

Report on Vaccination
in
the Madras Presidency

for the Year

~~1889-1890~~

1915-1916



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REPORT ON VACCINATION

IN

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THE MADRAS PRESIDENCY

FOR THE YEAR

1889-90.

29 sheets

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

No. 2619a.

FROM

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

MEMO. No.

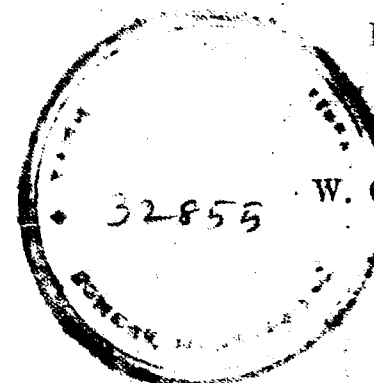
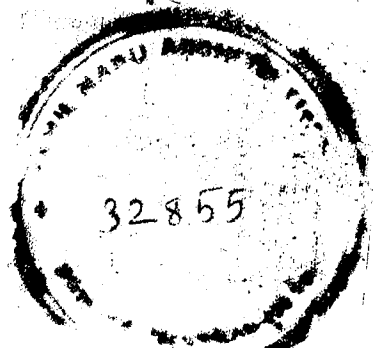
Forwarded to Government, Local and Municipal Department.

W. G. KING, Surgeon-Major, M.B., C.M., D.P.H., &C.,
OFFICE OF SANITARY COMMISSIONER,
FORT ST. GEORGE,
1890.
Acting Sanitary Commissioner
for Madras.

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* செப்பனிடலுக்கு எடுத்துக் *
* கொள்ளப்பட்ட *
* மாதம் 1989 *
* செப்பனிடல் முடிந்த *
* மாதம் 1989 *
* ஆராய்ச்சி உதவியாளன் *
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ANNEXURE.

**ANNUAL REPORT ON THE WORK OF THE VACCINE SECTION OF
THE KING INSTITUTE OF PREVENTIVE MEDICINE,
GUINDY, 1915-16.**

The total amount of vaccine supplied by the Institute during the year 1915-16 shows, somewhat contrary to expectation, a marked increase, and for the first time exceeds two million cases. The actual number is 2,113,697, an increase of 130,280 cases or 6.56 per cent.

2. Table I shows the quantity of vaccine issued to various bodies for the quinquennium 1911-12 to 1915-16.

TABLE I.

Statement showing the quantity of vaccine supplied to various bodies from 1911-12 to 1915-16.

To whom supplied.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.
Government officers including jails ...	46,722	41,902	47,172	20,951	21,451
Agency Tracts	25,160	27,180	23,150	25,080	24,105
Military Department	15,917	12,333	27,587	25,671	14,410
District Boards	1,561,366	1,560,341	1,625,926	1,649,070	1,739,000
Municipalities	177,165	178,255	179,330	178,980	233,185
The Superintendent of Vaccination, Secunderabad	...	...	...	19,530	8,970
The Vaccinator, Bolarum	...	...	...	1,480	1,550
Civil Surgeon, Civil Hospital, Basrah ...	...	...	...	...	2,400
Private Bodies	47,151	72,678	69,000	62,695	65,626
Total ...	1,873,501	1,887,639	1,972,165	1,983,417	2,113,697

From this table it will be seen that the increased issues are mainly due to the demands of District Boards and Municipalities, and as will be seen later Madras City is responsible for the greater part of the second. Slight rises are also seen in the supplies made to Private Bodies, to Government officers including Jails and to the Vaccinator, Bolarum. The Civil Surgeon, Civil Hospital, Basrah, appears for the first time as in receipt of a regular supply. In previous years supplies of vaccine sent to Basrah at irregular intervals were included in supplies to Private Bodies. Marked falls are noted in the amounts supplied to the Military Department and to the Superintendent of Vaccination, Secunderabad, the percentage reductions amounting to 4.4 and 5.4, respectively. A slight fall of about 3.8 per cent is seen in the amount supplied to Agency Tracts.

3. There was no change in the manufacture of the vaccine. As usual the bulk was made up with lanoline; but glycerinated vaccine was supplied to Madras City and to Colombo. Madras City vaccinators prefer glycerinated vaccine, and as they can be readily supplied at frequent intervals, there is no objection on the score of the keeping qualities of the vaccine so made. The city usually takes a supply of 375 cases three times a week, but owing to small-pox having been epidemic during several months of the year, large extra supplies were also made. These extra supplies amounted to 37,175 cases which accounts for nearly 65 per cent of the increased supplies to Municipalities as compared with last year.

4. In the great majority of cases the fortnightly despatch was adhered to; but the system of three despatches a month was extended to the Municipalities of Anantapur, Nellore, Cocanada, Coimbatore and Vizagapatam. In consideration

of the low percentage of success obtained in Gōdāvari, three supplies a month to that district were commenced with the current year. In the Coimbatore district, where also the results were extremely poor, a change in the dates of supply was effected from 1st May. It was found that the second of the two despatches sent off on the 27th of the month was often held over till the operator went to headquarters to draw his pay, submit his monthly returns, etc. The revised dates are the 6th and 20th of the month. It is doubtful if these changes will be productive of much improvement. The Chingleput district which has had the advantage of the more frequent supply, for a whole year, shows a most lamentable fall in its success rate, while North and South Arcot, instead of showing some attempt to stem the tide of bad results, show a fall in the success rate conforming to that shown by the Presidency as a whole.

5. Extra indents from District Boards amounted to only 8.5 per cent which is quite a reasonable figure. Municipalities in this respect were not so satisfactory. Small-pox being epidemic in Madras City for several months, it was only to be expected that large extra supplies would be required, but if we subtract Madras City's scheduled supply from the scheduled supply to Municipalities and Madras City's extra supply from the extra supply called for by Municipalities, we are left with a scheduled supply of 120,075 cases for Municipalities other than Madras and a corresponding extra supply of 22,490 cases. This works out to 18.7 per cent which seems unduly high unless small-pox was specially prevalent.

TABLE II.

Statement showing the expenditure incurred during the year 1915-16 under all heads of expenditure of the Vaccine Section of the King Institute of Preventive Medicine, Guindy.

Detailed heads of account.	Amount.		
	RS.	A.	P.
Establishment charges—			
Assistant Director	2,400	0	0
Clerks and Servants	7,871	8	8
Deputy Inspectors	4,204	15	11
Famine Batta	145	0	8
Travelling allowance of officers, Deputy Inspectors and establishment	80	10	0
Total establishment ...	14,681	14	8
Supplies and services—Contingencies—			
Purchase of stores, apparatus	1,180	10	8
Cost of calves including transport	1,135	12	0
Feeding charges	1,000	2	2
Cost of boxes and receptacles for vaccine	545	5	8
Water works	452	10	8
Gas works	180	7	8
Purchase and repair of furniture	5	0	6
Hot and cold weather charges	25	7	7
Tour charges	29	14	9
Cleaning charges	79	0	0
Service postage and telegram charges	2,678	5	6
Office expenses	684	7	5
Miscellaneous	31	10	0
Telephone charges	155	0	0
Pay of menials	2,247	9	11
Total contingencies ...	84,000	7	9
Proportionate cost of stationery supplied for 1915-16 ...	144	1	6
Cost of clothing supplied for 1915-16 ...	38	0	4
Cost of repairs to Vaccine Section buildings for 1915-16 as per statement furnished by the Executive Engineer, South Presidency Division, with his No. 894-M., dated 2nd May 1916 ...	2,891	8	2
Total cost of stationery, clothing, repairs, etc. ...	2,868	5	0
* Grand total, Vaccine Section ...	51,050	11	0

TABLE III.

Statement showing the net expenditure incurred during the year 1915-16 in the King Institute of Preventive Medicine, Guindy, Vaccine Section.

Particulars.	Amount.		
	RS.	A.	P.
Gross expenditure as per Statement I	51,050	11	0
Deduct—			
(1) Credits under sale of calves and miscellaneous receipts remitted to Treasury	5,184	10	9
(2) Cost of vaccine lymph supplied to private bodies during the year	4,101	10	0
	9,286	4	9
Net total expenditure ...	41,814	6	3

TABLE IV.

Statement showing the number of cases for which vaccine was despatched to different bodies—private bodies being excluded—during the year 1915-16.

To whom supplied.	Number of cases for which vaccine was supplied.	Rate per case.	Total amount debitable.
			RS. A. P.
1. Government officers including jails	21,451	Rs. 985-1-0 per case	* 436 12 2
2. Agency Tracts	24,108		† 508 6 9
3. Military Department	14,410		287 4 4
4. District Boards	1,749,000		135,589 8 6
5. Municipalities	286,185		5,478 15 6
6. Superintendent of Vaccination, Secunderabad [Secunderabad Local (Abtari, etc.), Fund]	8,970		178 13 1
7. Vaccinator, Bolaram (Bolaram Cantonment Fund)	1,550		30 14 5
8. Civil Surgeon, Civil Hospital, Basrah	2,400		47 13 6
Total ...	2,048,071		41,814 6 3

N.B.—In calculating the cost per case of vaccine, Rs. 985-1-0 has been deducted from Rs. 41,814-6-3 as the former represents registration charges and it will be charged to the bodies concerned.

