

REPORT
ON THE
OPERATIONS OF THE DEPARTMENT OF
LAND RECORDS AND AGRICULTURE

MADRAS PRESIDENCY

FOR THE OFFICIAL YEAR

1891-92



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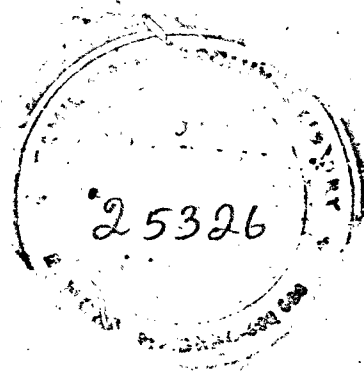
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ON THE
OPERATIONS OF THE DEPARTMENT OF LAND RECORDS
AND AGRICULTURE
FOR 1891-92.

I.—ORGANIZATION AND MAINTENANCE OF VILLAGE RECORDS.

1. The sanction of the Secretary of State for the provisional appointment for a period of five years of a Personal Assistant to the Director for the purpose of supervising the work of the Subordinate Revenue establishments in the maintenance of Land Records and Survey marks and plans having been received, the appointment was filled up under the designation of Deputy Director of the Department (Land Records Branch) on the 2nd November 1891. The newly appointed Deputy Director before the end of March 1892 visited the Trichinopoly, South Arcot and Tanjore districts, and examined thoroughly the work done by the Revenue Inspectors and the state of the village and taluk accounts in two taluks in each district. While at Trichinopoly, which he visited in company with Mr. Cardozo, Mr. Wynch made himself fully acquainted with the system of survey by karnams (village accountants) and their instruction at the survey schools inaugurated in that district under the sanction of Government.

2. The working of the Revenue Inspector staff in the districts visited was found to be open to much improvement. These officers, Mr. Wynch reports, are generally regarded by the Tahsildars "more as assistants for the disposal of references than as inspectors, and are allowed to spend their time" when not detained at head-quarters (which they are, much longer than they should be) "touring from village to village without any system, inquiring into complaints and petitions referred to them for report." "Inspection work is consequently much neglected. Crop registration is checked in a very perfunctory way. Boundary marks are not generally looked after and the examination of village accounts is generally left to be done in the jamabandi cutcherry." As regards the village and taluk accounts, Mr. Wynch found that "the village statistical accounts do not receive the same amount of attention as the revenue accounts" at the hands of the Revenue Inspectors and taluk officials and that there is "a great want of supervision over the preparation of the taluk accounts." In some taluks there was very great delay in the disposal of applications for taking up, or for transfers of, lands. In the taluks inspected in Trichinopoly and South Arcot the village analysis registers were found to have been very carelessly prepared, though they were on the whole kept better in Tanjore. The firka books had not been completely posted.

The detailed reports of the Deputy Director are forwarded through the Collectors concerned, and necessary steps will be taken by them to rectify any errors that are pointed out. At present, the annual jamabandi (settlement of the demand) is the only occasion on which all the accounts are checked and scrutinized, and the result of such inspection is, as usual, submitted in separate reports to the Board. These reports show that of late greater attention has been devoted to the due maintenance of these statistics than before, though, as pointed out by Mr. Wynch, the attention paid is inadequate in many respects and there is much room for improvement. The Tahsildars, burdened as they have been with a large amount of criminal

work, have had insufficient time to devote to the proper scrutiny of the work of the Revenue Inspectors, and a large amount of revenue inquiry that should be taken up by themselves has often been thrown upon the latter officials. Considerable improvement may be looked for now that Tahsildars are to be so largely relieved of their Magisterial duties, and it is hoped that Mr. Wynch may be able to do much to systematise and improve the work of Revenue Inspectors and village officers by introducing into more backward districts the better systems of administration found in particular districts where these matters have engaged the special attention of the Collector. Much further inspection will be necessary before any rules of general application can be introduced, but much may be done at present by bringing to the notice of Collectors of districts inspected all points where any portion of their account system or of the work of their Revenue Inspectorate is especially unsatisfactory.

3. The re-survey of the Trichinopoly district with the aid of the village accountants was in progress throughout the year under report, and the progress made was on the whole very satisfactory, almost the whole of the work in the Trichinopoly taluk and about one-half in each of the taluks of Kulitalai and Musiri having been completed before the 31st March 1892.

Arrangements were made in the course of the year to train the karnams in survey work, in those portions of the Bellary and Anantapur Districts where survey had been completed but where settlement was in progress; but these arrangements had to be suspended in consequence of the distress that showed itself after the failure of the north-east monsoon, the services of the village officers being required in administering relief. In the Taluks of the Anantapur District where the survey is in progress the kurnams will be instructed as the survey progresses. A similar course will be followed in the South Canara and Malabar Districts in which the Survey department is now at work.

4. A scheme for the training of the karnams of the remaining districts was submitted by Mr. Cardozo, Superintendent of Revenue Survey, and was approved by Government. In the districts named in the margin, which have already been permanently demarcated and

Ganjam, Vizagapatam, Nellore, Kurnool, Cuddapah, Chingleput, South Arcot, North Arcot, Salem, Coimbatore, Nilgiris, Tanjore, Madura and Tinnevely.

surveyed, Mr. Cardozo proposed that a survey school should be opened at each district head-quarters under a qualified instructor, and that the karnams should be sent to undergo training therein in batches not exceeding 20 at a time, the course of instruction lasting for a month, the first half being devoted to the course prescribed in the karnams' manual of surveying, and the second to the surveying and mapping of a block of not less than 40 acres in the neighbourhood of the survey school. The school is to be under the immediate supervision of the Assistant Collector or some other responsible Revenue officer at head-quarters and its monthly cost was estimated at Rs. 65 to Rs. 70 as shown below:—

Pay of Instructor	Rs. 20 to 25
Allowance to 20 karnams at Rs. 2 each	40
Contingencies and stationery, &c.	5
Total	65 to 70

The training of the kurnams of a district under the above scheme which provides for the training of only twenty in one month would take several years, and as an alternative scheme Mr. Cardozo suggested that the plan of instructing the karnams by the aid of the Revenue Inspectors might be tried in one district and extended to others if it was found to answer well. Briefly, the plan is to send the Revenue Inspectors of two

or three taluks at a time to the survey school for a fortnight * to go through the course and then to require them to instruct the karnams in their respective ranges, either at the taluk head-quarters or at such other place as may be selected by the Collector. In this way, all the karnams in a district could be trained in less than a year.

The supply of the necessary survey instruments at the cost of the State to all

	RS.	A.	P.
1 cross staff	0	4	0
1 off-set pole	0	1	0
1 plotting and off-set scale	0	2	0
1 pair of plotting compasses	2	0	0
1 flat ruler	0	1	0
1 drawing board	0	8	0
Total	3	0	0
Add cost of a chain if necessary	3	8	0
Grand Total	6	8	0

3.

karnams in Government villages has been approved by Government, the cost of each set being estimated at Rs. 6-8-0 as shown on the margin. Shortly after the close of the year the karnams of Godavari, Kistna, Anantapur, Malabar and South Canara were supplied with these instruments, but with the exception of the Kurnam's school in Bellary no schools for the instruction of kurnams were established during the year.

5. A scheme of examination, styled "the Village Officer's Special Test" for testing the fitness of candidates for the offices of karnam (village accountant), assistant karnams, monegar and munsif, was sanctioned by Government during the year, but it is to be enforced only from 1st January 1894, and is not applicable to the Agency tracts in Ganjam, Vizagapatam and Godavari.

The examination will be open to all candidates who have passed the Primary School examination, or any higher examination conducted by the Commissioner for Uncovenanted Civil Service examinations, by the Director of Public Instruction, or by the University, and the fee for admission will be Re. 1 for all persons belonging to the families of karnams, assistant karnams, redds and munsifs, and Rs. 5 for all others. The candidates for karnam's office must pass in (a) the Village Manual of Accounts, (b) the powers and duties of village officers, and (c) surveying; and for monegar's or munsif's office, in (a) powers and duties of village officers and (b) village sanitation.

From and after the 1st January 1894, no person, unless specially exempted by the Collector, will be appointed to the office of a karnam, monegar or munsif unless he shall have passed the examination prescribed above.

6. Of the 619 Revenue Inspectors in the Presidency 502 of those performing the duties of the post are reported to have undergone training in survey. It is only in Anantapur that all the Inspectors have received training, but in Ganjam, Kurnool, Bellary, Chingleput, Coimbatore and Nilgiris the proportion not trained is very small.

7. The work in connection with the revision of village establishments was transferred during the year to the Land Revenue Branch of the Board of Revenue. The village establishments in Anantapur were revised during the year and some modifications were sanctioned in regard to the superior village officers of the Kurnool district, where the last previous revision was carried out nearly 30 years ago.

II.—THE ANALYSIS OF DISTRICTS.

8. Owing to census operations and the unfavorable character of the season in a large number of districts, the preparation and checking of the village registers and firka books was not completed during the year, though great progress was made. The extent of arrears for fasli 1299 is somewhat large in Ganjam, Anantapur, Chingleput and Madura and very slight in Kurnool, Nellore and Trichinopoly, as exhibited in the following table:—

Districts.	In the district.	NUMBER OF VILLAGES			
		For which village registers still remain to be		For which firka books still remain to be	
		Prepared for fasli 1299.	Checked for fasli 1299.	Prepared for fasli 1299.	Checked for fasli 1299.
Ganjam	1,533	500	Not begun	Not begun in Berhampore and Goomsur.	17
Kurnool	789	5	5	11	905
Anantapur	978	138	138	192	5
Nellore	931	5	5	5	1,019
Chingleput	1,785	30	62	270	5
Trichinopoly	1,401			5	
Madura	896	147	233	Not begun.	

The work remaining to be done in 13 districts on account of fasli 1300 is given in the following statement :—

Districts.	Total villages in the district.	NUMBER OF VILLAGES FOR WHICH				Remarks.
		Village registers still remain to be		Frka books still remain to be		
		Prepared for fasli 1300.	Checked for fasli 1300.	Prepared for fasli 1300.	Checked for fasli 1300.	
Ganjam	1,533	500	Not begun in Berhampore and Goomsur taluks.		The work is very backward in the taluks of Berhampore and Goomsur and the Collector has taken steps clear off the arrears at an early date.	
Godavari	1,379	62	90	241	426	The arrears relate to Pattikonda and Nandikotkur taluks. Orders have been issued to complete the work without delay.
Kurnool	789	5	8	13	19	
Anantapur	978	189	189	247	247	Arrears heavy in Dharmavaram and Anantapur taluks.
Nellore	931	67	81	Not begun in Nellore and Kanigiri.		
Chingleput	1,785	190	190	635	1,034	
South Arcot	2,913	793	793	2,123	2,123	
Salem	2,806			89	104	
Coimbatore	1,508		51		51	
Trichinopoly	1,401	11	11	96	96	
Tanjore	3,604	195	621	F. 6	F. 11	
Madura	896	163	263	896	896	
Tinnevely	1,139	29	70	F. 3	F. 4	

The work for fasli 1301 is reported to have been commenced and to be progressing fairly in a few districts.

Much labour has been expended in the preparation of these registers, but the work of keeping them up to date will be very slight and the value of permanent registers of the kind giving, for a long series of years up to the latest for each village and for each group of villages in a Revenue Inspector's charge, full particulars of the area in occupation, the revenue derived from unirrigated lands, the revenue from each source of irrigation, the agricultural stock of the village, the number of its well &c., will be appreciated the more the registers are used. The statistics of a village will gradually be brought to a correct standard from which any material deviation will demand intelligent explanation.

