Revenue (1898) Department.

MISCELLANEOUS SERIES.

G.O., No. 4370

DATED 8th November 98

[Despatch Abstract.]

College of Agriculture, Saidapet.

Communicating to the Board of Revenue S.C. (Educational) recording, with remarks, report on the working of the College of Agriculture, Saidapet, during 1897-8.

BACK PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

FURTHER PAPERS.

G.O.	No.	Department.	Date.	G.O.	No.	Department.	Date.

Revenue 1898 Department
Current No 1514.

Government (1898) of Madras.

EDUCATIONAL.

Recd. 2 Nov } 1898. Enclosures
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G.O., No. 672, 25th October 1898.

PUBLIC DEPARTMENT 28 NOV 98 RECEIVED

OCTOBER. G.O Nos 4370 d/8 Nov 1898 Communicated to the Bd of Revenue.

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5.11.98.

College of Agriculture, Saidapet.

Recording, with remarks, report on the working of the — during 1897-98.

GOVERNMENT OF MADRAS.

EDUCATIONAL DEPARTMENT.

Read—the following paper:—

From the Hon'ble Mr. D. DUNCAN, M.A., D.Sc., LL.D., Director of Public Instruction, to the Secretary to Government, Educational Department, dated Madras, 14th September 1898, No. 10642.

I have the honour to submit, for the information of Government, a copy of my Proceedings No. 10543, dated 12th instant, reviewing the report on the working of the College of Agriculture, Saidapet, during the session 1897-98.

Enclosures.

Proceedings of the Director of Public Instruction, dated 12th September 1898, No. 10543.

Read—the following Proceedings of the Board of Revenue (Revenue Settlement, Land Records and Agriculture), No. 208, dated 16th June 1898:—

Read—the following letter from W. KEESS, Esq., M.A., M.R.A.C., Principal, College of Agriculture, to the Hon'ble Mr. D. DUNCAN, M.A., D.Sc., LL.D., Director of Public Instruction, dated Saidapet, 3rd May 1898, No. 394:—

I have the honour to submit the report on the College of Agriculture for the official year 1897-98. The report has been prepared in accordance with the instructions issued in your Proceedings, No. 4585, dated 17th April 1896.

2. *Staff.*—On 1st July 1897, M.R.Ry. C. Krishna Menon, Fourth Assistant and Farm Manager, returned to duty after an absence of three years on leave without pay, thus displacing M.R.Ry. R. Ramaswami Aiyar who, during this period, had acted for him.

M.R.Ry. C. Krishna Menon was on sick leave during the undermentioned periods. There can be no doubt that the state of this officer's health during the latter half of the year was such as to seriously hamper him in the execution of his duties:—

8th to 11th November (none acting).
29th November to 2nd December (none acting).
10th to 27th February (J. Chelvaranga Raju, Bailiff, acting).

M.R.Ry. T. V. Narayana Rau, sub. *pro tem.* Fifth Assistant, was compelled by illness to avail himself of privilege leave on half pay from the 26th October to 7th November. None acted.

Mr. J. A. Boon, Gymnastic Instructor, resigned his appointment on 23rd March after a service of nearly fifteen years at the college. S. Ramji Singh, Assistant Gymnastic Instructor of the Teachers' College, was appointed to the vacancy, but did not join before the close of the official year. It is only fair to Mr. Boon that I should acknowledge his services in connection with the athletic sports meetings and the games of the college. I am glad to say he has secured employment elsewhere on a salary to which the gymnastic instructor of this institution cannot aspire.

Mr. Collins, Assistant Agricultural Chemist to the Government of India, and Veterinary-Lieutenant Edwards, Superintendent, Civil Veterinary Department, did duty at the college as shown below. Mr. Collins' short period of duty was broken into by five days' casual leave granted to him on account of illness:—

Name.	Period.	Class II.	Class III.
Mr. Collins	17th November 1897 to 17th December 1897.	Fifteen hours' practical instruction.	Seventeen hours' lectures.
Veterinary-Lieutenant Edwards.	9th February 1898 to 18th March 1898.	Sixteen hours' lectures..	Sixteen hours' lectures, and twenty hours' practical instruction.

Copies of Mr. Collins' letter, No. 7, dated 17th December 1897, and of my covering letter, No. 19, dated 7th January 1898 (*vide* G.O., No. 132, Educational, dated 2nd March 1898), are attached to this report. A report by Vety.-Lieutenant Edwards is now submitted.

3. *Strength.*—There were 49 students on the rolls on the 31st March 1898, against 47 on the corresponding date of the previous year. The number of Brahmans increased by six, while that of non-Brahman caste Hindus decreased by five. Nine students of this class left the college in May last on completing their course of studies but only five joined the college in July for the new session:—

Statement showing the distribution of students according to nationality.

	Class I.		Class II.		Class III.		Total.	
	31st March 1897.	31st March 1898.	31st March 1897.	31st March 1898.	31st March 1897.	31st March 1898.	31st March 1897.	31st March 1898.
1. Europeans and Eurasians	..	..	..	..	..	..	..	1
2. Native Christians	..	1	..	..	..	..	..	2
3. Muhammadans	2	1	..	1	..	..	2	32
4. Brahmans	10	13	6	9	10	10	26	14
5. Non-Brahman caste Hindus	8	5	2	6	9	3	19	
Total	20	20	8	16	19	*13	47	49

* Includes four students who rejoined the college with a view to complete the diploma and one student who attended for veterinary science only.

4. The annexed statement shows the distribution of students according to the districts from which they came. It will be observed that twelve students do not belong to the Madras Presidency:—

Statement showing the distribution of students according to districts.

Districts.	Class I.	Class II.	Class III.	Total.
Vizagapatam	..	1	..	1
Godávari	1	..	1	2
Kistna	1	..	..	1
Cuddapah	2	2	..	4
Madras	1	1	..	2
Chingleput	2	..	..	2
North Arcot	1	1	3	5
Tanjore	1	..	..	1
Trichinopoly	2	1	1	4
Madura	..	1	1	2
Tinnevelly	2	..	3	5
Coimbatore	..	2	1	3
Salem	..	1	1	2
Malabar	..	2	..	2
South Canara	1	2	..	3
Jamnagar	..	1	..	1
Idar (Guzarat)	3	..	..	3
Kathiawar	..	1	..	1
Bangalore	..	..	..	..
Mysore	2	..	..	2
Coorg	..	..	2	2
Total	20	16	13	49

5. The seven district scholarships awarded in July were all filled by the nominees of Collectors. The student holding the Ganjám scholarship was allowed to resign on account of ill-health. The vacancy thus created was not filled up owing to the late date on which it occurred:—

Names of students.	Districts.	Nominated by	Section of the population.	Educational qualifications.
1. K. V. Narayana Aiyar	Trichinopoly	Collector	Brahman	Matriculation.
2. G. N. Sudarsanacharlu	Anantapur	Do.	Do.	F.A.; (B.A., English and Second Language divisions).
3. N. Venkatarama Aiyar	South Arcot	Do.	Do.	F.A.
4. G. Gurunathaswami *	Ganjám	Do.	Do.	Matriculation.
5 N. Venkatanarasimha Rau	Gódávari	Do.	Do.	Do.
6. B. Venkatappa Nayudu	Cuddapah	Do.	Non-Brahman caste Hindu.	Do.
7. C. N. Krishnaswami Aiyar	Nilgiris	Do.	Brahman	Do.

Permitted to leave the college on account of ill-health (*vide* Proceedings No. 1726, dated 22nd February 1898).

6. *Examinations.*—The following table gives the results of the Government Technical Examinations held in April 1897. The names of the teachers responsible for the different subjects are shown in the last column. So far as examination results can be used as a test of the work of the college, I think the institution may be said to have done very well. In two subjects all the candidates passed. In four subjects the percentage of passes was over 80, while in the three remaining ones the percentage was above 44. Fourteen students obtained the diploma in agriculture:—

Results of the Government Technical Examinations held in April 1897.

Subjects.	Number presented in April 1897.	Number passed in April 1897.	Percentage of passes. 1896.	Percentage of passes. 1897.	Names of responsible teachers.
Agriculture (Advanced)	15	13	46·1	86·7	W. Keess; S. H. Collins; G. Krishna Prabhu and R. Ramaswami Aiyar.
Botany (Special)	17	11	50·0	64·7	G. Krishna Prabhu.
Physiography (Intermediate)	18	8	86·6	44·4	Do.
Veterinary Science (Intermediate), Stage I.	9	8	94·1	88·9	Veterinary-Lieutenant Clarke; S. L. D'Silva and T. V. Narayana Rau.
Veterinary Science (Intermediate), Stage II.	17	15	58·3	88·2	Veterinary-Lieutenant Clarke and S. L. D'Silva.
Inorganic Chemistry (Intermediate)	14	7	40·9	50·0	W. Keess.
Organic Chemistry (Special)	10	10	80·0	100·0	Do.
Surveying and Levelling (Special)	11	9	75·0	81·8	R. V. Subrahmania Aiyar and T. V. Narayana Rau.
Agricultural Engineering (Intermediate).	14	14	76·9	100·0	R. V. Subrahmania Aiyar.

7. *Course of Studies.*—There was only one change made in the course of studies. Under G.O., No. 262, Educational, dated 5th May 1897, "plot cultivation" was replaced in the second year by "field cultivation"—*vide* paragraph 9 *infra*. As regards the special syllabus in "Surveying and Levelling" I am compelled to repeat the opinion expressed in two previous annual reports, to the effect that the scales prescribed are far too small. I shall address you separately on the subject.

First year.

Agriculture, Advanced, Part I (portion).
Inorganic Chemistry, Intermediate (portion).
Botany, Special (whole).
Physiography, Intermediate (whole).
Surveying and Levelling, Special (portion).
Veterinary Science, Intermediate, Stage I (Introductory to second year's work).

Second year.

Agriculture, Advanced, Part I (continued).
Do. do. Part II (portion).
Veterinary Science, Intermediate, Stage I (whole).
Inorganic Chemistry, Intermediate (completed).
Organic Chemistry, Special (whole).
Surveying and Levelling, Special (concluded).
Agricultural Engineering, Intermediate (portion).

Third year.

Agriculture, Advanced, Part I (completed).
Do. do. Part II (completed).
Veterinary Science, Intermediate, Stage II (whole).
Agricultural Engineering, Intermediate (concluded).

8. The following statement shows the hours devoted to lectures and practical instruction. The statement, as in previous reports, is prepared for the session (July–April). Were it prepared for the financial year the hours shown against each subject would include time devoted to that subject by two different sets of students during two different sessions.

At the commencement of the session the Surveying Instructor reported to me that the students of class I were not keeping their field-books as neatly as he wished. I accordingly arranged with the acting Principal, Teachers' College, that the students should have some instruction in freehand drawing from the Drawing master of the Teachers' College. Hence the entry "eight hours of practical instruction in drawing (freehand)".