* Includes Rs. 9 2 0 for registering vaccine packets.	
† " " 28 14 0 " "	
‡ " " 871 9 0 " "	
\$ " " 75 8 0 " "	
Total " 985 1 0	

6. As will be seen from Tables II, III and IV there has been a decrease of rather more than Rs. 2,000 in the working costs. This by itself is satisfactory enough, but a closer examination of the figures shows that there were rises under several items in supplies and services but that these have been masked by the large fall in the cost of establishment, this being mainly due to the continued absence of the Assistant Director on military duty. Cost of calves including transport shows the large rise of Rs. 6,000. This is partly due to decreased productivity, the average yield per calf having fallen from 7.9 grammes to 6.29 grammes, but while this increase in the number of calves increases the item of feeding charges, it, to a much more marked extent, increases the sale proceeds of calves credited to Government. In addition, of course, there is the increase of 130,000 cases produced this year to be set against the increased cost of calves. Purchase of apparatus and stores shows a rise of Rs. 629, but part of this is

probably due to the sharp fall on this item on account of the difficulty of getting stores during the earlier part of the war. The resulting fall in the price of vaccine due to decreased net charges amounts to about 10.75 per cent, the price per case working out to 3.827617 pies.

TABLE V.

Returns recorded in the King Institute of Preventive Medicine, Guindy, from the whole of the Madras Presidency according to the month of the year.

Serial number.	Months.	Number successful.	Number unsuccessful.	Percentage of success.
1915.				
1	April ...	89,695	16,728	84.26
2	May ...	91,817	19,268	82.62
3	June ...	94,400	21,438	81.40
4	July ...	91,781	18,426	83.27
5	August ...	94,183	28,740	79.86
6	September ...	92,063	30,730	75.28
7	October ...	112,016	9,492	92.18
8	November ...	110,401	8,616	92.76
9	December ...	122,125	8,795	93.78
1916.				
10	January ...	111,845	8,648	92.82
11	February ...	110,929	7,895	93.74
12	March ...	109,473	8,323	92.48
Total ...		1,224,018	171,549	87.70 % successful.

7. Table V shows the success rate reported monthwar. There has been a regrettable fall of over 3 per cent for the entire year. In the last annual report it was pointed out that the seasonal curve was a very abnormal one showing a consistently higher success rate during the hot weather than during the cold weather. The curve has again become normal but at the expense of the success rate. The year 1915 started badly with an abnormally low success rate which, on the advent of the hot weather, went lower still and resulted in the lowest recorded rates since the year 1904-1905. In one month indeed, August, the success rate for the whole Presidency fell below 80. A portion of the fall is of course due to the experiment in storing vaccine pulp in the raw condition and grinding and mixing it with lanoline as required for issue. The earlier stages of this experiment were described in last year's report. As this report was being compiled it was already clear from the results of operations made up to the 31st March 1915, that the new method was a failure. It was abandoned, but by that time there was a large accumulation of pulp which had been stored in the raw condition. It was ground up and mixed as rapidly as possible, and the paste so made was issued along with paste made in the usual fashion, equal quantities of each kind being sent out daily.

8. From April 1st, 1915, till 31st January 1916, on which date the last report dealing with the comparison was received, 356,418 operations had been carried out with paste, the pulp used in making which had been stored in the raw condition for some time. The last issues of such paste were made much earlier in the beginning of September. The success rate in these operations was only 80.54 per cent. The 367,156 cases, done with ordinary paste and issued in parallel with the above, gave a success rate of 84.77 per cent, 4.23 per cent higher. Even allowing for this, however, the success rate during the hot months of 1915 was abnormally low. The success rate obtained with the ordinary paste, in no way different from the paste issued in previous years, was lower over the whole period than the average for any month in the previous five years. What the main reason for the exceptionally poor results got in the hot weather of 1915 was remains obscure. The paste was made in the months of February-April 1915 inclusive, when owing to late rains the weather was cooler than usual and the calves could be grazed up to a later date than usual. This should have resulted in paste of better quality. Fortunately for the overall result a very marked improvement took place after September and this was well maintained right up to the end of March. The cause of this sudden improvement is just as obscure as that of the previous bad results.

TABLE VI.

Returns recorded in the King Institute of Preventive Medicine, Guindy, for the whole of the Madras Presidency, according to districts, 1915-16.

Serial number.	Districts.	Total successful.	Total unsuccessful.	Percentage of success.
1	Anantapur ...	24,731	2,080	92.24
2	Bellary ...	33,679	1,191	96.58
3	Chingleput ...	81,921	11,881	73.75
4	Chittoor ...	86,662	2,756	98.00
5	Coimbatore ...	48,730	19,913	70.89
6	Cuddapah ...	27,492	4,709	85.87
7	Ganjām ...	57,716	8,126	87.65
8	Godāvari ...	41,622	17,057	70.83
9	Guntūr ...	54,287	5,878	90.53
10	Kistna ...	70,397	7,849	89.96
11	Kurnool ...	29,479	1,024	96.64
12	Madura ...	46,627	11,492	80.22
13	Malabar ...	138,671	18,888	88.01
14	Nellore ...	34,611	6,842	83.48
15	Nilgiris ...	5,774	134	97.73
16	North Arcot ...	54,860	8,065	87.18
17	Rāmnād ...	35,208	1,898	96.67
18	Salem ...	47,772	3,053	93.60
19	South Arcot ...	49,932	9,915	83.43
20	South Canara ...	40,220	5,127	88.69
21	Tanjore ...	70,721	3,230	95.64
22	Tinnevely ...	63,340	6,768	90.34
23	Trichinopoly ...	59,212	6,485	90.12
24	Vizagapatam ...	100,354	7,911	92.69
Total ...		1,224,018	171,549	87.70 % successful.

9. Table VI gives the success rate districtwar. Coimbatore as usual has made a bold bid for the lowest place, but has been beaten by a hair breadth by Godāvari. Chingleput is a very bad third to the miserable first and second. They are the only three to record success rates below eighty, and nearly account by themselves for the drop in the success rate over the whole Presidency. Falls such as 11.62 per cent shown by Chingleput and 10.53 per cent shown by Godāvari require some explanation. Considerable falls in the success rate, i.e., falls greater than the general fall, are shown by Ganjām, Cuddapah, Coimbatore, Nellore, South Arcot and North Arcot. The falls range in the order given from 6.75 per cent to 3.74 per cent. Madura, Tinnevely, Trichinopoly and South Canara show falls in the success rate approximating to the general fall, while falls definitely less than this are shown by Malabar, Anantapur, Chittoor, Vizagapatam, Kistna and Guntūr. Variations from last year of less than 0.4 per cent are shown by Rāmnād, Bellary, Kurnool, Tanjore and Salem. Of these the last, Salem, is in the right direction of improvement. This distinction Salem shares with the Nilgiris alone which shows a satisfactory rise of 0.87 per cent and heads the list with a success rate of 97.73 per cent.

All the districts showing small variations are consistently good ones, while those showing large variations are consistently bad. This relationship has been noted in previous years.

TABLE VII.

Statement showing the percentage of success obtained in certain districts selected for comparison in each of the last five years.

Serial number.	Districts.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.	Average.
1	Bellary ...	97.65	96.48	97.59	96.81	96.58	97.02
2	Anantapur ...	95.28	95.45	94.41	94.85	92.21	94.38
3	Kurnool ...	96.16	96.95	96.65	96.82	96.64	96.64
4	Godāvari ...	78.13	79.04	84.64	81.48	70.93	78.84
5	Coimbatore ...	75.74	69.69	78.92	76.59	70.99	74.38

10. This year Gōdāvari with a fall in its success rate of 10.53 per cent attains to the bottom of the list and eclipses all its own performances in the downward direction. Coimbatore is, however, more consistently bad, and is an easy worst, having succeeded in adding nearly 1 per cent to its quinquennial deficit as compared with Bellary. This now stands at the astonishing figure of 22.66 per cent. The deficit for the year under report is 25.59 per cent.

TABLE VIII.

Statement showing the percentage of success obtained in the different months of the year for five years and the average for each month during that time.

Serial number.	Months.	1911-12.	1912-13.	1913-14.	1914-15.	1915-16.	Average.
1	April ...	84.33	86.72	87.34	95.76	84.26	87.65
2	May ...	83.53	80.57	86.09	92.55	82.63	85.13
3	June ...	83.15	82.34	81.51	92.87	81.43	85.39
4	July ...	89.13	85.42	87.47	99.19	85.19	88.29
5	August ...	90.54	87.39	90.53	92.65	77.25	88.19
6	September ...	89.30	84.87	92.10	92.14	81.75	85.03
7	October ...	85.12	85.08	83.83	90.64	92.18	90.88
8	November ...	92.88	91.58	96.17	90.83	92.76	93.64
9	December ...	93.23	91.78	93.79	96.82	93.28	93.78
10	January ...	93.29	93.90	95.28	87.24	92.82	92.32
11	February ...	88.57	91.82	96.86	87.91	93.74	91.64
12	March ...	89.03	88.56	95.72	87.45	92.48	90.65

11. Table VIII shows that the seasonal curve has returned to the normal and that the success rate rises and falls in the main with the temperature. The curious tendency for the early autumn months to show a lower success rate than the late summer months is clearly marked.