9. Very little progress was made towards the completion of the statistical atlas owing to the pressure of work thrown on the department owing to the state of the season, and to the necessity for awaiting the detailed results of the recent census.

III.—COLLECTION OF REVENUE AND RENTAL IN PRECARIOUS TRACTS.

10. The revised kistbandi (instalments of revenue) sanctioned in 1889-90 continued to be in force during the year. Owing to the serious failure of the rains in many districts, a considerable portion of the demand both on irrigated and on unirrigated lands had to be remitted, while the collection of the remainder had to be temporarily suspended in some places. The scheme for the remittance of Government revenue by means of Postal money-orders, which was introduced as a tentative measure in the districts of Chingleput, South Arcot, Tanjore, Madura and Tinnevely during the year 1890-91, was ordered to be continued till August 1893 on the recommendation of Collectors concerned and the Postmaster-General.

to be employed, his services are being utilized as Veterinary Lecturer at the College of Agriculture.

30. The subordinate staff of Stock Inspectors was employed almost throughout the year in connection with operations for the relief of distress in various districts. The number of Stock Inspectors on the staff remained at 14 throughout the year, but one Inspector was absent on sick leave. The six specially-selected Inspectors alluded to in paragraph 30 of the last report completed their special course of training at Saidapet to prepare them for taking charge of the veterinary hospitals to be started in connection with the proposed farm schools in May 1891, and were then drafted on to famine relief.

31. The following is an abstract of the mortality recorded amongst all classes of live stock in the Presidency during the last five years. In view of the difficulty of securing anything like an accurate record of the mortality from natural causes and accidents, it was decided during the year to abandon the attempt and to confine the record to deaths from disease, criminal poisoning, snake-bites and the ravages of wild animals, information as to the annual increase or decrease of the stock of the country being obtained by an annual census :—

Causes of Death.	Number of Cattle.				
	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.
1	2	3	4	5	6
Diseases—					
Rinderpest	116,558	95,795	38,252	21,970	10,359
Diarrhoea and dysentery	3,966	47,946	30,308	27,907	18,394
Total	120,524	143,741	68,620	49,877	28,753
Anthrax	34,432	19,893	22,592	18,586	16,788
Foot-and-mouth diseases	2,763	5,260	7,811	6,064	6,157
Varicella	733	2,341	3,290	2,214	2,608
All others	15,771	24,529	26,243	25,356	33,143
Total from disease	174,223	196,264	128,466	102,097	87,349
Others—					
Snake-bite	1,824	2,587	2,895	2,698	1,751
Wild animals	7,591	9,520	10,517	10,533	10,188
Criminal poisoning	44	85	15	24	18
Total from other causes	9,459	12,192	13,427	13,255	11,957
Grand Total	183,682	208,456	141,893	115,352	99,306

Causes of Death.	Number of Sheep and Goats.					Number of Horses and Ponies.				
	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.	1887-88.	1888-89.	1889-90.	1890-91.	1891-92.
7	8	9	10	11	12	13	14	15	16	
Diseases—										
Rinderpest	5,180	4,075	4,492	2,172	1,837					
Diarrhoea and dysentery	959	4,363	5,040	4,741	2,714	2	5	6	15	7
Total	6,139	8,438	9,532	6,913	4,551					
Anthrax	1,816	3,253	5,654	5,211	4,391	2	5	6	15	7
Foot-and-mouth diseases	211	989	2,836	526	2,857	3	5	9	17	17
Varicella	3,373	7,337	7,962	8,156	5,899		1	4	8	1
All others	5,430	9,212	13,616	8,771	13,740	24	88	134	159	130
Total from disease	16,969	29,279	39,599	29,977	31,438	39	99	153	199	155
Others—										
Snake-bite	78	241	325	192	153	2	11	10	3	7
Wild animals	3,609	7,364	9,050	7,921	5,942	29	96	130	144	142
Criminal poisoning		23	2							
Total from other causes	3,687	7,628	9,381	8,113	6,095	31	107	140	147	149
Grand Total	20,656	36,907	48,980	38,090	37,533	70	206	293	346	304

32. The table given below shows the proportion of the losses from disease amongst each description of stock during each of the last five years with reference to the numbers reported to exist:—

Year.	Horned cattle.			Sheep and Goats.			Horses and Ponies.		
	Number of		Death rate per mille.	Number of		Death rate per mille.	Number of		Death rate per mille.
	Stock.	Deaths.		Stock.	Deaths.		Stock.	Deaths.	
1887-88	11,522,768	174,223	1.5	9,574,761	16,969	1.7	34,958	39	1.1
1888-89	13,699,395	196,264	14.0	11,389,668	29,279	2.6	39,254	99	2.5
1889-90	14,475,966	128,466	8.8	12,060,982	39,589	3.2	42,735	153	3.5
1890-91	14,958,792	102,097	6.8	12,466,649	29,977	2.4	43,296	199	4.6
Average	13,664,250	160,262	7.7	11,395,615	28,956	2.4	40,060	123	2.9
1891-92	14,848,600	87,349	5.8	12,714,832	31,438	2.4	41,591	155	3.7

33. The chief feature of the year was the comparative immunity from serious disease which the cattle enjoyed. The total reported losses (87,000) were only 58 per cent. of the average losses and 15 per cent. less than in 1890-91. The relative smallness of the losses during 1890-91 in comparison with those of the three previous years was pointed out in paragraph 34 of the last report. The losses of 1891-92 were only slightly more than half the average of the three years 1887-88 to 1889-90, and this decrease has occurred whilst there is every reason to believe that the accuracy of registration is increasing. The fluctuations in the monthly numbers of deaths followed much the same course as in previous years. From April to September the number of deaths in each month varied but slightly; there was a considerable increase in October when heavy rain fell in many parts, a decrease in November which was unusually dry, and a rise to the maximum in December, in the latter respect showing a difference from the preceding year, when the later rains having failed the maximum was reached in October, but resembling the average for the three previous years. After December there was a rapid decline in the death-rate from disease to 5,417, a lower monthly mortality than any reported during the last five years by over 1,000 head.

34. Rinderpest, even if the deaths attributed to diarrhoea and dysentery be grouped with those due to that pest, did not cause one-third of the average number of deaths that it had done in the previous four years and not much more than half the number attributed to it in 1890-91. From April to September the number of deaths from these causes declined steadily until in September they only numbered 1,491. The lowest monthly maximum in the preceding four years was 3,234 in June 1890. During October, November and December, there was a slight increase in the number of deaths from these causes; but it is most probable, when the character of the season and the absolute number of deaths reported are considered, that those put down to diarrhoea and dysentery were to a large extent correctly recorded, and the relative immunity of the Presidency from rinderpest was very marked. During each of the last three months of the year, about 2,090 deaths were attributed to these causes. Of the total number of deaths (28,753) put down to rinderpest, diarrhoea and dysentery, only 10,359 were registered under rinderpest, and there is no reason to believe that this understated the proportion of deaths caused by that epizootic to any great extent, and the Presidency may be said to be enjoying a general immunity from this disease at present after a long and severe out-break. The only districts which reported any considerable number of deaths from these causes were—Madura (4,152), South Arcot (3,551), Tanjore (2,729), Chingleput (2,708), North Arcot (2,291) and Kistna (2,638), numbers which, as compared with the losses of previous years, are trifling. In Ganjam, the number of deaths (1,661), though not very large, was considerable in proportion to the stock affected. In Coimbatore though the losses were larger (2,196), they were proportionately small.

35. The number of deaths amongst cattle attributed to anthrax showed a further considerable decrease on the previous year, but not nearly so marked an one as in the case of rinderpest. On the other hand, both "foot and mouth" disease and variola are

said to have caused a few more deaths, whilst the number put down to unspecified diseases increased largely over the average of the three preceding years. With cattle in reduced condition, diseases which are ordinarily harmless might readily prove fatal. Anthrax was particularly destructive in North Arcot, Chingleput, South Arcot and Tanjore, these four districts having accounted for just half the total number of deaths attributed to the disease. It is also reported to have caused a large proportion of the deaths in Ganjam: "Foot and mouth" disease was also most exceptionally destructive in Ganjam where 1,932 deaths were registered under this head. Variola is said to have caused 1,035 deaths, or two-fifths of the whole number for the Presidency in Kistna district alone. The very large increase, 7,787 or 30 per cent., over the previous year in the number of deaths attributed to unspecified diseases was distributed over all the districts except Cuddapah, North Arcot, Coimbatore, Trichinopoly, Tanjore and Malabar, and was most marked in the districts noted on the margin and may perhaps be attributed in part to the inclusion of deaths from privation in some cases. As usual Kurnool reports by far the largest number of deaths under this head and as in 1890-91 Madura stands next.

36. The losses from snake-bites decreased from 2,698 to 1,751, and the decrease was spread over the whole Presidency except Ganjam and Vizagapatam. Losses by wild animals also decreased by 345 head. As usual over half of the deaths from this cause occurred in the two West Coast districts, where, as well as in all the other districts except Tinnevely, Salem, North Arcot, the Deccan districts and Ganjam, there was a marked decrease. The increased losses in Bellary and Kurnool were very marked.

37. The subjoined table shows the action taken in regard to each case of criminal poisoning that was reported—

District.	Number of cattle poisoned.	Action taken in each case.
Godavari	2	(1) In one case the culprit was fined Rs. 30; in default sentenced to 45 days' imprisonment. (2) The other case is under inquiry.
Kistna	4	(1) One was a suspected case and there was no proof, and the viscera was not forwarded for medical examination. (2) In another case the culprits could not be detected for want of sufficient evidence. Information still due for the remaining two cases still under Police investigation.
Kurnool	1	(1) In this case the offender was punished to one day's simple imprisonment and a fine of Rs. 10.
Anantapur	5	(1) In one case the offenders were sentenced to 3 months' rigorous imprisonment. (2) In the second the offenders were sentenced to 6 and 3 months' rigorous imprisonment respectively. (3) In the third case sufficient evidence was not forthcoming to bring the offenders to justice. (4) The fourth has been included by Police in undetected cases. (5) The accused in the fifth case were discharged under section 253, C.P.C.
Cuddapah	1	(1) The two offenders in this case were sentenced each to 6 months' rigorous imprisonment.
Salem	1	(1) The culprit was sentenced to 4 months' rigorous imprisonment.
Madura	3	(1) In two cases the complaint was made on mere suspicion and the Police were asked to stop further inquiry as there was no evidence. The offenders could not be traced in the remaining one case.
Malabar	1	(1) The case is under Police investigation.
Total	18	

NOTE.—There were no cases under sheep and goats, horses and ponies.

38. Amongst the *sheep and goats*, although the losses from disease increased slightly, the increase appeared only under two heads, viz., foot and mouth and unspecified diseases. There was, however, a very marked increase in the number of deaths registered under rinderpest in both North Arcot and Tinnevely, attended with decreases under diarrhoea and dysentery. The losses attributed to anthrax also increased very largely in Godavari, North Arcot, Chingleput and Madura, and those put down to sheep-pox in Bellary, North Arcot, Coimbatore and Madura, but on the whole the total losses from these diseases decreased. In the case of *epizootic apthæ*, the greater part of the losses occurred in Godavari (704), Madura (1,202) and

Tinnevely (696), whilst elsewhere they were trifling. The increased losses under unspecified diseases were reported most largely from Madura, but there was a large increase also in Tinnevely, Trichinopoly, Salem, South Arcot, Nellore, Cuddapah and Anantapur, the total increase amounting to nearly 5,000, of which Madura contributed 2,800 and Salem 1,550. The losses from snake-bite and wild animals both decreased and there were no cases of criminal poisoning reported.

