GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—the following letter from M. A. LAWSON, Esq., Director of Government Gardens and Parks, &c., Nílgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 15th September 1885, No. 237 :—

With reference to G.O., No. 4517, dated the 26th August 1885, Revenue, communicating G.O., No. 1174, dated the 10th August 1885, Financial, I have the honor to forward the budget estimates of the Government Botanical Gardens and Parks in my charge for the year 1886-87.

ENCLOSURES.

EXPLANATORY NOTE ON THE BUDGET OF THE GOVERNMENT GARDENS AND PARKS, NILGIRIS, FOR 1886-87.

Actuals for 1884-85—*Receipts.*—The actuals amounted to Rs. 2,077-12-1 against the budget estimate of Rs. 4,300 and against an average of the last three years of Rs. 2,910-11-3. This has been Rs. 2,222-3-11 below the budget estimate for the year, and the decrease was principally due to the falling off in the receipts of the sale of plants, seeds, &c., in the Barliyár and Ootacamund Gardens on account of a less demand for these.

2. *Regular Estimate for* 1885-86—*Receipts.*—This has been fixed at the same figure as that for the budget estimate for this year (G.O., No. 1211, of 5th November 1884), as no great change for the better can be relied upon for the sale of plants at present.

3. *Budget Estimate for* 1886-87—*Receipts.*—The same details for this have been set down as was done in regular estimate for 1885-86, as it is anticipated that about the same amount will be realised.

4. *Actuals for* 1884-85—*Charges.*—These aggregated Rs. 22,616-10-8 against an allotment of Rs. 24,229 and an average for the past three years of Rs. 23,857-5-7, thus showing a saving over the year's allotment of Rs. 1,612-5-4. This saving was due chiefly to only Rs. 42-15-3 out of Rs. 1,200 being spent upon the library.

5. *Regular Estimate for* 1885-86—*Charges.*—This has been fixed at Rs. 24,229, being the same as that sanctioned by Government for the current official year in G.Os., Nos. 1211 and 1348, dated 5th November and 5th December 1884, as I do not see my way to surrendering any money out of the allotments, without allowing the various works now in progress in the several gardens and parks falling into their former state of disrepair.

6. A sum of Rs. 650 has been provided for making a bridle-road and a bridge through the shola at Sim's Park to Wellington—*vide* G.O., No. 437, dated 15th April 1885. The whole of this will be spent before the end of the present year.

7. *Budget Estimate for* 1886-87—*Charges.*—This has been set down at Rs. 22,129, being Rs. 2,100 less than the regular estimate for the current official year; this reduction is due to less expenditure being anticipated under the following heads :—

	RS.
(*a*) Regrassing of slopes, gravelling of walks, formation of a kitchen garden, and clearing of ravine, &c.	1,050
(*b*) Upkeep of Crewe and Ottley Hall estates	500
(*c*) Making a bridle-road, &c., in Sim's Park, Coonoor	650
	2,200
(*d*) Less extra sum provided for metalling the new road in Sim's Park	100
Total ...	2,100

8. The first saving is due to the regrassing of slopes, formation of a kitchen garden, &c., having been either completed or which will be completed before the end of the year, and to the sum of Rs. 500 only being required during the year for the upkeep of the kitchen garden.

9. *Crewe and Ottley Hall Estates, Rs.* 500.—This saving is due to its being anticipated that the planting and fencing of the Crewe and Ottley Hall estates will be completed during the present year, after which the lesser sum of Rs. 500 will be sufficient for their upkeep.

10. *Making a Bridle-road and Bridge, Rs.* 650.—As this work will have been finished in the current official year, no further allotment on its account is wanted, and hence the saving of this sum over the regular estimate for 1885-86.

11. *Gravelling the new Road in Sim's Park.*—A sum of Rs. 100 has been provided under this head for the upkeep of the new road at Sim's Park to meet gravelling and other charges.

12. *Upper Norwood.*—The actuals for the year 1884-85 were Rs. 1,958-1-11 against an allotment of Rs. 2,000 (G.O., No. 1337, of 27th October 1883), thus showing a saving of Rs. 41-14-1.

13. *Regular Estimate for* 1885-86.—This has been set down at Rs. 3,000, being the same as that sanctioned for the current official year (G.O., No. 2796, dated 4th December 1884, communicated under endorsement No. 5656, of 12th December 1884, Revenue), as it is anticipated that the same amount will be required.

14. *Budget Estimate for* 1886-87.—This has been set down at Rs. 2,500, being Rs. 500 less than the regular estimate for the current official year. This is owing to most of the more important works having been finished during this year.

15. In accordance with paragraph 2 of G.O., No. 1174, dated 10th August 1885, the budget estimate has been revised in form so as to exibit the average expenditure for the last three years.

Budget Estimate of Cash requirements, Madras, for the Official Year ending 31st March 1887.
F. Estimate, Civil Service, Upper Norwood, Nílgiris.

Description of Charges.	Actuals of 1884-85.	Average Expenditure for the three years from 1882-83 to 1884-85.	Sanctioned Budget Estimate for 1885-86.	1885-86. Actuals for the first five Months.	1885-86. Probable charges for the remaining seven Months.	1885-86. Total.	Regular Estimate for 1885-86.	Budget Estimate for 1886-87.
Provincial Service, 16 Minor Department.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Upper Norwood, Ootacamund.								
Temporary establishment ..	1,958 1 11	1,379 4 7	3,000 0 0	1,703 9 8	1,296 6 4	3,000 0 0	3,000 0 0	2,500 0 0
Total ..	1,958 1 11	1,379 4 7	3,000 0 0	1,703 9 8	1,296 6 4	3,000 0 0	3,000 0 0	2,500 0 0

Budget Estimate of Receipts, Madras, for the Official Year ending 31st March 1887.
F. Estimate, Civil Service, Government Botanical Gardens and Parks.

Description of Receipts.	Actuals for 1884-85.	Average Receipts for the three years from 1882-83 to 1884-85.	Sanctioned Budget Estimate for 1885-86.	1885-86. Actuals for the first five Months	1885-86. Probable Receipts for the remaining seven Months.	1885-86. Total.	Regular Estimate for 1885-86.	Budget Estimate for 1886-87.
Ootacamund Gardens.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Sale of plants, seeds, &c. ..	1,792 2 10	2,240 7 11	2,500 0 0	1,468 14 6	1,031 1 6	2,500 0 0	2,500 0 0	2,500 0 0
Barliyár Gardens.								
Sale of plants, fruits, &c. ..	175 14 9	231 7 10	200 0 0	165 2 7	34 13 5	200 0 0	200 0 0	200 0 0
Kalhatti Gardens.								
Sale of plants	14 8 0	41 8 8	50 0 0	63 12 0	0 0 0	63 12 0	50 0 0	50 0 0
Medicinal Gardens.								
Sale of Jalap tubers, &c. Value of drugs supplied to the Indian Medical Department, Madras ..	95 2 6	397 2 10	100 0 0	34 3 0 17 2 8	48 10 4	100 0 0	100 0 0	100 0 0
Total ..	2,077 12 1	2,910 11 3	2,850 0 0	1,749 2 9	1,114 9 3	2,863 12 0	2,850 0 0	2,850 0 0

Budget Estimate of Cash requirements for the Official Year ending 31st March 1887. F. Estimate, Civil Service, Government Botanical Gardens and Parks.

Description of Charges.	Actuals of 1884-85.	Average Expenditure for the three Years from 1882-83 to 1884-85.	Sanctioned Budget Estimate for 1885-86.	1885-86. Actuals for the first five Months.	1885-86. Probable Charges for the remaining seven Months.	1885-86. Total.	Regular Estimate for 1885-86.	Budget Estimate for 1886-87.
Provincial Service, 16 Minor Department.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Government Botanical Gardens and Parks.								
Salary of Curator	3,600 0 0	3,600 0 0	3,600 0 0	1,500 0 0	2,100 0 0	3,600 0 0	3,600 0 0	3,600 0 0
Do. of fixed office establishment	1,270 7 10	1,267 4 1	1,272 0 0	628 12 10	743 3 2	1,272 0 0	1,272 0 0	1,272 0 0
Government contribution in aid of the establishment, at Rs. 84 per mensem	973 3 11	956 6 4	1,008 0 0	405 2 2	602 13 10	1,008 0 0	1,008 0 0	1,008 0 0
Grant for developing the vegetable products of other countries	500 0 0	651 13 7	600 0 0	596 6 11	3 9 1	600 0 0	600 0 0	600 0 0
Temporary establishment	2,995 2 4	4,559 9 7	5,000 0 0	1,787 4 6	3,212 11 6	5,000 0 0	5,000 0 0	5,000 0 0
Contingencies	1,278 7 5	2,192 8 11	1,000 0 0	329 9 6	670 6 6	1,000 0 0	1,000 0 0	1,000 0 0
New works, drainage, &c., ...	1,424 10 7	1,424 10 7	..	..	..	..	..	..
Horticultural implements, purchase of mowing machines, rollers and garden tools	712 7 7	413 12 9	500 0 0	15 0 0	485 0 0	500 0 0	500 0 0	500 0 0
Painting of the conservatory, green house, and repair of propagating houses	593 9 8	593 9 8	600 0 0	158 4 2	441 11 10	600 0 0	600 0 0	600 0 0
Cutting down and uprooting Eucalypti and Acacia on the northern slope of the garden	519 14 6	519 14 6	350 0 0	67 1 6	282 14 6	350 0 0	350 0 0	..
Labelling	415 14 11	225 11 0	600 0 0	58 8 0	441 8 0	600 0 0	500 0 0	500 0 0
Travelling allowance of the Curator and Herbarium Assistant	1,831 10 2	155 0 0	..	..	..	..	..	..
Construction of cooly lines	108 3 0	1,371 9 8	..	..	..	..	..	..
Purchase of meteorological instruments	..	108 3 0	..	..	..	..	..	..
Regrassing of slopes, gravelling of walks in upper garden, formation of a kitchen garden, and the clearing of ravine, &c.	169 0 0	..	1,550 0 0	..	1,550 0 0	1,550 0 0	1,550 0 0	1,550 0 0
Municipal assessment	..	169 0 0	169 0 0	..	169 0 0	169 0 0	169 0 0	169 0 0
Repair of certain damages done to the gardens—*vide* G.O., No. 5719, dated 17th December 1884	599 15 0	599 15 0	..	..	..	..	..	..
Herbarium.								
Pay of Herbarium assistant, cooly and peon	776 0 0	776 0 0	792 0 0	330 0 0	462 0 0	792 0 0	792 0 0	792 0 0
Purchase of cabinets and materials	785 15 4	785 15 4	400 0 0	45 7 6	354 8 6	400 0 0	400 0 0	400 0 0
Library	42 15 3	42 15 3	1,200 0 0	559 12 0	640 4 0	1,200 0 0	1,200 0 0	1,200 0 0
Crewe and Ottley Hall Estates	..	..	1,000 0 0	..	1,000 0 0	1,000 0 0	1,000 0 0	1,000 0 0
Barliyár Garden.								
Temporary establishment	488 5 2	389 5 8	490 0 0	198 5 6	291 10 6	490 0 0	490 0 0	490 0 0

Budget Estimate of Cash requirements for the Official Year ending 31st March 1887, &c.—(*Continued*).

Description of Charges.	Actuals of 1884-85.	Average Expenditure for the three Years from 1882-83 to 1884-85.	Sanctioned Budget Estimate for 1885-86.	1885-86. Actuals for the first five Months.	1885-86. Probable Charges for the remaining seven Months.	1885-86. Total.	Regular Estimate for 1885-86.	Budget Estimate for 1886-87.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Kalhath Garden.								
Temporary establishment	334 14 0	237 16 4	340 0 0	112 8 0	227 8 0	340 0 0	340 0 0	340 0 0
Medicinal Gardens.								
Temporary establishment	315 4 4	317 9 10	300 0 0	83 0 0	217 0 0	300 0 0	300 0 0	300 0 0
Stonehouse Park.								
Temporary establishment	962 4 3	701 9 0	700 0 0	106 0 0	594 0 0	700 0 0	700 0 0	700 0 0
Church Hill Park.								
Temporary establishment	97 13 0	122 1 0	100 0 0	40 0 0	60 0 0	100 0 0	100 0 0	100 0 0
Sim's Park.								
Temporary establishment	1,820 8 5	1,674 13 6	2,000 0 0	648 4 7	1,351 11 5	2,000 0 0	2,000 0 0	2,000 0 0
Pay of a watchman	..	..	108 0 0	45 0 0	63 0 0	108 0 0	108 0 0	108 0 0
New Works.								
Making a bridle-road and a bridge	..	..	650 0 0	215 0 9	434 15 3	650 0 0	650 0 0	100 0 0
Gravelling new road	..	..	..	..	..	..	..	..
Total ..	22,616 10 8	23,857 5 7	24,229 0 0	7,829 7 11	16,399 8 1	24,229 0 0	24,229 0 0	22,129 0 0

READ—also the following letter from M. A. LAWSON, Esq., Director, Government Gardens and Parks, &c., Nílgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 24th September 1885, No. 250 :—

I have the honor to point out a clerical error in the explanatory note on the budget estimate of the Botanical Gardens, Nílgiris, for 1886-87 in paragraph 4, for "*against an allotment of Rs.* 24,229" read "*against an allotment of Rs.* 23,450-8-0," and for "*a saving over the year's allotment of Rs.* 1,612-5-4" read "*a saving over the year's allotment of Rs.* 833-13-4."

2. The sum of Rs. 23,450-8-0 has been thus arrived at—

	Rs.	A.	P.
Budget allotment for 1884-85—*vide* G.O., No. 1337, dated 27th October 1883	21,499	8	0
Additional grant for cooly lines—G.O., No. 1848, of 5th May 1884	1,879	0	0
Additional grant for Sim's Park watchman—G.O., No. 843, of 14th July 1884	72	0	0
Total ...	23,450	8	0

ORDER—dated 20th October 1885, No. 1173, Revenue.

Miscellaneous.

With the first of the papers read above, the Director of Government Cinchona Plantations, Parks and Gardens, Nílgiris, submits the budget estimate of the Botanical Gardens and Parks for 1886-87 and the revised estimates for the current year.

2. *Actuals of* 1884-85.—The receipts for 1884-85 amounted to Rs. 2,078, falling short of the budget and revised estimates by Rs. 2,222. The decrease is said to be the effect of a fall in the demand for plants and seeds. It is observed from the annual report that a large number of plants were distributed gratis during the year. The receipts from the sale of jalap tubers and the supply of drugs to the Medical Department were also much below the estimate.

3. The charges of 1884-85 were Rs. 22,616 against a grant for the year of Rs. 23,450 as taken by the Director. This figure is arrived at by adding to the amount of the estimate sanctioned in G.O., No. 1337, dated 27th October 1883, the allotments made in G.Os., 5th May 1884, No. 1848, and 14th July 1885, No. 843. It is observed that these additional grants were not duly provided for, as they ought to have been, in the revised estimates for the year submitted by the Director subsequent to the date of these sanctions, and approved in G.O., 5th November 1884, No. 1211. The Director's attention is drawn to the omission. The bulk of the difference between the actual expenditure and the allotment for the year occurs under "Library," only a small sum of Rs. 43 having been expended against a provision of Rs. 1,200.

4. *Revised Estimates.*—The revised estimate of receipts and charges for the current year is the same as the budget estimate, the receipts being Rs. 2,850 and the charges Rs. 24,229.

5. The receipts during the first five months of 1885-86 amounted to as much as Rs. 1,749-2-9, but the Director's estimate will not be altered, as he has presumably framed it with reference to existing circumstances. The revised estimate of charges is also approved.

6. *Budget Estimates for* 1886-87.—The receipts for 1886-87 are estimated at the same figure as the estimate for the current year, viz., Rs. 2,850. The estimate is approved.

7. The charges are estimated at Rs. 22,129, or Rs. 2,100 less than the budget and revised estimates of the current year. The estimate does not differ from the revised estimate of the current year except under the following heads:—

	RS.
(1) Regrassing of slopes, gravelling of walks, &c., and the formation of a kitchen garden	1,050
(2) Upkeep of Crewe and Ottley Hall estates	500
(3) Bridle-road in Sim's Park	650

These works, for which provision is made in the current year's budget, are expected to be finished before the end of the year, and during the next year an expenditure is proposed of a sum of Rs. 500 for the upkeep of the kitchen garden and a similar sum for that of the Crewe and Ottley Hall estates. This provision is approved as well as the provision of Rs. 100 for gravelling the new road in Sim's Park.

8. The Director has submitted in a separate letter proposals for increase of pay to the clerk, overseer and apprentice on his establishment, amounting to Rs. 720 per annum. Pending sanction of this proposal, provision will be made on this account in the budget.

9. The budget estimates of receipts and charges, as thus approved by Government, are as follows:—

	RS.
Receipts	2,850
Charges	22,850

The Director also submits an estimate, amounting to Rs. 2,500, for the upkeep of the Government House Gardens. This will be transferred as usual for disposal in the Financial Department.

(True Extract.)

(Signed) J. F. PRICE,
Ag. Secretary to Government.

To the Director, Government Cinchona Plantations, &c.
,, the Financial Department.
,, the Accountant-General.
,, the Board of Revenue.
,, the Public Works Department.

Exd. W. H. French.

100 Copies.

B. No 263 W dy 7th Nov/85

Communicated to the Supdg Engineer IV Circle.

Sd/ J. L. S.

Issued

Recd. Encl.

G.O., 20th October 1885, No. 1173.

Govt. of {1885} Madras.

REVENUE.

OCTOBER.

Budget Estimate of Botanical Gardens and Parks

for 1886-87, reviewed.

S. Engr. W Circle

With order

17th August 1886, No. 720, Revenue.

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

Read—letter from M. A. LAWSON, Esq., Government Botanist and Director of Cinchona Plantations, Nílgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 6th July 1886, No. 32.