TABLE IX.

Statement showing the duration of storage of 'Lanoline' paste during the official year 1915-16.

Serial number.	• Name of month.	Duration of storage each month.	
		Minimum period.	Maximum period.
	1915.		
1	April	56 days	160 days
2	May	65 "	82 "
3	June	83 "	94 "
4	July	95 "	111 "
5	August	112 "	128 "
6	September	4 "	188 "
7	October	1 "	18 "
8	November	2 "	38 "
9	December	3 "	52 "
	1916.		
10	January	2 "	72 "
11	February	2 "	85 "
12	March	20 "	83 "

12. Table IX shows for each month the maximum and minimum length of times during which the lanoline vaccine was stored before issue. The general tendency was for the periods to be shorter than last year.

TABLE X.

Statement showing the duration of storage of 'Glycerine' paste during the official year 1915-16.

Serial number.	Name of month.	Duration of storage each month.	
		Minimum period.	Maximum period.
1915.			
1	April	17 days	30 days.
2	May	4 "	34 "
3	June	35 "	64 "
4	July	65 "	94 "
5	August	95 "	122 "
6	September	7 "	131 "
7	October	10 "	28 "
8	November	4 "	12 "
9	December	3 "	23 "
1916.			
10	January	19 "	38 "
11	February	9 "	14 "
12	March	15 "	32 "

13. Table X shows the same for glycerine paste. During the hot weather this year minimum periods tended to be longer than last year while maximum periods, with the exception of those in August and September, tended to be shorter.

14. The reduction of extraneous germs in animal vaccine without injury to the vaccine itself continues to be an unattainable ideal in India. Experiments were made to effect this by means of added preservatives and storing the vaccine in vacuo. As the organisms in vaccine are aerobic it was hoped to at least prevent multiplication in this way. Certain of the germs showed, however, that they were only facultative aerobes and could multiply quite readily in vacuo. At body temperature in vacuo vaccine showed no improved keeping quality.

TABLE XI.

Statement showing the average yield of pulp per calf according to the month of the year.

Months	Grammes.			Average yield of lymph per calf during 1915.
	Average.	Maximum.	Minimum.	
January	6.7	14.2	1.0	5.29 grammes.
February	7.06	17.0	2.0	
March	6.4	12.8	1.0	
April	7.06	13.8	1.2	
May	8.87	14.0	2.8	
June	No operation.			
July	Do.			
August	4.5	7.0	1.0	
September	4.6	11.0	1.0	
October	5.1	11.2	1.0	
November	6.2	13.9	1.0	
December	5.8	12.8	1.0	

15. The yield of pulp per calf fell considerably compared to that of last year, but still remains higher than any other year. The fall seems to be pretty evenly distributed over the year.

TABLE XII.

Average yield of lymph per calf according to years.

Year.	Grammes.
1904	4.9 *
1905	5.5
1906	No records.
1907	5.2
1908	2.6
1909	5.7
1910	5.1
1911	5.3
1912	5.9
1913	5.8
1914	7.9
1915	6.29

* The records are incomplete; this figure would be lower.

16. Table XII calls for no remark.

17. Civil Assistant Surgeon S. Ramakrishnan continued as temporary Assistant to the Director throughout the year.

18. The vaccination class was held as usual during February and March. Twenty-one students sat for the examination and all of them obtained qualifying marks in the examination held at the end of the course.

19. The staff of the section worked very well and, in spite of the increase in volume of work, carried out their duties with regularity and dispatch.

THE KING INSTITUTE, GUINDY,
15th June 1916.F. MAITLAND GIBSON, M.B., B.S.C.,
Director.REPORT ON VACCINATION IN THE MADRAS PRESIDENCY
FOR THE YEAR 1915-16.

From Dr. K. T. MATTHEW, D.B.V., D.P.H. (Cantab.), Deputy Sanitary Commissioner and Inspector of Vaccination, Madras, to the Sanitary Commissioner for Madras, No. 323, dated 12th July 1916.

I have the honour to submit the Annual Report on Vaccination in the Madras Presidency for the year 1915-16.

2. *Staff.*—The three Deputy Sanitary Commissioners sanctioned for the Presidency have not yet been fully recruited. I continued to be in charge of all the three ranges with head-quarters at Madras throughout the year.

The following statement shows the subordinate vaccination staff employed in the Presidency during the past two years:—

	Deputy Inspectors.			First-class vaccinators, Rs. 20-15.	Second-class vaccinators, Rs. 12-10.	Third-class vaccinators, Rs. 7-5.	Total number of vaccinators.
	First grade, Rs. 70.	Second grade, Rs. 60.	Third grade, Rs. 40.				
(1)	(2)	(3)	(4)	(5)	(6)	(7)	(8)
1914-15	22	23	36	268	462	13	800
1915-16	19	25	37	268	466	162	886

NOTE.—These figures include the staffs employed in Bangalore and Secunderabad Cantonments and exclude those on duty in the King Institute, Guindy. In the Institute there are five Deputy Inspectors of the first grade.

3. *Inspections by the Deputy Sanitary Commissioner.*—During the year, I inspected the municipalities of Rajahmundry, Nellore and Narasaraopet and vaccination in Vizagapatam, Gōdāvari, Kistna, Guntūr and Nellore districts in the Northern Range. The number of villages inspected in the Northern Range was 102 and the total number of vaccinated cases examined therein was 2,045. In the Central Range, I inspected the municipalities of Salem, Kurnool, and Proddattur and vaccination in the districts of Kurnool, Cuddappah, Anantapur and South Arcot. The number of villages inspected was 55 and the number of vaccinated cases examined 1,161. In the Southern Range, I inspected the municipalities of Tanjore, Māyavaram, Erode and Coonoor and vaccination in the districts of Coimbatore, Tanjore and Tinnevely. The number of villages inspected was 38 and the number of vaccinated cases examined 587. On the whole 3,793 cases of vaccination were inspected in 195 villages in twelve districts and the inspection included the Agency tracts of Gunupur, Polavaram and Chodavaram.4. *Vaccination.*—The trial scheme of vaccination continued to be in force in the whole of Chingleput district and in selected areas of North Arcot, South Arcot

and Madura districts. The general extension of the scheme to the other districts was abandoned during the last official year; but the Government in their Order No. 1248 L., dated 6th September 1915, reviewing the Annual Vaccination Report for 1914-15 stated that they hoped to issue general orders in the course of the year in regard to the improvement of the pay and prospects of vaccinators and Deputy Inspectors of Vaccination. The orders of Government have not yet been received and in the meantime the difficulties in the way of carrying on vaccination properly, portrayed in the previous report is becoming more and more acutely felt. The steady increase in the cost of living which has been going on in this country for the last few years together with the pretty sudden general rise in the price of food consequent on the great war has made it difficult for the humblest of menials to secure the bare necessities of life on the old wages of Rs. 6 or Rs. 7 per mensem. And yet the dignified vaccinator who is not a menial but a subordinate officer has yet to begin public service on Rs. 5 to 7 a month with an unpaid probation extending to several months in some cases. Vaccination, simple as it looks, is a highly technical operation requiring considerable skill and intelligence to understand the details and it is an operation by law restricted to be done by fully qualified medical men in most civilized countries. Until we have a better set of vaccinators, it is hopeless to expect any real improvement in vaccination in this Presidency. I have during the last two years inspected vaccination practically in every part of the Presidency and the conclusion I have come to is that we are yet long way from the goal of perfection. The great defect in vaccination at present is not the large number that escape vaccination altogether, but the poor standard of successful vaccination. It should be noted that the protection from small-pox depends largely upon the quality of successful vaccination. To achieve any real progress, a staff of properly trained and adequately paid vaccinators is essential. A standard of general education should be prescribed together with a course of technical instruction at a Central Institute for a period of not less than three months and local bodies should be required to recruit vaccinators from among such duly qualified hands.

The scheme for improving the pay and prospects of Deputy Inspectors of Vaccination already proposed and approved has to be brought into effect as soon as possible as a great deal depends upon an efficient and contented supervising staff. A conscientious Deputy Inspector of Vaccination has hard work to do.

(ii) The total vaccination work performed during the last two years by all agencies throughout the Presidency is shown in the following table:—

	1914-15.	1915-16.
Primary vaccination ...	1,512,515	1,532,185
Re-vaccination ...	176,407	268,985
Total ...	1,688,922	1,801,170

The number of cases vaccinated during 1915-16 shows an increase of 112,248 over the figure of 1914-15. It is satisfactory to note that there is a marked increase both under primary and re-vaccinations, the increase in the former being 19,670 and in the latter 92,578. This is due to a great extent to the stimulus given by the prevalence of small-pox in several parts of the Presidency combined with the efforts made to induce the vaccination staff to make greater exertions by circulars from this office and by personal instructions during my inspections. Largest increases are noticeable in the districts of Vizagapatam (+19,295), Malabar (+16,264) and Tanjore (+15,231). The districts which showed a marked decrease were Guntūr (-13,655), Salem (-5,781) and Kurnool (-3,306). The apparent fall in Guntūr is due to the extraordinarily large number of vaccinations done in the two previous years when the district was in the throes of a severe small-pox epidemic. The fall in Salem is partly accounted for by the prevalence of plague while Kurnool suffered from dearth of vaccinators.

