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Report on the operations of the Dept. of
Land Records and Agriculture

Madras Presidency 1898-99

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REPORT



ON THE

OPERATIONS OF THE DEPARTMENT OF LAND
RECORDS AND AGRICULTURE,

MADRAS PRESIDENCY.

FOR THE OFFICIAL YEAR

1898-99.

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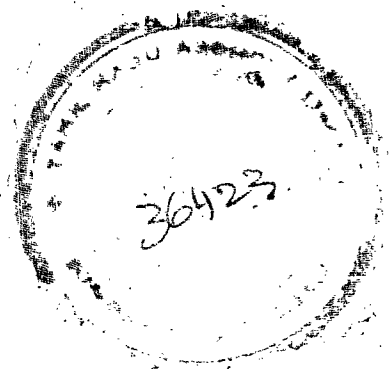
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AND AGRICULTURE
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REPORT ON THE OPERATIONS OF THE DEPARTMENT OF LAND
RECORDS AND AGRICULTURE FOR 1898-99.

I.—PREFATORY.

The Hon'ble Mr. W. J. H. LeFanu continued in charge of the department till the 5th April 1898, when the Hon'ble Mr. H. M. Winterbotham relieved him. Mr. Winterbotham was in charge of the department till 8th November 1898, when he was promoted to a seat in Council. Mr. A. W. B. Higgins was then appointed Director and took charge of the department on the 1st December 1898. In the interval the work of the department was under the supervision of the Hon'ble Mr. J. Sturrock, Commissioner of Land Revenue. The permanent Deputy Director Mr. C. Benson, who was on sick leave throughout the previous year, returned to duty on the 17th April 1898. His duties were discharged by the Secretary to the Director during the first few days of the year. Veterinary Lieutenant W. B. Edwards was on duty as the Superintendent, Civil Veterinary Department, from the beginning of the year till the end of January 1899, when he reverted to military duty, handing over the charge of his office to the Deputy Director who continued in charge till the close of the year.

2. The views of the Government of India on the subjects discussed at the agricultural conferences held at the various provincial head-quarters during 1895-96 were embodied in a series of resolutions issued in March 1897, which were communicated with instructions in G.O., No. 413, Revenue, dated 27th July 1898. The first resolution dealt with the history since 1881 of the work of the Imperial Department of Agriculture; the second resolution dealt with the training, qualifications, and duties of each class of officer of a Land Records establishment; the third discussed the utilization of Land Records; the fourth treated of scientific and national enquiries connected with Agriculture; the fifth, the constitution and duties of the Provincial Agricultural departments; the sixth dealt with agricultural education; and the seventh and eighth discussed methods of publishing agricultural information and the form in which the annual administration reports of the Agricultural departments should be prepared. The whole series was more or less brought under review during the year under report and the conclusions arrived at will be mentioned below.

II.—LAND RECORDS ESTABLISHMENTS.

3. As regards the organization of a Land Records staff, a detailed and exhaustive report, prepared in consultation with the Superintendent, Revenue Survey, was submitted to Government in which the reorganization of the Survey Department and

the creation of a special Land Records staff in each district have been fully dealt with and proposals for the necessary staff were made to give effect to the proposals. The question whether it is necessary or advisable to revive the separate post of Deputy Director of Land Records was also considered in this connection, and the conclusion that it was unnecessary to do so was arrived at, since it had been found from experience that the appointment was practically of little use and that the object could be better effected by the appointment of special Deputy Collectors in each district, subject to the general control of the Collectors and the Board with some occasional assistance from the Survey Superintendent. The orders of Government on this report are still awaited.

4. Regarding the prospects of promotion to be offered to Revenue Inspectors it has been decided that no rules are necessary for reserving a certain proportion of the higher appointments to them, but orders have been recently issued to the effect that men recommended for the post of Deputy Tahsildar should have, as a rule, served as Revenue Inspectors for some time and that no man who has not undergone at least year's training as Revenue Inspector should be appointed to any place in the districts carrying a salary of Rs. 35 or upwards; this will ensure that the post of Revenue Inspector is made a stepping stone to higher posts in a majority of cases.

5. The question of improving the survey training of Revenue Inspectors was under discussion during the year, but the correspondence on the subject was not completed till quite recently and suggestions on the subject are now before the Government.

The total number of Revenue Inspector's posts in the Presidency during the year was 634. Of these, 607 were held by men trained in survey, three posts were held by men drawing the old scale of pay and two were vacant at the end of the year. The remaining posts were held temporarily by untrained men.

6. The sanction of the Secretary of State has since been received to the scheme referred to in the last report, for the improvement of the position of the taluk establishments.

7. The orders of the Secretary of State sanctioning the scheme for the increase		
Ganjam.	Chingleput.	of the salaries of karnams were also
Vizagapatam.	North Arcot.	received during the year and effect has
Nellore.	South Arcot.	been given to them in the marginally-
Cuddapah.	Madura.	noted thirteen districts. In the case of the
Bellary.	Tinnevely.	remaining districts the enhanced scale will
Kurnool.	Coimbatore.	be adopted when the village establish-
Anantapur.		ments are revised.

8. Schools for the training of karnams in surveying were held in all the districts of the Presidency except Madras. In five districts, however, schools were not held in some of the taluks for one or other of the following reasons—(1) the prevalence of plague and (2) the employment of karnams on re-survey, on sub-division of village service inams, or in connection with janmam registration. The number of men instructed at the schools was 10,054, while 2,971 men who had been classed as "good" or "fair" in the previous year were exempted from training and were employed in completing their field-measurement books. Of those examined, nearly 50 per cent. obtained good or fair certificates. In South Canara the percentage of such men amounted to more than 75. In Vizagapatam, Gódvári, Chingleput, North Arcot, Tanjore, Tinnevely, Malabar and Nilgiris, the percentage of good and fair ranged between 50 and 75. In the remaining districts it was below 50.