Subjects.	Lectures.	Hours of practical instruction.	Remarks.
Class I.			
Agriculture (Advanced), Part I	65	109½	
Botany (Special)	102	93	Class usually taken in two batches for practical instruction.
Inorganic Chemistry (Intermediate)	97	45	
Physiography (Intermediate)	134	..	
Veterinary Science (Intermediate), Stage I.	58	3	Introductory to second year's work.
Surveying and Levelling (Special)	..	66½	
Museum Classes	..	27	
Drawing (freehand)	..	8	
Class II.			
Agriculture (Advanced), Part I	48	* 73½	* Excludes field cultivation, and also the hours spent by the students in batches with the Bailiff.
Agriculture (Advanced), Part II	32	..	
Veterinary Science (Intermediate), Stage I.	101	57½	Sixteen of the lectures by the Superintendent, Civil Veterinary Department.
Inorganic Chemistry (Intermediate)	87	46	
Organic Chemistry (Special)	84	44	Fifteen of the hours of practical instruction by Mr. S. H. Collins, Assistant Agricultural Chemist to the Government of India.
Surveying and Levelling (Special)	26	† 81	† Excludes days spent by the students in batches.
Agricultural Engineering (Intermediate)	54	..	Some of the lectures were in reality practical classes.
Class III.			
Agriculture (Advanced), Part I	99	76¾	Excludes the days spent on agricultural excursions in the South Arcot and Coimbatore districts.
Agriculture (Advanced), Part II	‡ 85	§ 23	‡ Seventeen hours' lectures by Mr. S. H. Collins. § Excludes quantitative analysis.
Agricultural Engineering (Intermediate)	159	..	Division between lectures and practical instruction impossible. Excludes 1½ days spent in excursions.
Veterinary Science (Intermediate), Stage II.	82	105¼	Sixteen of the lectures and twenty of the hours of practical instruction by the Superintendent, Civil Veterinary Department.
Museum classes	..	20	

9. *Practical work—Agriculture.*—The practical work of all classes was much hampered by the unfavourable season.

Class I was instructed in ploughing and other field operations. The usual field and museum classes were also held.

The practical work of class II consisted chiefly of "field cultivation" which under G.O., No. 262, Educational, dated 5th May 1897, replaced "plot cultivation." An area of 2 acres was allotted to the class, and the students, under the guidance of the Fifth Assistant, cultivated four crops (cholam, black-gram, green-gram and groundnut) without any assistance. Owing to the deficiency in the rainfall, the experiment must be described as a failure. There can be no doubt that a mistake was made in growing too large an area (·7 acre) of groundnut, for this entailed a great amount of hand-weeding, an operation which requires no skill and which is exhausting to those unaccustomed to it. I should prefer to wait for a favourable year before expressing a definite opinion as to the relative merits of "field cultivation" and "plot cultivation." Owing to the economy of time effected by the above mentioned change class II had a larger number of field classes than during previous years.

Class III made two agricultural excursions. Owing to the unfavourable season the usual tour to the Cuddapah district was abandoned and one to the South Arcot district substituted. As suggested in your Proceedings, No. 7392, dated 8th July 1897, this tour was conducted by J. Chelvaranga Raju, Farm Bailiff. The second tour was, as in previous years, made to the Coimbatore district and appears to have been an interesting and instructive one. It was conducted by M.R.Ry. C. Krishna Menon, Fourth Assistant. Details of the tours are given below:—

South Arcot Excursion.

10*th October* 1897.—Left Saidapet and reached Cuddalore New Town.

11*th October* 1897.—Inspected Uthaimangalam village. Enquired into the cultivation of paddy and indigo.

12*th October* 1897.—Visited Uchimedu in the morning, and enquired into the cultivation of ragi and ground-nut mixed with cumbu. Went in the evening to Pachankuppam and saw Devanayaga Mudaliar's oil factory, where ground-nut is pressed by Hydraulic machinery.

13*th October* 1897.—Visited Kanganamkuppam and enquired into the cultivation of cocoanut and casuarina. Observed on the way various operations performed before and after transplantation of paddy.

14*th October* 1897.—Visited Reddichavadi. Enquired into the cultivation of dry crops, such as varagu and dholl, and also into that of tapioca which is grown as a field crop in some places. Left Cuddalore New Town for Nellikuppam.

15*th October* 1897.—Visited Maruthadu. Enquired into the cultivation of betel-vines and plantains.

16*th October* 1897.—Visited Varisalpatti. Saw the working of an indigo vat and looked at several fields of Mauritius plantains. In the evening visited Sholavalli where several sugar-cane plantations were seen. Left Nellikuppam for Panruti in the night.

17*th October* 1897.—Panruti. Visited several fields where ground-nut was cultivated. Saw the difference between the Mauritius variety and the ordinary variety, &c. Enquired into the cultivation of the same and diseases affecting the different varieties. Visited several oil mills and saw the advantages of iron mills over the existing wooden mills.

18*th October* 1897.—Left Panruti for Tindivanam. Visited Edangal gramam. Observed the different kinds of soils under dry cultivation and the various weeds met with on such soils. Enquired into cultivation of dry crops.

19*th October* 1897.—Left Tindivanam for Saidapet.

Cost—

	Rs.	A.	P.
Bailiff	7	6	0
Students and muchi	47	12	0
Total ...	55	2	0

Coimbatore Excursion.

1*st January* 1898.—Started for Coimbatore.

2*nd January* 1898.—Arrived at Coimbatore, where the students collected.

3*rd January* 1898.—Visited the village of Anuparapalayam and examined arecanut and cocoanut plantations.

4*th January* 1898.—Went to Upparapalayam and made thorough enquiry into tobacco cultivation as well as into the rural economy of garden lands.

5*th January* 1898.—Visited Messrs. Stanes & Co.'s manure works in the morning, and the village of Ganapathy in the afternoon to study wheat cultivation.

6*th January* 1898.—Visited sugar factory in Podanur and enquired into turmeric cultivation in the village of Kunchi.

7*th January* 1898.—Singanalem. Enquired into Betel-vine, sugar-cane and chilli cultivation.

8*th January* 1898.—Madukarai, famous for chilli cultivation. Studied the cultivation of chillies, tobacco and cereals in general. Saw for the first time this year the tobacco parasite "Bodu." Enquired into the alleged causes of the disease. In the afternoon went to the village of Ottakalmandapam, once famous for Bourbon cotton, the cultivation of which is now neglected.

9*th January* 1898.—Kanykod. Afternoon spent in examining the neighbouring rice fields and looking out in farm sheds, cattle, &c., of some of the biggest Nayar landlords.

10*th January* 1898.—Sultanpet, nine miles from Kanykod. Went to the farm shed of Subbayya Konar, the biggest farmer in Palghat, who cultivates over 800 acres with his own men and cattle. Obtained a good deal of information regarding rice cultivation.

11*th January* 1898.—Enquired into the various systems of rice cultivation and made an examination of the implements of village.

12*th January* 1898.—Visited the village of Vadaseri in the company of Mr. Mariappa Konar, the biggest cultivator of these parts. He explained the whole process of the reclamation of forest lands for rice and dry crops. Looked at the forests of Walayar and the dry crops, such as castor, &c.

13*th January* 1898.—Kanykod to Tiruppur.

14*th January* 1898.—Enquired into the cultivation of cholam under well irrigation, and obtained information about the various varieties of cotton. Visited the ginning works of the Carnatic Mill Company. Tiruppur to Murthireddipalayam in the night.

15*th January* 1898.—Kangayam. Afternoon spent in studying the system of pasture adopted and the various grasses.

16*th January* 1898.—Kangayam. Went to the weekly market and examined cattle, grains and other agricultural produce.

17*th January* 1898.—Reached Palayacottai. Saw the Pattakar's place, well known for cattle and horse breeding.

18*th January* 1898.—Under the guidance of the Pattakar visited the splendid cattle he keeps in numerous heads. Went to Thennarasanpalayam and neighbouring villages.

19*th January* 1898.—Thennarasanpalayam. Made a careful enquiry into the various grasses, as well as the system adopted in maintaining permanent pasture. Examined the Pattakar's garden of one block of 120 acres, all irrigated by wells. Evening started for Perundurai.

20*th and* 21*st January* 1898.—Perundurai to Madras.

Cost—

	Rs.	A.	P.
Assistant	67	3	0
Students and muchi	142	6	9
Total ...	209	9	9

Field and museum classes were also held.

As practical work in connection with Part II, Agriculture, Advanced, Class III went through the following:—

(1) Standardizing an acid.
(2) Do. an alkali.
(3) Proximate analysis of an oil-cake.
(4) Determination of grape sugar by Fehling's solution.
(5) Determination of cane sugar in sugar-cane juice and jaggery by the polariscope.
(6) Rough examination of a soil.

All three classes attended the sugar boiling operations conducted on two occasions on the farm. Starting with a good juice excellent samples of jaggery and crude sugar were produced. The students learnt the whole process practically.

Veterinary Science.—The practical work of class II consisted of dissections; that of class III of hospital practice. The latter class derived much advantage from the increase in the number of patients treated at the Veterinary Hospital.

Surveying and Levelling.—The out-door work was chiefly done in batches. I have already pointed out the disadvantage of having the scales, prescribed for the plans, as small as they now are.

Agricultural Engineering.—The prescribed work was gone through. One and a half days were spent in excursions.

Organic Chemistry.—Testing of vegetable and mineral oils, starch, sugars, &c., dyeing with indigo, &c., constituted the practical work. The students were taught how to use the polariscope.

Inorganic Chemistry.—A good deal was done out of hours. The students of class II worked more in the laboratory than was really necessary. This however is a fault on the right side.

Botany.—The usual field and microscope classes were held.

Physiography.—The practical work in this subject is chiefly done during lecture hours.

10. *Veterinary Hospital.*—Mr. S. L. D'Silva, Second Assistant, was in charge during the whole year. On 1st April, W. Borthwick, hospital-keeper, retired on a pension. Between this date and 6th June M. R. Ramaswami Sivan, an ex-student and a diplomat in agriculture, acted as hospital-keeper. On 7th June Farrier-Smith R. Borthwick (Body Guard) joined as sub. *pro tem.* occupant of the post. Owing to the delay, which has occurred in the settlement of a question in connection with his military pension, he has not yet been confirmed.

There was a considerable increase in the number of patients treated at the hospital.

It should be explained that the number was not swollen by the admission of contagious cases. The increase must consequently be regarded as indicating an improvement in the popularity of the hospital among the neighbouring owners of animals.

	1896-97.	1897-98.
Horses and ponies	147	216
Cattle	161	186
Other animals	139	210
Total ...	447	612

During the year the thatched stables, which collapsed after the heavy rains of November and December 1896, were thoroughly repaired at a cost of Rs. 689 by the Consulting Architect to Government and a tiled roof put on. A couple of kennels, or rather barred cages, were locally constructed for the accommodation of canine patients. The chief need of the hospital is quarters for the officer-in-charge near the sick lines. I am glad to say the construction of free-quarters has been sanctioned (G.O., No. 151, Educational, dated 8th March 1898), and I hope they will soon be begun.

The expenditure increased by Rs. 226. The stores, paid for through the Accountant-General, cost about Rs. 100 more than they did during the preceding year. The heavy rainfall at the end of 1896 necessitated additional repairs to buildings and the expenditure under repairs consequently rose by Rs. 114.

	1896-97. Rs. A. P.	1897-98. Rs. A. P.
Establishment	816 0 0	816 0 0
Hospital charges	292 2 10 * 201 2 5	304 2 5 * 300 14 5
Repairs to buildings	138 5 6	252 10 1
Total ...	1,447 10 9	1,673 10 11

* Accountant-General's adjustments.

The receipts rose from Rs. 523-7-7 to Rs. 637-11-2, that is, by Rs. 114. The net cost of the hospital therefore increased by Rs. 112.

The revised scale of charges has been submitted, but has not yet been sanctioned.

I consider that the improved condition of the hospital reflects credit on Mr. D'Silva, Second Assistant and officer-in-charge, and on Mr. Borthwick, the sub. *pro tem.* hospital-keeper.

A report by Mr. D'Silva and the usual tabular statement are appended to this report.

11. *The College Farm.*—The farm is maintained for educational purposes and not for profit or experiment. Every endeavour, however, is made to work the farm at as small a cost as is consistent with the purposes for which it exists.

On 20th October 1897, the land near the Collector's office, which for over ten years had been in charge of the Forest Department, was handed over to the farm —*vide* G.O., No. 704, Revenue, dated 20th August 1897. The land in question is 10·1 acres in extent. The total area of the farm is therefore 168 acres approximately.

