1 in 1888-89 and 23.8 in 1887-88. Infantile vaccination, however, was in a very backward state, as only 20.4 per cent. of the number of children born during the year were successfully protected from small-pox.

4. The average work done by each vaccinator was 1,061 operations or 88 per mensem, against 936 or 82 per mensem in 1888-89, but the outturn is still quite inadequate. The Government is glad to observe that the average outturn of work for each Government vaccinator was more than double that of last year. Excluding these, the highest average (1,100 cases) is shown by the Local Fund vaccinators, and the lowest (617 cases) by the Cantonment vaccinators. As regards the quality of work, it appears that 95.7 per cent. of the operations performed by the Local Fund and Municipal vaccinators who work under the immediate supervision of Deputy Inspectors were reported to be successful; but the average result after inspection by the latter officers was only 91.4 per cent. In the case of operations conducted by other Municipal vaccinators, 93 per cent. were successful; while in the case of those performed by Medical subordinates attached to dispensaries and hospitals, the percentage was only 85.9.

5. *Local Fund Circles.*—The outturn of work by Local Fund Vaccinators has increased by 92,792 cases or 14.7 per cent. as compared with 1887-88, and by 42,294 cases or 6.2 per cent. as compared with 1888-89. The work performed in individual circles is noticed by Government in reviewing the administration reports of the several District Boards, and will be further dealt with in the general review of Local Fund operations for 1889-90. Of the 21 districts, all but five show an advance, as compared with the last-mentioned year, the results being especially good in Kurnool, Trichinopoly, Vizagapatam and Chingleput; while Ganjam, South Canara and Coimbatore show large decreases, and Godáviri and Bellary a somewhat smaller one. The falling off in Ganjam is, no doubt, to be attributed to the effect of the famine, but there is no similar excuse apparent in the case of the other districts referred to. The large falling off in the number of vaccine operations in South Canara is attributed in the President's report to the absence of small-pox, to the absence of a large number of vaccinators on long leave, and to the lack of supervision over the work of the vaccinators, but the Government quite agrees with Dr. King that these reasons are not satisfactory, and the President has been so informed. Regarding the decline in Coimbatore, the Government desires to receive further information from the President of the District Board, showing the reasons for the ruling said to have been passed that excess operations are not to be paid for unless certified to by the Deputy Inspector. The decrease in Godáviri and Bellary is very unsatisfactory, and the attention of the Presidents of the District Boards of Nilgiris and Anantapur is invited to the fact that operations on males in the one case, and females in the other, show a decline during the year under review. The Government is disposed to agree with the Inspector of Vaccination in his remarks in paragraph 9 of the report regarding the inexpediency of appointing Deputy Inspectors of Vaccination as members of Local Boards, and Collectors will accordingly be requested not to recommend such officers for nomination in future except in exceptional cases. But the Inspector's suggestions in paragraph 10 of his report that the cost of issuing certificates of vaccination for Grant-in-aid schools should be debited to the District Board's education grant cannot be approved. Dr. King seems to have lost sight of the fact that these certificates are required, not in the interests of education, but in those of vaccination. If he is able to suggest any arrangements by which the drawbacks of the present system can be diminished, the Government will be prepared to consider them.

6. *Municipalities.*—The work done in individual Municipalities receives the notice of Government in the reviews of their administration reports and will be further dealt with in the General Municipal review for 1889-90. It may be observed here, however, that the complete failure to make progress which Municipalities as a whole exhibit is a serious reflection on their administration, and suggests the necessity for a uniform improvement in methods of inspection and

in system of remuneration. The Government will be glad to receive the results of the Inspector of Vaccination's special inspection referred to in paragraph 11 of his report. Compulsory vaccination was in force in the 25 towns noted in the margin, in the last four of which it was introduced in the year under review, and its introduction in Cocanada, Cuddalore, Trichinopoly and Vizagapatam has since been sanctioned by Government. It is satisfactory to note that the compulsory system has been well received by the people, and that in towns where compulsion was in force, the proportion of successful vaccinations on children under one year to registered births was 65 per cent. against 40 per cent. in other towns. The cost of each successful vaccination in Municipal towns, however, continued to be high, being As. 5.3 against As. 3.8, the average for the whole presidency, including rural tracts.

7. *Civil Dispensaries.*—The Government notes with satisfaction the advance made in vaccination by medical officers in charge of dispensaries, but the average number vaccinated at each dispensary was only 72. In Chingleput, however, the advance made in 1888-89 was continued with good results, the average for each dispensary being 264 cases. In Kurnool, Trichinopoly and Vizagapatam also the results were satisfactory, the average being 134, 119 and 119, respectively; but the large falling off in Ganjam from 113 in 1888-89 to 26 in the year under review has not been accounted for. The Government trusts that the instructions issued in the orders noted in the margin, to which the attention of all District Medical Officers will again be drawn by the Surgeon-General, will produce more satisfactory results in the current and ensuing years.