9. The use made of the Land Records staff in connection with famine relief.—In the year under review distress prevailed necessitating the conduct of relief operations in a portion of the Nellore district. As observed in paragraph 10 of the report for last year, it is the duty of the Land Records staff at all times to collect information and to report on the water-supplies, the progress of cultivation, the condition of the standing and the outturn of the harvested crops, and the health condition of the villagers, and of their cattle. In a season of drought when the failure of crops is complete or extensive, the inspection of the tracts affected, becomes more important with a view to granting remissions or postponements of revenue, and consequently the work of the

Land Records staff is increased. The services of the staff were fully utilised also in superintending relief operations and in conducting the necessary inquiries for the grant of State loans.

10. With a view to the more effective use of the land records and the entries therein as evidence of rights and titles, the proposal for amalgamating the Registration with the Land Records Department, which engaged the attention of the conference with Sir E. Buck in 1895-96, was thrown out by the Government of India after consulting the other Local Governments and Administrations as likely to cause administrative inconvenience and injurious dislocation of existing arrangements, and it was thought that the object could be sufficiently attained if the Director of the Land Records Department were permitted to receive copies of annual reports of the Registration Department with authority to submit thereon such suggestions and comments as may occur to him for the consideration of the higher Revenue authorities.

11. During May and June 1898, the Deputy Director visited the Nilgiri district, inspected the village and taluk accounts of Coonoor and Ootacamund and submitted a report on the results of his inspections to the Collector. From 22nd July to 21st September he was in charge of the duties of Secretary to the Director without prejudice to his own work during the absence of the latter officer on privilege leave. In December 1898, the Deputy Director accompanied Dr. Bourne, F.R.S., to the Gódvári district for the purpose of investigating a disease of the sugarcane and also to examine the irrigation accounts with a view to their simplification. A report on the latter question was submitted in the early part of January. During a portion of February and March, the Deputy Director visited the Madura and Tinnevely districts to inspect the village and taluk accounts of the Tirumangalam and Sattir taluks and submitted reports to the Collectors concerned. During the same tour he inspected various sites in the two districts, with a view to determine where an experimental farm could best be started, in case Government should approve of the scheme to that end which was laid before it in February last. In the early part of March, Erode and Chidambaram were visited in connection with the work of the Civil Veterinary Department.

Much of the time of the Deputy Director was occupied throughout the year by secretariat and statistical work, and amongst other matters he prepared special papers on the following subjects:—

- (1) Ground-nut trade and cultivation.
- (2) Food-grains—production and consumption of.
- (3) Sugar—production and trade in.
- (4) Grain trade.
- (5) Rail-borne trade—general review.

12. The village and taluk accounts in all districts of the Presidency were, as usual, examined at the annual settlement. Collectors report that village accounts are generally maintained in a fairly satisfactory condition, but that there is still room for improvement in the maintenance of the taluk accounts in some of the districts. Steps are being taken by Collectors to secure better results.

III.—THE UTILIZATION OF LAND RECORDS.

13. Village Registers and Firka-books.—The form in which the leading statistics of each village are abstracted in what are known as the "firka-books" of every Revenue Inspector's circle was again considered and it was decided that the form now in use, which was the outcome of the consultation with Sir E. Buck, answers requirements, inasmuch as it reveals at a glance variations from year to year in the cultivated and irrigated areas as well as particulars regarding wet revenue, seasonal remissions, the extent of protection from wells, collections arrears, &c.

14. Except in the case of North Arcot, the village registers and the firka-books have been completely or almost completely prepared and checked up to fasli 1306 (1895-96). In North Arcot, the village registers and firka-books of 254 villages remain to be checked in one taluk. The reason for this non-completion has not been reported. The preparation and checking of these registers and books for fasli 1307 were completed in five, and nearing completion in the remaining districts. In the case of Anantapur, the preparation and checking of the "firka" sheets appear to have been

retarded as the registers were sent to the Deputy Commissioner of Revenue Settlement for reference and were returned only recently. The progress for fasli 1308 has not been great. In the districts of Bellary, Nellore, Coimbatore and Tanjore alone was any considerable progress made. Reports regarding this matter have not yet been received from the Collectors of Kurnool, Cuddapah and Madura. The following statement shows in one view the progress made in the several districts in the preparation, &c., of these registers :—

Districts.	Number of villages in the district.	Number of villages for which					
		Village registers remain		Firka-books remain		Village registers are	
		To be prepared	To be checked	To be prepared	To be checked	Prepared	Checked
		Up to fasli 1306.				For fasli 1307.	
1	2	3	4	5	6	7	8
Ganjām	1,631		Complete.			Complete.	
Vizagapatam	282		Do.			Do.	
Gódvári	1,457			4	4		
Kistna	1,377		Complete.			1,369	1,369
Kurnool	962					957	957
Bellary	740		Complete.			653	646
Anantapur	931		Complete.			900	900
Cuddapah	1,782		Do.			1,762	1,757
Nellore	2,699		Do.			Complete.	
Chingleput	1,767	2	254	2	254	1,761	1,509
South Arcot	3,079	7	7	7	7	3,015	3,015
North Arcot	1,508		Complete.			1,499	1,499
Coimbatore	731		Do.			Complete.	
Trichinopoly	2,542		Do.			2,528	2,528
Tanjore			No arrears.			1,059	1,059
Jura	1,080		Complete.			86	86
Tinnevely	48						
Nilgiris							