Abstract.—Forwarding the annual Administration Report on the Government Botanical Gardens and Parks, Nílgiris, for the year 1885-86.

REPORT OF THE DIRECTOR, GOVERNMENT BOTANICAL GARDENS AND PARKS, NILGIRIS, FOR 1885-86.

CONTENTS.

I. Season.
II. General condition of the Gardens and Parks and improvements which have been made during the year.
(1.)—Ootacamund.
(a) Government Gardens.
(b) Government House Gardens.
(c) Stonehouse Park.
(d) Church Hill Park.
(e) Crewe and Ottley Hall Estates.
(2.)—Coonoor.
(f) Sim's Park.
(3.)—Barliyar.
(g) Experimental Garden.
(4.)—Kalhatti.
(h) Experimental Garden.
(5.)—Proposed New Gardens.
(i) Gúdalúr.
(j) Calicut.
III. Proposed Museum of Natural History in Ootacamund.
IV. Herbarium.
V. Library.
VI. Notes on some of the more interesting plants which have been introduced or growing in the Gardens during the year.
VII. Receipts and expenditure.
VIII. Miscellaneous.

I. Season.—The weather during the past year was all that could be desired for carrying on horticultural operations. The amount of rain registered was 52·48 inches, spread over 142 days. The early part of the season was dry, but the monsoon broke unusually early, after which the rain was light and continuous. The frost during January was severe, but owing to the dryness of the weather, little harm was done.

II. General Condition of the Gardens and Parks and improvements which have been made in them during the year—(1)—Ootacamund—(*a*) *Government Gardens.*—These gardens have improved in appearance during the past year, the lawns were kept constantly mown and are in good order. The trees and shrubs which had been planted during the two previous years are doing well, and are beginning to make a show. The ground at the entrance of the gardens has been laid out and shrubs and flower beds have been planted with the view of improving this formerly unsightly piece of land. The ravine above the Doctor's house has been cleared of brambles and brushwood and will be planted up with shola trees as soon as the monsoon rains begin. The rest of the upper part of the gardens was planted up during the past year with a large variety of ornamental shrubs and trees. A considerable portion, however, of this land is still very rough and untidy, but I expect to be able during the next dry season to put this in order at a small cost. The ground lying around the old Cinchona laboratory has been levelled and sown with different kinds of grasses, the seed of which was presented to the gardens by His Excellency the Commander-in-Chief with a view to experimentation upon their value as fodder. Next year this ground will be laid down in permanent grass and form part of the gardens. The roads and walks in the lower part of the gardens are in fairly good order but want re-gravelling; some of the

paths also in the other part of the gardens have been re-made or improved, but there is still a good deal wanting before they can be said to be in a satisfactory state. A tank to supply water for the fountain which it is proposed to place in the pond opposite the band-stand has been made, and pipes laid down to the pond; but, owing to the great difficulty of getting a proper jet, the fountain has not yet been started.

Kitchen Garden.—During the past winter, I converted one of the terraces in the upper part of the gardens into a kitchen garden which has been sown with all the more common kinds of European vegetables, and I shall report upon them next year. The vegetables obtainable in Ootacamund are very good, and I do not expect that they will be much improved upon. There is, however, room for improvement in our fruit trees, especially the Native ones. The European kinds as a rule do not thrive.

Garden for Herbaceous Plants.—On another terrace adjoining the kitchen garden, I began an herbaceous botanical garden, but the plants have not done well, owing I think chiefly to its very exposed situation.

Nurseries.—The old nurseries having become overcrowded with plants, I am converting the remainder of the terraces into new ones, and these will be completed during the present season. Our stock of plants has increased enormously both as regards variety and numbers, as will be seen from a perusal of the price list which was printed for distribution last spring.

Buildings.—A carpenter's shop and tool house were built in the lower part of the gardens to take the place of the old ones which have been converted into store-houses.

In my last year's report I stated that the conservatory on the lawn facing the entrance gates was in a very bad state of repair and would not last many years longer. That to repair it thoroughly would cost a large sum of money, while all the plants which it now contains would have to be removed if it was restored. I therefore recommended that this house should be allowed to remain as it is until it was no longer serviceable and that it should then be pulled down and rebuilt on some other part of the gardens, because if this building were removed from its present site there would be a continuous stretch of lawn from the entrance to the gardens to the band-stand tank. Government in reviewing my report in paragraph 3 seem to approve of my suggestion, and I would therefore recommend that the conservatory should be removed during the forthcoming dry season as the upper lights are still in good condition and might be worked up in constructing a new green house; but I cannot guarantee their soundness without repairs after the present season, and, if Government approve, I will send in specifications and estimates. The estimates, however, must needs be only approximate; for until the old building is pulled down, it will be impossible to say exactly how much of the old material can be used. Making a rough guess, I think it would be about Rs. 2,500. The roof of the curator's house is in a bad state of repair, being now many years old, and, consisting as it does of native tiles and mats, it leaks considerably, and I would ask that the present roof should be replaced during the coming winter with corrugated iron and Coonoor tiles.

The witty practice of destroying labels or of changing their places is not confined to public gardens in England, as it has been manifested during the last year in these gardens.

(*b*) *Government House Gardens.*—These are in a better state than they have been hitherto. The lawns about the place are in fair order, flower beds and shrubberies have been planted, which make the place look less bare, and now that proper spouting has been put up around the roof of Government House and that of the Private Secretary it will be possible to plant creepers up the walls. In my last year's report I stated that many of the trees in front of Government House were in a bad condition, and that I thought they would not last many years longer, and I regret to say that my prognostication has only been too fully verified. Several scores of big trees have been cut down during the year, and as many more will, I am afraid, have to be removed during the present one. The green house which was put up last season has proved to be a good one for growing plants in.

The blue-gums which are in close proximity to the servants' houses ought to be removed as, in my opinion, they are dangerous. The trees are one hundred and fifty feet in height, and if during one of our high winds any were to be blown down and fall over these houses serious damage and even loss of life might be the result.

(*c*) *Stonehouse Park.*—The trees which were planted out on this estate the year before last are doing well. A little planting was done during the past year, and a little more which will be carried out during the present season will complete all that is wanted. Barbed wire for fencing this estate has been ordered from England, and will be put up as soon as it arrives.

(*d*) *Church Hill Park.*—The usual upkeep has been maintained.

(*e*) *Crewe and Ottley Hall Estates and adjoining ground.*—These estates were kept weeded during the year and portions of them planted with trees and shrubs. The land lying between Crewe Hall and Stonehouse was fenced to keep out cattle. This bit of ground is in a very rough state, and I propose digging or ploughing it up during winter and planting it perhaps with potatoes or some other such crop for one season with a view of cleaning it, after which it will be put down in grass.

(2). COONOOR—(*f*) *Sim's Park.*—The condition of this park is good. Several of the bridges have been substantially repaired, and the roads and paths have all been maintained in good order. The bridle road through the new shola has been finished at a total cost, including the bridge, of Rs. 642-9-1. This road is much frequented and is, I think, a great addition to the park.

Nurseries.—These have been established and are being gradually stocked with the indigenous plants of the neighbourhood.

(3). BARLIYAR—(*g*) *Experimental Garden.*—Things are looking well in these gardens. Several new plants have been put out here during the year, but damage was done to some of them by wild pig. Of the old plants, the Mangosteen and Litchi produced a quantity of fruit. It is odd that there should be so little demand for these trees, for, after the mango, they are by far the best fruits which we have in Southern India, and, I believe, that they would thrive and grow rapidly in almost any part of the country.

(4). KALHATTI—(*h*) *Experimental Garden.*—No addition in the way of planting has been made to these gardens.

(5). PROPOSED NEW GARDENS—(*i*) *Gúdalúr.*—I have inspected several plots of ground in the neighbourhood of Gúdalúr, any of which would be suitable for an experimental garden, and which could be leased on reasonable terms from the Rajah of Nilambúr; but I have as yet taken no action in establishing a garden there, as the time of my subordinate officers has been too fully occupied in carrying out pressing works in the other Government gardens, but I should be very glad if Government would sanction the opening out of one of five acres during the next winter. The cost of starting a garden in this locality would not be great.

(*j*) *Calicut.*—I had hoped to have seen a garden established at Calicut, as the climate is so different to that of any of the others which Government possess; but, owing to the great value of the land, the cost of obtaining a suitable site would have been so great that the project has been obliged to be abandoned *vide* (G.O. of 31st March 1886, No. 151, Revenue). The Board of Revenue in their Proceedings, No. 2783, of 1st October 1885, proposed that in addition to Ootacamund, Coonoor, Barliyár and Calicut, there should be established experimental gardens at Gúdalúr, Kuttálam, Russellkonda, Hospet, Rámandrug, Yercaud, Chittoor and Palmanér; but Government, for various reasons, objected to all except Gúdalúr, Kuttálam, Rámandrug and Yercaud, and I was ordered (*vide* G.O., No. 1337, of 5th December 1885, Revenue), to visit these places and to report upon the advisability of establishing gardens there. This I have not yet done, because the best time of judging the capabilities of a site is during the time when the natural vegetation is most vigorous and that is during the rains, but I intend visiting all these places during next July and August, and after doing so, I shall report to Government specially upon each site.

III. PROPOSED MUSEUM OF NATURAL HISTORY IN OOTACAMUND.—In reviewing my report of last year, I was desired to obtain and submit plans and estimates for the building suggested by me. This has been done.

IV. HERBARIUM.—The number of dried plants collected during the last few years had accumulated to such an extent that the old office at the entrance of the gardens was inadequate for the purpose of properly storing them, and I therefore asked to be allowed to convert the old Cinchona laboratory into a new repository for the collection.

This alteration Government sanctioned, and the herbarium is now housed in its new house. The building is roomy and all that I can desire. Government is indebted to the following gentlemen for liberal donations during the past year :—

(1) *Mr. Gamble, Conservator of Forests, Northern Circle,* has again been the chief contributor and to him more than to any one else I have to return thanks for information and assistance on every possible point connected with the flora of the Presidency.

(2) *Mr. Hollingsworth, Apothecary and Assistant to the Professor of Chemistry in the Presidency College,* has also, out of his abundance, supplied me with much valuable information and many rare plants, both cultivated and indigenous.

(3) *Mr. A. E. Castle-Stuart Stuart* obligingly sent to the herbarium the collections which he made during his sojourn in the Wynaad during the past year.

(4) *Mr. J. Cameron, Superintendent of the Lâl Bagh Gardens, Bangalore,* has also continued his benefactions, consisting of several collections of plants made in the neighbourhood of Bangalore.

(5) *The Honorable A. Sahsiah Sastri, C.S.I., Dewan to His Highness the Rajah Bahadur of Pudukótah,* has sent two most interesting collections of well-dried specimens of plants which are used by the natives of the State of Pudukóta as drugs.

(6) *Mr. C. Benson, Assistant Director of Agriculture,* sent a small collection of grasses used as fodder in different parts of the Presidency.

V. Library.—Rs. 590-4-1 were spent during the year on books, Rs. 365-14-3 being spent on botanical works, and Rs. 224-5-10 on chemical works for the use of the Quinologist ; the balance of the allotment of Rs. 1,200, or Rs. 609-11-11, was unexpended because it was not known what botanical works might be eventually obtainable from the library of the Central Museum, Madras. This will now shortly be determined, as I propose during the coming autumn to visit the Museum with the view of arranging for the transfer of the herbarium to this Department.

VI. Notes on some of the more interesting Plants which have been introduced or grown in the Gardens during the year.

1. *Erythroxylon coca.*—This plant grows very rapidly from seed and cuttings, and a large number were raised in the green houses at Ootacamund, but the demand for it has ceased, and I think wisely, for although there can be no doubt but that the plant would grow well in many parts of Southern India, it would not be likely to compete profitably with the vast tracts of country in South America where it is already so largely cultivated.

2. *Eucalyptus.*—Major A. C. Smith, R.E., Executive Engineer, Public Works Department, has frequently spoken and written to me about the desirability of growing the better sorts of Eucalyptus in this country for the purposes of timber. The following species flourish on these Hills :—

E. marginatus, E. siderophloia, E. calophylla, E. piperita, E. obliqua.—All these are reckoned admirable as timber trees in Australia, and in the course of a few weeks I could supply the Conservator of Forests with seed of all of them.

3. *Castilloa elastica.*—Colonel Campbell-Walker in a letter to the Board of Revenue, No. 2156, of the 27th January 1886, embodied in G.O., No. 231, of the 24th March 1886, Revenue, states that this valuable *Indian rubber*-producing tree has at last been finally established by Mr. T. J. Ferguson at Calicut. I saw Mr. Ferguson's trees 18 months ago, and they were growing magnificently, and as it has at last been found easy to raise these trees from cuttings, I hope they will in the future form no unimportant item in the forestry of this place. The other rubber-producing plants have so far been a failure, either through their not yielding as much rubber as they do in America, or because we have not yet learnt how to tap the trees properly.

4. *Mahogany.*—In my last year's report I stated that I had received two casks of the seed of this plant from Mr. Thiselton Dyer. The seed arrived in magnificent

order and was distributed chiefly to Colonel Campbell-Walker and Mr. Gamble of the Forest Department and to the Agri-Horticultural Society in Madras. Almost every seed germinated and tens of thousands of plants must have been raised. From a single pound sown in the green houses at Ootacamund, between three and four thousand plants were obtained, some of these have been sold and the remainder will be handed over to Mr. Gamble.

I had the pleasure of visiting last autumn the teak forest in charge of Mr. G. Hadfield, Deputy Conservator of Forests, Nilambur. It was a treat to see the grand growth which the teak trees had made during the last 40 years. In the forest were many fine specimens of young Mahogany trees, but they were suffering from the ravages of a grub which attacks the buds of all the leading shoots. In other situations the Mahogany might not suffer from these pests.

5. *Quilaja saponaria.*—This plant thrives well in Ootacamund and it is found that it can readily be propagated by means of cuttings, so that if it proves to be a tree of any value, it can be increased to any extent.

6. *Kumera.*—The tubers of this plant have been raised, and on being eaten, proved palatable.

7. *Ullucus tuberosus.*—I received this plant from Mr. Thiselton Dyer. It grows freely in the open air at Ootacamund, and it would seem likely to yield a heavy crop of small tubers. Its name is derived from the river Ullucus, a river in the north-west of South America, in the neighbourhood of which it is found growing wild.

8. *Arracacia and the Cochin tuberous-rooted Vine.*—On neither of these am I able this year to report, as the former has not yet produced any tubers, and the second, although it flowered at Barliyár for the first time this spring, has borne no fruit.

9. *Hop.*—I am indebted to Mr. J. L. Holland, the Manager of the Nílgiri Brewery, for some cuttings of the hop, from which I purpose raising a large stock. I fear that the climate of these Hills is not likely to suit the plant, but I shall at any rate give it a fair trial.

10. *Ipecacuanha.*—In my last year's report I was obliged to confess that I had lost a large number of these plants, but during the past year, Mr. Jamieson, who has paid particular attention to again getting up our stock, has now about 200 plants. I saw a bed of Ipecacuanha growing very vigorously in the teak forest at Nilambúr, the climate of which seems to suit it much better than that of Barliyár.

11. *Pteroxylon utile.*—Mr. Gamble gave me a considerable amount of the seed of this valuable timber tree, which is a native of South Africa. On dissecting the seed it appeared to be perfectly sound, but on attempting to germinate it in the green houses at Ootacamund, I failed completely notwithstanding that it was sown under several different conditions. I am glad to hear from Mr. Gamble that he has been more successful, so that this tree will, I hope, be added to the long list of timbers which will in future years adorn our Hills.

12. *Mr. J. Gammie, Superintendent of the Cinchona Plantations, Darjeeling.*—To this gentleman I am indebted for the seeds of several useful or ornamental plants growing in the neighbourhood of Darjeeling. The chief of which are *Phœnix rupicola, Areca gracilis, Wallichia disticha, Calamus flagellum, Hollbellia latifolia.*

13. *Miss Baker of Peermaad, Travancore.*—To this lady the gardens are indebted for sundry *Impatiens* and *Souerilas* collected on the mountains of Travancore. None of them has as yet flowered, but to judge from their leaves and their habit of growth, they appear to be different species to those which we get here, and as such will be of much interest.

14. *Mr. T. Hanbury.*—From the magnificent donation of seeds which we received from this gentleman through His Excellency the Governor last year, a very large number of plants have been raised in the green houses. Among the most interesting of the plants are the Acacias, many of which are new to the gardens, and bid fair to be very ornamental. *Fuchsia procumbens* also promises to make a fine basket plant.

15. *Coniferæ.*—Several of the Coniferæ grow magnificently on the Nílgiris. (1) *Pinus insignis.*—Trees of six years old are sixty feet in height, and those of fifteen years of age yield an abundance of excellent timber. (2) *Cupressus torulosa.*—Though

not nearly so rapid in its growth as the former, this flourishes well, and at the end of twenty-five years makes a massive tree of sixty to seventy feet in height. (3) *Cupressus macrocarpa and its varieties* grows with surprising rapidity, but from their branching character are more suited for the purposes as fuel than for timber. (4) *Cryptomeria Japonica* grows well while young, and will, I have no doubt, grow into a fine tree, but there are none of any great age on the Nílgiris.

16. *Tristania conferta, Syncarpia, Caurifolia Angophora, subvelutina and Grevillea robusta.*—All grow rapidly and make fine trees. I was told that in the Wynaad there were *Grevilleas* which had been planted out only eighteen months, that were five and twenty feet in height. It ought, however, never to have been called *Grevillea robusta*, for it has in its living state the most brittle wood I know. The branches are always snapping off with the slightest breeze; but grown in sheltered places, it becomes a noble tree. Its wood is beautifully grained and is well adapted for all the purposes of the cabinet-maker.

VII. RECEIPTS AND EXPENDITURE—The budget estimate of receipts for the year was Rs. 2,850. The actual amount realized was Rs. 3,055-7-6, Rs. 3,038-4-10 being paid into the treasury and Rs. 17-2-8 adjusted by the Indian Medical Department on account of the value of drugs supplied to them. This is Rs. 205-7-6 more than the estimate and Rs. 977-11-5 more than the actuals of last year.