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	1,042	1,100	68	...	58	...
Government do. ...	16	27	22	613	633	1,288	20	...	655	...
Native States do. ...	10	4	6	404	567	877	163	...	310	...
Municipal do. ...	82	87	82	676	713	745	37	...	32	...
Madras Town do. ...	24	24	24	835	982	1,021	147	...	39	...
Cantonment do. ...	6	6	6	656	828	617	172	...	...	211
Total ...	780	797	793	922	996	1,061	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	1,51,455 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 18 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 ...	1,76,786 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 1888-90 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.		Total number vaccinated.		Proportion per cent. to total number vaccinated.		Total number vaccinated.		Proportion per cent. to total number vaccinated.		Total number vaccinated.		Proportion per cent. to total number vaccinated.					
	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.	Males.	Females.				
Anantapur ...	303,036	201,956	7,960	7,135	52.7	47.2	2.6	2.4	8,253	7,077	53.8	46.1	2.7	2.4	8,685	7,027	55.3	44.7	2.8	2.4
Bolnary ...	335,567	326,399	11,152	10,550	51.3	48.6	3.3	3.2	11,521	10,932	51.3	48.7	3.4	3.3	11,508	10,804	52.04	47.9	3.4	3.2
Chingleput, ...	474,520	469,586	17,015	14,667	55.4	44.6	3.7	3.1	20,155	18,548	52.0	47.9	4.2	3.9	23,933	22,717	51.3	48.7	5.04	4.8
Chingbalore ...	779,006	820,648	27,452	25,923	51.4	48.6	3.5	3.1	23,356	27,478	50.7	49.3	3.6	3.3	26,165	25,319	50.8	49.2	3.4	3.06
Cuddapah ...	560,394	541,662	7,443	6,262	53.9	46.0	1.3	1.1	12,158	10,565	53.5	46.5	2.3	1.9	12,833	11,162	53.5	47.3	2.3	2.06
Gaujam ...	850,804	869,046	14,530	12,109	54.5	45.4	2.0	1.7	18,352	14,978	55.0	44.1	2.1	1.7	12,638	10,459	53.8	45.2	1.4	1.2
Godavari ...	849,908	863,101	13,970	11,684	54.4	45.5	1.6	1.3	13,407	16,468	54.3	45.6	2.2	1.7	17,695	14,872	54.3	45.6	2.1	1.7
Kistna ...	753,987	739,791	7,582	5,736	56.9	43.0	1.0	0.7	8,043	6,179	56.5	43.4	1.6	0.8	10,377	8,619	54.6	45.4	1.3	1.1
Kurnool ...	349,717	339,259	8,439	6,061	53.2	41.8	2.4	1.7	12,612	9,229	57.7	42.3	3.6	2.7	16,462	9,335	53.7	36.3	4.7	2.7
Madura ...	968,443	1,092,246	24,759	22,091	52.8	47.1	2.5	2.0	26,132	24,494	53.6	47.3	2.6	2.1	28,787	26,110	52.4	47.5	2.8	2.4
Malabar ...	1,092,233	1,110,894	31,371	13,441	61.9	38.0	2.8	1.2	27,218	11,911	69.5	30.4	2.5	1.1	28,798	12,420	69.8	30.08	2.6	1.1
Nellore ...	597,353	586,178	14,164	13,321	51.5	48.4	2.3	2.2	12,554	11,790	51.5	48.4	2.1	2.0	15,068	14,096	51.6	48.3	2.5	2.4
Nilgiris ...	41,950	31,971	1,253	787	62.6	37.6	3.0	2.3	1,194	617	65.9	34.0	2.8	1.9	1,169	763	61.2	38.8	2.8	2.3
North Arcot ...	884,852	885,054	18,913	16,672	52.9	47.1	2.1	1.9	16,648	14,896	53.6	46.3	1.8	1.6	19,011	16,758	53.1	46.8	2.1	1.9
Salern ...	753,893	795,023	24,570	23,968	50.6	49.3	3.3	3.0	27,363	26,404	50.9	49.1	3.6	3.3	29,274	27,876	51.2	48.8	3.8	3.5
South Arcot ...	875,054	896,302	14,078	11,366	55.6	44.3	1.6	1.2	16,711	13,413	55.4	44.6	1.9	1.5	17,980	14,740	54.9	45.08	2.1	1.6
South Canara ...	455,897	471,718	20,427	16,338	55.2	44.7	4.4	3.5	19,949	16,730	54.8	45.6	4.3	3.5	14,234	11,597	55.1	44.8	3.1	2.4
Tanjore ...	930,326	938,408	17,556	14,288	51.9	48.0	1.8	1.6	23,343	20,768	53.8	47.1	2.5	2.1	23,977	21,090	53.2	46.8	2.6	2.1
Tinnevely ...	797,321	844,460	27,810	23,339	55.3	44.7	3.4	2.6	27,020	21,942	55.1	44.8	3.4	2.6	30,709	24,060	56.07	43.9	3.8	2.8
Trichinopoly ...	535,854	574,967	10,769	10,076	51.6	48.3	2.0	1.7	12,993	11,993	53.0	47.9	2.4	2.1	19,546	18,638	51.2	48.8	3.6	3.2
Vizagapatam ...	2,217,939	1,192,411	19,421	17,103	53.2	46.7	1.8	1.6	18,038	15,429	53.9	46.1	1.4	1.3	21,736	19,607	52.5	47.4	1.8	1.6
Total ...	14,423,680	14,710,006	841,493	864,297	54.5	45.6	2.3	1.9	396,909	309,364	64.3	45.7	2.5	2.1	390,690	327,897	54.3	45.6	2.7	2.2

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.	Under one year.	Successful.		Total.	Successful.	Primary vaccination.	Revaccination.			
							Over one and under six years.	Above six years.							
Ganjam ...	1887-88 ...	6	3,159	2,907	6,066	5,992	466	2,242	3,114	74	73	97.1	94.6	ES. A. P.	1,011
	1888-89 ...	7	4,852	4,442	9,294	9,282	740	2,623	5,489	12	9	95.3	75.0	0 5 6	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
Gunupur.	1887-88 ...	6	1,397	1,001	2,398	2,398	138	1,184	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	237
	1889-90 ...	4	1,024	882	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	595	292	687	687	57	339	281	...	...	98.5	...	1 1 5	343
	1889-90 ...	2	412	323	734	734	53	319	360	...	...	100.0	...	0 14 1	367
Bhadra-chulani.	1887-88 ...	2	383	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	34	33	89.5	97.1	*	330
Peddapurani.	1887-88 ...	1	594	181	775	775	2	105	640	...	...	96.4	...	0 6 5	775
	1888-89 ...														
	1889-90 ...														
Total ...	1887-88 ...	16	5,230	4,586	9,816	9,741	698	4,078	4,715	75	74	97.3	98.6	0 8 10	613
	1888-89 ...	27	8,985	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	2,235	7,647	17,345	79	70	96.3	88.6	+0 3 8	1,288

* Information not furnished.

† Exclusive of Bhadrachalam Hill Tracts.

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	† 0 5 11
Harpanahalli.	Whole year	88	1,693	1,654	24	15	97.6	163 7 0	0 1 6	338 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
Saidapet	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
Cumbam	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	4,796	50	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	258 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	108 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	10	94.4	61 12 4	0 1 7	139 9 6	0 3 8
Vellore	Do.	12	649	614	22	13	94.6	68 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	3,133	109	24	95.9	43 14 9	0 0 8	337 3 0	0 1 8
Salera	Whole year	60	2,517	2,172	250	95	86.2	268 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
Vridhachalam	2 months	10	501	483	10	8	96.4	49 15 3	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	95 1 6	0 0 7	201 11 4	0 1 3
Tinnevely	8 months and 14 days	52	4,718	4,579	57	82	97.1	145 1 6	0 0 6	576 15 10	0 2 0
Trichinopoly.	6 months and 4 days	38	6,050	5,817	233	...	97.1	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 3	0 0 7	104 9 1	0 1 11
Nilgiris	Whole year	60	† 2,364	2,031	212	121	89.3	255 0 1	0 2 0	Not available.	
Total		1,762	101,153	94,361	4,071	2,721	93.2	5,345 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	Goovy ... Penckonda ...	1 1	11 6	2,471 2,641	225 440
	Total	2	17	5,085	299
Bellary	Bellary ... Harpanahalli ...	1 1	15 9	3,735 2,608	249 223
	Total	2	24	6,755	239
Chingleput	Chingleput ... Saidapet ...	1 1	12 9	1,697 1,169	141 133
	Total	2	21	2,843	135
Coimbatore	North Coimbatore ... South do. ... East do. ...	1 1 1	12 9 18	3,031 2,086 2,748	253 226 153
	Total	3	39	7,841	201
Cuddapah	Cuddapah ... Madansapalle ... Sidhout ...	1 1 1	12 14 9	2,541 3,858 2,858	212 275 291
	Total	3	35	8,747	250
Ganjam	Chitrapur ... Chicacole ... Ganjam H. T. ...	1 1 1	18 12 7	1,987 1,151 5,240	110 96 749
	Total	3	37	8,377	227
Godāvari	Ellore ... Pittāpore ... Rajahmundry ...	1 1 1	17 13 16	2,523 1,248 2,725	148 93 170
	Total	3	46	5,745	125
Kistna	Guntūr ... Masulipatam ... Vinukonda ...	1 1 1	14 20 9	2,524 3,502 2,436	180 175 271
	Total	3	43	8,487	193
Kurnool	Cumbam ... Kurnool ...	1 1	9 13	4,099 3,447	455 265
	Total	2	22	7,395	...
Madura	Dindigul ... Madura ... Paramagudi ...	1 1 1	14 10 19	3,149 3,587 3,672	225 159 193
	Total	3	43	8,393	194
Malabar	Calicut ... Tellicherry ... Palghat ...	1 1 1	12 10 12	5,742	169
	Total	3	34	5,742	169
Nellore	Kāvali ... Nellore ... Ongole ...	1 1 1	9 12 9	2,831 2,904 2,985	315 242 332
	Total	3	30	8,702	290
Nilgiris	Nilgiris	...	3	936	311
	Total	...	3	936	311
North Arcot	Chittoor ... Vellore ... Kārvetnagar ...	1 1 1	15 12 9	2,835 1,975 2,299	183 165 255
	Total	3	36	7,131	198