39. The deaths of horses and ponies from disease only amounted to 155 against 199 reported in the previous year, and of these 130 were from unspecified causes. Wild animals destroyed 142, of which 44 were in Kurnool, 25 in Bellary, and 15 each in Kistna and Madura. There were 7 deaths amongst this description of stock from snake-bites.

40. *Pony-breeding.*—These operations were confined to two districts—Salem and Coimbatore. In Salem, there were four stallions at work, and 240 mares were covered, as compared with 190 in the previous year when only three stallions worked throughout the year, about two-thirds of the mares being covered at Hosur and the rest at out-stations. In Coimbatore, there were five stallions at work during the year, of which four covered 50 mares or more each and one only 33. The stallions were for the most part stationed at fixed centres and of the total number of mares covered (238), 47 were covered at Kangyam and 60 at Dhárápura, the distribution of the coverings between the different taluks of the district is noted on the margin. According to the monthly reports received, the number of ponies castrated during the year was 116 in Salem and 49 in Coimbatore. Three ponies died in Coimbatore after castration and two in Salem, and, owing to the unfavorable character of the season, it was impossible to push these operations vigorously during the year.

41. The work of the year and the results secured from the coverings of the previous year, 1890-91, are compared below with those of previous years and with those secured in Bombay and Bengal:—

Particulars.	Year.	Madras.			Bombay.	Bengal.
		Salem.	Coimbatore.	Total.		
Mares covered per stallion.	1887	35	28	30.5	35.1	37.3
	1888	50	29	36	35.6	36.7
	1889	39	42	41	36.2	39.0
	1890-91	47	51	50	37.5	39.5
	1891-92	60	48	53	..	..
Produce foaled per stallion.	1887-88	11.6	5.0	7	11.7	11.3
	1888-89	13.0	3.6	6.4	13.8	10.8
	1889-90	10.6	6.3	7.6	11.8	10.6
	1890-91	8.7	9.3	9.4	11.7	12.6
	1891-92	..	..	..	..	..
Percentage of produce foaled to mares covered.	1887-88	36.5	20.2	28	37.4	30.3
	1888-89	31.0	14.0	21	37.3	31.1
	1889-90	38.0	21.0	29	38.6	28.8
	1890-91	27.3	22.3	24	34.7	32.3
	1891-92	..	..	..	..	..

As far as coverings are concerned the work done was good; the small decrease in Coimbatore is attributed to the unfavorable character of the season. As to produce obtained from the coverings of the preceding year, there was a marked falling off in Salem and a slight improvement in Coimbatore, but still the percentage of produce obtained from mares covered was small. In Coimbatore, the results obtained from the work of three stallions were very bad, and if the particulars regarding them be eliminated, the percentage of produce foaled would be raised from 24 to 27.6. This even is considerably below the proportion of successful results obtained in Bombay and Bengal. This result may, no doubt, be in part attributed to the unfavorable character of the season. The number of foals obtained by Government stallions since the commencement of operations is 348. The charges incurred during the year were Rs. 4,032.

42. A proposal to assist a planter on the Nilgiris in starting and carrying on mule breeding from country-bred mares was under discussion during the year, but the

idea fell through owing to inability of the Government of India to spare a donkey stallion for the experiment.

VII.—MISCELLANEOUS.

43. *Crop statistics.*—According to the original orders of the Government of India, the submission of two forecast reports regarding paddy, indigo, gingelly and cotton, both early and late, was required, the first dealing roughly with the area sown and the character of each crop, and the second giving the fullest details available as to the area, condition and probable outturn. These reports were submitted for some time, but the Government of India expressed a wish to make some changes both in the number of these reports and in the dates of their submission. Advantage was taken of this opportunity to submit proposals to reduce the number of reports and to slightly alter the dates of their submission so as to embody really useful information as to the area and prospects of the several crops in this Presidency. With the approval and sanction of the Government of India, the several reports are now submitted as under:—

Crops.	Report.		
	First (sowings).*	Second (forecast).	Third (forecast).
Paddy	15th October	15th December	15th February
Indigo	15th September	15th do.	15th do.
Gingelly	15th August	1st November	1st do.
Cotton	1st January	15th April	15th do.
	15th August	10th December	10th February
Cotton	10th October	..	..
	..	..	..

44. *Agricultural outturn.*—As already noted the season was most unfavorable. The results were shown in a considerably reduced area of crop being sown and in poor average results being obtained. During the year a modification was made in the village record to allow of the area of crop that fails entirely being shown. This area during the past year was very large, amounting to 14 per cent. of the cholam crop and 12 per cent. of the cotton crop. The outturn of the remaining crops that came to harvest was less than two-thirds of an average crop in almost all cases except those of paddy, sugar-cane, and tobacco—crops protected by irrigation in most cases. The ground-nuts were reported to be nearly three-fourths of an average crop. Particulars are given in the subjoined table for the Presidency as a whole:—

Crops.	Area sown.			1891-92.				
				Withered.		Harvested.		
	1888-89.	1890-91.	1891-92.	Area.	Per cent. of total area sown.	Area.	Outturn in annas.	Per cent. of an average crop.
Food grain—	ACS.	ACS.	ACS.	ACS.				
Paddy	5,832,200	5,863,400	5,418,900	186,600	3	5,232,400	9.4	78
Cholam	3,904,600	4,324,000	4,527,300	659,100	14	3,867,900	7.9	58
Cumlu	2,329,700	2,661,100	2,391,500	156,400	7	2,235,100	7.8	57
Ragi	1,547,600	1,581,800	1,603,700	65,100	4	1,538,600	7.6	63
Others including pulses.	5,477,300	4,801,600	4,424,700	372,700	8	4,052,000	..	..
Industrial—								
Sugarcane	59,100	55,900	59,100	1,200	2	57,900	11.2	93
Cotton	1,464,400	1,676,300	1,253,300	154,200	12	1,099,100	7.5	63
Indigo	495,100	249,900	204,800	9,600	5	195,200	7.5	63
Castor-oil seeds	642,800	621,600	690,100	58,900	8	632,100	6.8	47
Gingelly	584,100	733,000	496,100	31,900	6	464,200	7.9	58
Ground-nuts	181,900	251,000	189,000	806	..	188,200	8.4	70
Tobacco	85,800	89,200	68,200	1,600	2	66,600	10.3	80
All others including topes	1,185,200	1,225,900	1,264,200	32,800	3	1,231,400	..	..
Total	23,792,800	24,335,300	22,590,900	1,730,200	8	20,860,700	..	..

* Not reported on.

The relative proportion that the area reported to have withered bore to the total area of each crop reported on in each district is shown in the next table.

Districts.	Paddy.	Cholam.	Cumbu.	Ragi.	Cotton.	Indigo.	Sugarcane.	Castor.	Gingelly.	Ground-nut.	Tobacco.	Total for all crops.
	P. CT.	P. CT.	P. CT.	P. CT.	P. CT.	P. CT.	P. CT.	P. CT.	P. CT.	P. CT.	P. CT.	P. CT.
Cars .. Ganjam ..	1	1	1	1	1	100	1	1	1	1	1	1
Vizagapatam ..	1	1	1	1	1	94	1	1	1	1	1	1
Godavari ..	1	1	1	1	1	1	1	1	1	1	1	1
Kistna ..	1	1	1	1	1	1	1	1	1	1	1	1
Deccan .. Kurnool ..	33	19	11	11	12	6	2	8	13	13	16	16
Bellary ..	10	43	25	1	52	1	2	12	12	12	35	35
Anantapur ..	8	35	18	7	43	51	29	6	7	7	23	23
Cuddapah ..	10	6	1	6	2	1	5	1	1	1	4	4
Carnatic .. Nellore ..	34	13	9	6	2	12	15	3	3	4	17	17
Chingleput ..	6	1	1	1	1	1	1	1	1	1	4	4
South Arcot ..	2	1	13	3	1	1	2	1	1	1	7	7
Central .. North Arcot ..	14	1	23	2	19	1	1	41	1	1	9	9
Salem ..	16	13	19	11	3	11	11	16	8	27	13	13
Coimbatore ..	3	1	1	3	1	1	1	1	1	1	1	1
Trichinopoly ..	1	1	1	1	1	1	1	1	1	1	1	1
North .. Tanjore ..	4	2	1	2	1	1	1	1	1	1	3	3
Madura ..	1	1	1	1	1	1	1	1	1	1	1	1
Tinnevely ..	1	1	1	1	1	1	1	1	1	1	1	1
South .. Malabar ..	1	1	1	1	1	1	1	1	1	1	1	1
Canara ..	1	1	1	1	1	1	1	1	1	1	1	1
Nilgiris ..	1	22	1	11	1	1	1	1	1	1	1	1

In the northern coast districts the proportion of failure was small except for ligo in Vizagapatam and Ganjam. In the Deccan districts there was widespread failure of the principal cereal crops, of cotton, indigo and oil-seeds. In the Carnatic districts, Nellore suffered most severely, though the early cereal (cumbu) in South Arcot so withered over a large area. In the central districts, it was in North Arcot and Salem only that the amount of total loss was serious and it was greatest in the latter district. In the remaining districts, it was only in respect to the castor crop in Tinnevely that the loss was proportionately large.

In the next table the average outturn obtained from that portion of the more important crops which came to harvest is shown in annas for each district, 12 annas representing an average crop:—

Districts.	Paddy.	Cholam.	Cumbu.	Ragi.	Cotton.	Indigo.	Sugarcane.	Castor.	Gingelly.	Ground-nut.	Tobacco.
Cars .. Ganjam ..	7	4	4	6	7	1	8	5	5	5	5
Vizagapatam ..	7	9	8	9	10	4	4	10	10	10	5
Godavari ..	12	9	9	8	13	6	11	7	8	8	11
Kistna ..	13	8	8	10	8	8	11	6	6	4	9
Deccan .. Kurnool ..	9	6	6	6	6	7	10	5	6	4	7
Bellary ..	7	4	4	7	2	9	9	4	4	4	8
Anantapur ..	9	6	5	8	5	5	11	5	4	6	8
Cuddapah ..	9	7	6	7	7	8	7	5	7	9	9
Carnatic .. Nellore ..	7	6	6	6	5	5	5	5	6	7	7
Chingleput ..	7	7	6	7	8	7	8	6	5	8	7
South Arcot ..	9	7	8	8	8	9	11	7	8	8	9
Central .. North Arcot ..	7	7	6	7	8	7	9	7	5	7	8
Salem ..	10	6	5	6	6	9	10	5	5	6	7
Coimbatore ..	13	8	7	7	9	1	14	7	7	10	12
Trichinopoly ..	10	10	10	12	1	11	12	7	10	8	8
North .. Tanjore ..	13	12	8	11	10	11	14	12	10	11	12
Madura ..	9	8	6	8	9	7	12	6	7	7	10
Tinnevely ..	8	7	7	6	7	5	10	6	5	4	9
South .. Malabar ..	10	6	6	7	12	12	10	6	9	10	10
Canara ..	12	1	1	11	9	1	12	10	10	10	9
Nilgiris ..	8	4	1	6	1	1	1	4	4	1	8
Average for Presidency ..	9	7	7	8	7	7	11	6	7	8	10

IV.—MEASURES OF PROTECTION AND RELIEF.