During the first three months of the year M.R.Ry. R. Ramaswami Aiyar (sub. *pro tem.* Fourth Assistant) acted as manager, and during the remaining nine months M.R.Ry. C. Krishna Menon (Fourth Assistant), except during the periods of sick leave mentioned in paragraph 2 *supra*. J. Chelvaranga Raju performed the duties of bailiff except during November, when he was on privilege leave, and during the period 10th to 27th February 1898, when he acted as farm manager. This officer was appointed Bailiff on Rs. 35 more than eight years ago when the area of the farm was 30 acres. His salary is still Rs. 35, but the area of the farm has been gradually increased to 168 acres. In my No. 124, dated 16th February 1898, I submitted a proposal for increasing the bailiff's pay to Rs. 40—2—50, the additional cost to be met by a reduction in the new gymnastic instructor's salary. I hope my proposal will be favourably considered.

Under G.O., No. 439, Educational, dated 2nd August 1897, the designation of the second clerk was changed into that of "second clerk and assistant bailiff" and he was allowed free-quarters on the farm. Assistance to the bailiff, which previous to the order quoted depended on the accident of the second clerk being an ex-student, has thus been arranged for without additional cost. The assistant bailiff now helps the bailiff in certain portions of the farm work and relieves the latter altogether of his duties in connection with the botanical gardens. M.R. Ramaswami Sivan, B.A, D.A., held the post of sub. *pro tem.* Second clerk and assistant bailiff from 7th June till the end of the official year except from 5th January to 4th February 1898 when he was on privilege leave and from 10th to 27th February 1898 when he acted as bailiff.

12. The rainfall of the year was deficient and badly distributed. With two exceptions the year under report was the most unfavourable of the eleven years I have had charge of the farm. The south-west monsoon was very late in arriving;

September, which is usually a fairly dry month, was very wet; while the north-east monsoon failed. A little rain, however, fell at the end of November and though too late to do much good to certain crops was beneficial to those which had survived the preceding drought.

Statement showing monthly rainfall registered at the College Farm, Saidapet, during 1897–98.

Months.	Actual rainfall during 1897–98.	Average rainfall collected at Saidapet during the previous 27 years.
	INCHES.	INCHES.
April 1897	0·20	0·28
May „	1·25	2·09
June „	1·42	2·42
July „	2·15	4·04
August „	8·01	5·12
September „	14·95	5·40
October „	2·75	10·89
November „	6·29	15·02
December „	0·31	5·82
January 1898	...	0·43
February „	...	0·42
March „	...	0·26
Total ...	37·33	52·19

13. Financial statement of the College Farm for 1897–98 :—

Farm Receipts.

	RS. A. P.	RS. A. P.
Field produce	...	1,423 11 3
Live stock—		
Sale of cows, calves, sheep, &c.	4 4 0	
Sale of milk, butter, ghee, &c.	1,438 11 10	
Covering fees	22 8 0	
		1,465 7 10
Wood and Miscellaneous	...	1,470 5 6
Total	...	4,359 8 7

Farm Charges.

Cattle food—		
Gingelly cake, &c.	863 7 8	
Dholl husk	353 14 1	
Wheat bran	190 3 3	
Salt	48 0 0	
Paddy straw	78 3 4	
Rice, ragi, &c.	6 0 0	
		1,539 12 4
Manure	...	161 13 1
Seeds and plants	...	163 14 9
Cooly labour	...	2,249 3 5
Machines, implements, &c.	...	329 12 9
Workshop	...	23 5 9
Estate improvements	...	84 15 3
Contingencies	...	76 12 4
Live stock	...	103 15 4
Total	...	4,733 9 0
Add adjustment made by the Forest Department on account of wood on the land transferred to this Department	...	450 0 0
Total	...	5,183 9 0

From the above statement it would appear that the net cost of the farm was Rs. 824–0–5, the cost during the previous year having been Rs. 319–14–5. The expenditure, however, was swollen by Rs. 512–0–6 (Rs. 450, adjustment in favour of Forest Department being value of the wood standing on the land handed over to the farm in October, *plus* Rs. 62–0–6, expenses in connection with clearing the land), and the income by Rs. 450 (sale of wood on the land to a contractor). The net cost of the 158 acres, which made up the farm in 1896–97, was therefore during the year under report Rs. 761–15–11. Considering the season, the result of the year's operations may be described as satisfactory.

The receipts and charges for the 158 acres, referred to above, for 1896–97 and 1897–98 may be compared as follows :—

Receipts.

	1896–97.	1897–98.
	RS. A. P.	RS. A. P.
Field produce	1,898 0 4	1,423 11 3
Live stock	1,361 13 2	1,465 7 10
Wood and Miscellaneous	1,066 7 7	1,020 5 6
Total ...	4,326 5 1	3,909 8 7

Expenditure.

Total expenditure	4,646 3 6	4,671 8 6

As regards receipts, it will be noticed there was a serious decrease under "Field produce." The unfavourable season was responsible for this. The receipts under live stock, in spite of a smaller income from sale of cows, calves, sheep, &c., and from covering fees, increased by about Rs. 100. This was due to a larger production of milk and a better sale of produce.

As regards expenditure, the cost on cattle food increased by over Rs. 300. Owing to the unfavourable season it was deemed inadvisable to sell the surplus live-stock, and consequently there were more head of cattle to feed. But the chief cause of the increase was the rise in the price of oil-cake and wheat bran. During recent years, the steady rise in the price of oil-cakes has seriously hampered the operations of the farm. When I took charge of the farm eleven years ago, ground-nut cake could be purchased at Rs. 7 a candy of 500 lb. During the year under report, the price varied from Rs. 14 to Rs. 18 a candy. There was a decrease of about Rs. 180 in the expenditure on cooly labour.

14. The annexed statement shows the cropping of the farm during the year :—

Crops.	Area sown.	Outturn. Grain or seed. Amount.	Grain or seed. Per acre.	Straw or fodder. Amount.	Straw or fodder. Per acre.	Remarks.
	Acs.	Lb.	Lb.	Lb.	Lb.	
Cereals.						
Paddy (white kar, transplanted and irrigated from wells during summer)	2·70	3,220	1,193	5,600	2,074	Crop depended entirely on watering from wells, which was not sufficient.
Paddy (transplanted. Irrigated chiefly from tank and from wells when rain failed).	1·76	4,610	2,619	5,780	3,284	Water deficient one month before harvest, but irrigation was given without break from wells.
Paddy (sown broadcast, sprouted; wet system)	2·30	5,160	2,243	7,660	3,330	Crop suffered from want of water a month before harvest.
Paddy (drilled. Irrigated)	3·30	4,320	1,309	9,330	2,827	Suffered severely from want of water. When there was no water in the tank, occasional waterings were given from wells.
Paddy (inferior variety drilled. Irrigated)	1·20	1,530	1,275	2,990	2,492	Suffered severely from want of water. Occasional waterings were given from wells, when water failed from tank.
Paddy (inferior variety sown broadcast and dependent on rainfall)	8·30	2,460	296	13,639	1,643	Crop in nearly 7 acres withered owing to want of rain, and consequently fodder only was obtained. Soil very sandy.
						Crop standing in the field.
Paddy (sown broadcast, wet)	2·70			5,600	5,000	
Ragi (transplanted and under irrigation)	1·12	2,343	2,092	5,552	3,276	The crop received only occasional irrigation, and the seedlings remained in the nursery for a longer time than usual.
Ragi (transplanted and under occasional irrigation)	2·00	1,848	924			Crop suffered from want of rain. Attacked by fireworm, borer, &c.
				13,440	2,555	
Cholam, yellow (dependent on rainfall)	5·26	1258·5	239	17,000	3,182	
Cholam, yellow (irrigated only once)	2·20	1,664	756			Crop failed. Obtained only 560 lb. straw.
Cumbu (mixed with gingelly)	1·14					Dholl crop standing. Varagu not yet thrashed.
Varagu (mixed with dholl)						
Pulses.						
			41			Crop very much damaged by insect attack while in flower.
Black gram	1·60	65	261			
Green gram	2·00	521·9	172			Soil very sandy.
Horse gram	5·00	862	257			Varagu harvested last year and shown in last year's report.
Dholl (sown with varagu)	3·50	900				
Industrial.						
			406			Crop standing. Portion sold for chewing, and another portion converted into jaggery. Rest still standing. Will be shown in next year's report.
Sugarcane	1·00		Crop not yet taken up.	5,600		Haulms shown in last year's report.
		1,340	1,120			Owing to there being no rain since January, crop not yet harvested.
Groundnut	3·30	Crop not yet taken up.	cotton in seed.			Still yielding.
Groundnut	1·00					
Sea Island Cotton	0·10	112 cotton in seed.				
						Cucumbers worth Rs. 63-15-6 sold up to end of March.
Cucumber	1·00					Tomatoes worth Rs. 7-0-9 sold; lucerne failed.
Tomatoes, lucerne, &c.	0·30					Crop standing.
Brinjals and chillies	0·75					
Green fodder.						
				26,026	3,827	One cutting only. Suffered from want of rain.
Cholam	6·80			28,672	3,050	
Horsegram	9·40			8,064	2,987	
Horsegram (hay)	2·70					
Horsegram	7·70					Crop standing.
Green manure.						
						Ploughed in.
Cholam and horsegram	4·70					Do.
Cholam	1·00					Do.
Varagu and dholl	1·90					

The paddy is divided into seven classes according to variety and to method of cultivation. All the paddy suffered severely from want of water and most of the paddy, which was dependent on rainfall, withered. Under these circumstances, it is not necessary to comment on the figures given. The ragi transplanted and under irrigation yielded excellently (2,092 lb. grain per acre), while that transplanted and under occasional irrigation did well. Most of the pulses made a good show of leaf, but the outturn in seed was small. These crops seem well adapted for fodder in an unfavourable season (*vide* also figures against horse gram, green fodder and hay). The sugarcane (ratoon crop) did well, but owing to a combination among intending buyers, the farm could only dispose of a small portion of the crop for chewing. As usual, a portion of the crop was converted into jaggery and crude sugar on the farm (*vide* paragraph 9 *supra*). On 31st March half of the crop was still standing. This has since been sold for seed. Sea Island cotton again yielded very well. Up to 31st March 112 lb. of cotton in seed (probably 34 lb. lint) were obtained from one-tenth of an acre, and the plants were still yielding. There were several purchases made of the previous year's seed, but I have not heard how it succeeded.

15. Eleven cows were in milk during the year, the same number as in 1896-97. Kalyani I, aged 13, died on 25th May 1897 of rupture of the womb consequent on an abortion. For many years she was ranked as the best cow on the farm, though she had a tendency to abort and had slipped a calf on a previous occasion. One cow was added to the herd, namely, Kalyani IV. This animal, one of Kalyani I's calves, was sold some time back and was repurchased during the year.

The yield of milk increased by 1,331 lb. The "average for the herd," calculated according to the formula approved of by the Board in paragraph 11 of its Resolution, No. 528, dated 26th July 1897 (viz., $\frac{\text{Total yield}}{(\text{Number of cows}) \times 365}$) rose from 5·97 lb. to 6·30 lb. The following table gives the usual particulars:—

Statement showing the yield of milk by the college farm herd during 1897-98.