Districts.	Number of villages for which—cont.					
	Firka-books are		Village registers are		Firka-books are	
	Prepared	Checked	Prepared	Checked	Prepared	Checked
	For fasli 1307—cont.		For fasli 1308.			
	9	10	11	12	13	14
Ganjām	Complete.		164	310	168	168
Vizagapatam	Do.		159	137	81	12
Gódvári	Do.					
Kistna	1,369	1,369	430	400	218	218
Kurnool	825	711	627	307		
Bellary	548	548				
Anantapur						
Cuddapah	848	848	672	525	248	139
Nellore	1,762	1,737	170	130	80	80
Chingleput	Complete.					
South Arcot	1,761	1,505				
North Arcot	3,015	2,577				
Salem	1,499	1,492	1,135	1,077	362	340
Coimbatore			175	73	112	57
Trichinopoly	Complete.		1,043	540	381	
Tanjore	2,528	2,528				
Madura						
Tinnevely	1,002	863				
Nilgiris	48	48				

Incomplete in Penukonda and Hindupur as the registers were sent to Deputy Commissioner, Settlement, for reference and not returned by him.

IV.—SCIENTIFIC AND NATIONAL ENQUIRY UNDER IMPERIAL DIRECTION.

15. *Geology*.—On re-consideration, the Geological Survey decided to undertake a detailed examination of the mica-bearing area in the Nellore district during the year, but no official information regarding the work has been communicated.

The results of the experiments made in smelting Salem iron ore with Bengal coal in England, conducted by Messrs. Bolckow Vaughan at Middlesborough were communicated by Her Majesty's Secretary of State, and showed that the sample of Salem iron ore contains barely 40 per cent. of magnetic iron; that the ore is too poor and too siliceous to be worth exporting; and that it is unsuitable for smelting in a blast furnace. Further discussion and enquiry are proceeding in the Land Revenue Department of the Board of Revenue regarding these ores, but so far the results have not been decisive.

No reports were received intimating corrections to be made in the Provisional Index of Minerals.

16. *Botany*.—The post of the Government Botanist, which had remained vacant for some years, was revived during the latter part of the year by the appointment of Mr. C. A. Barber to the post. His term of office in this Presidency has been sanctioned for five years after which his services are to be made available elsewhere in India. The chief aim of his work is to make a systematic survey of the flora of the Presidency, although his advice will be available on subjects connected with economic botany. To assist him, a small staff has been sanctioned, and his headquarters have been fixed at Ootacamund, to which place the herbarium has been transferred. Before the close of the year a tentative programme for the survey, under which the Government Botanist will spend three periods of about two or three months each during the year on tour, has been drawn up and approved, but until the close of the year Mr. Barber was chiefly engaged at Madras in arranging for the transfer of the herbarium to Ootacamund and only commenced field work later on.

17. The work of collecting specimens of the 432 articles included in the index collections for the Imperial Institute referred to in paragraph 17 of the last report was proceeded with, and a further instalment, comprised in a volume of 185 pages, was received from the Reporter on Economic Products, by which 50 articles were added to the list for this Presidency. A request that the indents might be made more definite was met by the remark that the system adopted had the approval of the Government of India. In September 1898, the Reporter on Economic Products forwarded a note on the subject of *Andropogon sorghum* (cholam) and requested that information and specimens should be collected as detailed in the note. The information required is being collected, and when complete will be consolidated and published. A large number of specimens of *sorghum* have already been furnished to the Reporter on Economic Products by the Deputy Director of Agriculture.

18. *Chemistry*.—No report was received from Dr. Leather, the Assistant Agricultural Chemist to the Government of India, as to the analytical work performed by him during the time he was attached to the College of Agriculture during the year.

19. *Statistics*.—The subjoined statement shows the statistics furnished to the Government of India and the Imperial officers under the control of that Government :—

Name of Report.	To whom sent	When due.
Weekly Season report		Every Tuesday.
Annual Programme of famine-relief works (Famine Statement C).	Government of India (Revenue and Agriculture).	1st June.
Do. List of agricultural implements and machines tested and found successful.		15th November.
Do. Statement of collieries	Government of India (Finance and Commerce).	20th February.
Do. Statement of minerals	Reporter on Economic Products.	15th April.
Half-yearly Statement of wages of agricultural labourers, &c., per mensem.	Government of India (Finance and Commerce).	25th January and July.

Name of report.	To whom sent.	When due.
Outturn report on late sowings of gingelly	The Director-General of Statistics.	15th April.
First forecast of sowings of cotton		15th August.
Forecast of early sowings of gingelly		15th ..
" of sowings of indigo		15th September.
Second forecast of sowings of cotton		10th October.
Forecast of sowings of paddy		15th ..
" of outturn on the early sowings of gingelly		15th ..
First outturn report on cotton		15th December.
" on paddy		15th ..
Outturn report on indigo		15th ..
Forecast of the late sowings of gingelly		1st January.
Second outturn report on cotton		10th February.
" on paddy		15th ..
Statistics of cinchona cultivation		1st July.
Rail-borne trade and road traffic return, annual		1st October.
Quarterly Returns of rail-borne trade		1st January, April, July and October.
Returns of agricultural statistics		1st November.
Statement of cotton and hemp mills		15th January.
" of paper and woollen mills		1st April.
Statistics of tea and coffee cultivation		1st July.
Fortnightly returns of wholesale and retail prices of certain commodities at selected marts.		10th and 25th of each month.

As the agricultural statistics for the year have not yet been compiled it is not possible to compare the estimates of area framed in the forecasts with the actual areas sown.