The receipts are detailed thus :—

		RS.	A.	P.
Government Gardens,	Ootacamund	2,499	4	3
Do.	Barliyár	353	15	7
Do.	Kalhatti	129	0	0
Do.	Jalap tubers, &c.	56	1	0
Do.	Drugs supplied to the Indian Medical Department	17	2	8
	Total ..	3,055	7	6

The budget estimate of expenditure was Rs. 27,229. The actual expenditure for the year has been Rs. 26,619-4-1 detailed thus :—

		RS.	A.	P.
Government Gardens,	Ootacamund	18,336	3	1
Do.	Barliyár	487	11	3
Do.	Kalhatti	328	8	8
Medicinal garden	... ...	262	10	0

Sim's Park.

		RS.	A.	P.			
Temporary establishment	... ...	2,166	13	7			
Pay of a watchman ...	... ...	108	0	0			
Making a road and bridge	... ...	642	9	1			
					2,917	6	8
Stonehouse Park	... ...				688	2	0
Church Hill Park	... ...				96	0	0
Upper Norwood ...	... ...				3,120	11	8
Crewe and Ottley Hall estates	... ...				381	14	9
	Total ...				26,619	4	1

showing a saving of Rs. 609-11-11; but from this latter sum there must be deducted the price of the barbed wire for fencing the gardens which has not yet arrived. The expenditure has been Rs. 2,044-7-6 more than that of last year the excess being due chiefly to the Crewe and Ottley Hall estates having been placed during the last year under the management of the gardens, and to an increase in expenditure on Sim's Park and the upper Norwood Gardens.

VIII. MISCELLANEOUS.—A price list of plants was printed during the past winter.

(Signed) M. A. LAWSON,
Government Botanist and Director.

RETURN of Seeds, Plants, &c., distributed from the Government Botanical Gardens, Ootacamund, Barliyár and Kalhatti, during the official year ending 31st March 1886.

Months.	Fruit Trees.		Timber Trees.		Ornamental Shrubs and Herbaceous Plants.	
	Number of Plants.	Value.	Number of Plants.	Value.	Number of Plants.	Value.
1	2	3	4	5	6	7
		RS. A. P.		RS. A. P.		RS. A. P.
April 1885	351	87 6 0	34	10 0 0	1,065	57 8 0
May ,, ...	12	5 0 0	6	2 4 0	391	75 8 0
June ,, ...	68	28 6 0	51	15 0 0	700	74 2 0
July ,, ...	..	..	734	156 0 8	336	60 10 0
August ,, ...	12	4 8 0	199	54 12 0	241	53 5 0
September ,, ...	188	47 0 0	102	21 4 6	229	57 6 0
October ,, ...	3	2 0 0	16	3 0 0	405	52 8 0
November ,, ...	33	11 2 0	243	21 4 0	60	19 11 0
December ,, ...	10	5 0 0	573	44 0 0	118	37 4 0
January 1886	50	3 0 0	1,291	49 6 0	96	40 8 0
February ,, ...	..	..	1,000	50 0 0	61	22 12 0
March ,, ...	402	101 4 0	131	38 0 0	533	144 6 0
Total ..	1,129	294 10 0	4,380	464 15 2	4,235	695 8 0

Months.	Vegetable Flower and other Seeds.		Bouquets and Cut-flowers.		Sundry Receipts.			Total.
	Number of Packets.	Value.	Number of Bouquets and Cut-flowers.	Value.	Bandy-loads of Fuel.		Packing charges, &c.	
8	9	10	11	12	13	14	15	
		RS. A. P.	B. C.F.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
April 1885 ..	89	49 14 9	0 1	2 8 0	79	197 8 0	52 15 6	457 11 9
May ,, ..	375	85 14 9	5 8	12 2 0	18½	53 12 0	26 12 0	261 4 9
June ,, ..	323	59 7 6	10 30	64 8 0	8	24 0 0	26 3 2	291 10 8
July ,, ..	649	150 7 3	6 6	22 8 0	..	..	107 10 3	497 4 2
August ,, ..	217	65 2 3	3 13	21 10 0	6	18 0 0	6 11 6	224 0 9
September ,, ..	258	44 10 9	5 3	15 6 0	1	3 0 0	72 0 9	260 12 0
October ,, ..	129	25 8 0	0 13	5 10 0	1	3 0 0	22 0 6	113 10 6
November ,, ..	129	28 9 6	2 1	4 8 0	..	..	10 6 0	95 8 6
December ,, ..	62	12 3 3	2 1	4 8 0	..	..	44 3 3	147 2 6
January 1886 ..	71	32 15 6	6 1	8 8 0	2	6 0 0	69 11 6	210 1 0
February ,, ..	381	32 1 0	0 2	1 12 0	1	3 0 0	35 12 0	145 5 0
March ,, ..	125	27 7 3	2 5	4 8 0	..	..	18 4 0	333 13 3
Total ..	2,808	614 5 9	41 84	168 0 0	116½	308 4 0	492 9 11	3,038 4 10

COMPARATIVE STATEMENT of Rainfall in the Government Botanical Gardens for 1884-85 and 1885-86.

Months.	1884-85.		1885-86.	
	Number of Rainy days.	Rainfall.	Number of Rainy days.	Rainfall.
April	7	3·35	4	1·00
May	12	5·20	9	1·87
June	16	5·14	28	9·76
July	12	1·87	21	4·26
August	21	6·88	14	2·82
September	17	3·03	19	6·19
October	25	22·84	20	12·79
November	21	10·22	11	8·12
December	9	4·89	10	4·78
January	...	...	..	..
February	...	...	...	...
March	4	·27	6	0·89
Total ...	144	63·69	142	52·48

OOTACAMUND,
6th July 1886.

(Signed) M. A. LAWSON,
Govt. Botanist and Director.

Statement showing the Receipts of the Government Botanical Gardens and Parks for the official year ending 31st March 1886.

Particulars.	Actuals, 1884-85.	Budget estimate, 1885-86.	Actuals, 1885-86.
Government Gardens, Ootacamund.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Sale of seeds, plants, &c.	1,792 2 10	2,500 0 0	2,499 4 3
Government Gardens, Barliyár.			
Sale of plants, fruits, &c.	175 14 9	200 0 0	353 15 7
Government Gardens, Kalhatti.			
Sale of plants, &c.	14 8 0	50 0 0	129 0 0
Government Medicinal Gardens, Ootacamund.			
Sale of jalap tubers, &c.	7 14 0	100 0 0	56 1 0
Total ...	...	...	3,038 4 10
Add value of drugs supplied to the Indian Medical Department, Madras	87 4 6	...	17 2 8
Total ...	2,077 12 1	2,850 0 0	3,055 7 6

Ootacamund,
6th July 1886.

(Signed) M. A. LAWSON,
Govt. Botanist and Director.

Statement of Expenditure on the Government Botanical Gardens and Parks for the official year ending 31st March 1886.

Particulars.	Actuals, 1884-85.	Budget Estimate, 1885-86.	Actuals, 1885-86.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
Pay of Curator	3,600 0 0	3,600 0 0	3,600 0 0
Travelling allowance of Curator and Herbarium Assistant ..	..	500 0 0	337 2 0
Pay of Curator's office establishment	550 7 10	552 0 0	550 3 4
Total ..	4,150 7 10	4,652 0 0	4,487 5 4
Government Gardens, Ootacamund.			
Overseers and fixed cooly establishment	1,693 3 11	1,728 0 0	1,697 8 1
Temporary establishment	2,995 2 4	5,000 0 0	5,713 0 1
Acclimatization of foreign plants (G.O., No. 874, dated 5th July 1872.)	500 0 0	600 0 0	596 6 11
Labelling of plants	415 14 11	350 0 0	234 5 8
Construction of cooly lines (G.O., 5th May 1884, No. 1848.) ..	1,831 10 2	....	....
Contingencies	1,447 7 5	1,000 0 0	1,332 1 5
New works, drainage, &c.	1,424 10 7	....	....
Horticultural implements	712 7 7	500 0 0	556 14 0
Painting of the conservatory of green house and repairs to propagating houses.	593 9 8	600 0 0	610 6 1
Cutting down and uprooting eucalyptus and acacia on the northern slope of the garden, ...	519 14 6	....	....
Purchase of meteorological instruments	108 3 0	....	....
Herbarium establishment	776 0 0	792 0 0	792 0 0
Purchase of cabinets and materials	785 15 4	400 0 0	416 15 2
Library	42 15 3	1,200 0 0	590 4 1
Repairs of certain damages done to the gardens (G.O., No. 5719, dated 17th December 1884.)	599 15 0	....	....
Re-grassing of slopes, gravelling of walks in upper garden, formation of a kitchen garden and the clearing of ravine, &c. ..	..	1,550 0 0	1,140 0 3
Municipal assessment on building	..	169 0 0	169 0 0
Total ..	14,447 1 8	13,889 0 0	13,848 13 9

Statement of Expenditure on the Government Botanical Gardens and Parks for the official year ending 31st March 1886—*continued*.

Particulars.	Actuals, 1884-85.	Budget Estimate, 1885-86.	Actuals, 1885-86.
Government Gardens, Barliyár.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Temporary establishment	488 5 2	490 0 0	487 11 3
Government Gardens, Kalhatti.			
Temporary establishment	334 14 0	340 0 0	328 8 8
Government Medicinal Gardens.			
Temporary establishment	315 4 4	300 0 0	262 10 0
Sim's Park, Coonoor.			
Temporary establishment and contingencies	1,820 8 5	2,000 0 0	2,166 13 7
Pay of a watchman (G.O., 14th July 1884, No. 843)		108 0 0	108 0 0
New works—Making a bridle road and bridge	..	650 0 0	642 9 1
Stonehouse Park.			
Temporary establishment	962 4 3	700 0 0	688 2 0
Church Hill Park.			
Temporary establishment	97 13 0	100 0 0	96 0 0
Upper Norwood.			
Temporary establishment and contingencies	1,958 1 11	3,000 0 0	3,120 11 8
Crewe and Ottley Hall Estates.			
Temporary establishment	..	1,000 0 0	381 14 9
Total ..	24,574 12 7	27,229 0 0	26,619 4 1

Ootacamund,
6th July 1886.

M. A. LAWSON,
Govt. Botanist and Director.

List of those to whom Seeds or Plants have been distributed during the year 1885-86.

Abboy Naidu, T., Madras.
Batchelor, Mr., Ootacamund.
Beddome, Lieutenant-Colonel R. H., England.
Barclay, Mr., Deva Shola.
Crooks, Serjeant, Ootacamund.
District Forest Officer, Madura.
Do. Tinnevelly.
Do. South Arcot.
Do. Nilambûr.
Do. Malabar.
Ferguson, Mr. T., Calicut.
Fitzgerald, Mr., Travancore.
Gamble, Mr. J. S., Ootacamund.
Honorary Secretary, Agri-Horticultural Gardens, Madras.
Head Overseer, Government Cinchona Plantations, Naduvatam.
Linden, Monsieur L., Belgium.
Mackenzie, Mr. J., Naduvatam.
Money, Mrs. J. W., Deva Shola.
Secretary, Ootacamund Municipality, Ootacamund.
Superintendent, Lâl Bagh Gardens, Bangalore.
Walker, Colonel I. Campbell, Ootacamund.
Woodrow, Mr. G. M., Poona.
Yonge, Mr. G. L., Guynd.

List of those who have been Benefactors to the Gardens during the year 1885-86.

Abboy Naidu, T., Madras.
Batchelor, Mrs. E. R., Ootacamund.
Baker, Miss A., Peermaad.
Director of Government Cinchona Plantations, Ootacamund.

Gamble, Mr. J. S., Ootacamund.
Gammie, Mr. J,. Darjeeling.
Gould, Mr. M., Madras.
Gray, Mr. C., Coonoor.
Hutchins, Mr.
John, Sir. O. St., Sialkot.
Munro, Mrs. H., Peermaad.
Manager, Nílgiri Brewery Company, Ootacamund.
MacGregor, General.
Royal Gardens, Kew.
Superintendent, Saidápet Farms, Madras.
Superintendent, Agri-Horticultural Gardens, Madras.
Superintendent, Lâl Bagh Gardens, Bangalore.
Sashia Sastri, Mr. A., Dewan to His Highness the Rajah Bahadur of Pudukótah.

Order—dated 17th August 1886, No. 720, Revenue.

Miscellaneous.

The Government observe with satisfaction that the report on the Government Botanical Parks and Gardens for the year 1885-86 has been submitted within the prescribed date.

2. The weather during the year to which the report relates is said to have been "all that could be desired for carrying on horticultural operations," the rains being early, light and continuous. There was severe frost in January, but the dryness of the weather prevented this from doing serious harm. The gardens at Ootacamund, Coonoor and Barliyár are all said to be in good condition, but nothing is said about the state of the Kalhatti garden. The Government would be glad to know whether Mr. Lawson is still of opinion that this garden should be abandoned.

3. Considerable improvements have been made in the Government gardens at Ootacamund and further improvements are contemplated during the coming dry season. One of the terraces was converted into a vegetable garden during the winter, and sown with seeds of the common kinds of European vegetables. The Director promises to report upon them next year. Another terrace was converted into a herbaceous botanical garden, but the situation was found to be too exposed. The experiment should be repeated in a more favorable locality and should be extended to some of the other gardens under Mr. Lawson's control. The removal of the conservatory is sanctioned, and provision should be made in next year's budget for the cost of rebuilding it in another part of the gardens.

4. The blue-gums near the servants' quarters in Government House gardens should certainly be cut down if they are dangerous. The proposals regarding the Crewe Hall garden are approved.

5. *Barliyár.*—The Mangosteen and Litchi in this garden again produced a quantity of fruit. The absence of all demand for these trees is probably due to the fact that they are but little known. The proposed establishment of botanical gardens at various stations in the Presidency, which has already been approved, may serve to bring them, and many other useful trees and plants, to general notice.

6. *Proposed New Gardens.*—Owing to various causes none of the new gardens sanctioned in the marginally noted orders of Government have yet been opened. Mr. Lawson now asks for sanction to open out a garden at Gúdalúr. This, however, was given in the second of the orders referred to above, and the Government have been awaiting the submission of detailed proposals. Mr. Lawson appears to have misunderstood the order * of Government on the question of a site for a garden at Calicut, for a reference to the 2nd paragraph of the order will show that so far from having any intention of abandoning the project they directed the Collector to select another site. His report is still awaited.

G.O., dated 3rd July 1885, No. 786.
G.O., dated 3rd December 1885, No. 1337.

* G.O , dated 31st March 1886, No. 251.

7. *Herbarium.*—This has been transferred from the cottage at the entrance of the garden to the old Cinchona Laboratory, which has undergone certain alterations, and is now said to be all that could be desired. The Government are much indebted to the various gentlemen who made donations during the year.

8. *Exotics.*—The Government approve of the proposal to grow the better sorts of Eucalyptus for purposes of timber, and the attention of the Conservator of Forests, Northern Division, will be drawn to the subject. The *Quilaja saponaria* thrives well in the climate of Ootacamund and can be readily propagated by means of cuttings. It still remains to be seen, however, whether the tree will prove as valuable here as in its native country, Chili. Tubers of the *Kumera* (*Convolvulus chrysorhizus, Soland.*) have been raised and were found palatable. The Director does not say whether these tubers were grown at Ootacamund or, as proposed in his report for 1883-84, at Coonoor and Barliyár; nor does he give any information regarding their probable value as an article of diet for the people of this country. A new tuber (*Ullucus tuberosus*) a native of South America, which was received from Mr. Thiselton Dyer, has been found to grow freely in the open air at Ootacamund. The Government await further report on its properties and value. The Director is not able to report upon the Arracacha (*Arracacia esculenta*) or the Cochin-China tuberous-rooted vine, as the former has not yet produced any tubers or the latter any fruit. Experiments in the culture of hops have been commenced: the Government await the results with much interest, for the successful cultivation of this product would probably prove of great advantage to the ryots of the Nílgiri Hills. The failure in the stock of Ipecacuanha plants which was reported last year has been effectually remedied, but Mr. Lawson thinks that the climate of Nilambúr is more suited to this plant than that of Barliyár. The remarks on the successful growth of certain *Coniferæ* on the Nílgiris are interesting and will be communicated to the Forest Department. The Director has omitted to report the results of his experiments with the Medicinal Rhubarb plant, referred to in his report for 1884-85.

9. *Financial Results.*—The receipts for the year were Rs. 3,055-7-6, the budget estimate being Rs. 2,850, and the expenditure was Rs. 26,619-4-1 against an allotment of Rs. 27,229. The decrease was largely due to the fact that less than half the grant for the library was expended, as it was not known what books could be transferred from the Central Museum Library. It is not understood why chemical books, required for the Government Quinologist, were paid for from the grant made for Government Parks and Gardens. This charge should have apparently been debited to the budget of the Cinchona Department.

10. This report will in future be replaced by the general administration report of the Botanical Department.

(True Extract.)

(Signed) H. E. STOKES,
Secretary to Government.

To the Government Botanist and Director, Cinchona Plantations.
„ the Director, Revenue Settlement and Agriculture.
„ the Board of Revenue.
„ the Accountant-General.
„ the Superintendent, Government Central Museum.
„ the Public Works Department.
„ the Financial Department.
„ the Honorary Secretary, Agri-Horticultural Society, Madras.
Surgeon-General G. Bidie, M.B., C.I.E.
„ the Honorary Secretary, Wynaad Planters' Association.
„ the „ „ Nílgiris „
„ the „ „ Yercaud „

Exd. W. H. French.

150 Copies.

Govt. of {1886} Madras.

REVENUE.

P. No. 2333. W dy 15-9-86.

Recorded

(Sgd.) J. S.

W

Issued

Recd. *Encl.*

G.O., 17th August 1886, No. 720.