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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	169
	Namakkal	1	17	2,121	125
	Total	3	47	7,474	169
South Arcot	Cuddalore	1	17	3,302	194
	Vridhachalam	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	1,466	91
	Tanjore	1	21	2,165	103
	Total	2	37	3,633	98
Tinnevely	Sattur	1	12	1,828	162
	Shermádevi	1	14	1,694	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	Gunupur	1	7	13,893	868
	Jeypore	1	9	1,761	98
	Vizagapatam	1	18	1,693	100
	Vizianagarum	1	17		
	Total	4	50	17,466	349

XIII.

Abstract of Replies of District Surgeons to Circular No. 1036 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 titration of small-pox to District Surgeons, Deputy Inspectors and Vaccinators.	Suggestion by District Surgeons for promotion of vaccination.
		First-class Vaccinators.						
	Anantapur.	125	Pay reduced rateably.	Qualifications not stated.	No animal vaccination. Lymph obtained from Madras on payment.	No animal vaccination.	Tahsildars, report to Deputy Inspectors and the District Surgeon.	Compulsory vaccination should be introduced in all head-quarters of Tahsildars, and in all sub-divisions.
	Bahadur.	100	Pay reduced proportionately for short work.	No information given.	Not stated.	Proceed by medical sub-officials from Revenue and occupied by the District Surgeon.	Reported by Registrars of Births and Deaths and occasionally by Tahsildars, through the Collector.	None.
	Bellary.	100	Fined 1 anna for each case short of minimum.	Have passed no examination.	Animal vaccination is conducted throughout the district.	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.	Police promptly report occurrence of small-pox to the nearest Magistrate, who at once orders a vaccinator, if available, to proceed to the affected locality, reporting the same to the Deputy Inspector. The District Surgeon also is apprised of the same and the steps taken.	None.
	Chingleput.	166	Fined 1 anna for each case short of minimum.	Have passed no examination; are promoted according to seniority.	Animal vaccination is not in force.		Is reported by the munsiff to Tahsildars, who direct the divisional vaccinator to proceed to the affected locality, reporting the same to the Deputy Inspector.	Compulsory vaccination should be introduced in all head-quarters of Tahsildars, and in all sub-divisions.
	Chittoor.	126	Fined 1 anna for each case short of the minimum.	Have passed no examination.	Animal vaccination is not in force.		Village officers report to Tahsildars, who intimate the same to vaccinators and Deputy Inspectors. Vaccinators are deputed to visit the affected localities and procure 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.
	Cuddapah.	80	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 bonus are disallowed.	Have passed no examination.	Animal vaccination conducted only in Sidhout range.	Tahsildars, by order of Collector, supply calves at 1 rupee each.	Is reported by the munsiff to Tahsildars, who direct the divisional vaccinator to proceed to the affected locality, reporting the same to the Deputy Inspector.	Compulsory vaccination should be introduced in all head-quarters of Tahsildars, and in all sub-divisions.

XIII.

Abstract of Replies of District Surgeons to Circular No. 1086 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.						
9	Ganjam.	100	80	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.
4	Godavari.	150	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	80 to 50	Appointed after passing examination held by the District Surgeon.	Appointed after passing examination.	Animal vaccination is conducted throughout the districts, except momentarily, in supercession of humanized lymph.	Divisional officers and Tahsildars are provided by circular orders from the District Medical Officer, and submit weekly reports as to small-pox is prevalent, which are communicated to Deputy Inspectors for information and guidance.	Special reports as to each fresh outbreak are sent direct to District Medical Officer, and submitted by Tahsildars when small-pox is prevalent, which are communicated to Deputy Inspectors for information and guidance.	A thorough vaccination of the entire population of the district should be made, and educated men should be employed as vaccinators.
6	Madura.	125	100	50	Fined no examination.	Have passed no examination.	Animal vaccination is conducted throughout the districts for four months in the year in each range.	Subordinate Surgeons are supplied by order of the Collector, and necessary help is rendered to nearest Vaccinators on procuring calves.	Not reported to District Surgeons. Village officials report to Tahsildars, who report to the District Surgeon.	Daily reports of small-pox should be submitted to the District Surgeon.
10	Madurai.	150	100	50	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 them on their tours.	Calves are supplied by the Tahsildars and Deputy Tahsildars report fortnightly the presence of small-pox.	Tahsildars and Deputy Tahsildars report fortnightly the presence of small-pox.	Vaccination should be compulsory, and animal vaccination be extended.

XIII.

Abstract of Replies of District Surgeons to Circular No. 1086 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.						
11	Kollore.	100	80	70	One anna deducted from pay and 1 anna from travelling allowances for every case short of minimum number, and no bonus is allowed on days when no vaccination is done; but 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 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	80	Not fixed.	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 vaccinating for action.	None.
13	North Arcot.	100	80	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	Belom.	155	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 Surgeons. 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 5,000, where medical subordinates are stationed, those making the latter responsible for the state of vaccination in their respective towns or villages.

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 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	Dist. West.	100	75	Not fixed.	Recommended for fine	Qualification not stated.	Animal lymph is taken in tubes & glasses.	Orders are issued by the Collector to Revenue authorities to produce calves.	Revenue authorities report the prevalence of small-pox to Deputy Inspectors of vaccination, who immediately visit the affected localities and prosecute vaccination.	None.
16	South Canara.	130	100	60	None defined	Qualification not stated.	Not in force	Revenue orders are issued by the Collector to Revenue authorities to produce calves at 1 rupee per head per week.	Is reported by Revenue authorities to District Surgeons, who direct the affected localities reporting the same to the Deputy Inspector.	None.
17	Tanjore.	150	125	...	Generally fined	Qualification not stated.	Animal vaccination is carried out throughout the year.	Revenue orders are issued by the Collector to Revenue authorities to produce calves at 1 rupee per head per week.	Outbreaks of small-pox are promptly communicated by Revenue officials to the District Surgeons, Deputy Inspectors of Vaccination, and vaccinators.	None.
18	Tinnevely.	145	130	80	A fine of 3 annas for each case below minimum and reward of 1 anna for each case above.	Were appointed after passing examination according to the Vaccination Code.	Employed throughout the districts.	Revenue subordinates supply calves by order of the District Surgeon.	Not reported to District Surgeons. Village officials report through Subordinates to Deputy Inspectors who communicate the same to vaccinators.	(1) Daily letters should be given to vaccinators for information above five miles from the vaccination supply stations, with monthly lists of letters to each village. (2) Kannada and vernacular should report outbreaks of small-pox direct to vaccinators, who should proceed forthwith to the affected localities and prosecute vaccination.

VACCINATION REPORT.

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 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.						
20	Vizagapatnam.	100	75	30	Fined for short work and rewarded 2 annas for every successful case over 125 first-class Vaccinators over 80 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; one tank 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.
21	Tamiraparani.	110	90	50	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 Chichale 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 men should be appointed as Deputy Inspectors by the head office. Each district should appoint its Deputy Inspector from among its own Vaccinators.

VACCINATION REPORT.

APPENDIX.

VACCINATION RETURNS.

A--VACCINE DEPARTMENT.

STATEMENT No. I showing the Particulars of Vaccination in the Madras Presidency during the official year 1892-90.