20. *Veterinary Science*.—Enquiries in connection with the Bacteriological Survey were conducted in six districts during the year, and reports were drawn up regarding two taluks by the Stock Inspectors. No complete work was, however, turned out by the Superintendent, Civil Veterinary Department, in this respect. Revised instructions for the conduct of the investigation have been recently issued which, it is hoped, may expedite matters. In addition to the above, particular outbreaks of cattle disease in the Nilgiris, Salem, Coimbatore, South Arcot and Tinnevely districts were investigated by the Stock Inspectors and reported on.

The experiments alluded to in paragraph 26 of the last report, which were designed to determine the amount of risk that exists, in connection with the export of hides, of conveying the virus of rinderpest to other countries from India, were unsuccessful and unsatisfactory. The question of making experiments on Koch's method of inoculation as a preventative of rinderpest was under discussion during the year, but nothing was done in the matter by the Superintendent, Civil Veterinary Department.

21. *Meteorology*.—The discussion of the best plan for introducing a system of flood warnings for the Kistna and the Godavari deltas was continued during the year and it now appears that, as regards the Kistna river, a system of flood warnings similar to that contemplated by the Meteorological Reporter to the Government of India is already carried out by the Public Works Department; gauges being fixed in the Tungabhadra at Kurnool and in the Kistna at Pagatur about twelve miles from Kurnool. In the flood season, these gauges are read three times a day and reports are sent from Kurnool to Bezwada. Such warnings of a flood are generally received about 36 hours before the river begins to rise at Bezwada, though at the beginning of the season when the river is very low, a flood will frequently not be noticed at Bezwada for nearly a week after the receipt of the warning. As regards the Godavari river, the Chief Engineer for Irrigation suggested that it would be of very great advantage if gauges could be set up at Chanda and Sironcha and the readings telegraphed to Dowlaishwaram at intervals whenever the river was above the level which experience might show to correspond with important floods at the latter place. At the suggestion of the Board, the Meteorological Reporter to the Government of India has been asked to take the necessary steps for carrying out the suggestions made by the Chief Engineer.

22. The only meteorological work with which this department is directly concerned is the reporting and tabulation of the rainfall recorded at 403 stations in different parts of the Presidency. The tabulation is entrusted to the Meteorological Reporter to

the Government of Madras, who duly published the usual tables during the year. At the close of the year, the post was transferred to Imperial control, but no change is proposed in the arrangements for tabulating the rainfall records.

V.—SCIENTIFIC AND LOCAL INQUIRY UNDER PROVINCIAL DIRECTION.

23. With reference to the general question of agricultural enquiry and the starting of agricultural farms referred to in the eight resolutions of the Government of India, the duties of the agricultural department have been summarised under the following heads:—

- (1) the collection and arrangement of facts and statistics bearing on all branches of economics and agriculture;
- (2) the investigation of agricultural defects brought to light by an examination of the land records and the devising of remedies therefor; and
- (3) the investigation of local agricultural practices and the conduct of experiments on problems suggested thereby.

24. For the proper carrying on of the statistical work above referred to, and for bringing to notice and investigating facts which may be gleaned from a study of the statistics, it has been suggested that the services of one officer might with advantage be employed, and that it is advisable that this officer should be the Deputy Director of Agriculture, this post being separated from that of Deputy Director of Land Records and the latter post not being revived. It would then be the duty of the Deputy Director of Agriculture, subject to the control of the Board of Revenue, to collect, arrange and publish all statistics bearing on agriculture, including rainfall, cultivation, and special crops, prices and wages, irrigation, and trade by land, as well as to prepare therefrom, and from the statistics of the sea-borne trade compiled and issued by the Department of Separate Revenue, reviews and reports in elucidation of economic facts bearing on the condition of the country. The adoption of this measure would be advantageous, since it would to this extent define the position and responsibilities of the Deputy Director in relation to the Board, making him in fact Statistical Reporter for the Presidency.

25. Regarding the second item of the duties of the Agricultural Department, the investigation must, it has been pointed out, be chiefly carried out by the Land Revenue staff, and by the Land Record staff when appointed, though it would be part of the duty of the Deputy Director of Agriculture to ledger observations in regard to and, if possible, to suggest a remedy for, any serious agricultural deterioration which may be reported.

26. In regard to the third item, the matters on which Government called for report were—

- (i) the scope and course of enquiry which should be followed;
- (ii) the number of experimental farms which will be needed now and in the future, and the programme to be adopted thereat;
- (iii) the character of the staff to which these inquiries and farms should be entrusted; and
- (iv) the establishments (including European and Native assistants and inspectors) to be worked up to, and the cost of such establishments in the near and distant future.

Regarding the first point, viz., the scope of the inquiry and the method on which investigations should be carried out, it has been suggested that the instructions given need reconsideration with reference to the scheme sketched by the Government of India, and that as Mr. Benson has remarked, it is necessary to distinguish between a general investigation of prominent agricultural defects which may and should be made throughout the country, and the more minute investigations which are the function of an experimental farm. In the former case attention should, from time to time, be concentrated on one prominent defect; in the latter, the working plan may legitimately

include the simultaneous trial of as many experiments as the Director guided by his advisers may determine to be eventually required; experiment being set on foot on the experimental farms for some years before the general investigation may be taken up.

27. A scheme prepared by Mr. Benson, the Deputy Director, has been recommended to Government for acceptance, which is briefly that, as a scheme to be ultimately worked up to, eight experimental farms should be established—four in the northern and four in the southern half of the Presidency—each farm to be about 50 acres in area: the general programme of operations on the farms being that suggested by the Deputy Director. In connection with each farm, a school or class should be established by the Educational Department. The agricultural staff required at each farm will be a resident Inspector who might be designated farm superintendent, and one or more probationers attached to do duty as bailiffs and record-keepers in connection with the experimental work. These latter after they have gained some experience should do duty as inspectors as defined below or as farm superintendents at other farms.