AUGUST.

S. E. IV b

Government Parks and Gardens.

Report on — for 1885-86, reviewed.

With order

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—letter from M. A. LAWSON, Esq., Government Botanist and Director of Cinchona Plantations, Nílgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 6th July 1886, No. 32.

ABSTRACT.—Forwarding the annual Administration Report on the Government Botanical Gardens and Parks, Nílgiris, for the year 1885-86.

REPORT OF THE DIRECTOR, GOVERNMENT BOTANICAL GARDENS AND PARKS, NILGIRIS, FOR 1885-86.

CONTENTS.

I. Season.
II. General condition of the Gardens and Parks and improvements which have been made during the year.

(1.)—OOTACAMUND.

(*a*) Government Gardens.
(*b*) Government House Gardens.
(*c*) Stonehouse Park.
(*d*) Church Hill Park.
(*e*) Crewe and Ottley Hall Estates.

(2.)—COONOOR.

(*f*) Sim's Park.

(3.)—BARLIYAR.

(*g*) Experimental Garden.

(4.)—KALHATTI.

(*h*) Experimental Garden.

(5.)—PROPOSED NEW GARDENS.

(*i*) Gúdalúr.
(*j*) Calicut.

III. Proposed Museum of Natural History in Ootacamund.
IV. Herbarium.
V. Library.
VI. Notes on some of the more interesting plants which have been introduced or growing in the Gardens during the year.
VII. Receipts and expenditure.
VIII. Miscellaneous.

I. SEASON.—The weather during the past year was all that could be desired for carrying on horticultural operations. The amount of rain registered was 52·48 inches, spread over 142 days. The early part of the season was dry, but the monsoon broke unusually early, after which the rain was light and continuous. The frost during January was severe, but owing to the dryness of the weather, little harm was done.

II. GENERAL CONDITION OF THE GARDENS AND PARKS AND IMPROVEMENTS WHICH HAVE BEEN MADE IN THEM DURING THE YEAR—(1)—OOTACAMUND—(*a*) *Government Gardens.*—These gardens have improved in appearance during the past year, the lawns were kept constantly mown and are in good order. The trees and shrubs which had been planted during the two previous years are doing well, and are beginning to make a show. The ground at the entrance of the gardens has been laid out and shrubs and flower beds have been planted with the view of improving this formerly unsightly piece of land. The ravine above the Doctor's house has been cleared of brambles and brushwood and will be planted up with shola trees as soon as the monsoon rains begin. The rest of the upper part of the gardens was planted up during the past year with a large variety of ornamental shrubs and trees. A considerable portion, however, of this land is still very rough and untidy, but I expect to be able during the next dry season to put this in order at a small cost. The ground lying around the old Cinchona laboratory has been levelled and sown with different kinds of grasses, the seed of which was presented to the gardens by His Excellency the Commander-in-Chief with a view to experimentation upon their value as fodder. Next year this ground will be laid down in permanent grass and form part of the gardens. The roads and walks in the lower part of the gardens are in fairly good order but want re-gravelling ; some of the

paths also in the other part of the gardens have been re-made or improved, but there is still a good deal wanting before they can be said to be in a satisfactory state. A tank to supply water for the fountain which it is proposed to place in the pond opposite the band-stand has been made, and pipes laid down to the pond; but, owing to the great difficulty of getting a proper jet, the fountain has not yet been started.

Kitchen Garden.—During the past winter, I converted one of the terraces in the upper part of the gardens into a kitchen garden which has been sown with all the more common kinds of European vegetables, and I shall report upon them next year. The vegetables obtainable in Ootacamund are very good, and I do not expect that they will be much improved upon. There is, however, room for improvement in our fruit trees, especially the Native ones. The European kinds as a rule do not thrive.

Garden for Herbaceous Plants.—On another terrace adjoining the kitchen garden, I began an herbaceous botanical garden, but the plants have not done well, owing I think chiefly to its very exposed situation.

Nurseries.—The old nurseries having become overcrowded with plants, I am converting the remainder of the terraces into new ones, and these will be completed during the present season. Our stock of plants has increased enormously both as regards variety and numbers, as will be seen from a perusal of the price list which was printed for distribution last spring.

Buildings.—A carpenter's shop and tool house were built in the lower part of the gardens to take the place of the old ones which have been converted into store-houses.

In my last year's report I stated that the conservatory on the lawn facing the entrance gates was in a very bad state of repair and would not last many years longer. That to repair it thoroughly would cost a large sum of money, while all the plants which it now contains would have to be removed if it was restored. I therefore recommended that this house should be allowed to remain as it is until it was no longer serviceable and that it should then be pulled down and rebuilt on some other part of the gardens, because if this building were removed from its present site there would be a continuous stretch of lawn from the entrance to the gardens to the band-stand tank. Government in reviewing my report in paragraph 3 seem to approve of my suggestion, and I would therefore recommend that the conservatory should be removed during the forthcoming dry season as the upper lights are still in good condition and might be worked up in constructing a new green house; but I cannot guarantee their soundness without repairs after the present season, and, if Government approve, I will send in specifications and estimates. The estimates, however, must needs be only approximate; for until the old building is pulled down, it will be impossible to say exactly how much of the old material can be used. Making a rough guess, I think it would be about Rs. 2,500. The roof of the curator's house is in a bad state of repair, being now many years old, and, consisting as it does of native tiles and mats, it leaks considerably, and I would ask that the present roof should be replaced during the coming winter with corrugated iron and Coonoor tiles.

The witty practice of destroying labels or of changing their places is not confined to public gardens in England, as it has been manifested during the last year in these gardens.

(*b*) *Government House Gardens.*—These are in a better state than they have been hitherto. The lawns about the place are in fair order, flower beds and shrubberies have been planted, which make the place look less bare, and now that proper spouting has been put up around the roof of Government House and that of the Private Secretary it will be possible to plant creepers up the walls. In my last year's report I stated that many of the trees in front of Government House were in a bad condition, and that I thought they would not last many years longer, and I regret to say that my prognostication has only been too fully verified. Several scores of big trees have been cut down during the year, and as many more will, I am afraid, have to be removed during the present one. The green house which was put up last season has proved to be a good one for growing plants in.

The blue-gums which are in close proximity to the servants' houses ought to be removed as, in my opinion, they are dangerous. The trees are one hundred and fifty feet in height, and if during one of our high winds any were to be blown down and fall over these houses serious damage and even loss of life might be the result.

(*c*) *Stonehouse Park.*—The trees which were planted out on this estate the year before last are doing well. A little planting was done during the past year, and a little more which will be carried out during the present season will complete all that is wanted. Barbed wire for fencing this estate has been ordered from England, and will be put up as soon as it arrives.

(*d*) *Church Hill Park.*—The usual upkeep has been maintained.

(*e*) *Crewe and Ottley Hall Estates and adjoining ground.*—These estates were kept weeded during the year and portions of them planted with trees and shrubs. The land lying between Crewe Hall and Stonehouse was fenced to keep out cattle. This bit of ground is in a very rough state, and I propose digging or ploughing it up during winter and planting it perhaps with potatoes or some other such crop for one season with a view of cleaning it, after which it will be put down in grass.

(2). COONOOR—(*f*) *Sim's Park.*—The condition of this park is good. Several of the bridges have been substantially repaired, and the roads and paths have all been maintained in good order. The bridle road through the new shola has been finished at a total cost, including the bridge, of Rs. 642-9-1. This road is much frequented and is, I think, a great addition to the park.

Nurseries.—These have been established and are being gradually stocked with the indigenous plants of the neighbourhood.

(3). BARLIYAR—(*g*) *Experimental Garden.*—Things are looking well in these gardens. Several new plants have been put out here during the year, but damage was done to some of them by wild pig. Of the old plants, the Mangosteen and Litchi produced a quantity of fruit. It is odd that there should be so little demand for these trees, for, after the mango, they are by far the best fruits which we have in Southern India, and, I believe, that they would thrive and grow rapidly in almost any part of the country.

(4). KALHATTI—(*h*) *Experimental Garden.*—No addition in the way of planting has been made to these gardens.

(5). PROPOSED NEW GARDENS—(*i*) *Gúdalúr.*—I have inspected several plots of ground in the neighbourhood of Gúdalúr, any of which would be suitable for an experimental garden, and which could be leased on reasonable terms from the Rajah of Nilambúr; but I have as yet taken no action in establishing a garden there, as the time of my subordinate officers has been too fully occupied in carrying out pressing works in the other Government gardens, but I should be very glad if Government would sanction the opening out of one of five acres during the next winter. The cost of starting a garden in this locality would not be great.

(*j*) *Calicut.*—I had hoped to have seen a garden established at Calicut, as the climate is so different to that of any of the others which Government possess; but, owing to the great value of the land, the cost of obtaining a suitable site would have been so great that the project has been obliged to be abandoned *vide* (G.O. of 31st March 1886, No. 151, Revenue). The Board of Revenue in their Proceedings, No. 2783, of 1st October 1885, proposed that in addition to Ootacamund, Coonoor, Barliyár and Calicut, there should be established experimental gardens at Gúdalúr, Kuttálam, Russellkonda, Hospet, Rámandrug, Yercaud, Chittoor and Palmanér; but Government, for various reasons, objected to all except Gúdalúr, Kuttálam, Rámandrug and Yercaud, and I was ordered (*vide* G.O., No. 1337, of 5th December 1885, Revenue), to visit these places and to report upon the advisability of establishing gardens there. This I have not yet done, because the best time of judging the capabilities of a site is during the time when the natural vegetation is most vigorous and that is during the rains, but I intend visiting all these places during next July and August, and after doing so, I shall report to Government specially upon each site.

III. PROPOSED MUSEUM OF NATURAL HISTORY IN OOTACAMUND.—In reviewing my report of last year, I was desired to obtain and submit plans and estimates for the building suggested by me. This has been done.

IV. HERBARIUM.—The number of dried plants collected during the last few years had accumulated to such an extent that the old office at the entrance of the gardens was inadequate for the purpose of properly storing them, and I therefore asked to be allowed to convert the old Cinchona laboratory into a new repository for the collection.

This alteration Government sanctioned, and the herbarium is now housed in its new house. The building is roomy and all that I can desire. Government is indebted to the following gentlemen for liberal donations during the past year :—

(1) *Mr. Gamble, Conservator of Forests, Northern Circle,* has again been the chief contributor and to him more than to any one else I have to return thanks for information and assistance on every possible point connected with the flora of the Presidency.

(2) *Mr. Hollingsworth, Apothecary and Assistant to the Professor of Chemistry in the Presidency College,* has also, out of his abundance, supplied me with much valuable information and many rare plants, both cultivated and indigenous.

(3) *Mr. A. E. Castle-Stuart Stuart* obligingly sent to the herbarium the collections which he made during his sojourn in the Wynaad during the past year.

(4) *Mr. J. Cameron, Superintendent of the Lál Bagh Gardens, Bangalore,* has also continued his benefactions, consisting of several collections of plants made in the neighbourhood of Bangalore.

(5) *The Honorable A. Sahsiah Sastri, C.S.I., Dewan to His Highness the Rajah Bahadur of Pudukótah,* has sent two most interesting collections of well-dried specimens of plants which are used by the natives of the State of Pudukóta as drugs.

(6) *Mr. C. Benson, Assistant Director of Agriculture,* sent a small collection of grasses used as fodder in different parts of the Presidency.

V. LIBRARY.—Rs. 590-4-1 were spent during the year on books, Rs. 365-14-3 being spent on botanical works, and Rs. 224-5-10 on chemical works for the use of the Quinologist; the balance of the allotment of Rs. 1,200, or Rs. 609-11-11, was unexpended because it was not known what botanical works might be eventually obtainable from the library of the Central Museum, Madras. This will now shortly be determined, as I propose during the coming autumn to visit the Museum with the view of arranging for the transfer of the herbarium to this Department.

VI. NOTES ON SOME OF THE MORE INTERESTING PLANTS WHICH HAVE BEEN INTRODUCED OR GROWN IN THE GARDENS DURING THE YEAR.

1. *Erythroxylon coca.*—This plant grows very rapidly from seed and cuttings, and a large number were raised in the green houses at Ootacamund, but the demand for it has ceased, and I think wisely, for although there can be no doubt but that the plant would grow well in many parts of Southern India, it would not be likely to compete profitably with the vast tracts of country in South America where it is already so largely cultivated.

2. *Eucalyptus.*—Major A. C. Smith, R.E., Executive Engineer, Public Works Department, has frequently spoken and written to me about the desirability of growing the better sorts of Eucalyptus in this country for the purposes of timber. The following species flourish on these Hills :—

E. marginatus, E. siderophloia, E. calophylla, E. piperita, E. obliqua.—All these are reckoned admirable as timber trees in Australia, and in the course of a few weeks I could supply the Conservator of Forests with seed of all of them.

3. *Castilloa elastica.*—Colonel Campbell-Walker in a letter to the Board of Revenue, No. 2156, of the 27th January 1886, embodied in G.O., No. 231, of the 24th March 1886, Revenue, states that this valuable *Indian rubber*-producing tree has at last been finally established by Mr. T. J. Ferguson at Calicut. I saw Mr. Ferguson's trees 18 months ago, and they were growing magnificently, and as it has at last been found easy to raise these trees from cuttings, I hope they will in the future form no unimportant item in the forestry of this place. The other rubber-producing plants have so far been a failure, either through their not yielding as much rubber as they do in America, or because we have not yet learnt how to tap the trees properly.

4. *Mahogany.*—In my last year's report I stated that I had received two casks of the seed of this plant from Mr. Thiselton Dyer. The seed arrived in magnificent

order and was distributed chiefly to Colonel Campbell-Walker and Mr. Gamble of the Forest Department and to the Agri-Horticultural Society in Madras. Almost every seed germinated and tens of thousands of plants must have been raised. From a single pound sown in the green houses at Ootacamund, between three and four thousand plants were obtained, some of these have been sold and the remainder will be handed over to Mr. Gamble.

I had the pleasure of visiting last autumn the teak forest in charge of Mr. G. Hadfield, Deputy Conservator of Forests, Nilambúr. It was a treat to see the grand growth which the teak trees had made during the last 40 years. In the forest were many fine specimens of young Mahogany trees, but they were suffering from the ravages of a grub which attacks the buds of all the leading shoots. In other situations the Mahogany might not suffer from these pests.

5. *Quilaja saponaria.*—This plant thrives well in Ootacamund and it is found that it can readily be propagated by means of cuttings, so that if it proves to be a tree of any value, it can be increased to any extent.

6. *Kumera.*—The tubers of this plant have been raised, and on being eaten, proved palatable.

7. *Ullucus tuberosus.*—I received this plant from Mr. Thiselton Dyer. It grows freely in the open air at Ootacamund, and it would seem likely to yield a heavy crop of small tubers. Its name is derived from the river Ullucus, a river in the north-west of South America, in the neighbourhood of which it is found growing wild.

8. *Arracacia and the Cochin tuberous-rooted Vine.*—On neither of these am I able this year to report, as the former has not yet produced any tubers, and the second, although it flowered at Barliyár for the first time this spring, has borne no fruit.

9. *Hop.*—I am indebted to Mr. J. L. Holland, the Manager of the Nílgiri Brewery, for some cuttings of the hop, from which I purpose raising a large stock. I fear that the climate of these Hills is not likely to suit the plant, but I shall at any rate give it a fair trial.

10. *Ipecacuanha.*—In my last year's report I was obliged to confess that I had lost a large number of these plants, but during the past year, Mr. Jamieson, who has paid particular attention to again getting up our stock, has now about 200 plants. I saw a bed of Ipecacuanha growing very vigorously in the teak forest at Nilambúr, the climate of which seems to suit it much better than that of Barliyár.

11. *Pteroxylon utile.*—Mr. Gamble gave me a considerable amount of the seed of this valuable timber tree, which is a native of South Africa. On dissecting the seed it appeared to be perfectly sound, but on attempting to germinate it in the green houses at Ootacamund, I failed completely notwithstanding that it was sown under several different conditions. I am glad to hear from Mr. Gamble that he has been more successful, so that this tree will, I hope, be added to the long list of timbers which will in future years adorn our Hills.

12. *Mr. J. Gammie, Superintendent of the Cinchona Plantations, Darjeeling.*—To this gentleman I am indebted for the seeds of several useful or ornamental plants growing in the neighbourhood of Darjeeling. The chief of which are *Phœnix rupicola, Areca gracilis, Wallichia disticha, Calamus flagellum, Hollbellia latifolia.*

13. *Miss Baker of Peermaad, Travancore.*—To this lady the gardens are indebted for sundry *Impatiens* and *Souerilas* collected on the mountains of Travancore. None of them has as yet flowered, but to judge from their leaves and their habit of growth, they appear to be different species to those which we get here, and as such will be of much interest.

14. *Mr. T. Hanbury.*—From the magnificent donation of seeds which we received from this gentleman through His Excellency the Governor last year, a very large number of plants have been raised in the green houses. Among the most interesting of the plants are the Acacias, many of which are new to the gardens, and bid fair to be very ornamental. *Fuchsia procumbens* also promises to make a fine basket plant.

15. *Coniferæ.*—Several of the Coniferæ grow magnificently on the Nílgiris. (1) *Pinus insignis.*—Trees of six years old are sixty feet in height, and those of fifteen years of age yield an abundance of excellent timber. (2) *Cupressus torulosa.*—Though

not nearly so rapid in its growth as the former, this flourishes well, and at the end of twenty-five years makes a massive tree of sixty to seventy feet in height. (3) *Cupressus macrocarpa and its varieties* grows with surprising rapidity, but from their branching character are more suited for the purposes as fuel than for timber. (4) *Cryptomeria Japonica* grows well while young, and will, I have no doubt, grow into a fine tree, but there are none of any great age on the Nílgiris.