Name of cow.	Age of cow.	Yield in 1897-98. Madras measures of 100 cubic inches.	Yield in 1897-98. Pounds.	Number of days cow yielded.	Average per day in Madras measures.	Average per day in Pounds.
	Yrs.			Days.		
1. Tara *	9	921 50	3,437·20	239	3·86	14·38
2. Kalyani III *	8	570·37	2,127·48	237	2·41	8·98
3. Parvathi *	7	302·75	1,129·26	114	2·66	9·90
4. Alamolu *	7	410·37	1,530·68	274	1·50	5·59
5. Narayani *	10	975 25	3,637·68	273	3·57	13·32
6. Seetha *	8	709·87	2,647·82	262	2·71	10·11
7. Meenachi II *	9	885 75	3,303·85	332	2·67	9·95
8. Sahib's cow *	14	771·00	2,875·83	253	3·05	11·37
9. Kalli II †	13	514·12	1,917·67	190	2·71	10·10
10. Govindu *	10	358 12	1,335·79	187	1·92	7·14
11. Kalyani IV *	7	361·37	1,347·91	134	2·70	10·05
Total	..	6,780 47	25,291·17	..	..	..

Average for the herd $= \frac{25,291·17}{11 \times 365}$ or 6·30 lb.

* Nellore. † Crossbred, Nellore and Mysore.

The following data regarding the specific gravity of milk yielded by cows of various ages at different stages of their milking periods are noted:—

Specific gravities (corrected) of morning's milk.

Date.	Tara (9 years; calved 31st July 1897).	Kalli II (13 years; calved 17th September 1897).	Sahib's cow (1½ years; calved 22nd August 1897).
23rd August 1897..	1·029	..	..
3rd September ,, ..	1·030	..	1·033
17th ,, ,, ..	1·029	..	1·029
24th ,, ,, ..	1·029	..	1·029
29th October ,, ..	..	1·031	1·030
12th November ,, ..	..	1 031	1·032
18th ,, ,, ..	1·030	..	..
19th ,, ,, ..	..	..	1·033
23rd ,, ,, ..	1·031	..	..
25th ,, ,, ..	..	..	1·032
26th ,, ,, ..	..	1·032	1·033
10th December ,, ..	1·032	..	..
16th ,, ,, ..	..	1·028	..
17th ,, ,, ..	..	1·028	1 032
21st January 1898 ..	1·030	1·030	1·031
28th ,, ,, ..	1·028	1·032	1·030
11th February ,, ..	1·029	..	1·028

The evening's milk has usually a specific gravity of ·002 less than the morning's milk.

I beg to state that the specific gravity of the milk of the whole herd was very carefully investigated in March 1892 and fixed at 1·030. There is no reason to believe that the specific gravity of the milk of the whole herd has altered to an appreciable extent since then.

The following tabular statement gives the information called for in paragraph 2 of Board's Proceedings, No. 6035 of 1896:—

Name of cow.	Total quantity of milk from calving to calving.	Number of days from calving to calving.	Number of days dry from one milking period to the next.*	Efficiency as per Board's Proceedings, No. 6035 of 1896.	Rank as per Board's Proceedings, No. 528, dated 26th July 1897.	Remarks.
1	2	3	4	5	6	7
1. Tara	LB. 5,200·55	737	121	7·06	2	Calved 25th July 1895. Aborted 24th August 1896. Continued giving milk from 31st July 1895 to 20th August 1896 and from 22nd September 1896 to 31st March 1897. Calved again 31st July 1897; hence large figures in columns 3 and 4.
2. Kalyani III	3,351·87	503	122	6·66	3	....
3. Parvati	2,514·73	761	390	3·44	9	Would not take the bull at the right time; hence large figure in column 4.
4. Alamelu	2,773·72	460	17	6·03	5	....
5. Narayani	4,717·98	592	89	7·97	1	Milked continuously for nearly 5½ days.
6. Seetha	1,919·55	461	216	4·16	8	....
7. Meenachi II	2,926·19	505	155	5·79	6	....
8. Sahib's cow	3,403·16	529	108	6·43	4	....
9. Kalli II	2,693·53	503	188	5·35	7	....
10. Govindu	..	..	173	..	..	Purchased in milk. Columns 3, 4, 6 and 7 cannot be filled in till she has had another calf.
11. Kalyani IV	..	..	..	..	..	In milk now with her first calf.

* In this column the period of colostum (usually 5 or 6 days) has been excluded.

In paragraph 11 of its Resolution No. 528 of 1897 the Board suggested that the comparative value of each cow could be deduced from the formula

$$\frac{\text{Total quantity of milk from calving to calving}}{\text{Number of days from calving to calving.}}$$

Column six of the above statement gives the comparative values thus arrived at. No doubt the Board's formula answers its purpose to a certain extent, but it cannot be applied to a cow which has had only one calf, nor does it allow for accidents which must be expected in every herd (abortion, refusing the bull, &c.). Moreover, the formula does not bring in other factors (age, &c.) which have to be taken into account in calculating the comparative values of cows. The following statement gives the fair money value of the nine cows to which the Board's formula can be applied:—

Name.	Money value on 31st March 1898.	Order as per money value.	Order as per Board's formula.
	RS.		
Tara	130	1	2
Narayani	120	2	1
Kalyani I II			3
Seetha	100	3	8
Meenachi II			6
Kalli II			7
Parvati	90	7	9
Alamelu	80	8	5
Sahib's cow	60	9	4

16. In paragraph 8 of your Proceedings No. 10116, dated 14th September 1896, you desired certain calculations to be made so that "the public may form some idea as to the amount of net income that can be derived from a well-nourished cow of a good breed." With this object in view I shall work out the actual expenses of, and the actual income from, the two best cows on the farm for the financial year.

Narayani.—Dry from 1st April till 26th June. Calved 27th June. Milk taken 2nd July. Was in milk at the end of the year.

While in milk her daily food was — 3lb. gingelly cake, 2 lb. dholl husk, 1 lb. wheat bran, 2 oz. salt and 20 lb. paddy straw or its equivalent.

During her milking period of 273 days she therefore consumed—

273 × 3 = 819 lb. gingelly cake.
273 × 2 = 546 lb. dholl husk.
273 × 1 = 273 lb. wheat bran.
273 × 2 = 546 oz. = 34⅛ lb. salt.
273 × 20 = 5,460 lb. paddy straw, or its equivalent.

When dry she got 15 lb. paddy straw a day and, consequently, in 92 days consumed 92 × 15 = 1,380 lb. paddy straw.

Cost.

	RS.	A.	P.
819 lb. gingelly cake, at 40 lb. a rupee	20	7	7
546 lb. dholl husk, at 40 lb. a rupee	13	10	5
273 lb. wheat bran, at 25 lb. a rupee	10	14	9
34⅛ lb. salt, at 24 lb. a rupee	1	6	9
5,460 lb. paddy straw, at Rs. 10–8–0 a ton	25	9	6
1,380 ,, do. do. do.	6	7	6
Total ...	78	8	6
Add attendance at Re. 1 a month ...	12	0	0
	90	8	6

Roughly the cost of maintaining Narayani during the year was Rs. 91.

Her produce was as follows:—

	RS.	A.	P.
975¼ measures of milk, at annas 3–6 a measure	213	5	5
Value of 4 tons of manure, at Rs. 3 a ton	12	0	0
Value of calf	15	0	0
	240	5	5

Roughly her produce was worth Rs. 241.

Therefore the net profit excluding depreciation was Rs. 150.

Tara.—Dry from 1st April to 30th July. Calved 31st July. Milk taken 5th August. Was in milk at the end of the year.

Her daily food was the same as in the case of Narayani.
During her milking period of 239 days she therefore consumed—

239 × 3 = 717 lb. gingelly cake.
239 × 2 = 478 lb. dholl husk.
239 × 1 = 239 lb. wheat bran.
239 × 2 = 478 oz. = 29⅞ lb. salt.
239 × 20 = 4,780 lb. paddy straw, or its equivalent.

When dry she got 15 lb. paddy straw a day and, consequently, in 126 days consumed 126 × 15 = 1,890 lb. paddy straw—

Cost.		Rs.	A.	P.
717 lb. gingelly cake, at 40 lb. a rupee		17	14	10
478 lb. dholl husk, at 40 lb. a rupee		11	15	2
239 lb. wheat bran, at 25 lb. a rupee		9	9	0
29⅞ lb. salt, at 24 lb. a rupee		1	3	11
4,780 lb. paddy straw 1,890 „ „ } at Rs. 10-8-0 a ton		31	4	3
	Total	71	15	2
Add attendance at Re. 1 a month		12	0	0
	Total	83	15	2

Roughly the cost of maintaining Tara during the year was Rs. 84.
Her produce was as follows:—

	Rs.	A.	P.
921⅓ measures of milk, at annas 3-6 a measure	201	9	3
Value of 4 tons of manure, at Rs. 3 a ton	12	0	0
Value of calf	15	0	0
Total	228	9	3

Roughly her produce was worth Rs. 229, therefore the net profit, excluding depreciation, was Rs. 145.

17. The following statement shows the number and value of the live-stock on the farm at the commencement and at the end of the year. The value of an animal is arrived at by fixing the probable price were it sold. The death of cow Kalyani I has been already referred to, and the small sale of live-stock explained (*vide* paragraph 13 *supra*). A heifer calf was seriously injured on 11th December, probably in a fight with another calf, and had to be destroyed. The accident happened during the night, so exact particulars cannot be given. Two cast animals—a bullock and a bull—were presented to the Veterinary Hospital on 8th July and 4th August, respectively, for dissection. The value of the live-stock increased by Rs. 283.

Statement showing the number and value of stock at the commencement and at the end of the year 1897-98.

Description.	Commencement.		End.	
	Number of animals.	Value.	Number of animals.	Value.
		Rs.		Rs.
Cows	11	950	11	1,055
Heifers	4	100	7	180
Heifer calves	5	57	6	70
Bulls	10	650	11	740
Bullocks	6	320	5	280
Bull calves	8	121	10	160
Sheep.				
Rams	5	25	13	60
Ewes	19	76	13	39
Gimmers	8	24	12	36
Lambs	20	30	12	16
Total	96	2,553	100	2,636

18. The following statements give the information usually supplied regarding the live-stock of the farm:—

(*a*) *Value of labour to be charged against live-stock.*

	Rs.	A.	P.
One milk man on Rs. 7-8-0 per mensem. Rs. 12 × 7-8-0 =	90	0	0
„ man attending on cows on Rs. 5-8-0 per mensem =	66	0	0
„ boy attending on bulls on Rs. 3 per mensem =	36	0	0
„ „ on sheep on Rs. 2-12-0 per mensem =	33	0	0
„ boy cleaning byres, &c., on Rs. 2 per mensem for six months =	12	0	0
Total	237	0	0

(*b*) *Value of farm-grown fodder consumed by stock.*

	Rs.	A.	P.
Straw—			
Paddy, 45,000 lb., at Rs. 10-8-0 per ton =	210	15	0
Ragi, 12,152 „ at „ 7 „ =	37	15	7
Cholam, 19,880 „ at „ 8 „ =	71	0	0
Cumbu, 560 „ at „ 7 „ =	1	12	0
Green fodder—			
Cholam, 32,594 lb., at 175 lb. per rupee =	186	4	0
Horse-gram, 28,672 lb., at Rs. 12 per ton =	153	9	7
Hay—			
Horse-gram, 8,064 lb., at Rs. 25 per ton =	90	0	0
Haulms—			
Ground-nut 5,600 lb., at Rs. 5-8-0 per ton =	13	12	0
Add the following:—			
8 tons of paddy straw in stock on the 1st April 1897, at Rs. 10-8-0 per ton =	84	0	0
22,964 lb. green cholam fodder supplied from Botanic Gardens, at 175 lb. per rupee =	131	3	7
6,746 lb. guinea grass supplied from Botanic Gardens, at 300 lb. per rupee =	22	7	9
Total	1,002	15	6
Deduct value of 7½ tons of paddy straw in stock on 1st April 1898, at Rs. 10-8-0 per ton	78	12	0
Net value of farm-grown fodder consumed by stock in 1897-98	924	3	6

(*c*) *Value of services rendered by live-stock on the farm.*

	Rs.	A.	P.		Rs.	A.	P.
Field No. 1	56	4	0	Field No. 16	9	0	0
„ „ 2	63	0	0	„ „ 17	3	0	0
„ „ 3	55	12	0	„ „ 18	15	3	0
„ „ 4	18	0	0	„ „ 19	17	8	0
„ „ 5	8	4	0	„ „ 20	23	0	0
„ „ 6	36	2	0	„ „ 21	11	10	0
„ „ 7	10	15	6	„ „ 22	25	8	0
„ „ 8	17	7	0	„ „ 25	11	12	0
„ „ 9	13	14	0	„ „ 26	19	5	0
„ „ 10	48	2	0	„ „ 27	15	14	0
„ „ 11	94	5	0	„ „ 28 (land newly taken up)	17	10	0
„ „ 12	22	15	6				
„ „ 13	10	2	0				
„ „ 14-S	42	14	0				
„ „ 14-B	25	3	6	Total	717	12	6
„ „ 15	25	2	0				

(*d*) *Total quantity of manure collected from the live-stock on the farm during* 1897-98.—One hundred and thirty-six tons of farm-yard manure, valued at Rs. 3 a ton, = Rs. 408.