11. *The Season.*—At the beginning of the year serious anxiety was felt regarding the condition of portions of Chingleput, North Arcot, three taluks of Tinnevely, and the Pollachi taluk of Coimbatore, comprising an area of 7,600 square miles. These tracts had in January and February exhibited unmistakable signs of distress, owing to a very serious failure of crops due to the want of seasonable rain and it was found necessary to provide relief work in them. At the end of

March works were in progress in the five affected taluks of Chingleput, which gave employment to about 5,300 persons; in the Wandiwash taluk and the Kālahasti zemindari of the North Arcot district, about 2,200 people were employed; in Tinnevely, the numbers employed amounted to about 1,000; in the Pollachi taluk in Coimbatore, some 600 coolies were employed on a major irrigation work which was started in the worst tract. Kitchens for the distribution of cooked food to destitute women and children unable to work had been started in the affected tracts in the North Arcot district, in which some 300 people, mostly children, were being fed daily. In the Chingleput district, it was not found necessary to introduce this form of relief up to the end of April. During the next three months it was found necessary to start some minor relief works in the southern taluks of Nellore and the Rāyachōti taluk of Cuddapah, but there was so marked an improvement in the prospects in Tinnevely that that district was removed from the list of affected tracts. At the end of June, the affected area amounted to 3,450 square miles with a population of 950,000.

The south-west monsoon rains were unusually late throughout the Presidency, and there was great delay in commencing cultivation, and the distress in Chingleput, North Arcot, Cuddapah and Coimbatore became intensified. During July, the rainfall was fair only in the Northern Circars, the Deccan districts and the south, and, except in Cuddapah, the situation became more grave. In August, anxiety regarding Cuddapah was greatly relieved, but the continued failure of the rains in the Carnatic and Central districts increased the distress in the affected area and caused an extension of the area affected in Coimbatore. At the end of the month sowings were 20 per cent. below the normal, and a considerable area of the crops already sown had withered or was withering in the Carnatic and Central districts. The early part of September was also most unfavorable, but towards the end of the month good rain commenced to fall and greatly improved prospects generally. The situation in Bellary, however, where the rainfall to the end of September was only 7.25 as compared with an average of 16.21 began to cause anxiety. Altogether the rainfall of the south-west monsoon was not only late everywhere, but was seriously deficient except in the Circars, on the west coast and in the south. In Bellary, Anantapur, Chingleput and South Arcot, the fall from June to September was less than half the usual average, and in Coimbatore it was not much above half the average. At the end of September, sowings were nearly 30 per cent. behind the normal, and much of the early sown crop withered and had to be ploughed up. At the end of September, the affected area extended to 7,000 square miles with a population of 2,333,000, and included portion of Chingleput, North Arcot, Salem and Coimbatore. At the end of the month 35,000 persons were employed on relief works and 7,000 were being fed in kitchens.

In October, the rainfall was fair throughout nearly all the southern districts, except a small part of Salem, and in the southern taluks of Nellore. It was, however, deficient in the Circars and the Deccan districts and at the end of the month the situation had become critical in Ganjam, Vizagapatam and the Deccan, but in the Carnatic and Central districts was more favorable. In November, except in the southernmost and two western districts, the rainfall was far below the average, the deficiency being greatest where the fall is usually heaviest during this month. There was scarcely any rain in the upland portions of Kistna and the northern parts of Nellore adjoining, nor in the Deccan districts where the south-west monsoon rains had been

exceedingly short and that of October scanty and where rain seldom falls later in the year. In consequence there was widespread loss of crop and the area actually sown during the month was much below the average. At the end of November serious distress was seen to be almost inevitable in the Deccan districts and in North Nellore. During December, the season was favorable in the Carnatic south of the Pennér, and the Central districts, except the western portion of Salem, the adjoining parts of Coimbatore, and the upland parts of North Arcot, so that all relief was closed soon after the close of the month in Chingleput, and the low country of North Arcot and in Coimbatore. The month, however, brought no improvement in the Deccan districts or in North Nellore, and relief works were opened in Bellary and in Kurnool. At the end of the month the numbers employed were—Chingleput 1,181, North Arcot 3,067 and Coimbatore 2,371, whilst there were 1,473 persons, chiefly children, being fed in North Arcot and Coimbatore. At the end of the month 21,296 persons were engaged on relief works, of whom 6,619 were employed in the districts already noted, where works were closed early in January. Besides the persons already mentioned, 519 others were in receipt of gratuitous relief in Salem and Kurnool. The area which was considered to be affected during the month was 21,366 square miles with a population of over 3½ millions.

On the 12th January 1892, the provisions of the Provincial Famine Code were put in force in six districts* and including the affected portions of Kistna alluded to above, and small sections of North Arcot and Coimbatore where relief was

* Deccan—
Kurnool.
Bellary.
Anantapur.
Cuddapah.

Carnatic—
Nellore.
Central—
Salem.

subsequently found to be required, the affected area in that month was determined as 31,069 square miles with a

population of nearly five millions. It was subsequently found unnecessary to start relief works in parts of several districts, and at the end of March the affected area was reduced to 22,700 square miles with a population of 3½ millions. During the last three months of the year there was no practical change in the condition of the Presidency, the reduction alluded to being due entirely to a more accurate determination of the area affected. At the end of March relief works affording employment to 46,000 persons were open in seven districts, and in Kistna public works on a larger scale than usual were going on. At the same date kitchens for the distribution of cooked food were open in six districts at which 909 persons were being fed, of whom 450 were fed in Kurnool.

12. *Communications.*—Good progress was made during the year in the construction of the *East Coast Railway* from Bezvada to Cuttack, a total length of 516 miles, and the progress would have been greater but for delays in the receipt of English stores and loss of time in re-alignments. The work is said to be nearly completed in the Tuni and Vizagapatam divisions and plate-laying has also been begun at Vizagapatam. Progress was also good on the *Dharmavaram-Hindupur Railway* (56 miles) and it is anticipated that at the present rate of progress this railway will be opened for traffic on 1st April 1893. Good progress was impossible on the *Máyavaram-Mutpet Railway* (54 miles) owing to the constant rain of the north-east monsoon, which flooded the land throughout. The *Nilgiri Railway* (17 miles) was also in active progress. The survey of a line of railway from Bezvada to Masulipatam—a distance of 50 miles—was completed by the Madras Railway in April 1891. The survey of a branch line (60½ miles) from Pálghat through Trichur to Kurrapatnam at the head of the Cochin backwater was completed in December 1891. The plans, sections and estimates relating to the Cuddalore-Pondicherry and Peralam-Karikál lines have been forwarded to the French Government. The plans and estimates of the Madras-Gúdur and Nellore-Guntúr Railways have been laid before the Government of India. Negotiations were taking place with the Travancore State for the construction of a line from Tinnevely to Quilon.

13. *Advances to Agriculturists.*—The amount advanced during the year under the Land Improvement and the Agriculturists' Loans Acts aggregated Rs. 16,88,481 against Rs. 2,71,504 disbursed in the previous year. This large increase was mainly

due to the great impetus to well-sinking given by the drought which prevailed in several of the districts. It was due in part also to the favorable terms under which loans were granted under the Special Well rules, which were extended to the Ganjam North Arcot, Coimbatore, and Tinnevely districts in February 1891 and in August 1891 to the rest of the Presidency. The amount advanced was large in Chingleput, Coimbatore, North Arcot, Cuddapah and Salem. The following table shows the amounts advanced under the two Acts during each of the past five years:—

Year.	Land Improvement Loans Act.		Agriculturists' Loans Act.	
	Budget allotment.	Actual loans.	Budget allotment.	Actual loans.
1887-88	Rs. 2,00,000	Rs. 77,507	Rs. 1,00,000	Rs. 40,981
1888-89	2,00,000	1,30,622	1,00,000	36,772
1889-90	1,50,000	1,38,690	50,000	44,650
1890-91	2,41,900	2,27,943	58,100	42,562
1891-92	13,39,600	15,30,408	..	1,65,973

* The total amount sanctioned under the two Loans Acts.

14. *Irrigation.*—The Rushikulya works in Ganjam and the Periyár Project in Madura were in progress during the past year. The amount expended upon them was Rs. 6·4 lakhs and 11 lakhs, respectively, raising the total expenditure up to the end of the year to 24·74 and 37·68 lakhs, respectively, against the sanctioned grants of 43·16 and 56·39. The area likely to be protected when these works are completed is estimated at 100,000 acres under the Rushikulya, and 192,400 acres, including 77,900 acres of double-crop land, under the Periyár Project. About ten miles of the Rushikulya canal was opened for irrigation in the year under report, but the extent irrigated was only 6,000 acres. On the improvements to the Godávári and the Kistna Deltas about Rs. 66,500 and Rs. 4,28,900 were expended during the year. In the last 5 years the expenditure on these accounts aggregated Rs. 4·68 and 25·18 lakhs, respectively, and the area protected by these works has increased by 134,100 and 143,300 acres respectively, including second crop. During the year the sanction of Government was accorded for widening and improving the Cheyár ancient main channel in the North Arcot district at an estimated cost of Rs. 77,000. No funds were available for the prosecution of the Kalingareyen Channel extension works in Coimbatore sanctioned in the previous year.

Minor Irrigation.—An allotment of 4½ lakhs of rupees was sanctioned in the beginning of the year for the repair of the minor irrigation works. This was subsequently raised to Rs. 5,40,092. This amount was fully expended during the year. The outlay was the highest on record since the transfer of the works to the control of the Revenue Department in 1883-84. More than two-thirds of the expenditure was incurred in the districts of Cuddapah, Nellore, Chingleput, South Arcot, North Arcot and Tinnevely, where, in consequence of the unfavorable character of the season, works were set on foot as a measure of relief for the distressed population.

V.—AGRICULTURAL EXPERIMENTS.

15. *Agricultural Education.*—The work of the Agricultural College, although controlled by the Educational Department, comes under review by the Director both on its educational side and in relation to the farm attached. The report for the year has been separately noticed and will be finally disposed of by the Educational Department. The abolition of the Junior department in the College was noted in the last report. This caused a reduction in the numbers under training. The curriculum was revised during the year and a commencement made at introducing a new scheme prepared by the committee of experts whose deliberations were referred to in the last report. Final orders have not yet been issued regarding the curriculum and several other matters referred by Government for report in its orders on the Agricultural Committee.

The farm attached to the College is maintained chiefly as a dairy farm. Owing to the very unfavorable character of the season, the financial results of the year were not so satisfactory as in the previous year. The report showed that the dairy herd maintained on the farm was, on the whole, successfully managed, and one very satisfactory feature is the increasing demand shown for the services of the breeding bulls maintained on the farm. In order to provide more fully for the exercise of the students of the College in the manual operations of farm practice, the College farm has recently been enlarged.

The College Veterinary hospital was maintained at a moderate cost during the year, but there was a falling off in the number of cases treated therein. Now that the hospital is in charge of a fully-qualified Veterinary Surgeon, it is hoped that he will be able to make it more efficient as a training school.

16. *Farm Schools*.—No further progress towards the establishment of the farm schools alluded to in paragraph 16 of the last report was possible during the year. The joint report of the Directors of Agriculture and Public Instruction, submitted in May 1891, was not disposed of by Government till after the close of the year, when a revised scheme was drawn up by Government for future guidance, of which the following are the chief features:—

(i) Five districts will be chosen in which farm schools will be opened, and in each a plot of ground for an experimental and demonstrational farm will be selected and acquired.

(ii) A school-house will be erected on, or in close proximity to, each farm and as an annexe thereto. Each school should accommodate about 80 scholars.

(iii) The schools will be exclusively reserved for the practical and theoretical teaching of Agriculture and Veterinary Science on the model of the College of Agriculture, but on a smaller scale, the necessary knowledge in other subjects being secured by fixing a certain test of general educational qualifications before entrance.