16. *Tristania conferta, Syncarpia, Caurifolia Angophora, subvelutina and Grevillea robusta.*—All grow rapidly and make fine trees. I was told that in the Wynaad there were *Grevilleas* which had been planted out only eighteen months, that were five and twenty feet in height. It ought, however, never to have been called *Grevillea robusta*, for it has in its living state the most brittle wood I know. The branches are always snapping off with the slightest breeze; but grown in sheltered places, it becomes a noble tree. Its wood is beautifully grained and is well adapted for all the purposes of the cabinet-maker.

VII. RECEIPTS AND EXPENDITURE—The budget estimate of receipts for the year was Rs. 2,850. The actual amount realized was Rs. 3,055-7-6, Rs. 3,038-4-10 being paid into the treasury and Rs. 17-2-8 adjusted by the Indian Medical Department on account of the value of drugs supplied to them. This is Rs. 205-7-6 more than the estimate and Rs. 977-11-5 more than the actuals of last year.

The receipts are detailed thus :—

		RS.	A.	P.
Government Gardens, Ootacamund		2,499	4	3
Do. Barliyár		353	15	7
Do. Kalhatti		129	0	0
Do. Jalap tubers, &c.		56	1	0
Do. Drugs supplied to the Indian Medical Department		17	2	8
	Total ..	3,055	7	6

The budget estimate of expenditure was Rs. 27,229. The actual expenditure for the year has been Rs. 26,619-4-1 detailed thus :—

		RS.	A.	P.
Government Gardens, Ootacamund		18,336	3	1
Do. Barliyár		487	11	3
Do. Kalhatti		328	8	8
Medicinal garden		262	10	0

Sim's Park.

	RS.	A.	P.			
Temporary establishment	2,166	13	7			
Pay of a watchman	108	0	0			
Making a road and bridge	642	9	1			
				2,917	6	8
Stonehouse Park				688	2	0
Church Hill Park				96	0	0
Upper Norwood				3,120	11	8
Crewe and Ottley Hall estates				381	14	9
			Total ...	26,619	4	1

showing a saving of Rs. 609-11-11; but from this latter sum there must be deducted the price of the barbed wire for fencing the gardens which has not yet arrived. The expenditure has been Rs. 2,044-7-6 more than that of last year the excess being due chiefly to the Crewe and Ottley Hall estates having been placed during the last year under the management of the gardens, and to an increase in expenditure on Sim's Park and the upper Norwood Gardens.

VIII. MISCELLANEOUS.—A price list of plants was printed during the past winter.

(Signed) M. A. LAWSON,
Government Botanist and Director.

RETURN of Seeds, Plants, &c., distributed from the Government Botanical Gardens, Ootacamund, Barliyár and Kalhatti, during the official year ending 31st March 1886.

Months.	Fruit Trees.		Timber Trees.		Ornamental Shrubs and Herbaceous Plants.	
	Number of Plants.	Value.	Number of Plants.	Value.	Number of Plants.	Value.
1	2	3	4	5	6	7
		RS. A. P.		RS. A. P.		RS. A. P.
April 1885	351	87 6 0	34	10 0 0	1,065	57 8 0
May ,, ...	12	5 0 0	6	2 4 0	391	75 8 0
June ,, ...	68	28 6 0	51	15 0 0	700	74 2 0
July ,, ...	..	..	734	156 0 8	336	60 10 0
August ,, ...	12	4 8 0	199	54 12 0	241	53 5 0
September ,, ...	188	47 0 0	102	21 4 6	229	57 6 0
October ,, ...	3	2 0 0	16	3 0 0	405	52 8 0
November ,, ...	33	11 2 0	243	21 4 0	60	19 11 0
December ,, ...	10	5 0 0	573	44 0 0	118	37 4 0
January 1886	50	3 0 0	1,291	49 6 0	96	40 8 0
February ,, ...	..	..	1,000	50 0 0	61	22 12 0
March ,, ...	402	101 4 0	131	38 0 0	533	144 6 0
Total ..	1,129	294 10 0	4,380	464 15 2	4,235	695 8 0

Months.	Vegetable Flower and other Seeds.		Bouquets and Cut-flowers.		Sundry Receipts.			Total.
	Number of Packets.	Value.	Number of Bouquets and Cut-flowers.	Value.	Bandy-loads of Fuel.	Packing charges, &c.		
	8	9	10	11	12	13	14	15
		RS. A. P.	B. C.F.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
April 1885 ..	89	49 14 9	0 1	2 8 0	79	197 8 0	52 15 0	457 11 9
May ,, ..	375	85 14 9	5 8	12 2 0	18½	53 12 0	26 12 0	261 4 9
June ,, ..	323	59 7 6	10 30	64 8 0	8	24 0 0	26 3 2	291 10 8
July ,, ..	649	150 7 3	6 6	22 8 0	..	..	107 10 3	497 4 2
August ,, ..	217	65 2 3	3 13	21 10 0	6	18 0 0	6 11 6	224 0 9
September ,, ..	258	44 10 9	5 3	15 6 0	1	3 0 0	72 0 9	260 12 0
October ,, ..	129	25 8 0	0 13	5 10 0	1	3 0 0	22 0 6	113 10 6
November ,, ..	129	28 9 6	2 1	4 8 0	..	..	10 6 0	95 8 6
December ,, ..	62	12 3 3	2 1	4 8 0	..	..	44 3 3	147 2 6
January 1886 ..	71	32 15 6	6 1	8 8 0	2	6 0 0	69 11 6	210 1 0
February ,, ..	381	32 1 0	0 2	1 12 0	1	3 0 0	35 12 0	145 5 0
March ,, ..	125	27 7 3	2 5	4 8 0	..	..	18 4 0	333 13 3
Total ..	2,808	614 5 9	41 84	168 0 0	116½	308 4 0	492 9 11	3,038 4 10

COMPARATIVE STATEMENT of Rainfall in the Government Botanical Gardens for 1884-85 and 1885-86.

Months.	1884-85.		1885-86.	
	Number of Rainy days.	Rainfall.	Number of Rainy days.	Rainfall.
April	7	3·35	4	1·00
May	12	5·20	9	1·87
June	16	5·14	28	9·76
July	12	1·87	21	4·26
August	21	6·88	14	2·82
September	17	3·03	19	6·19
October	25	22·84	20	12·79
November	21	10·22	11	8·12
December	9	4·89	10	4·78
January	...	...	..	...
February	...	...	...	...
March	4	·27	6	0·89
Total ...	144	63·69	142	52·48

OOTACAMUND,
6th July 1886.

(Signed) M. A. LAWSON,
Govt. Botanist and Director.

Statement showing the Receipts of the Government Botanical Gardens and Parks for the official year ending 31st March 1886.

Particulars.	Actuals, 1884-85.	Budget estimate, 1885-86.	Actuals, 1885-86.
Government Gardens, Ootacamund.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Sale of seeds, plants, &c.	1,792 2 10	2,500 0 0	2,499 4 3
Government Gardens, Barliyár.			
Sale of plants, fruits, &c.	175 14 9	200 0 0	353 15 7
Government Gardens, Kalhatti.			
Sale of plants, &c.	14 8 0	50 0 0	129 0 0
Government Medicinal Gardens, Ootacamund.			
Sale of jalap tubers, &c.	7 14 0	100 0 0	56 1 0
Total ...	...	...	3,038 4 10
Add value of drugs supplied to the Indian Medical Department, Madras	87 4 6	...	17 2 8
Total ...	2,077 12 1	2,850 0 0	3,055 7 6

Ootacamund,
6th *July* 1886.

(Signed) M. A. LAWSON,
Govt. Botanist and Director.

Statement of Expenditure on the Government Botanical Gardens and Parks for the official year ending 31st March 1886.

Particulars.	Actuals, 1884-85.	Budget Estimate, 1885-86.	Actuals, 1885-86.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
Pay of Curator	3,600 0 0	3,600 0 0	3,600 0 0
Travelling allowance of Curator and Herbarium Assistant ..	..	500 0 0	337 2 0
Pay of Curator's office establishment	550 7 10	552 0 0	550 3 4
Total ..	4,150 7 10	4,652 0 0	4,487 5 4
Government Gardens, Ootacamund.			
Overseers and fixed cooly establishment	1,693 3 11	1,728 0 0	1,697 8 1
Temporary establishment	2,995 2 4	5,000 0 0	5,713 0 1
Acclimatization of foreign plants (G.O., No. 874, dated 5th July 1872.)	500 0 0	600 0 0	596 6 11
Labelling of plants	415 14 11	350 0 0	234 5 8
Construction of cooly lines (G.O., 5th May 1884, No. 1848.) ..	1,831 10 2	....	....
Contingencies	1,447 7 5	1,000 0 0	1,332 1 5
New works, drainage, &c.	1,424 10 7	....	....
Horticultural implements	712 7 7	500 0 0	556 14 0
Painting of the conservatory of green house and repairs to propagating houses.	593 9 8	600 0 0	610 6 1
Cutting down and uprooting eucalyptus and acacia on the northern slope of the garden, ...	519 14 6	....	....
Purchase of meteorological instruments	108 3 0	....	....
Herbarium establishment	776 0 0	792 0 0	792 0 0
Purchase of cabinets and materials	785 15 4	400 0 0	416 15 2
Library	42 15 3	1,200 0 0	590 4 1
Repairs of certain damages done to the gardens (G.O., No. 5719, dated 17th December 1884.)	599 15 0	....	....
Re-grassing of slopes, gravelling of walks in upper garden, formation of a kitchen garden and the clearing of ravine, &c. ..	..	1,550 0 0	1,140 0 3
Municipal assessment on building	..	169 0 0	169 0 0
Total ..	14,447 1 8	13,889 0 0	13,848 13 9

Statement of Expenditure on the Government Botanical Gardens and Parks for the official year ending 31st March 1886—*continued.*

Particulars.	Actuals, 1884-85.	Budget Estimate, 1885-86.	Actuals. 1885-86.
Government Gardens, Barliyár.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Temporary establishment	488 5 2	490 0 0	487 11 3
Government Gardens, Kalhatti.			
Temporary establishment	334 14 0	340 0 0	328 8 8
Government Medicinal Gardens.			
Temporary establishment	315 4 4	300 0 0	262 10 0
Sim's Park, Coonoor.			
Temporary establishment and contingencies	1,820 8 5	2,000 0 0	2,166 13 7
Pay of a watchman (G.O., 14th July 1884, No. 843)		108 0 0	108 0 0
New works—Making a bridle road and bridge	..	650 0 0	642 9 1
Stonehouse Park.			
Temporary establishment	962 4 3	700 0 0	688 2 0
Church Hill Park.			
Temporary establishment	97 13 0	100 0 0	96 0 0
Upper Norwood.			
Temporary establishment and contingencies	1,958 1 11	3,000 0 0	3,120 11 8
Crewe and Ottley Hall Estates.			
Temporary establishment	..	1,000 0 0	381 14 9
Total ..	24,574 12 7	27,229 0 0	26,619 4 1

Ootacamund,
6th *July* 1886.

M. A. LAWSON,
Govt. Botanist and Director.

List of those to whom Seeds or Plants have been distributed during the year 1885-86.

Abboy Naidu, T., Madras.
Batchelor, Mr., Ootacamund.
Beddome, Lieutenant-Colonel R. H., England.
Barclay, Mr., Deva Shola.
Crooks, Serjeant, Ootacamund.
District Forest Officer, Madura.
Do. Tinnevelly.
Do. South Arcot.
Do. Nilambûr.
Do. Malabar.
Ferguson, Mr. T., Calicut.
Fitzgerald, Mr., Travancore.
Gamble, Mr. J. S., Ootacamund.
Honorary Secretary, Agri-Horticultural Gardens, Madras.
Head Overseer, Government Cinchona Plantations, Naduvatam.
Linden, Monsieur L., Belgium.
Mackenzie, Mr. J., Naduvatam.
Money, Mrs. J. W., Deva Shola.
Secretary, Ootacamund Municipality, Ootacamund.
Superintendent, Lâl Bagh Gardens, Bangalore.
Walker, Colonel I. Campbell, Ootacamund.
Woodrow, Mr. G. M., Poona.
Yonge, Mr. G. L., Guynd.

List of those who have been Benefactors to the Gardens during the year 1885-86.

Abboy Naidu, T., Madras.
Batchelor, Mrs. E. R., Ootacamund.
Baker, Miss A., Peermaad.
Director of Government Cinchona Plantations, Ootacamund.

Gamble, Mr. J. S., Ootacamund.
Gammie, Mr. J,. Darjeeling.
Gould, Mr. M., Madras.
Gray, Mr. C., Coonoor.
Hutchins, Mr.
John, Sir. O. St., Sialkot.
Munro, Mrs. H., Peermaad.
Manager, Nílgiri Brewery Company, Ootacamund.
MacGregor, General.
Royal Gardens, Kew.
Superintendent, Saidápet Farms, Madras.
Superintendent, Agri-Horticultural Gardens, Madras.
Superintendent, Lál Bagh Gardens, Bangalore.
Sashia Sastri, Mr. A., Dewan to His Highness the Rajah Bahadur of Pudukótah.

Order—dated 17th August 1886, No. 720, Revenue.

Miscellaneous.

The Government observe with satisfaction that the report on the Government Botanical Parks and Gardens for the year 1885-86 has been submitted within the prescribed date.

2. The weather during the year to which the report relates is said to have been "all that could be desired for carrying on horticultural operations," the rains being early, light and continuous. There was severe frost in January, but the dryness of the weather prevented this from doing serious harm. The gardens at Ootacamund, Coonoor and Barliyár are all said to be in good condition, but nothing is said about the state of the Kalhatti garden. The Government would be glad to know whether Mr. Lawson is still of opinion that this garden should be abandoned.

3. Considerable improvements have been made in the Government gardens at Ootacamund and further improvements are contemplated during the coming dry season. One of the terraces was converted into a vegetable garden during the winter, and sown with seeds of the common kinds of European vegetables. The Director promises to report upon them next year. Another terrace was converted into a herbaceous botanical garden, but the situation was found to be too exposed. The experiment should be repeated in a more favorable locality and should be extended to some of the other gardens under Mr. Lawson's control. The removal of the conservatory is sanctioned, and provision should be made in next year's budget for the cost of rebuilding it in another part of the gardens.

4. The blue-gums near the servants' quarters in Government House gardens should certainly be cut down if they are dangerous. The proposals regarding the Crewe Hall garden are approved.

5. *Barliyár.*—The Mangosteen and Litchi in this garden again produced a quantity of fruit. The absence of all demand for these trees is probably due to the fact that they are but little known. The proposed establishment of botanical gardens at various stations in the Presidency, which has already been approved, may serve to bring them, and many other useful trees and plants, to general notice.

6. *Proposed New Gardens.*—Owing to various causes none of the new gardens sanctioned in the marginally noted orders of Government have yet been opened. Mr. Lawson now asks for sanction to open out a garden at Gúdalúr. This, however, was given in the second of the orders referred to above, and the Government have been awaiting the submission of detailed proposals.

G.O., dated 3rd July 1885, No. 786.
G.O., dated 3rd December 1885, No. 1337.

Mr. Lawson appears to have misunderstood the order * of Government on the question of a site for a garden at Calicut, for a reference to the 2nd paragraph of the order will show that so far from having any intention of abandoning the project they directed the Collector to select another site. His report is still awaited.

* G.O , dated 31st March 1886, No. 251.

7. *Herbarium.*—This has been transferred from the cottage at the entrance of the garden to the old Cinchona Laboratory, which has undergone certain alterations, and is now said to be all that could be desired. The Government are much indebted to the various gentlemen who made donations during the year.

8. *Exotics.*—The Government approve of the proposal to grow the better sorts of Eucalyptus for purposes of timber, and the attention of the Conservator of Forests, Northern Division, will be drawn to the subject. The *Quilaja saponaria* thrives well in the climate of Ootacamund and can be readily propagated by means of cuttings. It still remains to be seen, however, whether the tree will prove as valuable here as in its native country, Chili. Tubers of the *Kumera* (*Convolvulus chrysorhizus, Soland.*) have been raised and were found palatable. The Director does not say whether these tubers were grown at Ootacamund or, as proposed in his report for 1883-84, at Coonoor and Barliyár; nor does he give any information regarding their probable value as an article of diet for the people of this country. A new tuber (*Ullucus tuberosus*) a native of South America, which was received from Mr. Thiselton Dyer, has been found to grow freely in the open air at Ootacamund. The Government await further report on its properties and value. The Director is not able to report upon the Arracacha (*Arracacia esculenta*) or the Cochin-China tuberous-rooted vine, as the former has not yet produced any tubers or the latter any fruit. Experiments in the culture of hops have been commenced: the Government await the results with much interest, for the successful cultivation of this product would probably prove of great advantage to the ryots of the Nílgiri Hills. The failure in the stock of Ipecacuanha plants which was reported last year has been effectually remedied, but Mr. Lawson thinks that the climate of Nilambúr is more suited to this plant than that of Barliyár. The remarks on the successful growth of certain *Coniferæ* on the Nílgiris are interesting and will be communicated to the Forest Department. The Director has omitted to report the results of his experiments with the Medicinal Rhubarb plant, referred to in his report for 1884-85.

9. *Financial Results.*—The receipts for the year were Rs. 3,055-7-6, the budget estimate being Rs. 2,850, and the expenditure was Rs. 26,619-4-1 against an allotment of Rs. 27,229. The decrease was largely due to the fact that less than half the grant for the library was expended, as it was not known what books could be transferred from the Central Museum Library. It is not understood why chemical books, required for the Government Quinologist, were paid for from the grant made for Government Parks and Gardens. This charge should have apparently been debited to the budget of the Cinchona Department.

10. This report will in future be replaced by the general administration report of the Botanical Department.

(True Extract.)

(Signed) H. E. STOKES,
Secretary to Government.