All cattle, except cows and calves, stand over their manure, which is therefore *bonâ fide* box-manure. The cows and calves have no manure under them. Their droppings are collected in a covered shed and may be reckoned as box-manure with very little litter. The droppings of the sheep are added to the above.

(*e*) *Bull service.*—During the year eight farm cows and 51 outside cows were served. The latter figure compares very badly with those in previous reports, but

some of the college bulls are old and have full farm work, while others are impotent. When money can be spared it will be advisable to obtain a really good breeding bull from the Nellore district.

(*f*) *Value of services rendered by the live-stock on the farm to the botanical gardens and College compound during* 1897-98—Rs. 300.

(*g*) *Wool.*—Outturn (washed) —

	LB.
From 13 rams	= 16
From 13 ewes and 12 gimmers	= 22
Total ...	38

The climate at Saidapet is against the production of wool.

19. *Botanical Gardens.*—During the latter half of the year the gardens were in charge of M. R. Ramaswami Sivan, B.A., D.A., second clerk and assistant bailiff. This arrangement gave much needed relief to the bailiff. It is needless to say that the gardens suffered severely from the effects of deficient rainfall, but by means of irrigation from the River Adyar and a well, a good show of specimen crops, flowers and vegetables was made. The collection of chillies exhibited by the gardens at the Agri-Horticultural Society's flower-show in February contained over a hundred different varieties and was awarded a prize. The brick work separating the terraces from each other was thoroughly repaired during the year and the lotus pond enlarged. The appearance of the place has consequently improved. The upper terrace, where the specimen crops were mostly grown, seemed to maintain its popularity with visitors. The following statement gives particulars concerning the specimen crops grown in the gardens :—

Crops.	No.
Cereals	12
Pulses	14
Oil-seeds and industrial crops	12
Fibre crops	11
Root crops	9
Grasses	9
Condiments and spices	10
Total ...	77

The cost of the gardens was Rs. 919-0-3 against Rs. 982-11-0 in the previous year.

20. *Hostel.*—A hostel was maintained on the farm for Brahman students from July to December. In November the new Teachers' College hostel was opened with the result that it took away all the Teachers' College students, who were messing at the farm hostel, as well as three agricultural students. Under these circumstances it was decided to close the farm hostel at the end of December. I don't think this will inconvenience agricultural students to any great extent, for Brahmans, who otherwise would mess at the farm hostel, can now join the Teachers' College hostel. The latter was specially built for the purpose, whereas the former was located in the condemned bungalow formerly occupied by the Superintendent of the Government Farm. I may add that a hostel cannot be managed economically unless it has at least 15 boarders, and considering the circumstances of this college I don't think this number can for many years be obtained. Even if 15 Brahman students did come forward as boarders, it is a question whether it would not be better for them to join the Teachers' College hostel.

21. *Former students.*—The annexed statement gives the occupation of former students. During the year I circulated among Collectors and District officers a statement showing the names of ex-students who were seeking employment. So far as I can judge the result of my doing so has been satisfactory. Of course, in certain cases I cannot be certain whether an ex-student was given employment on his own merits or as the result of his name being put into my list. The number of ex-students engaged in "farming and coffee planting" increased by one, while that of "superintendents of plantations, farms, estates and gardens" increased by six.

	NO.
1. Farming and coffee-planting	31
2. Superintendents of plantations, farms, estates and gardens ...	22
3. Agricultural implements and dairy trade	4
4. Teachers of Agriculture—	
(*a*) Employed in the College of Agriculture	4
(*b*) Employed elsewhere	12
5. Agricultural department—	
(*a*) Madras	7
(*b*) Bombay	2
(*c*) North-West Provinces	1
(*d*) Native States	17
6. Veterinary department—	
(*a*) Madras Civil Veterinary department	7
(*b*) Native States	2
7. Private Veterinary practice	5
8. Revenue Inspectors	41
9. Revenue department—	
(*a*) Deputy Tahsildars	5
(*b*) English and Vernacular Head Clerks and Head Accountants.	3
(*c*) Accountants and clerks below Rs. 50	49
(*d*) Attached to Revenue Settlement parties	4
10. Irrigation department—	
(*a*) Government	5
(*b*) Native States	3
11. Forest department—	
(*a*) Madras—	
(i) Extra Assistant Conservators	2
(ii) Rangers	11
(iii) Foresters...	13
(*b*) Other provinces and native states	17
12. Merchants and managers of trading firms	12
13. Local fund overseers and sub-overseers	5
14. Sanitary Inspectors	5
15. Barristers, High Court vakils and pleaders	8
16. Medical department	4
17. Commissariat department	7
18. Salt department (Assistant and Sub-Inspectors)	8
19. Miscellaneous—	
(*a*) Government	16
(*b*) Native States	6
(*c*) Private	12
20. Unemployed	11
21. Not known	26
22. Dead	26

22. All three classes underwent gymnastic instruction.

The athletic club, as usual, concerned itself with cricket, tennis and foot-ball By a college rule all students must become members of the athletic club. The club entered a team for the intercollegiate cricket competition, but withdrew after several matches had ended in defeat. It need hardly be said that a small institution has much difficulty in getting together a cricket eleven.

The boat club possesses a boat, which was fairly well used during the year.

The athletic sports of the college were held on Friday, 4th March 1898, in presence of a large assembly. Their Excellencies the Governor and Lady Havelock honoured the sports with their presence. By permission of Colonel Burn and officers the band of the 14th Madras Infantry played a selection of music during the afternoon. A native band was also in attendance. I have to thank Mr. Murdoch, Acting Collector of Chingleput, Veterinary-Lieutenant Edwards, Superintendent, Civil Veterinary Department, and several ex-students, among them the 7th Prince of Cochin, for subscribing to the sports. The prizes were privately distributed by me on a subsequent day. In connection with the sports I have to acknowledge the services of Mr. J. A. Boon, late Gymnastic Instructor, and M. R. Ramaswami Sivan B.A., D.A., second clerk and assistant bailiff.

23. The Agricultural Students' Association held seventeen meetings at which essays were read. In addition there were three business meetings.

It was decided to hold a college day celebration in connection with the Agricultural Students' Association and such a celebration was accordingly held on Saturday,

5th March 1898. It is to be hoped that the "college day" will become an annual affair. A report of the celebration, which appeared in the *Madras Mail*, is quoted below. I may add that the speeches altogether occupied about ten minutes while the so-called "toasts", which are popular in certain quarters, were conspicuous by their absence :—

College day celebration.—The College of Agriculture, Saidapet, was *en fete* on Saturday for the celebration of its "college day." At 6 A.M. the students and several ex-students assembled in the compound and indulged in tennis, cricket and boating till 9 A.M., when light refreshments were served. From 9-30 to 10-30 A.M. a number of swimming matches were held in the river Adyar, some of the students proving themselves excellent performers in the water. At 11-30 A.M. breakfast was served with due respect to caste distinctions, about 50 students and 30 ex-students joining in the meal. When they had finished, the peons and farm coolies were fed. The next two hours were spent in in-door games (cards, chess, &c.). At 3-30 P.M. light refreshments were served in a tent to hosts and guests, numbering about 300. From 4-30 to 6-30 P.M. a musical performance was held in the lecture theatre, at which a number of amateurs assisted. Among the performers were Messrs. N. S. Arunachella Iyer, B.A., N. S. Jambunadha Iyer, B.A., N. Swaminatha Iyer, B.A., S. Narayana Iyengar, B.A., T. S. Vaidianatha Iyer, B.A., B.L., and Ramaswami Iyer, B.A. At the end of the concert, Mr. C. Krishna Menon, Assistant Lecturer of the College, made a speech in which he welcomed the ex-students, while Mr. M. R. Ramaswami Sivan, B.A., D.A., the Honorary Secretary, thanked the performers. A light dinner was then served on the cricket field, which was partaken of by moonlight. At 8-30 P.M. everyone re-assembled in the lecture theatre to listen to a "Harikatha" by two well-known reciters, the subject being Arjuna's marriage with Subhadra. This lasted till 11-30 P.M., when Mr. Seetharama Iyer obliged with some music. At midnight loud cheers were given for Her Majesty the Queen, the Director of Public Instruction, the past and present Principal, the staff and the guests. The celebration, which had been kept going for eighteen hours, was generally voted a success, and great credit is due to Mr. M. R. Ramaswami Sivan, B.A., D.A., the second clerk and assistant bailiff of the college, on whom, as Honorary Secretary, the major portion of the work fell. It is pleasing to note that thirty ex-students attended, some of them from long distances, while over fifty more, including the 7th Prince of Cochin, sent subscriptions but were unable to be present.

24. The following statement gives the books in the library. Stock was taken at the end of the year and two books (both duplicate copies) were found to be missing. One book, reported as lost in a previous report, was recovered.

Description.	Number of books.	Number added during 1897-98.
Agriculture	* 813	† 22
Botany	79	1
Gardening	25	...
Forestry	41	1
Economic Entomology	57	11
Zoology	57	2
Veterinary	143	‡ 5
General Science	76	...
Chemistry	§ 53	...
Physics	13	..
Geology	62	...
Physiography	97	1
Mathematics	71	...
Surveying	‖ 25	...
Engineering	75	3
General literature	126	1
Miscellaneous report	160	9
Total ...	1,976	56

* Excludes two books lost during 1897-98 and one book given to Mr. Mukherji in 1897-98.
† Includes seven books which were entered last year as sub-numbers, but this year as separate numbers.
‡ Includes one book previously lost, got back.
§ Entered as 54 last year.
‖ Twenty-two of the engineering books were added to the surveying books in the last report by a mistake.

The annexed statement shows the number of books taken out by the staff and students from the library. The statement includes only those books removed from the library and excludes books consulted in the library. The decrease in the number of agriculture books taken out by students may be explained by the fact that such books are chiefly taken out by students of class III. During the year under report there

were only 8 students of this class studying for the advanced examination in agriculture against 15 during the previous year.

Books.	Number taken out by staff, &c.	Number taken out by students.
Agriculture	60	137
Veterinary Science	28	118
Botany, &c.	22	85
Chemistry, Physiography, Geology, Physics	72	98
Surveying and Levelling, Engineering	16	35
Miscellaneous reports	6	6
General Science	6	12
General Literature	23	53
Total ...	234	* 544

* This excludes agricultural, engineering and surveying books in circulation among students.