28. For making general inquiries into special agricultural defects, the department should in a great measure rely on the staff of Land Record Deputy Collectors and the Revenue Inspectors. This will be possible to a greater extent in the future, if these officers, have, as is proposed, been through a course of instruction in agriculture. To make some special provision for more fully trained enquirers, the appointment of two Sub-Assistant Directors of Agriculture, on the scale of pay of Deputy Collectors, and the placing under them of four inspectors has been suggested.

29. As a programme for immediate operations, it has been suggested that very early steps should, if funds can be provided, be taken to establish two experimental farms—one in the northern and the other in the southern half of the Presidency.

It has also been suggested that another European agricultural expert should be engaged before the end of the coming official year.

30. During the year under report three Agricultural Inspectors were engaged in collecting detailed information and specimens regarding the sorghum crops—*vide* paragraph 17. The Sub-Assistant Director, who was employed in the Board's office wing to the famine was set free about November last, and has since been engaged in supervising the work of the Inspectors. The remaining Inspector has been employed at headquarters in arranging and sorting the samples of sorghum sent in and in compiling a classified index of all the reports and papers in the departmental library.

31. *The College Farm and Botanical Gardens, Saidapet.*—A separate detailed report regarding the working of the above has been submitted by the Principal of the College of Agriculture. The farm is maintained for educational purposes and not for profit or experiment. Dairy farming is the chief work done on the farm.

32. *Barley shows.*—The report alluded to in paragraph 35 of the report for the previous year was received towards the end of the year. At a show held in September 1898, out of eight exhibits only two fulfilled the conditions as to quantity (*viz.*), that each should be not less than a bushel. To these the first and second prizes of Rs. 30 and 20 were awarded. The third prize of Rs. 15 was withheld. As the barley is grown especially for brewing, it has been arranged that at least one of the judges should be experienced in brewing.

33. *Ground-nuts.*—Towards the end of March 1898, the Chairman of the Chamber of Commerce, Madras, drew attention to the marked decrease in the exports of ground-nuts from this Presidency during the last two years and suggested that in view of the importance of the crop the Government might with advantage follow the example set by the French Administration in sending for seed ground-nuts from Africa for local distribution and sale; the theory advanced being that the falling off was due to the deterioration of the seed. A consideration of the facts of the case, however, showed that this was improbable and that considering the manner in which the crop has been grown, the falling off was not to be wondered at and that the importation of new seed was likely to give only very temporary relief. The Government, however, decided that it was desirable to import a supply of new seed of the best oil-yielding varieties from Africa and also to endeavour to secure varieties from America and Japan. Arrangements

have been made since the close of the year with the Chamber of Commerce for importing eight tons of seeds, four of which were to be of East African sorts, and four from Mozambique. Some East African seed has been received and is being distributed for sale.

34. *Carrots.*—The reports of the officers and others who conducted the experiments with the carrot seeds obtained in 1897 from the Agricultural Department, North-Western Provinces, show that the seed was generally sown from December or January to May or June and the crop was harvested three months later; but the results were generally scarcely worth recording.

35. *Sugarcane.*—The inquiries regarding the disease which had caused so much loss amongst the sugarcane in Górávari were continued and Dr. Bourne was directed to revisit the district and to report whether the preventive measures recommended by him had been adopted and whether the fungus appeared to be gaining ground or to be disappearing. Dr. Bourne was accompanied by the Deputy Director, Mr. Benson. The result of the examination of the canes showed that the disease is the *Trichosphaeria sacchari*. Dr. Bourne was of opinion that there were no signs of improvement and that the disease had spread more widely. He suggested that the ryots should observe the following precautions:—

(1) not to ratoon the crop when there has been any disease in a garden; on the other hand to burn all the litter, and to dig up the roots after cutting and to burn them; (2) not to attempt to grow cane on the same plot for two years; (3) in new plantings to take care to secure healthy tops from a healthy locality; (4) to remove and burn young plants if they show signs of disease; (5) and to crush and burn disease canes as soon as the disease appears.

36. This report of Dr. Bourne was forwarded by Government to the newly appointed Government Botanist for remarks in view of the experience he had gained of sugarcane diseases in the West Indies. That officer reported that he was of opinion that though the Rind fungus *Trichosphaeria sacchari* was to be found on the canes in this Presidency, yet the appearance of red spots and areas in the tissues should not be regarded as diagnostic of its presence, because in canes affected by any vegetable or animal parasites one of the first signs of ill-health was the appearance of red spot. He added that there might be many other fungi attacking the cane besides *Trichosphaeria* and from Dr. Bourne's description he considered that the *Colletotrichum falcatum* was present among the canes as well as the *Trichosphaeria sacchari*. The subject is still under correspondence; but the Director of the Botanical Survey India has reported that canes sent to him both from Górávari and Ganjam appear to be attacked by forms of the polymorphous *Trichosphaeria sacchari*, Mass. The discussions regarding this fungus, however, appear to be involved in a great deal of doubt.

37. *Sisal Hemp.*—Early in the year, the Honorary Secretary of the Agri-Horticultural Society, Madras, informed Government that upwards of 3,000 plants of the *Agave rigida* var *Sissalana* were available and that the committee thought it desirable that these plants should be tried on various soils in the drier parts of the Presidency. The plant was reported to be a valuable fibre plant which produces the *Sisal hemp* for commerce. The offer of the committee was accepted and arrangements were made to distribute the plants to the Collectors of Bellary, Anantapur, Cuddapah, North Arcot, Nellore, Salem, Coimbatore and Madura with instructions as to the proper method of planting and treating the crop.