(iv) In order to carry out the above scheme, it will be notified that, as soon as the farm schools are sufficiently organised to receive scholars, lads between the ages of fourteen and twenty, who desire either to study Agriculture for private reasons or with a view to going to the College of Agriculture afterwards, will be admitted within the limit of a certain number, either annually or half-yearly, on application, provided they have passed the compulsory portion of the Upper or Lower Secondary examination or the F. A. examination, Matriculation examination, or any other higher test, and that there is room for them.

(v) The curriculum at the farm schools will extend to four years, at the end of which time all pupils will be required to appear for either the Elementary or the Intermediate Technical examination according as they have passed the compulsory portion of the L.S. examination or the compulsory portion of the U.S. examination, or any higher examination as the case may be. Passed Upper Secondary candidates and candidates who have been successful at any higher examination will be eligible for admission to the College of Agriculture.

(vi) Ten scholarships, to last during the prescribed period of residence at the College of Agriculture, will be given each year at each farm school, to be competed for only by those students who have already passed the compulsory subjects of the Upper Secondary examination or some higher examination, and on the understanding that the winners go to the College; the scholarships to be awarded with reference to the results of the Intermediate Technical examination. This would provide a class of 50 scholars annually, besides such other qualified students from the farm schools as might wish to go to the College of Agriculture on their own account.

(vii) The schools and farms will be under the management of the Director of Agriculture, who will receive any assistance he may require from the Director of Public Instruction in the matter of drawing up the curricula and forming classes in the schools.

The Government has selected the districts of Coimbatore, Godavari and Bellary for the location of three schools, and further suggestions regarding the districts and places to be selected for the remaining two schools are to be submitted; but all

immediate action in the matter has been ordered, on the representation of the Government of India, to be held over pending the receipt of Dr. Voelcker's report on Indian Agriculture and the elaboration by the Government of India, in communication with all local Governments, of the broad principles on which all schemes of Agricultural education and improvement should be based.

The three Inspectors, alluded to in paragraph 17 of the last report as having been deputed to make themselves acquainted with local practices with a view to qualifying themselves to take charge of the proposed farm schools, prosecuted their enquiries in Bellary, Coimbatore and Tanjore during the cultivating season, but the work in Bellary was suspended early in the year owing to the unfavorable character of the season. Towards the end of the year all three were brought to Madras to strengthen the office staff in the Famine Department.

17. A portion of the old Saidápet Farm estate was handed over to the Madras Municipality during the year for the purpose of establishing an extramural cemetery. The remainder of that portion of the estate that was in charge of the department was subsequently transferred to the Educational Department as an addition to the farm of the College of Agriculture.

18. *Dairy Experiments*.—Attention having been drawn to the successful introduction of modern dairy machinery into the Bombay Presidency and to the fact that by its use the cost of supplying wholesome milk for the use of troops and in hospitals can be greatly economised, some experiments in the manufacture of butter by the aid of modern appliances were made at Saidápet. Owing, apparently, to want of experience in the management of the separator and to defective treatment in the manufacture of the butter, the results were inconclusive, but gave promise of better results being secured if the experiments were repeated under more favorable conditions.

19. *Barley*.—It was proposed to repeat the usual offer of prizes for barley grown on the Nilgiris during the year and to restrict the offer to the produce of late sown crops, it having been pointed out that crops at that season produce a higher quantity of malting barley than those sown at the ordinary season. Owing, however, to the unfavorable character of the season, very few ryots came forward to compete for the prizes and what crop was received was of very inferior quality. The offer of prizes was therefore suspended.

20. *Potatoes*.—No report has yet been received on the results obtained with the seed-potatoes imported in 1890-91 and sold to growers on the Nilgiris. Some of the seed sent to the Palnis is said to have done fairly.

21. *Economic Products*.—Early in 1891, an inquiry was commenced regarding the existence of fibres in this Presidency likely to be of value as substitutes for the S. American *Piavea*. That fibre is strong and tough and much used in brush-making. Kittool, the fibre of the sago palm (*Caryota urens*), is largely used as a substitute for it and the palm is found both on the West coast and in the Northern circars to a considerable extent. Further enquiries are being made regarding the supplies that could be obtained if a trade in it were opened up. The fibre of the palmyra palm has also been shown to be a good substitute and further inquiries regarding it are being made, as well as whether other fibres of the description required are available, but the supplies of such fibres in Europe are so large and cheap as not to allow of much competition.

22. Arrangements were made during the year for the collection of specimens of cotton, indigo, gingelly, castor-oil seed, and silk, as well as of cotton and silk fabrics manufactured in the Presidency for the Imperial Institute, and most of the collection was forwarded to the Reporter on Economic Products at Calcutta before the end of the year. A considerable amount of information regarding the manufacture and dyeing of the fabrics was also collected, which, it is understood, will be published by the Reporter on Economic Products.

23. The experiments made by the Madras and South Indian Railway Companies in the use of *Eucalyptus* leaves as disencrustators for locomotive boilers have been reported to be very satisfactory, and the Madras Railway Company is making further experiments in their use.

24. *Coffee-leaf Disease*.—A proposal to revive the investigation carried on some years ago regarding the coffee-leaf disease (*Hemiteia vastatrix*) was mooted during the year by the Wynad Planters' Association, but, as it was shown that such an investigation could be of value merely from a scientific point of view and would not be likely to result in anything of practical utility, the idea was abandoned.

25. *Agricultural Implements*.—A proposal was made by the Collector of Bellary during the year to carry on a system of experimental ploughings with iron ploughs in different parts of his district, and a small grant of funds was made to enable him to carry it out; owing, however, to the unfavorable character of the season it was not possible to do anything in the matter.

Various forms of iron sugar-mills are now in use in almost all parts of the Presidency, and an inquiry has been set on foot to determine the extent to which they have, since their first introduction by the department in 1881, supplanted the wooden country mill.

26. *Societies*.—The Madras Agri-Horticultural Society received, as usual, a Government grant of Rs. 4,000 towards its operations, and in the form of subscriptions Rs. 2,950, during the year 1891. Its total income amounted to Rs. 11,897-13-3, of which Rs. 3,574-6-3 was for the sale of seeds and plants. The expenditure amounted to Rs. 11,817-4-10, of which Rs. 4,864-14-0 was for establishment, Rupees 1,948-11-10 for seeds and plants purchased, Rs. 1,297-11-9 on account of the annual flower show held at the beginning of the year. The report of the Society is for the official year 1891-92 and shows that the year was a most disastrous one to the gardens, and that owing to the dryness of the season it was not possible to hold the usual flower show in February 1892. No experiments of agricultural interest appear to have been conducted during the year, but the gardens contain a valuable collection of plants of economic interest.

27. *Injurious Insects*.—In July 1891, a few locusts of the species *Acridium uruginosum* appeared in Cuddapah, but it is not reported that they did any material damage. In June a large flight of the same species entered the Vizagapatam district from the Central Provinces, and after causing slight damage disappeared northwards. Further flights followed in July, but no great damage was done. This species appeared in 1878 also after a long period of drought. At about the same time flights of locusts, which the Collector reported to be undoubtedly of the species *A. Peregrinum*, passed through parts of the Ganjam district.

VI.—CATTLE BREEDING AND VETERINARY ESTABLISHMENTS.

28. *Losses of Live Stock*.—Owing to the disastrous character of the season over a very large area, and especially in parts of the Deccan districts, and to a less extent in the Carnatic and the Central districts, pasturage was for a considerable portion of the year almost entirely non-existent, and the stores of stacked fodder were inadequate to provide for the necessities of more stock than is usually fed at home by the ryots. The breeding and inferior drought cattle, which usually maintain themselves by communal and forest grazing, were reduced to great straits, and in some places large losses occurred from starvation. In many places also the greatest difficulty was experienced in watering the cattle owing to the drying up of all supplies of surface water and the exhausted state of the wells. Full particulars of the losses in each district during the last two years are not yet available, as the stress of work was too great to admit of the usual cattle census being taken in some of the worst affected districts, where, moreover, census would, in numerous villages, have been useless owing to large numbers of the cattle having left the village to seek grazing in distant forest reserves. It is believed, however, that the more valuable cattle have everywhere been generally preserved, and that the losses chiefly comprised old and worn-out or very young stock.

29. *Cattle Disease*.—The appointment of Inspector of Cattle Diseases remained vacant throughout the year, but shortly after its close Veterinary Captain Burke, of the Army Veterinary Department, was appointed to the post by the Government of India, and shortly afterwards the name of the post was altered to Superintendent, Civil Veterinary Department, Madras. This officer joined his appointment after the close of the year, and, pending a decision of the nature of the work of investigation on which he is

STATEMENT showing the actual charges incurred during the Official year 1891-92.

Pay and Allowance.	RS.	A.	P.
Inspector of Cattle diseases (vacant)	...	...	...
Stock Inspectors	12,655	1	2
Office establishment	887	11	4
Contingent charges	120	3	11
Total	13,663	0	5

STATEMENT showing the number of doses of Medicines despatched to the undermentioned districts during the official year 1891-92.

Districts.	Astringent powder for rinderpest, 2nd stage.	Carbolic balls for anthrax and rinderpest, 1st stage.	Foot and mouth disease for external application.	Foot and mouth disease to make gargle.	Cinchona febrifuge.	Disinfectants.	
						Macdougall's powder.	Roll sulphur.
Chingleput	DOSES.	DOSES.	lb.	lb.	lb.	cwt. lb.	cwt. lb.
Ganjam	500	195	..	..	..	..	..
Godavari	250	..	..	10	..	..	..
Kistna	500	500	..	..	..	..	..
Madras (Municipality)	100	90	..	..	..	..	..
Salem	..	200	..	..	..	..	..
Tanjore	500	300	..	..	..	..	..
Total	1,850	1,285	..	10	..	..	..

Letter from Mr. MOSES ABRAHAM, Stock Inspector of North Arcot District, to the Inspector of Cattle Diseases, Madras Presidency (through the Collector of South Arcot), dated Chepauk, 19th December 1891.

I beg to submit a report on the cattle fair held at Tiruvannamalai during the Karthigai festival of 1891.

2. The total number of cattle that were brought to the fair was 10,836, and that of the country ponies 104, making a grand total of 10,940. The fair lasted till the evening of the 17th instant.

3. Cattle were brought from Bangalore, Mysore, Gudiyatam, Punganur, Salem, Malur, Kumbakonam, and from several villages close to Tiruvannamalai. Of these cattle, those from Bangalore were the best. Most of the indigenous cattle were brought by a few traders from Negapatam for the purpose of being exported to Ceylon.

4. There was a good supply of water at the Samudram tank and a few ponds close to the cattle-stand. There was no scarcity either for paddy-straw or green grass, the former suited better to the cattle than the latter, the weather being rainy, and was sold dear.

5. The cattle-stand was kept clean and the sanitary condition was satisfactory. There was no outbreak of contagious diseases either among cattle or ponies.

APPENDIX II.

From Veterinary Captain R.W. BURKE, Superintendent, Civil Veterinary Department, Madras, to the Secretary to the Commissioner of Revenue Settlement and Director of the Department of Land Records and Agriculture, dated Chepauk, 20th July 1892, No. 118.

With reference to Board's Memorandum, Mis. No. 5595, dated 28th June 1892, I have the honour to submit a review on statistics of cattle mortality in the Madras Presidency during the year 1891-92.

Mortality.

Cattle.—During 1891-92, there were 99,307 deaths among cattle registered in the Madras Presidency. This death-rate shows a decrease of 223,411, which is due to omission of deaths from accidents and natural causes noted in the previous year. If we compare deaths due to causes actually noted in the current year with those of last year, excluding accidents and natural causes, we shall find that there is still a decrease of 16,045.