25. Referring to paragraph 4 of your Proceedings, No. 4585, dated 17th April 1896, I beg to state that the provisions of the Madras Educational Rules, as far as they are applicable to this college, were observed during the year—

(i) *Academic costume of staff.*—Three members of the staff (viz., the first and third assistants and myself) are entitled to wear academic costume and it was regularly worn as prescribed.

(ii) *Strength of classes.*—The tabular statement in paragraph 3 shows that the classes were well below the authorized strength.

(iii) *Accommodation and sanitation.*—The building could with ease accommodate double the number of students now on the rolls. The sanitary arrangements were some time back certified to by the District Surgeon of Chingleput.

(iv) *Inter-school rules.*—These have been observed. Students on entry have to produce a "leaving certificate" unless they have previously furnished it to the University and have not since attended any school or college. On leaving, students who have paid all their dues and have otherwise complied with the college regulations, are granted "leaving certificates."

(v) *Discipline.*—There were no serious breaches of discipline which required to be dealt with. The college authorities enforce the disciplinary provisions of the Madras Educational Rules as well as the rules applicable only to students of this institution.

(vi) *Registers and Accounts.*—The registers (attendance, gymnastics, &c.) have been properly maintained. The accounts are kept in the college office under my personal supervision. They include the farm and hospital accounts. The register of receipts (college, farm and hospital) is always kept up to date and all the entries on being posted are initialled by me.

(vii) *Hours of attendance.*—6-30 A.M.—8 A.M. (sometimes 9 A.M.). Practical work for all classes (Agriculture, Veterinary and Botany).

10 A.M.—1 P.M. Lectures A.

Afternoons.—Surveying, Agricultural Engineering, Dissections, Quantitative Analysis, "Field cultivation" in continuation of morning work, Ploughing, &c.

(viii) *Holidays and vacations.*—During the year, the following holidays and vacations were enjoyed :—

Easter vacation—*Nil* (suspended).
Summer vacation—Two months.
Michaelmas vacation—One week.
Christmas vacation—Two weeks.

Holidays—Eleven holidays approved of by the Director of Public Instruction.

26. The draft of rules re-submitted with my letter No. 554, dated 13th July 1897, not having been dealt with by Government, the issue of the new calendar has been delayed. All the necessary matter is ready, including four photographs and a

plan of the farm, but nothing can be done till the new rules have been sanctioned. I may mention that the last calendar was issued in 1887 and is now completely out of date.

27. The service registers have been maintained up to date. The inventory of valuable stock has been checked and the usual return will be submitted in due course.

28. *Finance.*—The adjustment to meet the cost of Mr. Collins' deputation has not yet been received. The expenditure (including scholarships) rose by Rs. 773-3-1 and the income by Rs. 169-9-0; that is, the net expenditure (including scholarships but excluding cost of Mr. Collins' deputation) was the same in the year under report as in 1896-97.

In the accompanying tabular statement the expenditure in 1896-97 has been reclassified. All adjustments are shown in italics.

	Budget estimate, 1897-98.	Expenditure. 1896-97.	Expenditure. 1897-98.
	Rs.	Rs. A. P.	Rs. A. P.
Principal	15,321	12,201 0 0	* 11,773 11 10
Masters and teachers	9,180	9,092 2 2	10,223 9 1
Establishment	2,388	2,616 14 11	2,148 15 7
Rents, rates and taxes	70	67 4 0	67 4 0
Scholarships †			
Travelling allowances	450	515 11 0	481 14 0
Supplies and Services—			
Veterinary hospital—			
Establishment	2,000	816 0 0	816 0 0
Hospital charges		292 2 10	304 2 5
Repairs to buildings		*201 2 5*	*300 14 5*
Furniture		138 5 6	252 10 1
Apparatus	700	289 12 11	200 6 2
Live-stock			75 0 0
Farm annexe	4,800	4,646 3 6	4,733 9 0
Botanical garden			*250 0 0*
Petty works of construction	1,000	982 11 0	919 0 3
Europe stores including medical stores from Madras		518 15 6	
Library allowance	260		
Prize allowance	350	*391 13 3*	*372 12 1*
Batta and carriage to agricultural students		148 13 7	36 14 0
Laboratory charges	260	50 0 0	50 0 0
		314 12 0	186 13 6
Contingencies—	250	194 12 11	141 8 6
Petty repairs to buildings		*87 4 7*	*134 12 9*
European articles each costing less than Rs. 5	1,100	829 10 5	1,088 14 6
Country articles " " " Rs. 50	290	215 7 3	3 0 0
Postage charges			185 4 6
Telegraph charges	90	54 8 0	64 6 0
Purchase of books	10	3 2 0	4 13 0
Do. of periodicals		19 2 6	7 12 0
Repairs to furniture		*197 15 8*	*144 12 2*
Advertisements			1 8 6
Gardening charges		5 10 0	4 2 0
Money order commission		321 6 2	384 11 4
Scavenging expenses	‡ 625	1 0 0	1 0 0
Binding charges		39 4 3	40 11 0
Lighting charges		33 13 0	22 8 0
Petty carriage and cooly charges		39 12 7	43 1 8
Office expenses		52 11 7	64 15 6
Miscellaneous		31 0 1	36 6 11
		24 7 9	
Total	39,144	34,556 9 5	34,364 9 4
		878 2 11	*1,403 3 5*
		35,434 12 4	35,767 12 9
Receipts.			
College of Agriculture—			
Farm		4,326 5 1	4,359 8 7
College fees		525 0 0	558 0 0
Rent and miscellaneous		237 1 7	226 3 6
Veterinary hospital		523 7 7	637 11 2
Total		5,611 14 3	5,781 7 3

Note.—The figures in italics except "Rs. 450" are Accountant-General's adjustments. "Rs. 450" is the adjustment made by the Forest Department on account of wood on the land transferred to this department.

* Includes Rs. 992-15-4, being exchange compensation allowance.

† Rs. 3,295-2-3 are to be charged against separate provision in the educational budget.

‡ The provision for contingencies excluding the items for which the budget provision is given above is Rs. 625.

29. The report would be incomplete without a reference to the fund which has been raised to commemorate the services of Mr. W. R. Robertson, first Principal of this College. So long ago as April 1892, a meeting was held at the college and a Committee elected for the purpose of collecting money and utilizing it to keep alive Mr. Robertson's name. It was only during the year under report that the accounts could be closed and the wishes of the subscribers given effect to. A sum of Rupees 2,470-15-0 (subscriptions, Rs. 2,287-14-2; addition by interest and fall in exchange, Rs. 182-14-10) was found to be at the disposal of the Committee. An oil painting (three-quarters length—life size) of Mr. Robertson by the well-known Travancore artist, Ravi Vurma, was obtained at a cost of Rs. 510 (frame Rs. 115 extra), and hung in the lecture theatre. The balance available after meeting incidental expenses, viz., Rs. 1,743-2-3, together with the Government grant of Rs. 871, is now in the hands of the Accountant-General awaiting investment in 3 per cent. Government promissory notes. The interest will be devoted to founding an annual prize to be awarded for proficiency in agriculture. A copy of the minutes of the final meeting of the Committee is attached to this report. The onerous duties of Honourary Secretary and Treasurer were undertaken by M.R.Ry. G. Krishna Prabhu, B.A., First Assistant, and it is to his exertions that a large share of the success, which has attended the establishment of the memorial, is due.

30. The need has often been felt of a permanent record of the accounts of the various funds raised at the college. I have therefore added an appendix giving the balance sheets of the following funds:—

Robertson Memorial.
Athletic Club (for the session).
Athletic Sports.
Boat Club (for the session).
Agricultural Students' Association (for the session).
College Day celebration.

31. In conclusion I desire to acknowledge the services of the staff and officers.

From S. H. COLLINS, Esq., Assistant Agricultural Chemist to the Government of India, to W. KEESS, Esq., M.A., M.R.A.C., Principal, Agricultural College, Saidápet, dated Madras, 17th December 1897, No. 7.

I have the honour to report that, during the winter term at the Agricultural College, I took the following classes:—

Class I* between 17th November and 17th December, 19† lectures in Agricultural Chemistry, viz.:—

Food stuffs, their composition, analysis and feeding value.
Manures and manurial residues and available plant food.
Composition of Indian soils.
Do. do. dairy products.

The students showed themselves intelligent in class and answered the examination with clearness.

Class II between the 22nd November and the 15th December, 13‡ hours Practical Organic Chemistry, viz., the properties and tests of the oils, fats, soaps, &c.

Most of the students showed themselves fairly intelligent.

* Class III. † 17. ‡ 15.

From W. KEESS, Esq., M.A., M.R.A.C., Acting Principal, Madras College of Agriculture, to the Hon'ble Mr. D. DUNCAN, M.A., D.Sc., Director of Public Instruction, dated Saidápet, 7th January 1898, No. 19.

I have the honour to submit a report by Mr. S. H. Collins on the teaching done by him at this college during his recent deputation to Saidápet.

2. Mr. Collins commenced work on the 17th November 1897 and, owing to the early date on which the Christmas holidays commenced, finished it on 17th December 1897. Owing to illness he was absent for five days on casual leave. His lectures to class III therefore decreased from 23 (November—December 1896) to 17. His work, however, with class II increased from 9 hours to 15 hours owing to more time being given him each week. Mr. Collins also held an examination for class III.

3. No doubt Mr. Collins has lectured and held practical classes on portions of the college work, which have been done or will be done by me. But this I consider an advantage, for students who hear only one lecture on a subject of great range are apt to take a very narrow view of it.

From Veterinary-Lieutenant W. B. EDWARDS, Superintendent, Civil Veterinary Department, to W. KEESS, Esq., M.A., M.R.A.C., Principal, Government Agricultural College, Saidápet, dated Chepâk, 28th March 1898, No. 246.

I have the honour to submit the following report on my work done at the college during the last session.

The lectures commenced on February 9th and terminated on March 18th.

I delivered 16 lectures to class II on Physiology and 16 lectures to class III on Veterinary Surgery and Medicine. I also held 12 practical demonstrations with class III.

The students were attentive to the lectures and regular in their attendance.

I think they will answer the questions in the written portion of the examination, much more correctly than in the *viva voce* portion. They are very nervous and this is particularly apparent when they are asked to handle a large or quick animal. Practice in this respect is necessary and could be easily afforded at the farm.

I should like to express my thanks for the assistance given me by Mr. D'Silva in the practical classes at the hospital.

From Mr. S. L. D'SILVA, Second Assistant in charge, Veterinary Hospital, Saidápet, to W. KEESS, Esq., M.A., M.R.A.C., Principal, College of Agriculture, dated 25th April 1898.

I beg to submit herewith, in the usual form, the return of cases treated at the Veterinary Hospital, Saidápet, during 1897-98. The figures show that the year has been a very successful one; the work done exceeds that of the preceding years of steady progress. The number of cases treated during 1897-98 was 612 against 447 during 1896-97. This increase was fairly uniformly distributed amongst the several classes of animals. As there were no infectious outbreaks of any kind during the year, the increase indicates, I venture to hope, that the institution is growing in popularity and that the public are utilizing its services more freely than ever.

Statement showing the principal classes of diseases treated at the Government Veterinary Hospital, Saidápet, during 1897-98.