38. *The Madras Agri-Horticultural Society.*—The income of the society by the sale of plants, seeds and sundries amounted to Rs. 3,644 during the year, and a sum of Rs. 1,714 was also collected by way of subscriptions from members. The loan of plants realized a sum of Rs. 350 and tickets to the value of Rs. 930 were sold during the last flower show. Besides the above income a grant of Rs. 4,000 was made by Government. The usual flower show was held in February last and was successful. An addition of 37 books and periodicals were made to the library. Seeds and plants were also exchanged. The Director of the Department of Land Records and Agriculture was, as usual, an *ex-officio* member of the Managing Committee.

39. *Veterinary Science—Pony and mule breeding operations.*—During the year under report nine pony and one donkey stallions worked in Coimbatore and four pony and two donkey stallions in Salem. The average number of coverings per pony stallion was 44 in Coimbatore and 27 in Salem against 41 and 42, respectively, in the previous year. The short work in Salem was ascribed to the prevalence of plague. Out of 362 mares covered during 1897-98 in Coimbatore, the results in the case of 73 mares were unknown; of the rest 56 foaled and 214 or 74 per cent. of the known results were empty. In Salem out of 185 coverings, the results of 70 were unknown; 27 foaled and 75 or 65 per cent. of the known results were empty. The percentage of foals to mares covered during the year was 19.7 in Coimbatore and 23.5 in Salem against 29.0 and 37.0, respectively, in 1896-97. The attention of the Superintendent, Civil Veterinary Department, was drawn to this deterioration in the results of the coverings and he has been requested to submit a report as to its cause and to the method of improving the same. The results of the work of the donkey stallions were equally unsatisfactory.

The total number of castrations was 21 in Coimbatore and 266 in Salem. The small number in Coimbatore is due to the absence of the salustri on leave for a long period.

Only one pony show was held, at Tirupur in June 1898. The number of exhibits was satisfactory and good in quality. The show at Berikaj, which should have been held in January was abandoned on account of plague.

40. The Cattle Disease Act (Act II of 1866) was put into force at 16 places during the year in connection with large cattle fairs, and at all of them a Stock Inspector was present to assist in working the Act. There were no prosecutions under the Act. The Stock Inspectors also attended four other fairs, and five weekly markets where the Act was not enforced.

41. *Statistics.*—The following returns were published in connection with local inquiries under provincial direction:—

- (1) Special forecasts on the outturn of ground-nuts and sugarcane in February.
- (2) Report on the operations of the establishments for stamping weights and measures—submitted to Government, Revenue Department, on 1st July.
- (3) Comparative statement of irrigation and rainfall—forwarded to the Chief Engineer for irrigation in October.
- (4) Statement of quantity and value of crops irrigated under major (productive) works and minor works for which capital and revenue accounts are kept.
- (5) Triennial report on the subject of agricultural wages, embodied in the Land Revenue Administration report—submitted to Government in March.
- (6) Season reports in three sections (rainfall, cultivation and prices of food-grains and oil)—monthly.
- (7) Quarterly and annual reports of cattle mortality.

VI.—AGRICULTURAL EDUCATION.

42. The question how the principles laid down by the Government of India as to reform in primary education, the improvement of readers and text-books, and the training of teachers, so as to provide men competent to give instruction in elementary agriculture, may best be given effect to was considered in consultation with the Director of Public Instruction during the year, as well as the following specific questions:—

- (1) What, if any, further action is necessary to enable agricultural degrees, diplomas or certificates to be placed on the same footing as corresponding literary or science degrees, &c., in qualifying for admission to Government appointments, particularly those connected with Land Revenue administration.
- (2) What appointments should be included in the category of those for which the agricultural diploma should be eventually compulsory.
- (3) How the practical instruction in agriculture of candidates for certain subordinate appointments at a school-class or an experimental farm could best be arranged for.
- (4) How a special school course leading up to the agricultural diploma, degree, or certificate could be provided.

(5) Whether the scheme of a Government farm could be arranged so as to provide for schoolmasters passing through a course of a few months' instruction either before or after appointment.

43. In regard to primary education, the Government of India laid down three principles, viz.:—

- (i) That elementary science should not be taught as a separate subject, but in school readers illustrated by object lessons.
- (ii) That some plan under which instruction in village maps and land records, and instruction in simple commercial accounts could be given should be included in the curriculum of education for schools of all classes.
- (iii) That it should be considered at what stage "agriculture" and the sciences ancillary thereto should be made optional subjects of the school curriculum.

44. (a) In regard to the first point, it was pointed out that in this Presidency under the system at present in force, all lessons given in primary schools that refer to natural objects must be illustrated by the object referred to, either as a model or by specimens. New readers have, in most standards, been issued for use in primary schools, and these contain a number of lessons on natural objects.

(b) As to the second point raised, it was pointed out that instruction in village maps and land records is of too specialized a character to be suitable for inclusion in the curriculum of primary schools. In the present curriculum, simple household accounts and bazaar bills are already included under a compulsory subject—arithmetic—for the fourth standard in primary schools.

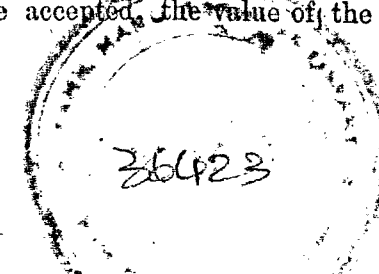
(c) It was stated with reference to the third recommendation of the Government of India that already the optional subject—elementary science—is included in the curriculum for all standards from the infant to the fourth, and that this forms an introduction to the study of agriculture and the sciences ancillary thereto; in these standards the subject is taught by object lessons. From the fourth to the sixth standard specially-prepared text-books have been introduced, and in the seventh standard the scheme of study is controlled by the technical examination scheme.