The table attached shows in abstract form the means of comparing the mortality under two principal causes of death during 1891-92 with the result of the previous years.

MORTALITY amongst live-stock for a series of years, 1888-92.

Y.ars.	Deaths due to disease.						Deaths due to other causes.					
	Total deaths.	Rinderpest.	Diarrhoea and dysentery.	Anthrax.	Epizootic apthia.	Variola.	Other diseases.	Natural decay.	Accidents.	Snake-bite.	Wild animals.	Criminal poisoning.
Among Cattle.												
1888-89	346,936	95,795	47,946	19,893	5,260	2,841	24,529	129,471	9,009	2,587	9,620	85
1889-90	327,655	38,252	30,868	22,502	7,811	3,290	26,243	163,648	22,144	2,895	10,617	15
1890-91	323,717	21,970	27,907	18,586	6,064	2,214	25,556	197,736	9,629	2,693	10,633	24
1891-92	99,307	10,359	18,394	16,788	6,167	2,508	33,143			1,751	10,189	18
Among Sheep and Goats.												
1888-89	79,055	4,075	4,363	3,253	989	7,387	9,212	20,174	11,565	241	7,364	23
1889-90	101,494	4,492	5,040	6,554	2,836	7,982	13,615	40,699	11,815	329	9,050	2
1890-91	89,974	2,172	4,741	5,211	926	8,156	8,771	47,608	4,278	192	7,921	7
1891-92	37,554	1,637	2,714	4,391	2,857	5,899	13,750			153	5,953	
Among Horses and Ponies.												
1888-89	830		5	6		1	89	255	68	11	83	
1889-90	843		6	9		4	134	484	66	10	130	
1890-91	984		16	17		8	159	574	64	3	144	
1891-92	304		7	17		1	130			7	142	

It will be seen that under each of the classified causes of death, excepting Variola and Epizootic Aphtha, there has been a decrease in the registered mortality, and under the unspecified diseases an increase.

During 1891-92, the largest number of deaths took place in December 1891 and the least in February 1892. A gradual rise was noted in October 1891, and a decline in March 1892.

The death-rate under diarrhoea and dysentery being less than that of the former year, shows an improvement in the record of cases, and is proof of how much more is yet needed for the proper education of Stock Inspectors and others engaged in registration; for there can be no doubt that many of the deaths registered as from diarrhoea and dysentery were in reality deaths from rinderpest.

2. *Sheep and Goats.*—The annual death-rate for sheep and goats was 37,554. In accordance with the statistical evidence of last year, there is a decrease of 536 cases, *minus* those already excluded under headings of accidents and natural decay. The mortality under Epizootic Aphtha is very high, being nearly three times that of the previous year.

3. *Horses and Ponies.*—The average death-rate of the different districts among horses and ponies was rather less than that of last year.

The death-rates in each district in 1891-92 are given on the attached statements. The largest mortality among cattle occurred in Madura district and the least in Nilgiri district.

Among sheep and goats also the largest mortality was in Madura district and the least in South Canara. The mortality under unspecified diseases was also high being nearly double.

Among horses and ponies, the largest mortality was in Kurnool district and the least in South Arcot.

APPENDIX III.

Statistics of Mortality among Cattle reported in the Presidency of Madras during the year 1891-92.

Districts.	Total stock.	Deaths due to disease.						Deaths due to other causes.				Total deaths from all causes.			
		Rinderpest.	Diarrhoea and dysentery.	Anthrax.	Epizootic apthas.	Variola.	All other diseases.	Total.		Snake-bite.	Wild animals.	Criminal poisonings.	Total.	Number.	Rate per mille.
								Number.	Rate per mille.						
1. Ganjam ..	233,100	805	865	1,299	1,392	162	924	5,816	25	44	113	..	157	5,973	25
2. Vizagapatnam ..	129,330	63	320	187	214	162	491	1,367	11	26	26	..	54	1,421	12
3. Godavari ..	863,453	45	1,271	1,046	205	6	642	3,216	4	105	205	2	313	3,529	4
4. Krishna ..	1,115,318	116	2,522	1,422	124	1,035	2,037	7,256	6	150	269	4	423	7,678	7
5. Kurnool ..	622,400	187	320	702	45	17	7,781	9,692	14	99	561	1	651	9,713	16
6. Bellary ..	655,048	69	147	374	82	12	2,650	3,224	5	14	270	..	293	3,517	5
7. Anantapur ..	602,600	19	134	208	126	12	1,773	2,279	4	16	181	..	201	2,480	4
8. Chittoor ..	578,880	229	550	771	101	36	1,658	3,339	3	17	93	1	110	3,975	4
9. Nellore ..	673,760	75	122	206	224	30	1,226	6,731	14	365	33	..	288	7,119	15
10. Chingleput ..	438,500	1,384	1,624	2,643	245	28	616	6,068	6	95	82	..	177	6,246	6
11. South Arcot ..	1,080,997	951	1,340	2,708	242	306	2,751	4,710	4	52	605	..	910	6,992	8
12. North Arcot ..	885,000	122	795	201	535	306	2,140	5,142	4	83	621	..	704	5,846	5
13. Salem ..	1,233,900	533	1,653	264	242	38	326	1,425	2	64	23	..	87	1,612	2
14. Coimbatore ..	646,200	132	421	291	217	54	1,214	5,970	7	106	206	3	113	6,083	7
15. Trichinopoly ..	613,010	1,126	1,603	1,460	763	331	3,802	10,305	16	141	48	..	350	10,555	16
16. Tanjore ..	649,500	397	3,755	1,107	263	32	438	1,341	3	39	2,182	..	2,232	2,999	2
17. Madras ..	608,200	115	438	55	25	..	95	1,341	8	48	384	..	448	1,642	15
18. Tinnevely ..	68,100	489	45	..	55	1	172	767	1	39	2,192	..	2,332	2,999	2
19. Nilgiris ..	945,230	147	390	2	66	..	172	767	1	27	2				

• In Zemindari

Statistics of Mortality among Sheep and Goats reported in the Presidency of Madras during the year 1891-92.

Districts.	Total stock.	Deaths due to disease.							Deaths due to other causes.				Total deaths from all causes.	
		Rinderpest.	Diarrhoea and dysentery.	Anthrax.	Epizootic apthas.	Variola sheep-pox.	All other diseases.	Total.		Snake-bite.	Wild animals.	Total.	Number.	Rate per mille.
								Number.	Rate per mille.					
1. Ganjam ..	52,614	4	35	7	20	..	39	105	2	1	31	32	137	3
2. Vizagapatnam ..	45,670	3	45	15	3	..	64	130	2	..	43	43	173	2
3. Godavari ..	176,666	30	43	107	704	80	6	970	6	1	16	17	987	7
4. Krishna ..	532,443	..	1	28	..	20	237	336	1	5	429	336	770	2
5. Kurnool ..	585,782	25	28	118	..	21	335	547	7	15	479	494	1,011	7
6. Bellary ..	610,734	..	65	1,143	..	2,562	442	4,252	7	1	290	291	4,823	4
7. Anantapur ..	891,804	60	133	1,107	2	1,133	1,063	2,498	3	1	642	543	3,041	3
8. Chittoor ..	1,251,970	195	342	705	35	1,138	1,424	2,639	2	4	1,023	1,027	3,866	3
9. Nellore ..	620,345	180	154	312	44	101	570	1,592	1	3	151	134	1,746	1
10. Chingleput ..	269,625	104	24	24	2	233	630	1,024	4	29	135	164	1,188	4
11. North Arcot ..	904,084	104	15	850	2	355	137	660	1	2	6	8	668	1
12. South Arcot ..	712,810	533	37	57	..	61	1,623	1,890	3	6	285	191	2,181	4
13. Salem ..	1,210,683	37	67	35	29	206	692	1,842	2	7	629	636	2,478	2
14. Coimbatore ..	1,383,956	71	311	49	41	46	290	1,370	1	13	579	583	1,963	1
15. Trichinopoly ..	1,203,103	71	139	53	65	46	290	1,664	1	14	248	261	925	1
16. Tanjore ..	565,250	2	27	19	10	107	107	1,165	..	2	28	28	193	..
17. Madras ..	712,138	69	1,051	720	1,202	945	4,673	8,560	12	41	378	419	8,979	13
18. Tinnevely ..	907,140	463	239	75	695	202	1,277	2,962	3	8	523	531	3,493	4
19. Nilgiris ..	8,060	..	..	..	..	..	334	93	4	..	104	8	41	5
20. Malabar ..	68,520	..	..	..	..	..	6	20	..	..	28	104	124	2
21. South Canara ..	10,499	..	..	..	..	..	..	9	..	..	28	28	37	4

• In Zemindari

STATISTICS of Mortality reported among Horses and Ponies in the Presidency of Madras during the year 1891-92.

Districts.	Total stock for 1891-92.	Deaths due to disease.				Deaths due to other causes.			Total deaths from all causes.	
		Anthrax.	Diarrhoea and dysentery.	Variola.	All other diseases.	Total.		Snake-bite.	Wild animals.	Total.
						Number.	Rate per mille.			
1. Ganjam	222									
2. Vizagapatam ..	123		2		1	3	30			30
3. Godavari	2,157	2			11	13	7		5	18
4. Kistna	3,907				3	3	1		15	18
5. Kurnool	3,400	1	2		36	39	11	1	44	84
6. Bellary	4,771				17	17	4		25	42
7. Anantapur	3,127	4		1	18	23	7	1	7	31
8. Cuddapah	1,562								9	9
9. Nellore	1,196	9			4	13	12		4	17
10. Chingleput	888				2	2	2	1	1	3
11. South Arcot	2,557								1	1
12. North Arcot	2,382	1	2		2	5	2		1	6
13. Salem	3,631				4	4	1	1	2	6
14. Coimbatore	3,652				9	9	2		7	16
15. Trichinopoly	845									
16. Tanjore	1,135				1	1	1	1	1	2
17. Madura	3,055		2		16	18	6	1	15	34
18. Tinnevely	550									
19. Nilgiris	1,359								6	6
20. Malabar	835				4	4	4		2	6
21. South Canara	192				1	1	5	1		2
Total	41,590	17	7	1	130	155	3.58	7	142	149
* In Zemindari			2		1	3				3

MONTHLY statistics of Mortality among Horses and Ponies in the Madras Presidency during 1891-92.

Months.	Disease.					Other causes.			Total from all causes.
	Diarrhoea and dysentery.	Anthrax.	Variola.	All other diseases.	Total.	Snake-bite.	Wild animals.	Total.	
April 1891	1	3		4	8		16	16	24
May				14	14	1	9	10	24
June		10		8	18		8	8	26
July	2			17	19		18	19	33
August		3		17	20	2	17	19	39
September	1			12	14		10	10	24
October		1		5	6		7	7	12
November	1		1	7	9		14	14	23
December				5	5	2	14	16	21
January 1892	2			20	22		9	9	31
February				8	8	1	4	5	13
March				5	5		16	16	21
Total	7	17	1	130	155	7	142	149	304

45. The total Rail-borne Trade of the Presidency during 1891-92, owing chiefly to the enormous development of the imports from other provinces, was nearly 7 per cent. greater than the very large traffic of the preceding year. Details for the last ten years are given below :—

Year.	Imports.		Exports.		Internal.		Total.	
	In thousands of maunds.	In lakhs of rupees.	In thousands of maunds.	In lakhs of rupees.	In thousands of maunds.	In lakhs of rupees.	In thousands of maunds.	In lakhs of rupees.
85-86 ..	RS. 2,272	233	RS. 1,993	189	RS. 24,000	1,400	RS. 28,265	1,682
86-87 ..	2,951	300	2,526	269	27,988	1,740	33,465	2,309
87-88 ..	3,486	350	2,957	288	20,987	1,600	27,440	2,236
88-89 ..	2,919	359	3,684	316	22,773	1,717	29,376	2,392
89-90 ..	3,733	393	4,311	372	23,752	1,915	31,846	2,680
90-91 ..	5,353	443	4,306	370	26,933	2,026	35,642	2,839
91-92 ..	7,027	625	4,716	361	27,305	1,979	39,048	2,865

The total quantity was 39,048,779 maunds, or 2,406,343 maunds more than in the previous and 8,970,000 maunds or 30 per cent. more than the average of the five years immediately preceding the great development of 1890-91. The increase in the value of the articles carried was comparatively small; the total value amounting to Rs. 28,35,35,610, which was only 26 lakhs or not 1 per cent. more than in 1890-91. The increase in quantity took place chiefly, and in value solely, in the imports from her provinces.