Class of disease.	Horses and ponies.		Bulls and bullocks.		Cows and heifers.		Other animals.		Total.	
	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.	Treated.	Died.
Non specific blood diseases.	30	1	31	1	..	..	28	1	89	3
Specific blood diseases ..	11	..	4	..	2	2	17	2	34	4
Diseases of the digestive organs	32	..	13	..	6	2	29	..	80	2
Diseases of the biliary apparatus	6	1	..	..	..	..	8	4	14	5
Diseases of the respiratory organs	10	..	1	..	1	..	24	6	36	6
Diseases of the urinary system	7	1	..	..	..	..	1	..	8	1
Diseases of the skin ..	21	..	1	..	2	..	39	2	63	2
Do. of the foot ..	21	..	4	..	..	..	1	..	26	..
Do. of the eye ..	13	..	2	..	..	..	6	..	21	..
Do. of the ear ..	..	..	..	..	..	..	12	1	12	1
Do. of the lactiferous organs.	..	..	..	..	..	..	..	..	..	..
Do. of the generative organs.	2	..	..	..	4	..	4	..	10	..
Do. of the nervous system.	6	..	..	..	1	..	10	4	17	4
Injuries and diseases of bones	10	2	9	..	4	2	4	..	27	4
Injuries and diseases of ligaments, tendons and muscles	13	..	10	..	2	..	2	..	27	..
Surgical conditions, wounds, tumours, &c. ..	34	..	83	1	6	..	25	..	148	1
Total ..	216	5	158	2	28	6	210	20	612	33

Statements referred to in paragraph 30.

Robertson Memorial.

	Rs.	A.	P.
Subscriptions collected	2,287	14	2
Profit to the fund from interest, fall in exchange, &c.	182	14	10
Total ..	2,470	13	0

	Rs.	A.	P.
Price of Mr. Robertson's portrait	510	0	0
Cost of the frame	115	0	0
Incidental expenses including the amount held over for future expenses	102	10	9
Balance paid to the Accountant-General for investment	1,743	2	3
Total ..	2,470	13	0

Athletic Club.

	Rs.	A.	P.
Balance from last session	1	5	4
Subscriptions from Principal, staff and officers.	118	0	0
Do. from students	78	0	0
Received from the athletic sports account ..	40	0	0
Total ..	237	5	4

	Rs.	A.	P.
Tennis—			
Tennis balls	46	0	0
Pick boys	9	11	2
Coolies for repair of and sundries in connection with tennis courts	6	2	9
Cricket—			
Cricket bats and balls	107	9	0
Refreshments for one match	3	0	2
Repair of cricket materials, jutka hire for cricket matches and sundries	19	9	0
Coolies for rolling cricket ground	0	7	0
Foot-ball—			
Foot-ball, bladder, repairs, &c.	10	6	0
Grease	1	0	6
Sundry charges	0	15	6
Establishment	20	0	0
Balance held over for next session	12	8	8
Total ..	237	5	4

Athletic Sports.

	Rs.	A.	P.
Received from Government for prizes ..	50	0	0
Do. from Principal staff and officers ..	143	8	0
Do. from ex-students	82	8	0
Do. from present students	45	0	0
Donations	35	0	0
Sundries	0	2	0
Total ..	356	2	0

	Rs.	A.	P.
Prizes to students, ex-students and college establishment	127	0	0
Prizes to tent lascars, regimental band and farm coolies	17	8	0
Charges for native band including prizes ..	10	0	0
Charges for regimental band	50	0	0
Printing invitation cards, programme, &c., and cost of stationery	23	7	0
Postage	9	4	0
Incidental charges	78	15	0
Transferred to the Athletic Club	40	0	0
Total ..	356	2	0

Boat Club.

	Rs.	A.	P.
Subscriptions	35	15	9
Total ..	35	15	9

	Rs.	A.	P.
Charges for the repair of the boat, &c. ..	1	4	6
Balance held over for next session	34	11	3
Total ..	35	15	9

Agricultural Students' Association.

	Rs.	A.	P.
Balance from last session	18	9	2
Arrears of the previous year collected from officers and students	13	6	0
Subscriptions from the Principal, staff and officers	34	8	0
Subscriptions from students	48	4	0
Value of three sets of agricultural journals sold	3	15	0
Total ..	118	10	2

	Rs.	A.	P.
Paid for lighting charges for meetings ..	4	2	0
Sundries	0	1	0
Transferred to the College Day Committee ..	77	4	6
Value of garlands and flowers purchased ..	0	13	0
Balance held over for next session	36	5	8
Total ..	118	10	2

College Day.

	Rs.	A.	P.
Subscriptions from old students including His Highness the 7th Prince of Cochin	48	0	0
Received from the Agricultural Students' Association account	77	4	6
Subscriptions from students specially for the coolies' treat	2	9	0
Total ..	127	13	6

	Rs.	A.	P.
Expenses on account of the College day ..	114	13	6
Paid the farm coolies for their treat on the College day	13	0	0
Total ..	127	13	6

Copy of Proceedings of the Managing Committee, Robertson Memorial Fund, at a meeting held at Saidapet on 12th September 1897.

Present: Mr. W. Keess in the Chair.
" " G. Krishna Prabhu.
" " C. K. Subba Rau.
" " S. L. D'Silva.
" " V. R. Subrahmania Mudali.
" " R. Ramaswami Aiyar.
" " C. Krishna Menon.

The Committee consisting of 12 members, the above 7 members constituted a quorum—

1. Read statement showing that a balance of Rs. 1,793-2-3 (Rupees one thousand seven hundred and ninety-three annas two and pies three) remained over after paying for the portrait of Mr. Robertson and its frame and for incidental charges.

2. Allotted Rs. 50 for expenses in connection with hanging the portrait, obtaining a plate with an inscription, &c.

3. Resolved that the balance, as far as practicable, be invested in Government 3 (three) per cent. paper and that the Principal and first Assistant of the College for the time being be the trustees.

4. Resolved that the interest be utilized for the purpose of awarding a prize, to be called the "Robertson Prize." The Committee considered a prize preferable to a medal, because a prize could be awarded in several ways—books, watch, &c., and because in cases of equality the prize could be divided.

5. Resolved that the prize be awarded to the student, who, at the end of his third year, stands highest at the examination in Agriculture—Advanced. The Committee considered that students going up for this examination at the end of their fourth, fifth, &c., years should be debarred from the prize.

6. Resolved that, if from any cause, it is impracticable to find out who is the first in Agriculture at the public examinations, for which students of this college appear, a special examination for students, about to complete their course of studies at the college, be held towards the end of the course, and the prize awarded on the same principle as laid down in Resolution 5.

7. Resolved that any small balance over after meeting the above-mentioned charges be handed over to the College Athletic Club.

Endorsement by the Hon'ble Mr. D. DUNCAN, M.A., D.Sc., LL.D., Director of Public Instruction, No. 5620, dated 13th May 1898.

Forwarded to the Secretary to the Board of Revenue (Revenue Settlement, Land Records and Agriculture) for favour of remarks.

Resolution—No. 208, dated 16th June 1898.

The post of Vice-Principal of the College, regarding the filling up of which Government called for a special report (G.O., No. 636, Educational, dated 12th November 1897,) has not yet been filled. The staff also suffered from the continued ill-health of the Fourth Assistant. As in previous years, the Superintendent, Civil Veterinary Department, and the Assistant Agricultural Chemist to the Government of India delivered special courses of lectures in the college. The report is, however, silent as to whether the Superintendent, Civil Veterinary Department, visited the Veterinary Hospital at all, at other times of the year than when he was lecturing (*vide* B.P., Mis. No. 2260 of 1895).

2. Though the strength of the college shows a slight increase, this is due to a large addition to the number of Brahman students who are now more than twice as numerous as the non-Brahman Hindus. Two Sudra and one Muhammadan students, for reasons not known, and one Brahman student, on account of ill-health, appear to have left the college at the end of the first year's course. The nominees of Collectors were all, except one, Brahmans, and in only two out of seven cases did they possess higher general qualifications than is evidenced by passing the Matriculation Examination. Nearly one-fourth of the total number of students came from ports outside

the Presidency, seven from Bombay and five from Mysore and Coorg. Of the twenty students who joined the college during the year under review, four came from Bombay and two from Mysore.

3. The results of the examinations held in April 1897, recorded at paragraph 6 of Mr. Keess' report, are satisfactory; but the Board would again urge that the submission of the annual report of the college should be deferred so as to enable the Principal to embody the results of the examinations which are held at the close of the official year.

4. As to the merits of "field cultivation" compared with "plot cultivation" (*vide* G.O., No. 262, Educational, dated 5th May 1897,) no conclusion could be arrived at during the year owing to the adverse season. Mr. Keess' further report on the subject may be awaited. The scope of the enquiries made by the students of Class III when visiting South Arcot and Coimbatore appears satisfactory and it is presumed that the Principal satisfied himself that they made good use of their time during these visits.

5. The Board agrees with the Principal in thinking that the increasing popularity of the Veterinary Hospital reflects credit on Mr. D'Silva, the officer in charge, and trusts that the free-quarters sanctioned for him at the hospital will soon be provided. The number of patients treated at the hospital exceeded that treated in the previous years as follows:—

	No.
1895-96	380
1896-97	447
1897-98	612

The increase between the last two years may be classified under the following heads:—

	Per cent.
Horses and ponies	47
Cattle	12
Other animals	51

6. The extremely unfavourable character of the season caused a material increase in the net cost of the college farm, although the gross charges for the 158 acres of which the farm consisted at the beginning of the year were only slightly larger than in 1896-97. An addition of about 10 acres was made to the farm by the resumption of a plot made over to the Forest Department when the Agricultural Department gave up the Saidapet Farm. The farm now comprises most of the land originally included prior to the time when the college was transferred to the Educational Department.

7. The yields obtained from the crops that came to maturity were, considering the character of the season, satisfactory. It is, however, presumed that the Sea Island cotton sown on $\frac{1}{10}$ acre was irrigated. Cholam, varagu and dholl are mentioned as being grown for "green manure", but it is not clear whether they were purposely so grown or simply ploughed in after proving a failure.

8. The information given at paragraphs 15 and 16 of the Principal's report regarding the results obtained from the dairy herd maintained on the farm is interesting, and it is hoped that in the revised edition of the Saidapet Farm Records which Mr. Keess is now preparing, he will be able to place on record full details of the experience gained in dairy management at Saidapet. From the calculations made in paragraph 16, it would appear that the cost of producing milk was approximately as follows:—

	Narayani. Rs.	A.	P.	Tara. Rs.	A.	P.
Cost of keep	90	8	6	83	15	2
Add interest and depreciation at 20 per cent.	24	0	0	26	0	0
Total	114	8	6	109	15	2
Deduct value of manure and calf	27	0	0	27	0	0
Cost of milk	87	8	6	82	15	2
Cost of milk per measure	0	1	5·22	0	1	5·28

The periods quoted by the Principal do not, however, cover a full milking period for either cow and the cost will need recalculation when full figures are given.

9. It will be suggested to the Director of Public Instruction that it would be more useful and instructive if the Principal made use of the statements given in paragraphs 17 and 18 of his report to work out the net cost of the different sections of work done in the farm, and relegated the statements themselves to an appendix.

10. It is unsatisfactory to note that the Farm has not at present enough bulls to allow of all cows brought for service there being covered. The Board considers that this defect should be redressed at an early date.

11. The Board has perused with much interest the accounts of the athletic sports, the College Day and the Robertson Memorial Fund.

(True Copy and Extract.)

(Signed) R. V. SRINIVASIAR,
Secretary.

To the Director of Public Instruction.
" Principal, College of Agriculture, Saidapet.
" Superintendent, Civil Veterinary Department.

Read—also the following letter from the Principal, Madras College of Agriculture, to the Director of Public Instruction, dated Saidapet, 5th August 1898, No. 674:—

Referring to your official memorandum, No. 7551, dated 13th July 1898, I have the honour to report that the Superintendent, Civil Veterinary Department, visited the veterinary hospital four times during the year at other times than when he was lecturing. On two of these occasions he came to the hospital for the purpose of giving *additional* practical instruction to the students, so that his visits, unconnected with his teaching work, amounted to two.