It will thus be seen that, in this Presidency, the principles laid down by the Government of India have, for the most part, already been adopted.

45. Regarding readers and text-books dealing with agriculture and allied sciences it was pointed out that the objects of bringing them up not only to an equally high standard of arrangement, clearness and simplicity throughout India, but also to the best standards in Europe, have been and are held in view.

46. As to the advisability of instructing schoolmasters how to teach by means of object lessons and readers and to develop training schools in this direction, it was stated that for the training of teachers in giving object lessons, elementary science, which is specially taught thereby, has recently been prescribed as one of the two optional subjects that must be taught in the practising section of all Government training schools, and thus the teachers become familiar with the method of giving object lessons. It would, no doubt, be advisable to attach to each district training school a school garden or farm, and this should be done wherever it is possible. It has been recommended that, after a certain lapse of time, one at least of the teachers in each normal school should be a trained agriculturist who holds the agricultural diploma and has been regularly trained in the method of teaching. This measure, whilst improving the teaching staff of these schools, would, in time, improve the subordinate inspecting agency also by introducing into it a number of men whose education had been partially agricultural, and thus make them better qualified for inspecting the rural primary schools.

47. Diploma-holders, for whose training alone provision exists at present, are already placed on an equal footing with graduates, so far as admission to the Land Revenue Department is concerned, as they are now permitted to appear for the Revenue and Criminal Higher Special Tests. If the measure of reserving one post of teacher at each district training school advocated above be accepted, the value of the diploma will increase.



It was also suggested that eventually the possession of the diploma in agriculture should be made compulsory for Land Record Deputy Collectors and Head Revenue Inspectors, if appointed; and also for—

- Native Assistants to the Director of Agriculture,
- Agricultural Inspectors and Farm Superintendents,
- Supervisors, Assistant and Deputy Commissioners in the Settlement Department,
- Teachers of Agriculture for classes of the Intermediate standard,

and that, if a course working up to an intermediate group certificate be provided, such certificate may ultimately be demanded from candidates for the post of Stock Inspector and also from a proportion of the candidates for the post of Revenue Inspector.

48. *Higher Education.*—This is carried on at the College of Agriculture, which is administered by the Educational Department in consultation with the Director on all matters of importance. In 1898-99, there were 46 students on the rolls of the college at the end of the year against 49 in the previous year; more than a fourth of these came from outside the Presidency—eight from Bombay and five from Mysore and Coorg. The Agricultural Chemist delivered the usual course of lectures and held practical classes for a period of one month. It is now proposed to secure a larger share of his time for work in the College of Agriculture seeing that the number of students at Saidpet is larger than at Poona. Owing to the reversion to Military duty of Mr. Edwards, Superintendent, Civil Veterinary Department, the college was deprived of the usual lectures delivered by him. The post of Vice-Principal was not filled up during the year.

The system of "field cultivation" which was substituted for "plot cultivation" in 1897-98 at the suggestion of the Principal is stated to have worked well; but the students did not take so much interest in it as they did in "plot cultivation." The working of the system is being watched further. The veterinary hospital continued to increase in popularity, and the number of cases treated has risen from 380 in 1895-96 to 602 in 1897-98 and 724 in 1898-99 though the scale of fees was slightly raised during the past year.

As already observed the position of the Diploma-holders has been improved by placing them on an equal footing with graduates so far as employment in the Revenue Department is concerned.

49. Educational qualifications prescribed for the Land Record Staff—

Karnams (village accountants) must pass—

(1) the Primary School Examination; this includes—

- (i) three compulsory subjects, viz., (a) Language (the vernacular language of the candidate);—(b) Handwriting and Spelling, and (c) Arithmetic;
- (ii) at least two optional subjects, viz., (a) Elementary Science, or (b) Geography, or (c) English or another Second Language, or (d) Indian History, or (e) Drawing, or (f) Hygiene, or (g) Agriculture, or (h) Mensuration.

(2) the Village Officers' Special Test in (a) the Manual of Village Accounts, (b) Powers and Duties of Village officers.

Candidates for the office of karnam must also produce "good" certificates from the Survey schools.

These rules do not apply to village officers who may have been in office on 1st July 1898, nor to their heirs registered before 1st January 1896, who were 18 or above on the 1st of January 1896. The rules though passed some years ago only came into force from 1st July 1898, and in future no person will be appointed to the office of karnam who has not qualified according to the tests mentioned above, unless specially exempted by the Collector for reasons to be recorded by that officer.

Government has also decided that arithmetic up to the sixth standard should be added to the list of optional subjects for the Primary Examination and that future candidates for the post of village accountant (karnams) should be required to pass in arithmetic and mensuration as their optional subjects in that examination. The latter question has been dealt with by the Land Revenue Department. The former was transferred to the Educational Department.

50. The extent to which the educational system of the Presidency meets the requirements mentioned above is as follows:—

Boys are taught up to the Primary School Examination (Standard IV) in the fourth class of schools. Karnams are trained in surveying at special schools held for the purpose. The Village Manuals of Accounts and the Village Officers' Manual have been published in the vernacular languages.

51. The educational qualifications required of Revenue (Circle) Inspectors are that they should have at least passed the Lower Secondary Examination in the first class or the University Matriculation Examination with English, Handwriting, and Dictation and the Revenue Test, lower grade, of which test the village and taluk accounts form a part, and should obtain a certificate in surveying. Persons who have only passed the Lower Secondary Examination in the first class will hereafter not be eligible to appear for the Revenue Test, lower grade. The Matriculation Examination, with the Handwriting and Dictation Tests, or the Upper Secondary Examination should, at least, have been passed.

VII.—THE PUBLICATION OF AGRICULTURAL INFORMATION.