[illegible]

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.
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	1	3	5	3	1		1,839 7 8	239 2 8	144 11 9
2		Penakondah circle	1	1	2	3	1	1		1,877 4 3	254 1 0	181 14 6
		Total of district	1	1	5	8	4	2		3,216 11 6	493 3 8	326 10 3
3	Bellary.	Bellary circle	1	1	5	8	2	1		2,541 5 4	1,309 1 8	55 0 0
4		Harpanahalli circle	1	1	3	5	1	1		1,669 2 4	748 6 0	44 0 0
		Total of district	1	1	8	13	3	2		4,210 7 8	2,057 7 8	99 0 0
5	Chingleput.	Chingleput circle	1	1	4	7	1	1		2,653 7 11	604 11 9	1,300 10 4
6		Saidapet do.	1	1	8	5	1	1		2,159 7 2	496 7 2	756 13 11
		Total of district	2	2	12	12	2	2		4,811 15 1	1,099 2 11	2,057 8 8
7	Coimbatore.	North Coimbatore circle*	1	1	3	7	2	1		2,213 2 6	873 12 4	336 5 4
8		South do. do.	1	1	3	6	1	1		1,787 12 6	187 5 0	160 13 0
9		East do. do.	1	1	4	11	2	1		3,031 8 0	229 10 1	361 11 2
		Total of district	3	3	10	24	5	3		7,032 5 0	790 11 5	778 13 7
10	Cuddapah.	Cuddapah circle	1	1	4	7	1	1		2,044 2 7	1,050 11 8	224 0 9
11		Madanapalle do.	1	1	4	8	2	1		1,943 1 5	692 3 3	178 4 8
12		Sidhout do.	1	1	3	5	1	1		1,643 15 9	675 1 4	341 9 4
		Total of district	3	3	11	20	4	3		5,631 3 9	2,418 0 3	738 14 9
13	Ganjam.	Chatrapur circle	1	1	5	11	2	1		3,431 15 5	249 15 0	294 12 6
14		Chioacole do.	1	1	3	8	1	1		2,291 7 3	208 0 0	90 11 4
15		Ganjam Hill tracts	1	1	7	7	1	1		1,615 5 8	310 9 11	12 8 6
		Total of district	3	3	13	26	4	3		7,338 12 4	768 8 11	398 0 4
16	Godavari.	Ellore circle	1	1	4	10	3	1		2,603 9 6	803 3 6	61 4 0
17		Pittapur do.	1	1	3	7	2	1		1,917 7 10	616 12 0	51 4 9
		Government vaccinators (Padmagur Agency).	1	1	1	1	1	1		205 11 9	89 6 0	5 0 0
18		Rajahmundry circle	1	1	5	8	2	1		2,879 5 2	1,077 12 10	190 9 8
		Government vaccinators (Bhadra-chalam.)	1	1	1	1	1	1		205 11 9	89 6 0	5 0 0
		Total of district	3	3	13	25	7	5		7,806 3 2	2,587 2 4	308 2 4
19	Kistna.	Guntur circle	1	1	4	6	4	1		2,248 0 11	682 9 0	73 8 0
20		Masulipatam circle	1	1	6	9	5	1		2,132 14 8	890 8 0	103 8 0
21		Vinukonda do.	1	1	3	3	1	1		1,586 14 9	525 9 0	40 8 0
		Total of district	3	3	13	18	10	3		7,036 14 2	2,087 10 0	234 7 0
22	Kurnool.	Cumbum circle	1	1	3	4	2	1		1,638 14 1	396 12 0	446 1 9
23		Kurnool do.	1	1	5	5	3	1		1,793 14 3	415 15 9	387 8 2
		Total of district	2	2	8	9	5	2		3,432 12 4	812 11 9	833 9 11
24	Madura.	Dindigul circle	1	1	5	7	2	1		2,789 9 7	263 14 0	317 8 1
25		Madura do.	1	1	3	5	2	1		2,017 13 11	207 2 6	294 10 2
26		Permagadi do.	1	1	7	10	2	1		3,578 7 9	284 9 0	326 12 5
		Total of district	3	3	15	22	5	3		8,385 15 3	755 9 0	938 10 8
27	Malabar.	Tellicherry circle	1	1	3	4	2	1		1,831 15 1	380 6 6	73 9 4
28		Calicut do.	1	1	8	7	2	1		2,587 1 10	429 13 1	114 6 8
29		Palghat do.	1	1	4	5	3	1		1,641 10 6	276 12 0	80 3 4
		Total of district	3	3	15	16	5	3		6,040 11 5	1,086 15 7	277 3 4

* Information not furnished.

DEPARTMENT.

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

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, samudra, 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.
2,223 5 8	...	...	2,223 5 8	...	...	2,223 5 8	8,365	0 4 3
1,613 3 9	...	...	1,613 3 9	...	...	1,613 3 9	6,729	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 8
4,517 14 0	...	...	4,517 14 0	...	...	4,517 14 0	25,371	0 2 10
3,402 12 8	...	...	3,402 12 8	...	...	3,402 12 8	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
2,135 14 6	...	...	2,135 14 6	...	...	2,135 14 6	12,413	0 2 9
3,622 11 4	...	...	3,622 11 4	...	...	3,622 11 4	24,567	0 2 4
8,601 14 0	...	...	8,601 14 0	...	...	8,601 14 0	50,631	0 2 8
3,318 15 0	...	...	3,318 15 0	...	...	3,318 15 0	8,594	0 3 1
2,808 9 4	...	...	2,808 9 4	...	...	2,808 9 4	8,102	0 5 7
2,860 10 5	...	...	2,860 10 5	...	...	2,860 10 5	8,232	0 5 2
8,788 2 9	...	...	8,788 2 9	...	...	8,788 2 9	22,928	0 6 1
4,028 10 11	...	...	4,028 10 11	...	...	4,028 10 11	13,614	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	17,806	0 1 9
8,555 5 7	...	1,938 8 1	6,516 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
800 1 9	...	800 1 9	...	...	...	800 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	...	800 1 9	10,201 5 8	...	...	10,501 7 0	32,676	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	8,626	0 7 8
2,142 0 9	...	...	2,142 0 9	...	...	2,142 0 9	4,418	0 7 9
9,349 15 2	...	...	9,349 15 2	...	...	9,349 15 2	17,778	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 8 0
5,079 2 0	...	...	5,079 2 0	...	...	5,079 2 0	24,112	0 8 4
3,370 10 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	22,619	0 2 11
10,074 2 11	...	...	10,074 2 11	...	...	10,074 2 11	53,403	0 3 0
2,265 14 11	...	...	2,265 14 11	...	...	2,265 14 11	10,818	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	38,160	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 Inspectors.	Deputy Inspectors.	Vaccinators.		Probationers.	Peons.	Pay of establishment.	Travelling allowance.			Contingencies.						
						First class.	Second class.				Rs.	A.	P.	Rs.	A.	P.	Rs.	A.	P.	
1	2	3	4	5	6	7	8	9	10	11	12			13						
30	Nellore.	Kāvali circle	...	...	1	3	5	1	1	Rs. 1,661	A. 5	P. 10	Rs. 441	A. 11	P. 0	Rs. 152	A. 0	P. 2		
31		Nellore do.	...	...	1	3	6	3	1	2,530	2	6	816	5	0	263	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.	Nilgiris	...	...	...	3	...	...	...	681	8	5	292	5	7	62	4	0		
		Total of district	...	...	...	3	...	...	...	681	8	5	292	5	7	62	4	0		
34	North Arcot.	Chittoor circle	...	...	1	6	6	3	1	2,715	10	1	869	15	3	124	8	9		
35		Karvetnaggar circle	...	...	1	3	6	1	1	1,671	14	9	629	6	7	138	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.	Madras Presidency	...	...	1	...	...	...	...	11,224	13	2	1,712	3	10	...	...	...		
		Total of district	...	...	1	...	...	...	...	11,224	13	2	1,712	3	10	...	...	...		
38	Salem.	Krishnagiri circle	...	...	1	3	6	3	1	2,097	11	8	199	0	0	344	6	7		
39		Salem do.	...	...	1	3	12	3	1	3,040	10	6	232	14	6	248	3	4		
40		Namakkal do.	...	...	1	3	11	8	1	2,600	3	4	140	2	0	140	6	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	1,968	12	2	154	4	0	72	4	2		
		Total of district	...	...	1	1	8	21	...	2	5,339	8	5	406	8	0	675	4	6	
43	South Canara.	No. I, South Canara circle	...	...	1	3	6	5	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	179	2	8	
45	Tanjore.	Negapatam circle	...	...	1	5	9	2	1	2,650	14	8	303	8	0	809	5	10		
46		Tanjore do.	...	...	1	4	15	2	1	3,759	9	11	812	11	0	406	13	10		
		Total of district	...	...	2	9	24	4	2	6,410	8	7	616	8	0	710	8	8		
47	Tinnevely.	Satūr circle	...	...	1	3	8	1	1	2,187	0	11	244	3	6	272	3	6		
48		Shermadēvi circle	...	...	1	4	7	3	1	2,551	7	0	180	10	0	893	6	8		
49		Tinnevely do.	...	...	1	4	10	2	1	3,974	7	9	822	9	0	837	13	5		
		Total of district	...	...	1	2	11	25	6	3	7,712	15	8	747	6	6	1,008	7	7	
50	Tribenopoly.	Trichinopoly circle	...	...	1	5	13	5	1	3,509	0	11	342	14	0	1,030	12	6		
		Total of district	...	...	1	5	13	5	1	3,509	0	11	342	14	0	1,030	12	6		
51	Vizagapatam.	Gunapur circle	...	...	1	...	2	2	1	1,048	7	2	583	9	0	60	1	4		
52		Zemindary vaccinators	...	...	...	3	...	...	...	252	8	0	18	12	0	...	...	...		
		Jeypore circle	...	...	1	...	4	1	1	1,005	15	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	2,882	4	11	173	15	0	255	10	0		
		Government vaccinators (Gudem hills)	...	...	...	2	...	...	...	345	0	0	209	13	6	2	0	0		
54	Vizagapatam.	Vizianagrum circle	...	...	1	7	7	3	1	2,719	2	8	81	13	0	30	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	112	52	1,32,597	10	4	25,878	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, seminaries, 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.
2,285 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
2,285 15 3	...	...	2,285 15 3	...	...	2,285 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	13,775	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	14,102	0 2 11
8,521 12 4	...	...	8,521 12 4	...	...	8,521 12 4	19,173	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 9 7	...	...	4,227 9 7	...	...	4,227 9 7	20,813	0 3 3
2,190 4 4	...	...	2,190 4 4	...	...	2,190 4 4	10,552	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	10,006	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	24,082	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	18,683	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 6	...	...	...	...	308 9 6	308 9 6	2,818	0 2 2
3,877 8 9	...	3,877 11 3	...	...	579 13 6	3,877 8 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	21,598	0 2 1
10,667 3 10	...	3,944 8 9	6,142 13 7	...	579 13 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	72,057	0 3 9