To the Government Botanist and Director, Cinchona Plantations.
„ the Director, Revenue Settlement and Agriculture.
„ the Board of Revenue.
„ the Accountant-General.
„ the Superintendent, Government Central Museum.
„ the Public Works Department.
„ the Financial Department.
„ the Honorary Secretary, Agri-Horticultural Society, Madras.
Surgeon-General G. Bidie, M.B., C.I.E.
„ the Honorary Secretary, Wynaad Planters' Association.
„ the „ „ Nílgiris „
„ the „ „ Yercaud „

Exd. W. H. French.

150 Copies.

Govt. of {1886} Madras.

REVENUE.

B. No. 2333 dy 15-9-86

Recorded

(Sgd) J. O. H.

Issued

Recd. Encl.

G.O., 17th August 1886, No. 720.

AUGUST.

I. E. D. 1

Government Parks and Gardens.

Report on — for 1885-86, reviewed.

Withdrawn

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—letter from M. A. LAWSON, Esq., Government Botanist and Director of Cinchona Plantations, Nílgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 27th September 1886, No. 63 :—

ABSTRACT.—Forwarding the budget estimates of the Government Botanical Gardens and Parks, Nilgiris, for 1887-88, with explanatory note.

ENCLOSURES.

EXPLANATORY NOTE ON THE BUDGET ESTIMATE OF THE GOVERNMENT BOTANICAL GARDENS AND PARKS, NILGIRIS, FOR THE YEAR 1887-88.

Actuals of 1885-86—*Receipts.*—The actuals amounted to Rs. 3,055-7-6 as against the budget estimate of Rs. 2,850-0-0 and as against Rs. 2,763-4-5 the average receipts for the past three years. The receipts actually realized were thus in excess of the budget by Rs. 205-7-6, and over the receipts of the last year by Rs. 977-11-5. This increase was due to more plants and seeds having been sold during the year than was anticipated.

Charges.—These aggregated Rs. 23,498-8-5 as against an allotment of Rs. 24,229-0-0, thus showing Rs. 730-7-7 unexpended. This was due chiefly to the provision under Library not having been fully utilized, as out of an allotment of Rs. 1,200, only Rs. 590-4-1 were spent, the balance of Rs. 120-11-8 being taken to pay the excess expenditure which was incurred under Upper Norwood.

2. *Regular Estimate,* 1886-87—*Receipts.*—This has been set down at Rs. 2,950-0-0, or Rs. 100 over the budget estimate for the year (Rs. 2,850), as sanctioned in G.O., No. 1173, of the 20th October 1885, Revenue. This is due to larger receipts having been realized from the Barlyár gardens, chiefly by the sale of mangosteens. The receipts under this head have already exceeded the budget estimate for the year from the above cause. Although the receipts for the five months of the current official year have amounted to Rs. 1,494-14-11, and would thus appear to argue that a larger sum than Rs. 2,500 would be realized for the rest of the year, I have only adopted that figure, as I do not anticipate receiving more owing to the busy season being now over.

Charges.—These have been set down at Rs. 23,449, being Rs. 600 over the sums sanctioned by Government in G.Os., Nos. 1173, of 20th October 1885, and 6182, of 9th November 1885. This extra Rs. 600 is to provide for the opening out of a small garden at Gúdalúr during the present winter.

3. *Budget Estimate,* 1887-88—*Receipts.*—This has been set down at Rs. 3,000, being Rs. 50 over the regular estimate for the year.

Charges.—This has been set down at Rs. 25,409, being Rs. 1,960 above the regular estimate for the current year. The variations are thus explained :—

Regular estimate			Rs. 23,449
Budget estimate for 1887-88		Rs. 25,409	
Increase in			
Contingencies	Rs. 500		
Maintenance of herbarium	200		
Removal of conservatory	2,500		
		3,200	
		22,209	
Decrease in			
Regrassing slopes, &c.	500		
Kalhatti garden	340		
Sim's and Stonehouse parks	200		
Gúdalúr garden	200		
		1,240	
			23,449

Contingencies, Rs. 500.—The increase in the allotment under this head is due to Rs. 1,000 being insufficient for these charges, as shown by the actuals of the past year (Rs. 1,332-1-5) and the average for the past three years (Rs. 1,547-6-10).

Maintenance of Herbarium, Rs. 200.—The cabinets for the herbarium have been supplied out of the allotment for the current official year, and an excess of Rs. 200 over the budget provision, or Rs. 600, is provided for the purchase of glass-cases for the preservation of vegetable economic products, which are too bulky to be kept in the herbarium proper.

Removing the Conservatory, &c., Rs. 2,500.—Provision has been made for this under paragraph 3 of G.O., No. 720, of 17th August 1886.

Decrease of Rs. 1,240.—This is due to the provision for the regrassing of slopes, &c., not being required next year, as the work has been already completed; and to the provision for the Kalhatti garden, which will be abolished next April, not being wanted. In addition to the above, small reductions have been made in the working of Sim's and Stonehouse parks, and a decrease of Rs. 200 under Gúdalúr Garden, as the expenditure will be less next year after it has been established.

4. *Upper Norwood—Actuals* 1885-86.—These amounted to Rs. 3,120-11-8 as against an estimate of Rs. 3,000, being thus Rs. 120-11-8 above the estimate for the year. This was met from savings under Government Gardens—*vide* paragraph 1 above.

5. *Regular Estimate,* 1886-87.—This has been estimated at the same figure as that sanctioned in G.O., No. 1516, of the 16th November 1885, Financial, communicated under G.O., No. 6529, of the 24th November 1885, Revenue, viz., Rs. 2,500, as it is calculated that that sum will suffice for the requirements of these gardens.

Budget Estimate, 1887-88.—This has been put down at Rs. 2,500 the same as the regular estimate for the current year, for the reasons given in the preceding paragraph.

BUDGET ESTIMATE of Cash requirements, Madras, for the Official Year ending 31st March 1888.
F. Estimate, Civil Service, Upper Norwood, Nilgiris.

Description of Charges.	Actuals of 1885-86.	Average Expenditure for the three Years from 1883-84 to 1885-86.	Sanctioned Budget Estimate for 1886-87.	1886-87.			Regular Estimate for 1886-87.	Budget Estimate for 1887-88.
				Actuals for the first five Months.	Probable charges for the remaining seven Months.	Total.		
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
PROVINCIAL SERVICE, 16. MINOR DEPARTMENT.								
Upper Norwood, Odacamund.								
Temporary establishment ..	3,120 11 8	2,026 6 0	2,500 0 0	561 9 5	1,938 6 7	2,500 0 0	2,500 0 0	2,500 0 0
Total ..	3,120 11 8	2,026 6 0	2,500 0 0	561 9 5	1,938 6 7	2,500 0 0	2,500 0 0	2,500 0 0

BUDGET ESTIMATE of Cash requirements for the Official Year ending 31st March 1888—F. Estimate, Civil Service, Government Botanical Gardens and Parks.

Description of Charges.	Actuals for 1885-86.	Average Expenditure for the three Years from 1883-84 to 1885-86.	Sanctioned Budget Estimate for 1886-87.	1886-87.			Regular Estimate for 1886-87.	Budget Estimate for 1887-88.
				Actuals for the first five Months.	Probable charges for the remaining seven Months.	Total.		
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
PROVINCIAL SERVICE—16. MINOR DEPARTMENT.								
Government Botanical Gardens and Parks.								
Salary of Curator	3,600 0 0	3,600 0 0	3,600 0 0	1,460 15 0	2,139 1 0	3,600 0 0	3,600 0 0	3,600 0 0
Do. of office establishment	550 3 4	550 14 4	792 0 0	305 8 4	486 7 8	792 0 0	792 0 0	792 0 0
Do. of Overseer and fixed cooly establishment	1,697 8 1	1,685 8 2	2,208 0 0	848 11 2	1,359 4 10	2,208 0 0	2,208 0 0	1,200 0 0
Grant for developing the vegetable products of other countries	596 6 11	598 10 7	600 0 0	1,436 8 8	..	1,436 8 8	1,436 8 8	600 0 0
Temporary establishment	5,713 0 1	4,941 8 4	5,000 0 0	2,354 8 7	1,808 14 9	4,163 7 4	4,163 7 4	6,008 0 0
Contingencies	1,332 1 5	1,547 6 10	1,000 0 0	436 10 4	563 5 8	1,000 0 0	1,000 0 0	1,500 0 0
Horticultural implements, purchase of mowing machines, rollers and garden tools	556 14 0	508 10 6	500 0 0	..	500 0 0	500 0 0	500 0 0	500 0 0
Painting of the conservatory, green-house, and repair of propagating houses	610 6 1	601 15 10	600 0 0	501 10 5	98 5 7	600 0 0	600 0 0	600 0 0
Labelling	234 5 8	234 7 6	350 0 0	83 5 6	266 10 6	350 0 0	350 0 0	350 0 0
Travelling allowance of the Curator and Herbarium Assistant	337 2 0	246 1 0	500 0 0	76 0 0	424 0 0	500 0 0	500 0 0	500 0 0
Regrassing of slopes, gravelling of walks in upper garden, formation of a kitchen garden, and the clearing of ravine, &c.	1,140 0 3	1,140 0 3	500 0 0	..	500 0 0	500 0 0	500 0 0	..
Municipal assessment	169 0 0	187 0 0	169 0 0	84 8 0	84 8 0	169 0 0	169 0 0	169 0 0
Herbarium.								
Pay of Herbarium Assistant, cooly and peon	792 0 0	784 0 0	792 0 0	310 10 6	481 5 6	792 0 0	792 0 0	792 0 0
Purchase of cabinets and materials	416 15 2	601 7 3	400 0 0	308 4 0	91 12 0	400 0 0	400 0 0	600 0 0
Library	590 4 1	215 13 9	1,200 0 0	101 4 2	1,098 11 10	1,200 0 0	1,200 0 0	1,200 0 0
Crewe and Ottley Hall estates	381 14 9	381 14 9	500 0 0	162 9 5	337 6 7	500 0 0	500 0 0	500 0 0
Barliyár Garden.								
Temporary establishment	487 11 3	440 12 8	490 0 0	152 2 6	337 13 6	490 0 0	490 0 0	490 0 0
Kalhatti Garden.								
Temporary establishment	328 8 8	285 7 6	340 0 0	90 0 0	250 0 0	340 0 0	340 0 0	..
Medicinal Garden.								
Temporary establishment	262 10 0	298 5 3	300 0 0	75 2 6	224 13 6	300 0 0	300 0 0	300 0 0
Stonehouse Park.								
Temporary establishment	688 2 0	747 4 5	700 0 0	224 8 9	475 7 3	700 0 0	700 0 0	600 0 0

Budget Estimate of Cash requirements for the Official Year ending 31st March 1888, &c.—*continued.*

Description of Charges.	Actuals for 1885-86.	Average Expenditure for the three Years from 1883-84 to 1885-86.	1886-87. Sanctioned Budget Estimate for 1886-87.	1886-87. Actuals for the first five Months.	1886-87. Probable charges for the remaining seven Months.	1886-87. Total.	Regular Estimate for 1886-87.	Budget Estimate for 1887-88.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Church Hill Park.								
Temporary establishment	96 0 0	88 12 4	100 0 0	40 0 0	60 0 0	100 0 0	100 0 0	100 0 0
Sim's Park.								
Temporary establishment	2,166 13 7	1,906 8 5	2,000 0 0	721 3 8	1,278 12 4	2,000 0 0	2,000 0 0	2,000 0 0
Pay of a watchman	108 0 0	108 0 0	108 0 0	27 0 0	81 0 0	108 0 0	108 0 0	108 0 0
New Works.								
Making a bridle road and bridge	..	..	100 0 0	..	100 0 0	100 0 0	100 0 0	..
Gravelling new road	642 9 1	642 9 1	..	..	..	..	..	..
Removing and re-constructing conservatory sanctioned in paragraph 3 of G.O., No. 720, of 17th August 1886 ..	..	..	..	..	..	..	600 0 0	400 0 0
Opening an experimental garden at Gúdalúr	..	..	..	..	..	..	..	2,500 0 0
Total ..	23,498 8 5	22,343 2 9	22,849 0 0	9,801 3 6	13,647 12 6	23,449 0 0	23,449 0 0	25,409 0 0

BUDGET ESTIMATE of Receipts, Madras, for the Official Year ending 31st March 1888.
F. Estimate, Civil Service, Government Botanical Gardens and Parks.

Description of Receipts.	Actuals for 1885-86.	Average Receipts for the three Years from 1883-84 to 1885-86.	Sanctioned Budget Estimate for 1886-87.	1886-87. Actuals for the first five Months.	1886-87. Probable receipts for the remaining seven Months.	1886-87. Total	Regular Estimate for 1886-87.	Budget Estimate for 1887-88.
Ootacamund Gardens.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Sale of plants, seeds, &c. ..	2,499 4 3	2,159 15 5	2,500 0 0	1,494 14 11	1,005 1 1	2,500 0 0	2,500 0 0	2,600 0 0
Barliyár Gardens.								
Sale of plants, fruits, &c. ..	353 15 7	221 9 5	200 0 0	256 10 2	43 5 10	300 0 0	300 0 0	300 0 0
Kalhatti Gardens.								
Sale of plants	129 0 0	78 9 4	50 0 0	39 12 0	10 4 0	50 0 0	50 0 0	..
Medicinal Garden.								
Sale of jalap tubers, &c.	56 1 0	250 14 8	100 0 0	2 14 0	97 2 0	100 0 0	100 0 0	100 0 0
Value of drugs supplied to the Indian Medical Department, Madras ..	17 2 8	52 3 7		..				
Total ..	3,055 7 6	2,763 4 5	2,850 0 0	1,794 3 1	1,155 12 11	2,950 0 0	2,950 0 0	3,000 0 0

ORDER—dated 4th November 1886, No. 953, Revenue.

Miscellaneous.

The following statement shows the actual receipts and charges of the Government Botanical Parks and Gardens, Nílgiris, during the year 1885-86, the budget and revised estimates for 1886-87, and the budget estimate for 1887-88 :—

——	Actuals, 1885-86.	Budget Estimate, 1886-87.	Revised Estimate, 1886-87.	Budget Estimate, 1887-88.
	Rs.	Rs.	Rs.	Rs.
Receipts	3,055	2,850	2,950	3,000
Charges	23,498	22,850	23,449	25,409

Owing to more plants having been sold during the year 1885-86 than was anticipated, the receipts exceeded the budget estimate by Rs. 205. The charges were Rs. 730 less than the estimate, owing, chiefly, to the fact that less than half the grant for the library was expended.

2. *Revised Estimate*, 1886-87.—The Director puts the revised estimate of receipts at Rs. 2,950, or Rs. 100 in excess of the budget estimate, while his revised estimate of charges is increased by a provision of Rs. 600 for opening out a small experimental garden at Gúdalúr. This provision, however, requires separate sanction, for which the Director should at once apply, giving reasons for his estimate. Meanwhile, the amount will be struck out of the revised estimate of charges which will be passed for the same amount—Rs. 22,850—as the budget estimate. The revised estimate of receipts is approved.

3. *Budget Estimate*, 1887-88.—The receipts during 1887-88 are estimated at Rs. 3,000. This is accepted. The charges are estimated at Rs. 25,409, or Rs. 2,559 in excess of the budget and revised estimates for the current year. This increase is largely due to the provision of a sum of Rs. 2,500 for the removal of the conservatory in the Ootacamund Gardens.

4. The provision for contingencies is fixed at Rs. 1,500, instead of as formerly at Rs. 1,000, the reason given being that the actuals for 1885-86 were Rs. 1,332-1-5. It is observed, however, that the actuals of the first five months of 1886-87 were only Rs. 436-10-4, or at the rate of Rs. 1,048 for the whole year. The provision of Rs. 1,500, therefore, seems excessive and it will accordingly be reduced to Rs. 1,200.

5. Under the head "Salary of overseer and fixed cooly establishment," Mr. Lawson provides a sum of Rs. 1,200, as against Rs. 2,208 entered in the revised budget, and against an average expenditure of Rs. 1,685 during the last three years. On the other hand, the provision for temporary establishment, required for the Government Gardens at Ootacamund, is raised from Rs. 4,163, the figure given in the revised estimate, to Rs. 6,008. These variations should have been explained. The amounts are, however, in the aggregate not greatly in excess of the corresponding items in the revised estimate and will accordingly be passed.

6. A sum of Rs. 500 has been provided for the travelling allowance of the curator and herbarium assistant, although the actual expenditure on this account, in 1885-86, was only Rs. 337, and the average, for the last three years, Rs. 246. In these circumstances, the Government consider that a provision of Rs. 400 will be sufficient.

7. The provision for the purchase of cabinets, &c., for the herbarium is Rs. 600, or Rs. 200 in excess of the allotment in the revised estimate. This difference is fully explained by the Director, and the provision is approved. The increase can, however, be met by a corresponding decrease in the provision for the library, which will be reduced from Rs. 1,200 to Rs. 1,000. Looking at the actuals of 1885-86 and the average expenditure of the past three years, it does not seem probable that even this amount will be expended.

8. The sum provided (Rs. 400) for opening a garden at Gúdalúr will be struck out for the reasons given above. Application for funds for this garden, as well as for any others, notably Calicut, which may be expected to be opened before the end of the year 1887-88, should be submitted by the Director as soon as possible, in order that due provision may be made in the civil budget estimate of charges for the Presidency.

9. The budget estimates of receipts and charges for the year 1887-88, as approved by Government, are as follows :—

	Rs.
Receipts	3,000
Charges	24,400

The actual estimate of charges is Rs. 24,409, but a round sum has been taken as usual.

10. The estimate of charges for the upkeep of Government House Gardens will be transferred to the Financial Department.

11. With reference to his use of the term *Regular Estimate*, the attention of the Government Botanist will be drawn to paragraph 2 of G.O., 14th August 1883, No. 1742-A, Financial, a copy of which will be forwarded to him for information and guidance.

(True Extract.)

(Signed) J. F. PRICE,
Ag. Secretary to Government.

To the Government Botanist, &c.,
with copy of G.O., No. 1742-A of 1883, Financial.
„ the Financial Department.
„ the Accountant-General.
„ the Board of Revenue.
„ the Public Works Department.