In 1890-91, these imports had shown an increase of 41.5 per cent. in volume and about 13 per cent. in value over those of the preceding year, and during the year under reference showed a further development of 1,674,078 maunds or 31 per cent. in quantity, and of 82 lakhs of rupees or 16 per cent. in value. Of the increased volume of imports, Bombay contributed 306,171 maunds and the Nizam's territories 1,862,225 maunds, whilst there was a falling off of 580,476 maunds from the large imports of 1890-91 from Mysore. The great increase in imports was brought about chiefly by the unfavorable character of the season inducing a very brisk inward traffic in food-grains from Bombay and Hyderabad, and also in a great measure owing to the development of the supplies of coal from the latter province; the increase in the latter alone amounted to 605,907 maunds. The supply of grain from Mysore fell off by about 576,000 maunds during the year as compared with that of 1890-91.

The exports to other provinces increased by 410,397 maunds or about 9 per cent. in quantity over the large export of the preceding year, but decreased in value by about 9 lakhs of rupees. The increase was almost entirely due to the development of the traffic in coal and coke from Madras to Mysore, and to the very large demand for food-grains (chiefly rice and pulses) which sprang up in that province during the year; a total amount of food-grains exported to Mysore during the year having been about 13,000 maunds more than in 1890-91, and of coal and coke about 427,000 maunds, a total increase in the exports to that province amounting to 686,248 maunds. To Bombay and to Hyderabad there were smaller exports than in 1890-91, by 215,671 and 56,549 maunds, respectively.

The local trade showed a small increase in quantity accompanied by a small increase in value as compared with 1890-91. There was a very large increase in the grain trade under the influence of the adverse season, and a great decrease in the traffic in oil-seeds and raw cotton from the same cause. There was also a much larger amount of stone and lime carried than in 1890-91, but less railway plant and rolling stock.

46. The distribution of the total trade of the Presidency amongst the different branches into which it is divided for registration purposes is shown below.

Blocks.	Imports.								Increase or decrease percent- age.
	1890-91.				1891-92.				
	Foreign.	Internal.	Total.		Foreign.	Internal.	Total.		
			Amount.	Percent- age.			Amount.	Percent- age.	
1	2	3	4	5	6	7	8	9	10
Madras port ..	MAUNDS. 1,189,807	MAUNDS. 8,124,691	MAUNDS. 9,314,498	28.8	MAUNDS. 1,246,327	MAUNDS. 7,155,630	MAUNDS. 8,401,957	24.5	- 9.8
Pondicherry " ..	23,401	1,562,196	1,585,597	4.7	13,570	1,618,230	1,631,800	4.7	+ 6.9
Negapatam " ..	24,744	1,458,486	1,483,230	4.6	13,276	1,140,998	1,154,184	3.4	- 22.2
Tuticorin " ..	10,384	1,128,210	1,138,594	3.5	16,007	1,041,674	1,057,681	3.1	- 7.1
Calicut " ..	65,279	726,497	790,776	2.4	31,761	448,629	480,390	1.4	- 39.3
Ceded Districts and Kurnool	764,029	1,374,829	2,138,858	6.6	1,712,162	1,650,411	3,362,573	9.8	+ 57.2
Nellore	23,918	223,077	246,995	.8	38,986	269,500	308,486	.9	+ 25.0
Chingleput and North Arcot	542,898	2,322,738	2,865,636	8.9	903,624	3,060,816	3,964,440	11.5	+ 38.3
South Arcot, Tanjore and Trichinopoly ..	232,557	3,608,633	3,840,590	11.9	146,780	3,660,251	3,807,031	11.1	- .9
Madura and Tinne- velly	375,754	3,823,887	4,199,641	13.0	41,899	4,023,748	4,065,647	11.8	- 3.2
Salem, Coimbatore and Malabar ..	1,541,053	2,535,516	4,076,569	12.6	1,595,932	3,109,955	4,705,887	13.7	+ 15.4
Kistna	559,605	155,726	715,331	2.2	1,267,043	125,008	1,392,051	4.1	+ 24.6
Total	5,353,429	26,982,886	32,336,315	100.0	7,027,507	27,304,760	34,332,267	100.0	+ 6.2

Blocks.	Exports.								
	1890-91.				1891-92.				Increase or decrease percent- age.
	Foreign.	Internal.	Total.		Foreign.	Internal.	Total.		
			Amount.	Percent- age.			Amount.	Percent- age.	
	MAUNDS.	MAUNDS.	MAUNDS.		MAUNDS.	MAUNDS.	MAUNDS.		
Madras port ..	1,370,492	4,209,358	5,579,850	17.8	2,053,213	3,757,119	5,810,332	18.1	+ 4.3
Pondicherry ..	2,085	170,015	173,106	.6	8,675	170,144	178,819	.5	+ 3.3
Negapatam ..	4,632	1,168,451	1,173,083	3.8	1,515	1,393,193	1,399,708	4.4	+ 18.3
Tuticorin ..	412	1,322,061	1,322,473	4.2	234	1,361,309	1,361,543	4.3	+ 3.9
Calicut ..	51,229	690,501	741,730	2.4	180,218	970,728	1,150,944	3.6	+ 55.2
Ceded Districts and Kurnool ..	628,876	1,989,768	2,618,644	8.4	482,894	2,028,329	2,511,223	7.8	- 4.1
Nellore ..	1,359	455,869	467,228	1.5	1,302	507,858	509,160	1.6	+ 11.3
Chingleput and North Arcot ..	688,489	7,400,614	8,089,103	25.9	641,323	6,540,597	7,181,920	22.4	- 11.2
South Arcot, Tanjore and Trichinopoly ..	51,215	5,266,023	5,317,238	17.0	89,690	6,451,702	6,541,392	20.4	+ 23.0
Madura and Tinnevely ..	6,825	1,703,862	1,710,687	5.5	5,052	1,769,018	1,774,070	5.6	+ 37.1
Salem, Coimbatore and Malabar ..	1,105,229	2,484,681	3,589,910	11.2	875,934	2,002,021	2,877,955	9.0	- 20.1
Kistna ..	395,278	126,683	515,961	1.7	376,464	347,742	724,206	2.3	+ 40.3
Total ..	4,306,121	26,982,886	31,289,007	100.0	4,716,512	27,304,760	32,021,272	100.0	- 2.3

The variations have been fully noticed elsewhere. The import trade of Kistna continues to increase and during the year under notice, there was a satisfactory recovery in the exports. The trade of Nellore increased largely also, but the increased imports were not altogether satisfactory, being to a considerable extent food-grains. The short local supplies of grain in the Ceded Districts and Kurnool caused the greater part of the largely increased imports, and the unfavorable season led to a practical stoppage of exports; but the latter were still far larger than in 1889-90. The same reason explains the variations in the trade of Chingleput and North Arcot and the Salem, Coimbatore and Malabar blocks. In the more southern districts, the

improved prospects led to better trade, the more bulky exports increasing and the imports of grain decreasing.

47. *Road Traffic.*—In G.O., dated 1st November 1888, No. 754, sanction was granted for the registration of interprovincial traffic at 7 stations on 7 roads and of local or internal traffic at 103 stations on 54 roads. The whole of the interprovincial traffic alluded to has been recorded; and the returns of local traffic registered from 1888-89 to 1890-91 at 65 stations on 29 roads have already been published. During 1891-92 the internal trade on 11 roads was registered at 18 stations as shown in the following table:—

Districts.	Number and description of road.	Registration of stations.
Nellore ..	16 Ongole to Cumbum ..	1. Ongole. 2. Santanatalapad. 3. Chinnaarikatla at the junction with a cross road from Kanigiri to Podili. 4. Near Lingamgunta where the road from Kanigiri meets it.
	17. Nellore to Badvel ..	1. Near Sangam.
	19. Nellore to Madras ..	1. Gudur. 2. Nandydupet.
Kurnool ..	20. Cumbum to Kurnool ..	1. Taticherla at the junction with the road from Badvel to Cumbum. 2. Kalva.
	21. Nandyal to Chagalamarri and Cuddapah.	1. Dibaguntla where the road intersects the Rampur pass road from Pyapali.
North Arcot ..	22. Kurnool to Gooty ..	1. Pyapali where the Rampur road meets it.
	25. Road from Arcot to Pondicherry ..	1. Wandiwash.
	27. Vellore to Tiruvannamalai ..	1. Kanamangalam the point where a branch leaves for Arcot-Arni road. 2. Polur.
South Arcot ..	29. Villupuram to Trichinopoly ..	1. Sendamangalam at the junction with the road from Panruti and Cuddalore. 2. Aivathugudi at the intersection of Vriddhachalam-Kallakurchi road.
	30. Panruti to Kumbakonam ..	1. Sathiatope at the head of Viranam tank where a road leaves for Mannargudi.
	32. Tiruvannamalai to Krishnagiri ..	1. Singarampettai or Chengamma pass.

Traffic was also registered during the cold season in Vizagapatam at the marginally-noted four stations for the periods specified against each on the recommendation of the Collector of the district as the plains were threatened with severe scarcity and the traffic with the interior was rapidly assuming large proportions.

Stations.	Period.
Pottangi ..	10th December 1891 to 30th June 1892.
Korapet ..	1st January 1892 to 1st May 1892.
Rayagada ..	
Bissamkattak ..	

APPENDIX I.

From Veterinary Captain R. W. BURKE, Superintendent, Civil Veterinary Department, Madras, to the Secretary to the Commissioner of Revenue Settlement and Director of the Department of Land Records and Agriculture, dated Chepauk, 20th June 1892, No. 94.

In submitting the accompanying returns showing the strength and expenditure of the Cattle Disease Prevention Department and the manner in which the several Stock Inspectors were employed during the official year 1891-92, I have the honour to state that I was not in charge of the department for any period for which I am requested to submit a report. The report is for the official year ending 31st March 1892, and I took over charge of the department on the 6th May 1892.

2. It would appear from the returns that the men in the department were engaged on famine duty almost throughout the year, except the two, who, in addition to their famine duties, were employed at the cattle fairs of Tiruvannamalai (South Arcot) and Madura. Copy of the report submitted by Stock Inspector Moses Abraham is enclosed.

3. There has been no Veterinary officer in charge during the year.

STATEMENT showing the work done by Stock Inspectors during the official year 1891-92.