+ Exclusive of Bhadrachalam Hill Tracts.

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 6 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	28	43	58	7	...	84.1	...
Gooty	...	...	60	...	60	28	29	59	...	...	85.5	...
Hindupur	...	...	65	...	66	22	35	63	...	...	90.9	...
Kalyandurg	...	...	50	...	48	19	25	44	1	...	80.8	...
Qoravacunda	...	...	141	...	141	71	68	187	...	...	97.1	...
Pennkonda	...	...	103	...	102	54	26	103	...	...	100.0	...
Tadipatri	...	...	55	...	55	31	22	65	...	...	100.0	...
Total	...	...	583	...	559	253	243	523	24	12	95.5	80.0
<i>Bellary district.</i>												
Adoni	...	...	24	...	22	14	6	22	1	1	85.8	100.0
Aldr	...	...	23	...	23	7	15	22	...	...	95.6	...
Bellary	...	...	20	...	20	8	...	20	...	...	100.0	...
Bracepettah	...	...	37	...	37	23	11	34	...	...	91.2	...
Cowle Bazar	...	...	44	...	44	24	...	37	...	...	84.1	...
Hospet	...	...	50	...	50	35	15	60	...	...	100.0	...
Harpanahalli	...	...	123	...	123	92	18	123	...	...	99.2	...
Hadagallu	...	...	42	...	42	33	8	42	...	...	100.0	...
Kamptee	...	...	28	...	28	11	17	28	...	...	100.0	...
Kudligi	...	...	55	...	52	36	10	46	3	3	88.4	100.0
Kanaol	...	...	58	...	53	31	2	53	...	...	100.0	...
Kowtalam	...	...	24	...	28	7	12	19	1	...	82.6	...
Kurugode	...	...	10	...	10	8	2	10	...	...	100.0	...
Ravdhurg	...	...	61	...	61	27	34	61	...	...	100.0	...
Sander	...	...	48	...	48	38	10	38	...	...	89.2	...
Siruguppa	...	...	57	...	57	46	6	59	...	...	91.2	...
Yemmiganur	...	...	12	...	12	6	6	11	...	...	91.7	...
Total	...	...	711	...	708	442	198	607	5	4	94.4	80.0
<i>Chingleput district.</i>												
Chingleput	...	...	234	...	233	39	116	192	1	...	88.4	...
Conjeveram	...	...	181	...	127	28	71	121	4	2	95.8	50.0
Madurantakam	...	...	459	...	371	76	140	317	83	33	98.4	44.8
Nagalapattam	...	...	349	...	349	88	228	346	...	...	99.4	...
Poonamallee	...	...	401	...	401	70	284	371	...	...	92.5	...
Ponneri	...	...	105	...	105	50	44	102	...	...	97.4	...
Sripurambudur	...	...	258	...	258	27	169	241	...	...	93.4	...
Sathiyavadi	...	...	237	...	237	39	188	208	...	...	86.6	...
St. Thomas' Mount	...	...	13	...	13	...	...	13	...	...	...	...
Saidapet	...	...	337	...	338	1	803	804	2	...	90.7	...
Sembiam	...	...	314	...	312	90	166	262	2	1	83.9	80.0
Tirupurur	...	...	190	...	187	65	77	162	3	...	89.1	...
Tiruvallur	...	...	405	...	399	166	161	309	6	2	92.5	33.3
Uthamarur	...	...	267	...	258	38	169	247	9	8	95.7	80.0
Total	...	...	3,690	...	3,534	820	1,984	3,237	115	52	90.3	45.2
<i>Coimbatore district.</i>												
Aravakurichi	...	...	56	...	56	7	30	42	...	...	75.0	...
Bhavani	...	...	97	...	99	33	66	99	...	...	97.9	...
Coimbatore	...	...	5	...	5	3	2	5	...	...	100.0	...
Do. branch	...	...	87	...	86	6	24	70	...	1	88.9	100.0
Dharapuram	...	...	91	...	91	24	60	98	...	...	98.9	...
Erode	...	...	62	...	62	20	33	50	...	...	90.3	...
Gopichettipalayam	...	...	51	...	51	21	23	42	...	...	92.1	...
Karur	...	...	64	...	64	4	48	62	...	2	96.8	100.0
Kollegal	...	...	120	...	120	46	72	120	...	...	100.0	...
Mettupalayam	...	...	16	...	16	9	9	14	...	...	87.5	...
Palladam	...	...	30	...	30	4	29	37	...	...	94.8	...