Exd. W. H. French.

100 Copies.

No. 3061 W dt 18-11-86.

Recorded

(sd) J. C. H.

W

Govt. of {1886} Madras.

REVENUE.

Issued

Recd. *Encl*

G.O., 4th November 1886, No. 953.

No. 3061 W dt 18-11-86

NOVEMBER.

Budget Estimates of the Government Botanical Gardens and Parks

for 1887-88, reviewed.

S. E. IV circle.

With order

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—letter from M. A. LAWSON, Esq., Government Botanist and Director of Cinchona Plantations, Nílgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 27th September 1886, No. 63:—

ABSTRACT.—Forwarding the budget estimates of the Government Botanical Gardens and Parks, Nilgiris, for 1887-88, with explanatory note.

ENCLOSURES.

EXPLANATORY NOTE ON THE BUDGET ESTIMATE OF THE GOVERNMENT BOTANICAL GARDENS AND PARKS, NILGIRIS, FOR THE YEAR 1887-88.

Actuals of 1885-86—*Receipts.*—The actuals amounted to Rs. 3,055-7-6 as against the budget estimate of Rs. 2,850-0-0 and as against Rs. 2,763-4-5 the average receipts for the past three years. The receipts actually realized were thus in excess of the budget by Rs. 205-7-6, and over the receipts of the last year by Rs. 977-11-5. This increase was due to more plants and seeds having been sold during the year than was anticipated.

Charges.—These aggregated Rs. 23,498-8-5 as against an allotment of Rs. 24,229-0-0, thus showing Rs. 730-7-7 unexpended. This was due chiefly to the provision under Library not having been fully utilized, as out of an allotment of Rs. 1,200, only Rs. 590-4-1 were spent, the balance of Rs. 120-11-8 being taken to pay the excess expenditure which was incurred under Upper Norwood.

2. *Regular Estimate,* 1886-87—*Receipts.*—This has been set down at Rs. 2,950-0-0, or Rs. 100 over the budget estimate for the year (Rs. 2,850), as sanctioned in G.O., No. 1173, of the 20th October 1885, Revenue. This is due to larger receipts having been realized from the Barlyár gardens, chiefly by the sale of mangosteens. The receipts under this head have already exceeded the budget estimate for the year from the above cause. Although the receipts for the five months of the current official year have amounted to Rs. 1,494-14-11, and would thus appear to argue that a larger sum than Rs. 2,500 would be realized for the rest of the year, I have only adopted that figure, as I do not anticipate receiving more owing to the busy season being now over.

Charges.—These have been set down at Rs. 23,449, being Rs. 600 over the sums sanctioned by Government in G.Os., Nos. 1173, of 20th October 1885, and 6182, of 9th November 1885. This extra Rs. 600 is to provide for the opening out of a small garden at Gúdalúr during the present winter.

3. *Budget Estimate,* 1887-88—*Receipts.*—This has been set down at Rs. 3,000, being Rs. 50 over the regular estimate for the year.

Charges.—This has been set down at Rs. 25,409, being Rs. 1,960 above the regular estimate for the current year. The variations are thus explained:—

			RS.
Regular estimate			23,449
		RS.	
Budget estimate for 1887-88		25,409	
Increase in			
	RS.		
Contingencies	500		
Maintenance of herbarium	200		
Removal of conservatory	2,500		
		3,200	
		22,209	
Decrease in			
Regrassing slopes, &c.	500		
Kalhatti garden	340		
Sim's and Stonehouse parks	200		
Gúdalúr garden	200		
		1,240	
			23,449

Contingencies, Rs. 500.—The increase in the allotment under this head is due to Rs. 1,000 being insufficient for these charges, as shown by the actuals of the past year (Rs. 1,332-1-5) and the average for the past three years (Rs. 1,547-6-10).

Maintenance of Herbarium, Rs. 200.—The cabinets for the herbarium have been supplied out of the allotment for the current official year, and an excess of Rs. 200 over the budget provision, or Rs. 600, is provided for the purchase of glass-cases for the preservation of vegetable economic products, which are too bulky to be kept in the herbarium proper.

Removing the Conservatory, &c., Rs. 2,500.—Provision has been made for this under paragraph 3 of G.O., No. 720, of 17th August 1886.

Decrease of Rs. 1,240.—This is due to the provision for the regrassing of slopes, &c., not being required next year, as the work has been already completed; and to the provision for the Kalhatti garden, which will be abolished next April, not being wanted. In addition to the above, small reductions have been made in the working of Sim's and Stonehouse parks, and a decrease of Rs. 200 under Gúdalúr Garden, as the expenditure will be less next year after it has been established.

4. *Upper Norwood—Actuals* 1885-86.—These amounted to Rs. 3,120-11-8 as against an estimate of Rs. 3,000, being thus Rs. 120-11-8 above the estimate for the year. This was met from savings under Government Gardens—*vide* paragraph 1 above.

5. *Regular Estimate,* 1886-87.—This has been estimated at the same figure as that sanctioned in G.O., No. 1516, of the 16th November 1885, Financial, communicated under G.O., No. 6529, of the 24th November 1885, Revenue, viz., Rs. 2,500, as it is calculated that that sum will suffice for the requirements of these gardens.

Budget Estimate, 1887-88.—This has been put down at Rs. 2,500 the same as the regular estimate for the current year, for the reasons given in the preceding paragraph.

BUDGET ESTIMATE of Cash requirements, Madras, for the Official Year ending 31st March 1888.
F. Estimate, Civil Service, Upper Norwood, Nílgiris.

Description of Charges.	Actuals of 1885-86.	Average Expenditure for the three Years from 1883-84 to 1885-86.	Sanctioned Budget Estimate for 1886-87.	1886-87. Actuals for the first five Months.	1886-87. Probable charges for the remaining seven Months.	1886-87. Total.	Regular Estimate for 1886-87.	Budget Estimate for 1887-88.
PROVINCIAL SERVICE, 16. MINOR DEPARTMENT.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Upper Norwood, Ootacamund.								
Temporary establishment ..	3,120 11 8	2,026 6 0	2,500 0 0	561 9 5	1,938 6 7	2,500 0 0	2,500 0 0	2,500 0 0
Total ..	3,120 11 8	2,026 6 0	2,500 0 0	561 9 5	1,938 6 7	2,500 0 0	2,500 0 0	2,500 0 0

BUDGET ESTIMATE of Cash requirements for the Official Year ending 31st March 1888—F. Estimate, Civil Service, Government Botanical Gardens and Parks.

Description of Charges.	Actuals for 1885-86.	Average Expenditure for the three Years from 1883-84 to 1885-86.	Sanctioned Budget Estimate for 1886-87.	1886-87. Actuals for the first five Months.	1886-87. Probable charges for the remaining seven Months.	1886-87. Total.	Regular Estimate for 1886-87.	Budget Estimate for 1887-88.
PROVINCIAL SERVICE—16. MINOR DEPARTMENT.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Government Botanical Gardens and Parks.								
Salary of Curator	3,600 0 0	3,600 0 0	3,600 0 0	1,460 15 0	2,139 1 0	3,600 0 0	3,600 0 0	3,600 0 0
Do. of office establishment	550 3 4	550 14 4	792 0 0	305 8 4	486 7 8	792 0 0	792 0 0	792 0 0
Do. of Overseer and fixed cooly establishment	1,697 8 1	1,685 8 2	2,208 0 0	848 11 2	1,359 4 10	2,208 0 0	2,208 0 0	1,200 0 0
Grant for developing the vegetable products of other countries	596 6 11	598 10 7	600 0 0	1,436 8 8	..	1,436 8 8	600 0 0	600 0 0
Temporary establishment	5,713 0 1	4,941 8 4	5,000 0 0	2,354 8 7	1,808 14 9	4,163 7 4	6,008 0 0	6,008 0 0
Contingencies	1,332 1 5	1,547 6 10	1,000 0 0	436 10 4	563 5 8	1,000 0 0	1,500 0 0	1,500 0 0
Horticultural implements, purchase of mowing machines, rollers and garden tools	556 14 0	508 10 6	500 0 0	..	500 0 0	500 0 0	500 0 0	500 0 0
Painting of the conservatory, green-house, and repair of propagating houses	610 6 1	601 15 10	600 0 0	501 10 5	98 5 7	600 0 0	600 0 0	600 0 0
Labelling	234 5 8	234 7 6	350 0 0	83 5 6	266 10 6	350 0 0	350 0 0	350 0 0
Travelling allowance of the Curator and Herbarium Assistant	337 2 0	246 1 0	500 0 0	76 0 0	424 0 0	500 0 0	500 0 0	500 0 0
Regrassing of slopes, gravelling of walks in upper garden, formation of a kitchen garden, and the clearing of ravine, &c.	1,140 0 3	1,140 0 3	500 0 0	..	500 0 0	500 0 0	500 0 0	169 0 0
Municipal assessment	169 0 0	187 0 0	169 0 0	84 8 0	84 8 0	169 0 0	169 0 0	169 0 0
Herbarium.								
Pay of Herbarium Assistant, cooly and peon	792 0 0	784 0 0	792 0 0	310 10 6	481 5 6	792 0 0	792 0 0	792 0 0
Purchase of cabinets and materials	416 15 2	601 7 3	400 0 0	308 4 0	91 12 0	400 0 0	600 0 0	600 0 0
Library	590 4 1	215 13 9	1,200 0 0	101 4 2	1,098 11 10	1,200 0 0	1,200 0 0	1,200 0 0
Crewe and Ottley Hall estates	381 14 9	381 14 9	500 0 0	162 9 5	337 6 7	500 0 0	500 0 0	500 0 0
Bariyár Garden.								
Temporary establishment	487 11 3	440 12 8	490 0 0	152 2 6	337 13 6	490 0 0	490 0 0	490 0 0
Kalhatti Garden.								
Temporary establishment	328 8 8	285 7 6	340 0 0	90 0 0	250 0 0	340 0 0	340 0 0	..
Medicinal Garden.								
Temporary establishment	262 10 0	298 5 3	300 0 0	75 2 6	224 13 6	300 0 0	300 0 0	300 0 0
Stonehouse Park.								
Temporary establishment	638 2 0	747 4 5	700 0 0	224 8 9	475 7 3	700 0 0	700 0 0	600 0 0

Budget Estimate of Cash requirements for the Official Year ending 31st March 1888, &c.—*continued.*

Description of Charges.	Actuals for 1885-86.	Average Expenditure for the three Years from 1883-84 to 1885-86.	Sanctioned Budget Estimate for 1886-87.	1886-87. Actuals for the first five Months.	1886-87. Probable charges for the remaining seven Months.	1886-87. Total.	Regular Estimate for 1886-87.	Budget Estimate for 1887-88.
Church Hill Park.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Temporary establishment	96 0 0	88 12 4	100 0 0	40 0 0	60 0 0	100 0 0	100 0 0	100 0 0
Sim's Park.								
Temporary establishment	2,166 13 7	1,906 8 5	2,000 0 0	721 3 8	1,278 12 4	2,000 0 0	2,000 0 0	2,000 0 0
Pay of a watchman	108 0 0	108 0 0	108 0 0	27 0 0	81 0 0	108 0 0	108 0 0	108 0 0
New Works.								
Making a bridle road and bridge	642 9 1	642 9 1	..	..	..	..	..	..
Gravelling new road	..	..	100 0 0	..	100 0 0	100 0 0	100 0 0	..
Removing and re-constructing conservatory sanctioned in paragraph 3 of G.O., No. 720, of 17th August 1886 ..	..	..	..	..	..	..	..	2,500 0 0
Opening an experimental garden at Gúdalúr	..	..	..	..	600 0 0	600 0 0	600 0 0	400 0 0
Total ..	23,498 8 5	22,343 2 9	22,849 0 0	9,801 3 6	13,647 12 6	23,449 0 0	23,449 0 0	25,409 0 0

Description of Receipts.	Actuals for 1885-86.	Average Receipts for the three Years from 1883-84 to 1885-86.	Sanctioned Budget Estimate for 1886-87.	1886-87. Actuals for the first five Months.	1886-87. Probable receipts for the remaining seven Months.	1886-87. Total	Regular Estimate for 1886-87.	Budget Estimate for 1887-88.
Ootacamund Gardens.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Sale of plants, seeds, &c. ..	2,499 4 3	2,159 15 5	2,500 0 0	1,494 14 11	1,005 1 1	2,500 0 0	2,500 0 0	2,600 0 0
Burliyár Gardens.								
Sale of plants, fruits, &c. ..	353 15 7	221 9 5	200 0 0	256 10 2	43 5 10	300 0 0	300 0 0	300 0 0
Kalhatti Gardens.								
Sale of plants	129 0 0	78 9 4	50 0 0	39 12 0	10 4 0	50 0 0	50 0 0	..
Medicinal Garden.								
Sale of jalap tubers, &c.	56 1 0	250 14 8	100 0 0	2 14 0	97 2 0	100 0 0	100 0 0	100 0 0
Value of drugs supplied to the Indian Medical Department, Madras ..	17 2 8	52 3 7	..	..	..	..	..	..
Total ..	3,055 7 6	2,763 4 5	2,850 0 0	1,794 3 1	1,155 12 11	2,950 0 0	2,950 0 0	3,000 0 0

Order—dated 4th November 1886, No. 953, Revenue.

Miscellaneous.

The following statement shows the actual receipts and charges of the Government Botanical Parks and Gardens, Nilgiris, during the year 1885-86, the budget and revised estimates for 1886-87, and the budget estimate for 1887-88 :—

——	Actuals, 1885-86.	Budget Estimate, 1886-87.	Revised Estimate, 1886-87.	Budget Estimate, 1887-88.
	Rs.	Rs.	Rs.	Rs.
Receipts	3,055	2,850	2,950	3,000
Charges	23,498	22,850	23,449	25,409

Owing to more plants having been sold during the year 1885-86 than was anticipated, the receipts exceeded the budget estimate by Rs. 205. The charges were Rs. 730 less than the estimate, owing, chiefly, to the fact that less than half the grant for the library was expended.

2. *Revised Estimate*, 1886-87.—The Director puts the revised estimate of receipts at Rs. 2,950, or Rs. 100 in excess of the budget estimate, while his revised estimate of charges is increased by a provision of Rs. 600 for opening out a small experimental garden at Gúdalúr. This provision, however, requires separate sanction, for which the Director should at once apply, giving reasons for his estimate. Meanwhile, the amount will be struck out of the revised estimate of charges which will be passed for the same amount—Rs. 22,850—as the budget estimate. The revised estimate of receipts is approved.

3. *Budget Estimate*, 1887-88.—The receipts during 1887-88 are estimated at Rs. 3,000. This is accepted. The charges are estimated at Rs. 25,409, or Rs. 2,559 in excess of the budget and revised estimates for the current year. This increase is largely due to the provision of a sum of Rs. 2,500 for the removal of the conservatory in the Ootacamund Gardens.

4. The provision for contingencies is fixed at Rs. 1,500, instead of as formerly at Rs. 1,000, the reason given being that the actuals for 1885-86 were Rs. 1,332-1-5. It is observed, however, that the actuals of the first five months of 1886-87 were only Rs. 436-10-4, or at the rate of Rs. 1,048 for the whole year. The provision of Rs. 1,500, therefore, seems excessive and it will accordingly be reduced to Rs. 1,200.

5. Under the head "Salary of overseer and fixed cooly establishment," Mr. Lawson provides a sum of Rs. 1,200, as against Rs. 2,208 entered in the revised budget, and against an average expenditure of Rs. 1,685 during the last three years. On the other hand, the provision for temporary establishment, required for the Government Gardens at Ootacamund, is raised from Rs. 4,163, the figure given in the revised estimate, to Rs. 6,008. These variations should have been explained. The amounts are, however, in the aggregate not greatly in excess of the corresponding items in the revised estimate and will accordingly be passed.

6. A sum of Rs. 500 has been provided for the travelling allowance of the curator and herbarium assistant, although the actual expenditure on this account, in 1885-86, was only Rs. 337, and the average, for the last three years, Rs. 246. In these circumstances, the Government consider that a provision of Rs. 400 will be sufficient.

7. The provision for the purchase of cabinets, &c., for the herbarium is Rs. 600, or Rs. 200 in excess of the allotment in the revised estimate. This difference is fully explained by the Director, and the provision is approved. The increase can, however, be met by a corresponding decrease in the provision for the library, which will be reduced from Rs. 1,200 to Rs. 1,000. Looking at the actuals of 1885-86 and the average expenditure of the past three years, it does not seem probable that even this amount will be expended.

8. The sum provided (Rs. 400) for opening a garden at Gúdalúr will be struck out for the reasons given above. Application for funds for this garden, as well as for any others, notably Calicut, which may be expected to be opened before the end of the year 1887-88, should be submitted by the Director as soon as possible, in order that due provision may be made in the civil budget estimate of charges for the Presidency.

9. The budget estimates of receipts and charges for the year 1887-88, as approved by Government, are as follows :—

	RS.
Receipts	3,000
Charges	24,400

The actual estimate of charges is Rs. 24,409, but a round sum has been taken as usual.

10. The estimate of charges for the upkeep of Government House Gardens will be transferred to the Financial Department.

11. With reference to his use of the term *Regular Estimate*, the attention of the Government Botanist will be drawn to paragraph 2 of G.O., 14th August 1883, No. 1742-A, Financial, a copy of which will be forwarded to him for information and guidance.

(True Extract.)

(Signed) J. F. PRICE,
Ag. Secretary to Government.

To the Government Botanist, &c.,
with copy of G.O., No. 1742-A of 1883, Financial.
„ the Financial Department.
„ the Accountant-General.
„ the Board of Revenue.
„ the Public Works Department.

Exd. W. H. French.

100 Copies.

No. 3061 W dy 18. 11. 86

Govt. of {1886} Madras.

REVENUE.

Recorded

(sd) J. O. H.

W.

Issued

Recd. *Encl*

G.O., 4th November 1886, No. 953.