2. The enclosed tabular statement shows the results obtained by the students of this college at the Technical examinations held in April last. The percentages of passes in all subjects, except Physiography—Intermediate and Inorganic Chemistry—Intermediate, may be described as sufficiently high. The examinations in the two subjects mentioned were *not* conducted by the agriculture or veterinary boards, and it is to this circumstance that I attribute the low percentages. There are nine subjects prescribed for the diploma in agriculture; the examinations in seven of these subjects are held specially for the students of this college by the agriculture and veterinary boards of examiners; the examinations in the two remaining subjects are conducted without any reference to the requirements of agricultural students. This appears to be an anomaly. I shall address you separately about the matter.

3. Five students obtained the diploma in agriculture.

Results of the Government Technical Examinations held in April 1898.

Number.	Subjects.	Number of candidates appeared.	Number passed.		Percentage.
			First class.	Second class.	
1	Botany, Special *	18	14		77·8
2	Physiography, Intermediate ..	16	..	6	37·5
3	Inorganic Chemistry, Intermediate.	16	1	4	31·3
4	Veterinary Science (Intermediate), Stage I.	15	6	4	66·7
5	Veterinary Science (Intermediate), Stage II.	10	2	6	80 0
6	Organic Chemistry, Special ..	14	4	6	71·4
7	Surveying and Levelling	15	1	8	60·0
8.	Agricultural Engineering, Intermediate.	11	6	5	100·0
9	Agriculture, Advanced	8	..	4	50·0

* No class specified.

Proceedings, No. 10543 of 1898.

Staff.—The Vice-Principalship remained vacant; but the Director hopes that the place will soon be filled up, the Government of India having recently passed final orders on the future agricultural policy of the country, which has for several years been under consideration. M.R.Ry. C. Krishna Menon, fourth assistant, who had spent over two years in England and the continent of Europe in studying agriculture returned to duty in July 1897. The knowledge and experience he has gained should prove beneficial to the college. The Assistant Agricultural Chemist to the Government of India and the Superintendent, Civil Veterinary Department, worked at the institution for about four and six weeks, respectively, delivering lectures or giving practical instruction to the second-year and third-year classes. The drawing master of the Teachers' College was required to give eight hours of practical instruction in free-hand drawing to the first-year class.

2. *Library.*—Fifty-six volumes were added to the library during the year. The decrease in the number of books taken out by the students is attributed to a fall in the strength of the third-year class.

3. *Strength and attendance.*—There were on the rolls on the 31st March last 49 students, the highest figure reached during the past five years as noted in the margin. The increase was due to four students having re-joined the college with a view to complete the diploma. Twelve, or nearly a fourth, of the students were from outside the Presidency, and 37 belonged to fifteen districts—Tanjore and Coimbatore contributing each five students and the remaining districts a smaller number. One of the students was a Panchama returned as a Native Christian, two were Muhammadans, 32 Brahmans and 14 non-Brahman caste Hindus. The decrease under non-Brahman Hindus, compared with the previous year, is to be regretted. Particulars of students according to the wealth condition of parents and the average number on the rolls, together with the average daily attendance, which have not been furnished, should be embodied in future reports. The annual returns show that five of the students belonged to the richer and 34 to the middle classes, while officials and landholders contributed 11 and 31 students, respectively. All the seven district scholarships of the year were filled by the Collectors' nominees, one of them being a non-Brahman caste Hindu, and the rest Brahmans. Two of the scholarship-holders were F.A. under-graduates and the rest matriculates. It is to be regretted that non-Brahmans were not more largely selected. In future reports the Principal is requested to insert a statement classifying all students according to their general education qualifications and to note how the special scholarships have been disposed of. Of the students on the 31st March last, 23, or about 47 per cent., were stipendiaries.

	Number on the rolls.
1894	41
1895	47
1896	44
1897	47
1898	49

4. *Examinations.*—The results obtained by the college in April 1897 and 1898 at the Government Technical examinations in agriculture and the allied subjects are summarized hereunder:—

Subjects.	1897.			1898.		
	Examined.	Passed.	Percentage.	Examined.	Passed.	Percentage.
Agriculture, Advanced	15	13	86·7	8	4	50·0
Botany, Special	17	11	64·7	18	14	77·8
Physiography, Intermediate	18	8	44·4	16	6	37·5
Veterinary Science (Intermediate), Stage I ..	9	8	88·9	15	10	66·7
Do. do. " II ..	17	15	88·2	10	8	80·0
Inorganic Chemistry, Intermediate	14	7	50·0	16	5	31·3
Organic Chemistry, Special	10	10	100·0	14	10	71·4
Surveying and Levelling, Special	11	9	81·8	15	9	60·0
Agricultural Engineering, Intermediate ..	14	14	100·0	11	11	100·0

Except in botany and agricultural engineering, the results more or less deteriorated. Taking all the subject-candidates 77 out of 123, or 62·6 per cent. met with success, as against 95 out of 125, or 76·0 per cent., in the previous year. In inorganic chemistry and physiography, the percentages of passed to examined were very low and are attributed by the Principal to the examination in these subjects not having been entrusted to the agricultural or veterinary boards of examiners appointed by the Commissioner for Government Examinations. This matter will receive attention. The Director trusts that instruction in these subjects receives due attention. Five students qualified for the diploma as against fourteen in 1897 and four in 1896.

5. *Practical work.*—Owing to the unfavourable season, which was prejudicial to the practical work of each class, the relative merits of "field cultivation" and "plot cultivation" could not be exactly determined. But the substitution of the former for the latter system allowed of a larger number of field classes being held for the second-year class. The third-year class made two excursions during the year—one to South Arcot between the 10th and 19th October 1897, and one to Coimbatore between 1st and 20th January 1898—under the supervision of the farm bailiff and the fourth assistant, respectively. The students seem to have gained much useful knowledge. It is presumed that the students are required, while on tour, individually to take notes of observations as the students of the College of Engineering do while on their tours, and that the Principal examines the notes on the return of the students.

6. *Veterinary instruction and hospital.*—Veterinary-Lieutenant Edwards delivered 16 hours' lectures to the second-year class and 16 hours' lectures to the third-year class in veterinary science, and spent 20 hours in giving practical instruction in veterinary surgery to the third-year class. He paid four visits to the veterinary hospital during the year, two of which were in connection with the practical instruction of the third-year students. At the examination in Veterinary Science—Intermediate, held in April last, 18 out of 25 students passed in the first and second stages as against 23 out of 26 in the previous April. Under Mr. D'Silva's charge the veterinary hospital gained in usefulness and popularity. The number of patients rose from 447 to 612, and the increase extended to all classes of patients, equine patients alone showing an advance of nearly 50 per cent. When the Superintendent is provided with free-quarters on the premises, the hospital will probably be resorted to to a larger extent than at present. The net cost, excluding repairs to buildings, amounted to Rs. 783 as against Rs. 786 in 1896–97.

7. *College farm.*—To the farm attached to the college for educational purposes 10 acres of land near the Collector's office which had been in the possession of the Forest Department were added, raising the total extent of the farm to about 168 acres. As the management of the farm involved considerable responsibility, the bailiff's pay has, since the close of the year, been raised from Rs. 35 to Rs. 40—50, and the second clerk has been made assistant bailiff without prejudice to his work as second clerk. Whether any effect was given during the year to the acting Director's suggestion in the last review for the publication of the results obtained at the farm has not been reported. As a consequence of the adverse season, the farm produce yielded Rs. 3,910, or Rs. 416 less than in 1896–97, while the charges, excluding the amount spent in clearing the land resumed by the farm, amounted to Rs. 4,672, or Rs. 26 more than in the year previous. The net cost to Government on account of the farm was Rs. 762, as against Rs. 320 in the year previous. Mr. Keess is requested to consider and report on the expediency of preparing a detailed memorandum regarding the successful cultivation of the Sea Island cotton for publication and circulation to the officers of the Revenue and Forest Departments for information.

8. *College live-stock.*—There was again an increase, though slight, in the number and value of the college live-stock on the farm. The Principal has taken much pains to ascertain the specific gravity of milk yielded by cows of various ages at different stages of their milking, and the Director trusts he will be able to place on record full details of the experience gained in dairy management in the revised edition of the Saidapet Farm Records under preparation. The suggestion made by the Board of Revenue in paragraph 9 of its resolution has the Director's approval and should be adopted in the next report. Mr. Keess is requested to report at an early date as to how the drawback noticed in paragraph 10 of the Board's Resolution can be best remedied.

9. *College botanical gardens.*—The botanical gardens attached to the college continued to be worked with success, 77 as against 52 specimen crops having been grown in the gardens, condiments and spices being a noteworthy addition to the list. It is satisfactory that the college gained a prize at the last Agri-Horticultural Society's Flower-show. The cost of the upkeep of the gardens was Rs. 919, as against Rs. 983 in the previous year.

10. *College hostel.*—On the opening of the Smartha Brahman hostel at the Teachers' College, the Brahman hostel at the College of Agriculture was considered unnecessary and expensive and was closed in December 1897. The Brahman students of this college are accommodated in the Teachers' College hostel.

11. *Physical training.*—The subject of physical training received, as usual, much attention, and the Director's thanks are due to the gentlemen who have evinced an interest in the athletic sports and subscribed towards the prize fund.

12. *Employment of students.*—It is gratifying to note that Collectors and District officers employed holders of the college diplomas to a larger extent than in previous years. The recent orders of Government on the agricultural policy to be followed in future are calculated to give further encouragement in this direction.

13. *College rules and calendar.*—Government has just sanctioned the revised rules, and the Director has also approved, with slight modifications, of the rules drawn up by the Principal for the management of the farm and the veterinary hospital. The college calendar may now be revised.

14. *Finance.*—Excluding the outlay on buildings and scholarships, the total expenditure during the year amounted to Rs. 35,599, as against Rs. 35,524 in 1896–97. Of the expenditure fees met Rs. 558 and the farm and other receipts Rs. 5,223. The average cost per student was nearly Rs. 710.

15. *General.*—The various associations connected with the college present a good record of useful work, and the successful celebration of the college day is noted with much pleasure. The efficient administration of the college reflects much credit on the Principal and his staff. The prospects of the college will improve when full effect comes to be given to the orders of Government on the agricultural policy of the future already adverted to.

(A true Extract.)

(Signed) D. DUNCAN,
Director of Public Instruction.

To the Principal, College of Agriculture, with 20 spare copies.
" Principals of other Professional Colleges.
" " of Government First-Grade Colleges.
Copy to the Board of Revenue (Revenue Settlement, Land Records and Agriculture),
" " Superintendent, Civil Veterinary Department,
" " Commissioner for Government Examinations,
" " Government, with covering letter,
} for information.

Order—No. 672, Educational, dated 25th October 1898.

Recorded.

2. The Secretary of State has been addressed on the subject of filling up the vacant post of Vice-Principal of the College.

3. The results of the Technical examinations held in April 1897 and 1898, although not so good as those of last year, were on the whole satisfactory. The Director will be requested to express his opinion on the Board's suggestion contained in paragraph 3 of its resolution.

4. There was an increase of Rs. 442 in the net cost to Government on account of the farm. This may be attributed to the unfavourable season. It is satisfactory to note that the average cost per student decreased from Rs. 832 to Rs. 710.

5. The Government concurs with the remarks of the Director in the last paragraph of his review.

(True Extract.)

A Edgington

for Secretary to Government.

To the Director of Public Instruction.
„ the Revenue Department.
„ Collectors of all districts.
Editors' Table.

K K M
31-10-98.

Exd. T. K. Narayana Aiyangar.

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STATEMENT WITH G.O.										
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