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.				Re-vaccination.		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
Coimbatore district—cont.												
Pollachi			88		88	19	55	81			92.0	
Satyamangalam			82		82	28	50	81			98.7	
Tirupur			35		35	8	23	34			97.1	
Udamalpet			60		58	29	21	65	2	2	94.8	100.0
Vattakarampudur			48		48	8	18	33			68.7	
Total			1,005		1,000	259	526	933	5	5	98.3	100.0
Cuddalore district.												
Badvel			76		76	4	27	51			67.1	
Chitvel			25		19		8	4	6	1	21.0	16.6
Cuddalore			78		78			69			88.4	
Jammalamadugu			68		62	6	36	49	6		79.0	
Kadiri			66		66	64	29	49			74.2	
Madanapalle			386		372	72	273	372	14	8	100.0	21.4
Piler			46		46	7	19	36			78.0	
Proddutur			62		62	19	24	44			70.9	
Pulivendla			45		45	7	21	28			84.4	
Pullampet			9		9			6			66.6	
Ravichoti			42		42		17	29			69.0	
Total			908		877	121	449	747	26	4	85.2	15.4
Ganjam district.												
Aska			44		44	5	16	41			98.1	
Berhampore			18		18	3	8	18			100.0	
Calingapatam			52		49	2	8	35	3	3	71.4	100.0
Chicacole			38		38	5	10	30			78.9	
Ganjam			25		25		9	17			68.0	
Gopalpur			44		44	2	18	32			72.7	
Itanagar			12		12		2	7			58.3	
Parlakimedi			48		48	1	26	45			98.7	
Purushottapur			2		2							
Sompot			22		22	1	16	22			100.0	
Surada			11		11	1	6	11			100.0	
Tekkali			5		5		2	4			80.0	
Udayagiri			23		23	5	8	21			91.8	
Varanasi			14		14	2	10	14			100.0	
Total			358		355	27	142	297	3	3	83.6	100.0
Godavari district.												
Amalapuram			38		38	1	23	34			89.4	
Bhadrachallam			45		48	2	10	33		1	76.7	50.0
Cocanada			227		219	10	57	82	3		37.4	
Chintalapudi			41		41		25	28			68.3	
Dowlishwaram												
Ellora			180		180	19	98	165			91.6	
Gokaram			42		42		9	11			26.1	
Rhinavaram			87		87	2	37	57			85.5	
Narsapur			142		136		80	88	6	6	64.7	100.0
Pithapuram			72		72	7	43	57			79.1	
Peddapuram			92		92	1	59	85			92.3	
Ramasebandrapuram			77		77	3	39	61			79.2	
Rajahmundry			20		20	3	16	20			100.0	
Sivakota			78		78	2	31	67			85.8	
Tanuku			111		111	10	66	88			79.2	
Tallapadi			61		60	4	32	39	1	1	65.0	100.0
Tuni			50		50		23	34			68.0	
Yelawaram			26		26		14	18			69.2	
Total			1,389		1,372	65	642	947	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 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.				Revacci- nation.		Percentage of successful cases.	
					Total.	Successful.			Total.	Successful.	Primary vacci- nation.	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	56.7	100.0
Manamakkudi	...	...	85	...	85	6	60	71	...	...	88.5	...
Manambogochavady	...	...	52	...	14	1	7	10	38	7	71.4	18.4
Manmargudi	...	...	37	...	87	2	7	24	...	...	91.9	...
Mayavaram Webster Hospital	...	...	38	...	38	8	27	38	...	...	100.0	...
Minpassal	...	...	60	...	58	4	29	49	2	2	84.4	100.0
Mutupet	...	...	116	...	116	20	83	98	...	...	80.1	...
Nannilam	...	...	78	...	69	8	43	65	4	2	94.2	59.0
Nagore branch	...	...	40	...	40	15	23	40	...	...	100.0	...
Negapattam	...	...	86	...	36	8	19	32	...	...	88.8	...
Nidamangalam	...	...	12	...	12	2	9	12	...	...	100.0	...
Orthampud Chuttrum	...	...	74	...	66	24	21	58	8	1	87.9	12.5
Papanasam	...	...	78	...	73	8	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 Minesidar Hos- pital	...	...	56	...	56	10	36	54	...	...	96.4	...
Shiyali	...	...	103	...	102	4	52	72	1	...	70.6	...
Tirukattappalli	...	...	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	...	...	82.9	...
Tiruvallur	...	...	81	...	73	7	29	68	8	7	93.1	87.5
Tranquebar	...	...	53	...	51	8	20	38	2	1	73.5	50.0
Do. branch	...	...	121	...	120	7	79	108	1	1	88.4	100.0
Valangymam	...	...	75	...	74	5	33	64	1	1	86.5	100.0
Vallam	...	...	76	...	78	2	52	69	...	...	90.8	...
Vadarnam	...	...	51	...	51	7	26	51	...	...	100.0	...
Velangulam Chuttrum Dispensary	...	...	63	...	62	2	40	48	1	1	77.4	100.0
Total	...	...	2,682	...	2,527	234	1,307	2,116	95	47	83.7	49.5
<i>Tinnevely district.</i>												
Ambasamudram	...	...	187	...	187	1	98	138	...	...	97.0	...
Christianagaram	...	...	16	...	16	2	9	11	...	...	68.7	...
Edyengoody	...	...	39	...	39	...	31	32	...	...	82.0	...
Megnanapuram	...	...	51	...	51	...	35	43	...	...	82.3	...
Nagalapuram	...	...	86	...	86	...	59	77	...	...	89.5	...
Nanguneri	...	...	39	...	39	4	30	38	...	...	97.4	...
Nazareth	...	...	5	...	5	2	2	5	...	...	100.0	...
Otapidaram	...	...	15	...	15	...	...	8	...	...	53.3	...
Palamcottah	...	...	74	...	74	6	28	68	...	...	91.8	...
Radhapuram	...	...	66	...	65	8	43	65	1	1	100.0	100.0
Satur	...	...	128	...	128	3	36	125	...	...	97.9	...
Syakasi	...	...	23	...	23	10	9	23	...	...	100.0	...
Sankaranainarkoil	...	...	75	...	76	6	56	75	...	...	100.0	...
Sawyerpuram	...	...	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	75.3	50.0
Tirukarangudy	...	...	38	...	47	1	18	31	1	1	88.7	100.0
Trichendur	...	...	26	...	26	4	20	26	...	...	56.1	...
Taticorin	...	...	33	...	33	4	18	24	1	1	75.0	100.0
Virakeralampudur	...	...	34	...	34	6	26	32	...	...	94.1	...
Virudapatti	...	...	103	...	102	25	60	94	1	1	92.1	100.0
Total	...	...	1,309	...	1,302	115	788	1,264	7	6	97.0	85.7

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.				Revacci- nation.		Percentage of successful cases.	
					Total.	Successful.			Total.	Successful.	Primary vacci- nation.	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>												
Amiyalor	...	...	143	...	143	21	112	134	...	...	93.7	...
Erungalore	...	...	56	...	56	4	37	53	...	...	94.6	...
Kulitalai	...	...	126	...	108	12	8	99	18	17	91.6	94.4
Lalgudy	...	...	108	...	108	1	16	89	...	...	82.4	...
Manapalai	...	...	105	...	103	13	62	98	...	...	90.2	...
Musiri	...	...	220	...	220	33	124	220	...	...	100.0	...
Marrungapuree	...	...	121	...	121	34	50	90	...	...	74.3	...
Perambalur	...	...	118	...	96	24	19	87	23	23	91.5	100.0
Srirangam	...	...	107	...	107	20	64	105	...	...	98.1	...
Turayur	...	...	235	...	235	16	176	227	...	...	96.5	...
Trichinopoly Leper Hospital	...	...	21	...	21	...	8	21	...	...	100.0	...
Udayarpalayam	...	...	133	...	133	9	103	129	...	...	96.9	...
Warra Jubilee Dis- pensary	...	...	36	...	36	...	14	32	...	...	88.8	...
Trichinopoly	...	...	142	...	142	...	85	124	...	...	87.3	...
Total	...	...	1,671	...	1,626	184	878	1,508	43	40	92.3	98.0
<i>Vizagapatam district.</i>												
Anakapalle	...	...	55	...	55	...	8	28	16	8	58.9	50.0
Bobbili	...	...	179	...	173	16	79	166	6	5	95.9	83.3
Himalipatam	...	...	80	...	26	4	11	26	4	4	100.0	100.0
Ohodavaram	...	...	200	...	200	23	154	198	...	...	99.0	...
Ohipurapalle	...	...	119	...	110	28	69	101	9	5	91.8	55.5
Gajapatinagaram	...	...	88	...	85	27	39	72	...	...	81.8	...
Narsapattam	...	...	377	...	365	71	207	365	12	11	100.0	91.6
Nourangapur	...	...	5	...	5	...	1	3	...	...	60.0	...
Jessore	...	...	...	...	...	...	...	...	...	...	...	...
Palkonda	...	...	332	...	271	63	135	237	61	53	87.4	86.8
Pattatipala	...	...	132	...	129	52	61	119	3	3	92.2	100.0
Pattinchi	...	...	...	...	...	...	...	...	...	...	...	...
Razagada	...	...	5	...	5	3	2	5	...	...	100.0	...
Satur	...	...	464	...	461	280	202	450	3	3	97.6	100.0
Srufiguvarapakkotta	...	...	66	...	64	...	61	62	2	...	96.8	...
Vizagapatam	...	...	...	...	...	...	...	...	...	...	...	...
Vizianagaram	...	...	97	...	90	8	54	84	7	4	93.3	57.1
Bissinikottah	...	...	22	...	22	3	11	14	...	...	63.6	...
Yelamanchilli	...	...	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	...	26,879	4,646	13,076	23,368	979	577	86.9	58.9

COMPARATIVE STATEMENT No. IV showing the number of persons primarily vaccinated and the number of those persons who were successfully vaccinated in the Madras Presidency in each of the undermentioned years.

Establishment.	Persons primarily vaccinated.											
	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.	Total number.	Number successfully vaccinated.
	1881.	1882.	1883.	1884.	1885.	1886.	1887-88.	1888-89.	1889-90.			
Government vaccinators	10,194	9,663	9,186	12,038	9,970	9,511	9,741	16,210	27,227			
Local fund do.	470,805	435,696	528,523	617,475	608,729	594,717	618,568	643,761	708,663			
Cantonment do.	5,213	4,941	3,446	8,434	2,463	2,860	3,975	3,913	3,841			
Native States do.	3,635	5,236	3,898	4,506	4,063	4,439	4,042	2,270	5,384			
Municipalities	80,296	70,980	85,823	97,785	92,946	70,065	71,710	81,566	81,442			
Private vaccinators	197	117	43	...	...	...	...	...	...			
Dispensaries	9,890	8,198	10,324	17,201	23,934	16,790	13,736	15,408	20,970			
Medical subordinates	9,646	5,743	10,049	5,280	7,536	6,780	3,083	1,517	3,077			
Army (European)	1,916	1,382	1,927	1,787	691	875	...	...	...			
Army (Native)	4,873	3,093	4,413	3,656	2,764	2,397	...	...	...			
Total	595,894	543,093	635,961	773,113	752,047	697,243	724,335	780,248	856,364			

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	9,916	17,104	28,336
(b) By Local Fund vaccinators	612,057	588,760	625,795	787,293	718,887
(c) By Municipal vaccinators including Madras	96,922	74,012	75,535	85,672	85,670
(d) In Cantonments	2,933	3,154	3,937	4,072	3,702
(e) In dispensaries	23,616	17,243	14,174	18,827	27,849
(f) Other operations by medical subordinates	17,587	9,485	5,181	4,379	6,444
(g) By the Zemindary vaccinators	4,082	4,629	4,042	2,270	5,260
Total	761,182	705,587	738,480	809,417	875,743
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.

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.

	Percentage of operations inspected by Deputy Inspectors.
1887-88	50.0
1888-89	57.9
1889-90	58.7

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 986 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 Godavari 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 Godavari 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

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.	

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 101,159 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. Anantapur.	4. Godavari.
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, as 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.

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