8. Vaccination by means of animal lymph was practised in all the districts of the Presidency except those noted in the margin, and it is noticeable that these 6 districts include 4 out of the 5 which show an absolute decline in vaccination, and 2 others in which methods of protection against small-pox are extremely backward. This striking result is probably due to the apathy of the Local Boards on the subject of vaccination generally, but it seems to furnish some evidence that vaccination by calf-lymph is popular and conducive to an increase of operations. The total number of operations performed with animal lymph was 101,153, of which 94,361 were successful, the corresponding figures for the previous years being 42,445 and 39,816. The percentage of successful cases, however, was 93.2, against 94 in 1888-89. Taking into account a proportionate share of the cost of the establishment employed for this purpose, the average cost of each successful case was only As. 2.3, against As. 3.8, for vaccine operations generally. In Kurnool a scheme has been experimentally sanctioned for the current year, the principal features of which are a reduction in the numerical strength of the staff employed, an increase in the salaries of the remainder, and the entire abandonment of the use of lymph obtained from the human subject, the necessary vaccine matter being obtained entirely from calves, one of which accompanies each vaccinator on tour. The working of this system will be watched with interest. Meantime the Government has received the results of the experiments made by Dr. King regarding the possibility of preserving and transporting animal lymph, and in separate Proceedings has

1. Ongole.	14. Ootacamund.
2. Anantapur.	15. Chidambaram.
3. Rajahmundry.	16. Erode.
4. Palamcottah.	17. Masulipatam.
5. Ellore.	18. Srirangam.
6. Negapatam.	19. Dindigul.
7. Tinnevely.	20. Guntur.
8. Cuddapah.	21. Coimbatore.
9. Nellore.	22. Vaniyambadi.
10. Mayavaram.	23. Kurnool.
11. Adoni.	24. Kumbakonam.
12. Vellore.	25. Tirupati.
13. Coonoor.	

1887-88	..	..	..	14,174
1888-89	..	..	..	18,827
1889-90	..	..	..	27,849

G.O., dated 14th January 1889, No. 24, Public.	
G.O., dated 19th October 1889, No. 827, Public, para 2.	
G.O., dated 29th October 1889, No. 1455 M.	

1. Anantapur.	4. Godáviri.
2. Coimbatore.	5. Kistna.
3. Ganjam.	6. South Canara.

accepted his conclusion that the vaccine matter prepared by him can be preserved for periods extending to at least 40 days, if not longer. In consequence, orders have been issued for the establishment of the necessary number of central depôts from which the prepared lymph can be distributed, and it is hoped that, so soon as the arrangements for distribution are completed, the substitution of animal for human lymph in all operations will be possible.

9. The remarks of the Inspector of Vaccination in the latter portion of paragraph 15 of his report will be referred for the opinion of the Agents in Ganjam and Vizagapatam, through the Judicial Department, and the suggestions made in paragraph 28 regarding the desirability of sending notice of outbreaks of small-pox to the District Medical Officer will be further considered in the Revenue Department.

(True Extract.)

J. F. PRICE,
Chief Secretary.

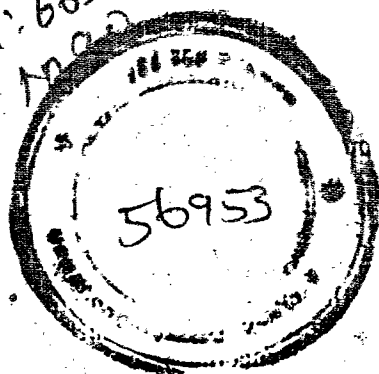
To the Sanitary Commissioner for Madras.

- „ the Surgeon-General with the Government of Madras.
- „ the Sanitary Board.
- „ the Public Department.
- „ the Judicial Department.
- „ the Revenue Department.
- „ the Military Department.
- „ all Collectors.
- „ all Presidents of District Boards.
- „ all Chairmen of Municipal Councils,
- through the Collectors concerned.
- „ the President, Municipal Commission, Madras.
- „ the Director of Public Instruction.
- „ the Accountant-General.

ENDORSEMENT—dated 14th October 1890, No. 2619 L., Local and Municipal.

Copy to the Government of India, Home Department.

J. F. PRICE,
Chief Secretary.



Erd A. Raith.