No. 3061 W dy 18. 11. 86.

NOVEMBER.

Budget Estimates of the Government Botanical Gardens and Parks

for 1887-88, reviewed.

S. E. IV circle.

With order

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

Read—letter from M. A. LAWSON, Esq., Government Botanist and Director of Cinchona Plantations, Nílgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 27th September 1886, No. 63:—

Abstract.—Forwarding the budget estimates of the Government Botanical Gardens and Parks, Nílgiris, for 1887-88, with explanatory note.

Enclosures.

EXPLANATORY NOTE ON THE BUDGET ESTIMATE OF THE GOVERNMENT BOTANICAL GARDENS AND PARKS, NILGIRIS, FOR THE YEAR 1887-88.

Actuals of 1885-86—*Receipts.*—The actuals amounted to Rs. 3,055-7-6 as against the budget estimate of Rs. 2,850-0-0 and as against Rs. 2,763-4-5 the average receipts for the past three years. The receipts actually realized were thus in excess of the budget by Rs. 205-7-6, and over the receipts of the last year by Rs. 977-11-5. This increase was due to more plants and seeds having been sold during the year than was anticipated.

Charges.—These aggregated Rs. 23,498-8-5 as against an allotment of Rs. 24,229-0-0, thus showing Rs. 730-7-7 unexpended. This was due chiefly to the provision under Library not having been fully utilized, as out of an allotment of Rs. 1,200, only Rs. 590-4-1 were spent, the balance of Rs. 120-11-8 being taken to pay the excess expenditure which was incurred under Upper Norwood.

2. *Regular Estimate,* 1886-87—*Receipts.*—This has been set down at Rs. 2,950-0-0, or Rs. 100 over the budget estimate for the year (Rs. 2,850), as sanctioned in G.O., No. 1173, of the 20th October 1885, Revenue. This is due to larger receipts having been realized from the Barlyár gardens, chiefly by the sale of mangosteens. The receipts under this head have already exceeded the budget estimate for the year from the above cause. Although the receipts for the five months of the current official year have amounted to Rs. 1,494-14-11, and would thus appear to argue that a larger sum than Rs. 2,500 would be realized for the rest of the year, I have only adopted that figure, as I do not anticipate receiving more owing to the busy season being now over.

Charges.—These have been set down at Rs. 23,449, being Rs. 600 over the sums sanctioned by Government in G.Os., Nos. 1173, of 20th October 1885, and 6182, of 9th November 1885. This extra Rs. 600 is to provide for the opening out of a small garden at Gúdalúr during the present winter.

3. *Budget Estimate,* 1887-88—*Receipts.*—This has been set down at Rs. 3,000, being Rs. 50 over the regular estimate for the year.

Charges.—This has been set down at Rs. 25,409, being Rs. 1,960 above the regular estimate for the current year. The variations are thus explained:—

			Rs.
Regular estimate			23,449
		Rs.	
Budget estimate for 1887-88		25,409	
Increase in			
	Rs.		
Contingencies	500		
Maintenance of herbarium	200		
Removal of conservatory	2,500		
		3,200	
		22,209	
Decrease in			
Regrassing slopes, &c.	500		
Kalhatti garden	340		
Sim's and Stonehouse parks	200		
Gúdalúr garden	200		
		1,240	
			23,449

Contingencies, Rs. 500.—The increase in the allotment under this head is due to Rs. 1,000 being insufficient for these charges, as shown by the actuals of the past year (Rs. 1,332-1-5) and the average for the past three years (Rs. 1,547-6-10).

Maintenance of Herbarium, Rs. 200.—The cabinets for the herbarium have been supplied out of the allotment for the current official year, and an excess of Rs. 200 over the budget provision, or Rs. 600, is provided for the purchase of glass-cases for the preservation of vegetable economic products, which are too bulky to be kept in the herbarium proper.

Removing the Conservatory, &c., Rs. 2,500.—Provision has been made for this under paragraph 3 of G.O., No. 720, of 17th August 1886.

Decrease of Rs. 1,240.—This is due to the provision for the regrassing of slopes, &c., not being required next year, as the work has been already completed; and to the provision for the Kalhatti garden, which will be abolished next April, not being wanted. In addition to the above, small reductions have been made in the working of Sim's and Stonehouse parks, and a decrease of Rs. 200 under Gúdalúr Garden, as the expenditure will be less next year after it has been established.

4. *Upper Norwood—Actuals* 1885-86.—These amounted to Rs. 3,120-11-8 as against an estimate of Rs. 3,000, being thus Rs. 120-11-8 above the estimate for the year. This was met from savings under Government Gardens—*vide* paragraph 1 above.

5. *Regular Estimate,* 1886-87.—This has been estimated at the same figure as that sanctioned in G.O., No. 1516, of the 16th November 1885, Financial, communicated under G.O., No. 6529, of the 24th November 1885, Revenue, viz., Rs. 2,500, as it is calculated that that sum will suffice for the requirements of these gardens.

Budget Estimate, 1887-88.—This has been put down at Rs. 2,500 the same as the regular estimate for the current year, for the reasons given in the preceding paragraph.

BUDGET ESTIMATE of Cash requirements, Madras, for the Official Year ending 31st March 1888.
F. Estimate, Civil Service, Upper Norwood, Nílgiris.

Description of Charges.	Actuals of 1885-86.	Average Expenditure for the three Years from 1883-84 to 1885-86.	Sanctioned Budget Estimate for 1886-87.	1886-87. Actuals for the first five Months.	1886-87. Probable charges for the remaining seven Months.	1886-87. Total.	Regular Estimate for 1886-87.	Budget Estimate for 1887-88.
PROVINCIAL SERVICE, 16. MINOR DEPARTMENT.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Upper Norwood, Ootacamund.								
Temporary establishment ..	3,120 11 8	2,026 6 0	2,500 0 0	561 9 5	1,938 6 7	2,500 0 0	2,500 0 0	2,500 0 0
Total ..	3,120 11 8	2,026 6 0	2,500 0 0	561 9 5	1,938 6 7	2,500 0 0	2,500 0 0	2,500 0 0

BUDGET ESTIMATE of Cash requirements for the Official Year ending 31st March 1888—F. Estimate, Civil Service, Government Botanical Gardens and Parks.

Description of Charges.	Actuals for 1885-86.	Average Expenditure for the three Years from 1883-84 to 1885-86.	Sanctioned Budget Estimate for 1886-87.	1886-87. Actuals for the first five Months.	1886-87. Probable charges for the remaining seven Months.	1886-87. Total.	Regular Estimate for 1886-87.	Budget Estimate for 1887-88.
PROVINCIAL SERVICE.—16. MINOR DEPARTMENT.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Government Botanical Gardens and Parks.								
Salary of Curator	3,600 0 0	3,600 0 0	3,600 0 0	1,460 15 0	2,139 1 0	3,600 0 0	3,600 0 0	3,600 0 0
Do. of office establishment	550 3 4	550 14 4	792 0 0	305 8 4	486 7 8	792 0 0	792 0 0	792 0 0
Do. of Overseer and fixed cooly establishment ..	1,697 8 1	1,685 8 2	2,208 0 0	848 11 2	1,359 4 10	2,208 0 0	2,208 0 0	1,200 0 0
Grant for developing the vegetable products of other countries	596 6 11	598 10 7	600 0 0	1,436 8 8	..	1,436 8 8	1,436 8 8	600 0 0
Temporary establishment	5,713 0 1	4,941 8 4	5,000 0 0	2,354 8 7	1,808 14 9	4,163 7 4	4,163 7 4	6,008 0 0
Contingencies	1,332 1 5	1,547 6 10	1,000 0 0	436 10 4	563 5 8	1,000 0 0	1,000 0 0	1,500 0 0
Horticultural implements, purchase of mowing machines, rollers and garden tools	556 14 0	508 10 6	500 0 0	..	500 0 0	500 0 0	500 0 0	500 0 0
Painting of the conservatory, green-house, and repair of propagating houses	610 6 1	601 15 10	600 0 0	501 10 5	98 5 7	600 0 0	600 0 0	600 0 0
Labelling	234 5 8	234 7 6	350 0 0	83 5 6	266 10 6	350 0 0	350 0 0	350 0 0
Travelling allowance of the Curator and Herbarium Assistant	337 2 0	246 1 0	500 0 0	76 0 0	424 0 0	500 0 0	500 0 0	500 0 0
Regrassing of slopes, gravelling of walks in upper garden, formation of a kitchen garden, and the clearing of ravine, &c.	1,140 0 3	1,140 0 3	500 0 0	..	500 0 0	500 0 0	500 0 0	..
Municipal assessment	169 0 0	187 0 0	169 0 0	84 8 0	84 8 0	169 0 0	169 0 0	169 0 0
Herbarium.								
Pay of Herbarium Assistant, cooly and peon	792 0 0	784 0 0	792 0 0	310 10 6	481 5 6	792 0 0	792 0 0	792 0 0
Purchase of cabinets and materials	416 15 2	601 7 3	400 0 0	308 4 0	91 12 0	400 0 0	400 0 0	600 0 0
Library	590 4 1	215 13 9	1,200 0 0	101 4 2	1,098 11 10	1,200 0 0	1,200 0 0	1,200 0 0
Crewe and Ottley Hall estates	381 14 9	381 14 9	500 0 0	162 9 6	337 6 7	500 0 0	500 0 0	500 0 0
Barliyár Garden.								
Temporary establishment	487 11 3	440 12 8	490 0 0	152 2 6	337 13 6	490 0 0	490 0 0	490 0 0
Kalhatti Garden.								
Temporary establishment	328 8 8	285 7 6	340 0 0	90 0 0	250 0 0	340 0 0	340 0 0	..
Medicinal Garden.								
Temporary establishment	262 10 0	298 5 3	300 0 0	75 2 6	224 12 6	300 0 0	300 0 0	300 0 0
Stonehouse Park.								
Temporary establishment	688 2 0	747 4 5	700 0 0	224 8 9	475 7 3	700 0 0	700 0 0	600 0 0

Budget Estimate of Cash requirements for the Official Year ending 31st March 1888, &c.—*continued.*

Description of Charges.	Actuals for 1885-86.	Average Expenditure for the three Years from 1883-84 to 1885-86.	Sanctioned Budget Estimate for 1886-87.	1886-87. Actuals for the first five Months.	1886-87. Probable charges for the remaining seven Months.	1886-87. Total.	Regular Estimate for 1886-87.	Budget Estimate for 1887-88.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Church Hill Park.								
Temporary establishment	96 0 0	88 12 4	100 0 0	40 0 0	60 0 0	100 0 0	100 0 0	100 0 0
Sim's Park.								
Temporary establishment	2,166 13 7	1,906 8 5	2,000 0 0	721 3 8	1,278 12 4	2,000 0 0	2,000 0 0	2,000 0 0
Pay of a watchman	108 0 0	108 0 0	108 0 0	27 0 0	81 0 0	108 0 0	108 0 0	108 0 0
New Works.							..	
Making a bridle road and bridge	642 9 1	642 9 1	..	..	..	..	..	..
Gravelling new road	..	..	100 0 0	..	100 0 0	100 0 0	100 0 0	..
Removing and re-constructing conservatory sanctioned in paragraph 3 of G.O., No. 720, of 17th August 1886 ..	..	..	..	..	..	..	..	2,500 0 0
Opening an experimental garden at Gúdalúr	..	..	..	..	..	..	..	400 0 0
Total ..	23,498 8 5	22,343 2 9	22,849 0 0	9,801 3 6	13,647 12 6	23,449 0 0	23,449 0 0	25,409 0 0

BUDGET ESTIMATE of Receipts, Madras, for the Official Year ending 31st March 1888.
F. Estimate, Civil Service, Government Botanical Gardens and Parks.

Description of Receipts.	Actuals for 1885-86.	Average Receipts for the three Years from 1883-84 to 1885-86.	Sanctioned Budget Estimate for 1886-87.	1886-87. Actuals for the first five Months.	1886-87. Probable receipts for the remaining seven Months.	1886-87. Total	Regular Estimate for 1886-87.	Budget Estimate for 1887-88.
Ootacamund Gardens.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Sale of plants, seeds, &c. ..	2,499 4 3	2,159 15 5	2,500 0 0	1,494 14 11	1,005 1 1	2,500 0 0	2,500 0 0	2,600 0 0
Barliyár Gardens.								
Sale of plants, fruits, &c. ..	353 15 7	221 9 5	200 0 0	256 10 2	43 5 10	300 0 0	300 0 0	300 0 0
Kalhatti Gardens.								
Sale of plants	129 0 0	78 9 4	50 0 0	39 12 0	10 4 0	50 0 0	50 0 0	..
Medicinal Garden.								
Sale of jalap tubers, &c.	56 1 0	250 14 8	100 0 0	2 14 0	97 2 0	100 0 0	100 0 0	100 0 0
Value of drugs supplied to the Indian Medical Department, Madras ..	17 2 8	52 3 7		..				
Total ..	3,055 7 6	2,763 4 5	2,850 0 0	1,794 3 1	1,155 12 11	2,950 0 0	2,950 0 0	3,000 0 0

ORDER—dated 4th November 1886, No. 953, Revenue.

Miscellaneous.

The following statement shows the actual receipts and charges of the Government Botanical Parks and Gardens, Nílgiris, during the year 1885-86, the budget and revised estimates for 1886-87, and the budget estimate for 1887-88 :—

——	Actuals, 1885-86.	Budget Estimate, 1886-87.	Revised Estimate, 1886-87.	Budget Estimate, 1887-88.
	Rs.	Rs.	Rs.	Rs.
Receipts	3,055	2,850	2,950	3,000
Charges	23,498	22,850	23,449	25,409

Owing to more plants having been sold during the year 1885-86 than was anticipated, the receipts exceeded the budget estimate by Rs. 205. The charges were Rs. 730 less than the estimate, owing, chiefly, to the fact that less than half the grant for the library was expended.

2. *Revised Estimate*, 1886-87.—The Director puts the revised estimate of receipts at Rs. 2,950, or Rs. 100 in excess of the budget estimate, while his revised estimate of charges is increased by a provision of Rs. 600 for opening out a small experimental garden at Gúdalúr. This provision, however, requires separate sanction, for which the Director should at once apply, giving reasons for his estimate. Meanwhile, the amount will be struck out of the revised estimate of charges which will be passed for the same amount—Rs. 22,850—as the budget estimate. The revised estimate of receipts is approved.

3. *Budget Estimate*, 1887-88.—The receipts during 1887-88 are estimated at Rs. 3,000. This is accepted. The charges are estimated at Rs. 25,409, or Rs. 2,559 in excess of the budget and revised estimates for the current year. This increase is largely due to the provision of a sum of Rs. 2,500 for the removal of the conservatory in the Ootacamund Gardens.

4. The provision for contingencies is fixed at Rs. 1,500, instead of as formerly at Rs. 1,000, the reason given being that the actuals for 1885-86 were Rs. 1,332-1-5. It is observed, however, that the actuals of the first five months of 1886-87 were only Rs. 436-10-4, or at the rate of Rs. 1,048 for the whole year. The provision of Rs. 1,500, therefore, seems excessive and it will accordingly be reduced to Rs. 1,200.

5. Under the head "Salary of overseer and fixed cooly establishment," Mr. Lawson provides a sum of Rs. 1,200, as against Rs. 2,208 entered in the revised budget, and against an average expenditure of Rs. 1,685 during the last three years. On the other hand, the provision for temporary establishment, required for the Government Gardens at Ootacamund, is raised from Rs. 4,163, the figure given in the revised estimate, to Rs. 6,008. These variations should have been explained. The amounts are, however, in the aggregate not greatly in excess of the corresponding items in the revised estimate and will accordingly be passed.

6. A sum of Rs. 500 has been provided for the travelling allowance of the curator and herbarium assistant, although the actual expenditure on this account, in 1885-86, was only Rs. 337, and the average, for the last three years, Rs. 246. In these circumstances, the Government consider that a provision of Rs. 400 will be sufficient.

7. The provision for the purchase of cabinets, &c., for the herbarium is Rs. 600, or Rs. 200 in excess of the allotment in the revised estimate. This difference is fully explained by the Director, and the provision is approved. The increase can, however, be met by a corresponding decrease in the provision for the library, which will be reduced from Rs. 1,200 to Rs. 1,000. Looking at the actuals of 1885-86 and the average expenditure of the past three years, it does not seem probable that even this amount will be expended.

8. The sum provided (Rs. 400) for opening a garden at Gúdalúr will be struck out for the reasons given above. Application for funds for this garden, as well as for any others, notably Calicut, which may be expected to be opened before the end of the year 1887-88, should be submitted by the Director as soon as possible, in order that due provision may be made in the civil budget estimate of charges for the Presidency.

9. The budget estimates of receipts and charges for the year 1887-88, as approved by Government, are as follows :—

	RS.
Receipts	3,000
Charges	24,400

The actual estimate of charges is Rs. 24,409, but a round sum has been taken as usual.

10. The estimate of charges for the upkeep of Government House Gardens will be transferred to the Financial Department.

11. With reference to his use of the term *Regular Estimate*, the attention of the Government Botanist will be drawn to paragraph 2 of G.O., 14th August 1883, No. 1742-A, Financial, a copy of which will be forwarded to him for information and guidance.

(True Extract.)

Ag. Secretary to Government.

To the Government Botanist, &c.,
with copy of G.O., No. 1742-A of 1883, Financial.
„ the Financial Department.
„ the Accountant-General.
„ the Board of Revenue.
„ the Public Works Department.

Exd. W. H. French.

100 Copies.

2333 W 15.9.86.

P.W.C. № 8981

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G.O., 4th November 1886, No. 953.

№ 3061 W dt Nov 18 '86

Gobt. of {1886} Madras.

REVENUE.

NOVEMBER.

Budget Estimates of the Government Botanical Gardens and Parks

for 1887-88, reviewed.

S.E. IV circle

S.E. IV circle 18/11

2 Copies to reply

With order