52. No special publications of agricultural information were made by the Department during the year. A monograph on "woollen fabrics" was prepared by Mr. Thurston, Superintendent, Central Museum, and submitted to Government during the year. To the same officer was entrusted the preparation of a monograph on "silk fabrics" for the year 1898.

53. The number of papers received from and communicated to other provincial departments was as follows:—

Subject.	Received.			Sent.		
	Books.	Other papers.	Total.	Books.	Other papers.	Total.
Agriculture	86	13	99	..	18	18
Statistics .. { Crop	99	..	99	..	15	15
Trade	94	106	200	5	98	103
Famine	3	..	3	..	..	..
Forest	25	..	25	..	..	..
Survey	8	..	8	..	..	..
Arts and Industries	50	..	50	1	..	1
Botany	2	40	42	..	40	40
Entomology	2	..	2	..	..	..
Geology and minerals	5	..	5	..	..	..
Meteorology	16	3	19	..	3	3
Live-stock (Veterinary science)	13	..	13	..	..	..
Miscellaneous	4	..	4	..	..	..
Total	407	162	569	6	174	180

Besides the above, 330 journals, bulletins, and the like were also received from Agricultural societies and institutions in other countries.

Resolution—Mis. No. 4214, dated 25th August 1899.

The Board begs to submit herewith its report on the operations of the Department of Land Records and Agriculture for the year ending 31st March 1899.

(True Extract.)

(Signed) C. BENSON
Deputy Director
for Secretary.

To the Secretary to Government, Revenue Department, with a report.

Order—No. 741, Revenue, dated 3rd November 1899.

Miscellaneous.

With the above memorandum the Board submits its report on the operations of the Department of Land Records and Agriculture during the year 1898-99.

2. Schemes were elaborated during the year for the constitution of a Land Records staff and for expanding the operations of the Agricultural Branch of the department, in particular by establishing experimental farms. These schemes present many difficulties, but the Government hopes that it will be possible to make material progress towards their solution in the course of the current year.

In the meantime, the present organisation of the department necessarily limits its operations in great measure to the collection of statistics and to isolated special investigations.

3. His Excellency the Governor in Council recognizes, however, that much useful work was done during the year. Some of the results attained will be briefly noticed under the various heads of the report.

(i) *Land Records establishment.*—Substantial improvements in the condition and status of the subordinate ranks were carried out. The pay of karnams was materially increased in thirteen districts. Sanction of the Secretary of State was received to the scheme for the improvement of the taluk establishments. Higher qualifications in Surveying were prescribed for Revenue Inspectors. At the same time the prospects of this useful class of officers were bettered by the issue of orders, directing that men recommended for the post of Deputy Tahsildars should, as a rule, have served as Revenue Inspectors for some time and that no man who has not undergone at least a year's training as Revenue Inspector should be appointed to any place in the districts carrying a salary of Rs. 35 or upwards.

(ii) *The utilization of land records.*—Much time and labour appear to have been spent in maintaining the village registers and firka books up to date. The report however is silent as to whether any practical advantage or useful information was derived from the examination of these records.

(iii) *Scientific and National enquiry under Imperial direction.*—Experiments on Salem iron ore were not encouraging. A private firm, however, has since opened negotiations with the object of exploiting the ore.

In the field of Botany the systematic survey of the Presidency, in abeyance since the death of Mr. Lawson, was resumed by Mr. C. A. Barber.

The work of the Veterinary Department has been separately noticed. It furnished no result of importance.

At the close of the year all meteorological work other than the recording of rainfall was taken wholly under Imperial control.

(iv) *Scientific and local enquiry under provincial direction.*—Attention was directed during the year more particularly to *ground-nuts* and *sugar-cane*. The demand in Europe for the former appears to have decreased of recent years, whether on account of the discovery of a cheaper substitute, or on account of a decline in the quality of the nut due to bad farming or to deteriorated seed. The Government awaits with interest the result of the experiment of importing new seed from East Africa and Mozambique.

Enquiries commenced by Dr. Bourne, F.R.S., and pursued by Mr. Barber tended to show that canes in this Presidency were in many places attacked by the fungus, *Trichosphaeria Sacchari*, Mass. Enquiries are still in progress, but the result so far seems to be that the remedy lies largely in the hands of the ryots and consists in isolating and destroying all diseased canes and in importing for propagation healthy "tops" from non-affected tracts.

(v) *Agricultural Education.*—A review of the subject showed that the principles laid down in the sixth of the Agricultural Resolutions of the Government of India are generally recognized and acted on in this Presidency. Further action is possibly required in the direction of instructing schoolmasters how to teach by means of object lessons and readers and of developing training schools for this purpose. The matter is under the consideration of the Government.

(vi) *Publication of Agricultural information.*—No special publications were issued by the department during the year.

(True Extract.)

(Signed) H. TREMENHEERE,
Ag. Secretary to Government.

J. 2114198

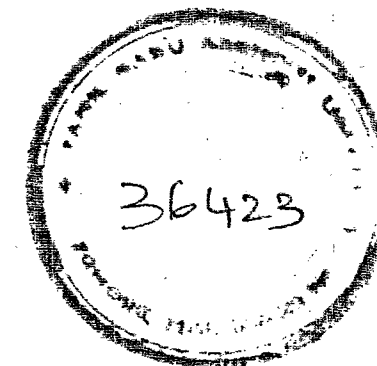
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To the Board of Revenue (R.S., L.R. and Agri.).
„ Educational Department.

Endorsement No. 741A.

Copy to the Government of India, Department of Revenue and Agriculture.

(Signed) N. E. MARJORIBANKS,
Ag. Under Secretary to Government.



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ப. எண் :

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