Name.	Nature of work done.	Remarks.
1. P. Raghava Pillai.	Deputed for famine duty in North Arcot and Kurnool.	M. D.
2. K. Padmanadhaya.		On sick leave from 8th February 1891, to 7th May 1892 ... 15 0
3. M. Venketramana Sastri.	On famine duty at North Arcot and Kurnool.	
4. A. Canthaya Mndaliar.	From 1st April to 18th May 1891 employed on cattle disease prevention duty, also attended cattle fair, Madura, and from 19th May 1891 to March 1892, on famine duty in North Arcot, and Cuddapah.	
5. B. K. Santaya	Famine duty in North Arcot and Bellary.	Privilege leave from 18th January to 7th February 1892 ... 0 21
6. K. Sethu Row	Do. do.	
7. C. Viswanatha Iyer.	On famine duty in Chingleput, Cuddapah, North Arcot and Anantapur.	
8. V. P. Subramoney Mudaliar.	On famine duty in Chingleput and Salem.	
9. V. Seethamboo Devoo.	On famine duty in North Arcot and Bellary.	
10. G. Rungiah Naidu.	On famine duty in Chingleput and Bellary.	
11. M. Husain Ali	On famine duty in Chingleput, Salem and Cuddapah.	
12. V. Chockalingam Pillai.	On famine duty in Chingleput and Anantapur.	
13. R. Kanniah Naidu.	On famine duty in North Arcot and Anantapur.	
14. Moses Abraham	On famine duty in Chingleput from April to 9th August 1891, and attended the cattle fair at Tiruvannamalai (South Arcot) at the latter end of December 1891; and again deputed for famine duty in Salem from January to February 1892.	Sick leave from 10th August to 11th December 1891 and from 2nd March to 1st April 1892 ... 4 29



MONTHLY statistics of Mortality among Live-stock cattle and sheep in the Madras Presidency during the year 1891-92.

Months.	Number of deaths of cattle due to disease.						Total
	Rinder-pest.	Diarrhoea and dysentery.	Anthrax.	Epizootic apthra.	Variola.	All other diseases.	
1	2	3	4	5	6	7	8
April 1891	1,320	2,466	953	341	164	1,822	7,066
May "	1,293	1,397	1,444	567	247	1,861	6,809
June "	1,037	1,636	1,674	364	164	2,430	7,305
July "	778	1,462	1,490	576	231	3,043	7,580
August "	795	1,283	1,390	610	161	2,779	7,018
September "	533	958	1,347	636	58	3,886	7,418
October "	1,155	1,449	1,749	597	261	3,582	8,793
November "	872	1,727	2,207	439	136	3,099	8,471
December "	801	1,085	1,080	700	283	3,505	9,259
January 1892	661	1,190	1,135	468	206	3,057	6,717
February "	441	1,582	719	441	233	2,001	5,417
March "	673	1,259	700	418	359	2,085	5,494
Total *	10,359	18,394	16,788	6,157	2,508	33,143	87,349

Months.		Number of deaths of cattle due to disease— <i>cont.</i>				Total deaths of cattle from all causes.
		Other causes.				
		Snake-bite.	Poisoning.	Wild animals.	Total.	
		9	10	11	12	13
April	1891	124	1	678	803	7,869
May	"	157	"	785	942	7,751
June	"	128	"	844	972	8,277
July	"	139	"	954	1,093	8,673
August	"	199	"	1,045	1,244	8,264
September	"	157	4	985	1,146	8,564
October	"	152	2	1,056	1,210	10,003
November	"	165	1	894	1,060	9,531
December	"	159	6	877	1,042	10,391
January	1892	141	2	823	966	7,633
February	"	109	"	600	709	6,126
March	"	121	2	648	771	6,277
Total		1,751	18	10,189	11,953	99,397

Months.		Number of deaths of sheep and goats due to										
		Disease.							Other causes.			Total from all causes.
		Rinderpest.	Diarrhoea and dysentery.	Anthrax.	Epizootic apthra.	Variola.	All other diseases.	Total.	Snake-bite.	Wild animals.	Total.	
April	1891 ..	54	435	253	32	267	573	1,614	14	537	552	2,186
May	" ..	192	155	487	64	492	887	2,277	15	517	532	2,809
June	" ..	34	104	282	27	233	479	1,209	15	475	490	1,629
July	" ..	105	51	202	11	534	586	1,489	5	607	612	2,191
August	" ..	83	185	500	44	358	440	1,610	19	649	659	2,259
September	" ..	44	91	163	94	394	1,500	2,295	12	587	599	2,894
October	" ..	587	268	525	48	163	2,468	4,659	5	564	569	4,628
November	" ..	286	295	905	681	331	1,731	4,429	23	466	489	4,918
December	" ..	54	431	371	1,255	992	2,522	5,625	15	569	584	6,209
January	1892 ..	109	275	142	46	370	1,294	2,236	16	336	352	2,588
February	" ..	266	134	268	174	1,057	523	2,422	6	306	312	2,734
March	" ..	23	290	293	181	558	738	2,183	8	345	353	2,536
Total ..		* 1,837	2,714	4,391	2,857	5,899	13,750	31,448	153	5,953	6,106	37,554

* Includes the Zemindari figures for Vizagapatam.

G.O., dated 10th January 1893, No. 12, Revenue:—

Read—the following Proceedings of the Board of Revenue (Revenue Settlement, Land Records and Agriculture), dated 5th October 1892, No. 669:—

Resolution—dated 5th October 1892, No. 669.

The Board resolves to submit the enclosed report on the operations of the Department of Land Records and Agriculture during the year 1891-92 for the information of Government.

2. The department was in charge of Mr. Clogstoun throughout the year, but, owing to the demands made on his time by the famine, arrangements were made towards the end of the year for the discharge of the duties of the Director by the First Member of the Board.

The Deputy Director, Agricultural Branch, was on duty at head-quarters throughout the year, and for the greater part of it was engaged in performing the duty of Secretary in the famine branch.

Towards the end of the year, sanction for the appointment of a Deputy Director in the Land Records Branch was received from the Secretary of State and Mr. L. M. Wynch, I.C.S., was selected to fill the post. He entered on his duties on the 2nd November 1891.

The appointment of Inspector of Cattle Diseases remained vacant throughout the year, and shortly after its close, the title of the appointment was altered to Superintendent, Civil Veterinary Department, Madras, to which post Veterinary Captain Burke, A.V.D., was appointed by the Government of India.

The Deputy Inspector of Cattle Diseases was as usual employed in charge of Pony-breeding operations in Salem and Coimbatore throughout the year. The Director regrets to state that Mr. Shunker, who had held the post for over ten years, died in July last. The Sub-Assistant Director of Agriculture was employed at head-quarters on statistical work, chiefly in connection with the proposed statistical atlas, throughout the year.

3. The work of the department is dealt with in the report under the sub-heads prescribed by the Government of India.

(A true Extract.)

(Signed) P. RAJARATNA MUDALIAR,
Secretary.

Order—dated 10th January 1893, No. 12, Revenue.

Miscellaneous.

With its Proceedings read above, the Board of Revenue submits its report on the administration of the Department

of Land Records and Agriculture during the year 1891-92.

2. *Land Records*.—Paragraphs 1 and 2 of the report deal with the work done during the year by the newly appointed Deputy Director of the Land Records Branch. This officer, whose appointment was sanctioned in November 1891, devoted his attention, during the remaining portion of the year, to investigating the work done by Revenue

Inspectors and examining the state of the village and taluk accounts in the three districts of Trichinopoly, South Arcot and Tanjore. His inspections have so far shown that there is room for much improvement in the method of keeping village and taluk accounts and that there is an utter want of system in the work of Revenue Inspectors who are generally regarded more as assistants to the Tahsildars for the disposal of references than as inspectors and neglect many important duties such as the checking of village accounts and the examination of boundary marks. The Government need hardly impress on the Board the importance, from an administrative point of view, of a well organized Revenue Inspector staff and the desirability of remedying, as soon as possible, the defects brought to light by the Deputy Director by introducing general rules prescribing a regular system of work. The re-survey of the Trichinopoly district, with the aid of village accountants, made satisfactory progress during the year; the subject has been dealt with by Government in its review of the administration report of the Survey Department for 1891-92 and calls for no further remarks. The Board should give its early attention to the question of training all village karnams in survey and entrusting them with the work of sub-division measurement in those districts where settlement is in progress. The only remaining event of importance in the year's administration was the introduction of the "Village Officer's Special Test Examination." This test, which is to be enforced from the 1st January 1894, will ensure the appointment of intelligent village officers and result, it is hoped, in greater accuracy in the keeping of village accounts and an improvement in village administration generally.

3. "*Analysis of districts*."—The important work of preparing village registers—*mirka* books—appears to be still far from complete in several districts. The arrears are discreditable in Ganjam, Chingleput and Madura. The Government cannot accept the taking of the census and the unfavorable character of the season as valid excuses for the tardy progress which is being made and desires the Board to insist on the arrears being cleared off without further delay.

4. The year under review was marked by severe agricultural distress due to the partial failure of two successive monsoons. Chingleput, North Arcot, Tinnevely and Coimbatore were the first districts to be affected, but the distress gradually spread to other parts of the Presidency and finally became intensified in Salem, Cuddapah, Bellary, Anantapur, Kurnool and Nellore. Famine relief works had to be opened in all the districts last mentioned, and, at the close of the year under review, the number of people on these works amounted to 46,000, while 909 persons were receiving gratuitous relief. The Board summarises at paragraph 11 of the report under review the area and population affected by famine at different periods of the year and the measures adopted to relieve distress. The subject has also been dealt with in the monthly season reports submitted by the Board to Government and it is unnecessary to enter into it at further length in the present review. Mr. Benson, the Deputy Director in charge of the Agricultural Department, was retained at head-quarters during the greater part of the year to perform the duty of Secretary in the Famine branch of the Board's office, and no progress could, in consequence, be made in the conduct of agricultural experiments. A scheme for the establishment of Farm schools at five agricultural centres was sanctioned after the close of the year, but action on the scheme has been deferred at the suggestion of the Government of India, pending the receipt of Dr. Voelcker's report on Indian Agriculture and the elaboration by the Supreme Government of a general scheme of agricultural education and improvement.

5. *Veterinary Department*.—The newly created office of Superintendent, Civil Veterinary Department, was filled up soon after the close of the year. It is intended to depute the Superintendent to Poona as soon as the Bacteriological laboratory is fully equipped, with a view to his acquiring a practical knowledge of the methods there adopted in the investigation of the origin and treatment of epizootic diseases. In the meantime the Superintendent, besides being the general adviser of the Board and Government in veterinary and horse-breeding questions, is being employed in delivering lectures in veterinary science to the students of the Madras College of Agriculture. The existing staff of Stock Inspectors was engaged throughout the year under review on famine duty and no attempt was consequently made to investigate or combat cattle disease during the year.

6. *Mortality amongst cattle from disease and other causes.*—The Board has abandoned as impracticable all endeavour to secure a record of deaths among cattle from natural causes and accidents, and the figures given under this head in the report under review are therefore confined to deaths due to disease, criminal poisoning, snake-bite and wild animals. The statistics of mortality from these causes are reviewed at paragraphs 33—37 of the Board's report; it is satisfactory to find that there has been a marked decrease during 1891-92 in the number of deaths from rinderpest as compared with previous years. The Government is not prepared to acquiesce in the Board's decision that the attempt to record mortality from natural causes and accidents should be given up on account of the difficulty of obtaining accurate returns. A similar proposal made by the Board last year on the same grounds was negatived by Government. There is no apparent reason why, if the work of village karnams is properly supervised, the returns of mortality under these heads should not approach to some degree of accuracy, and His Excellency the Governor in Council must again ask the Board to reconsider its decision in the matter and to persist in the endeavour to secure reliable statistics.

No particular remarks are called for on the subject of crop statistics and rail-borne trade which are fully dealt with by the Board in paragraphs 43—47 of the report under review.

(True Extract.)

(Signed) E. GIBSON,
Ag. Secretary to Government.