No: 474

Notes of Inspection of Works on the Nilgiris by the Superintending Engineer Fourth Circle in the month of October 1883.

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1 Minor new Works in progress at Wellington Barracks

I. Providing Stoves at the Married Quarters. Eighty four stoves have already been fitted up and the remaining thirty six will be completed before Christmas. The only cause of delay now in completing this will be owing to families having to shift quarters while the work is being done.

II. Six Inch Main Pipe from the Barrack Square to the Married Quarters, with branch pipes to the Wash houses and hydrants for use in case of fire.

About three fourths of the work done and pipes being laid to the Wash houses of the fourth block. All the materials are ready at site except two hydrants which Mr. Groves has undertaken to supply. The other hydrants have been fixed and water laid on to six out of the eight Washhouses.

III. New Markers' Butts

at

at the Old Rifle Range. —
completed, excepting a little earth work and Turfing.

IV. Planting up Gun Hill about the site proposed for the new Church. Completed according to General Sankey's instructions. All that is now wanted is a road of approach which should be put in hand as soon as funds are available.

V. The following materials are now available at the Brick-field for any repairs or new Works (such as the Battery or Church) that may be sanctioned:—

5,47,058 Table moulded bricks
approximate value
12 Rs: per 1,000

12,500 Terrace bricks.
approximate value 5 Rs:
per 1000.

1,590 Paving Bricks
approximate value 100 Rs
per 1000.

510 Pillar Bricks
approximate value
25 Rs: per 1000.

1,05,000 Pan tiles
approximate value
8 Rs per 1000

11,175 Flat tiles
approximate value 5 Rs
per 1000

100 Ridge tiles
approximate value 50 Rs:
per 1,000

87 Open drain tiles
approximate value 1 Rupee
each

53 Chimney tiles
approximate value 1 Rupee
each

4,326 — 3 inch pipes
approximate value 6 annas
each.

2,564 — 4 inch pipes
approximate value 2 Rs

143 — 10 inch pipes.
approximate value 1 Rupee
each.

Total approximate value of materials in hand Rupees 9,442.

2. Government House, Ootacamund. The following were works in hand at date of last inspection, or which have since been commenced:—

I Improving the drainage of the Terrace Floors (which were formerly covered by verandahs). This work has been completed

completed according to the arrangements approved by the Private Secretary

II. Kitchen Improvements These have been completed with the exception of laying on water and relaying the drains in the Kitchen Yard at a lower level

III. New Harness Room still incomplete. The walls are being pannelled with old packing case timber, and are nearly finished. Ceiling still to be done. Pegs for harness and saddlery partly done. Painting not commenced. Flooring still to be plastered with Portland cement

IV. Stable Yard improvements. Completed.

V. Gram boiler fixed and chimney built. It is now proposed to enclose the shed on 3 sides with wall, doors and windows.

VI. Upper Norwood Improvements. Only a little finishing to be done, and the side lights of the two front windows to be put in. Roof believed to be water-tight. No complaints.

VII. Aide-de-Campé Room. The leakage in the corner of this room has not yet been effectually stopped. General Sankey decided that the present terracing should not be altered, as this would necessitate new woodwood, but that the corrugated iron on top should be relaid on battens with a better slope, and the parapet rebuilt with proper weepholes. It may be advisable to give an extra amount of overlap to this bit of roof. And this roof, which has always given trouble, should be made perfectly water-tight this season.

VIII. Centre part of Main Roof. Some of the Italian sheeting has still to be laid, and the gutters are still leaky and require correction.

IX. Alterations of school rooms and ventilators in North Wing. Completed.

X. New Flag staff on the Knoll south of Government House. This has been a very long time wanted, and should now

No 2270 Ca/19 the 11th Nov/83

1. These remarks are concurred in. Attention should be given thereto.

now be finished off as soon as the new derrick is available.

XI. Snowdon Road improvements. Catch drains and culverts nearly finished. Part of the metalling, the greater part of the gravelling and the principal tunnel still incomplete. This work has now been some months in hand and should be pushed on to completion as soon as possible.

XII. Repairs to Back Road. These are in hand and will probably be completed within a fortnight

XIII. Wings to Garden Gates to carry Lamp Posts. In progress; stone work still to be done. The design of lamps has been decided on and ordered from England.

XIV. Garden Bridge. The new faces and parapets should be put in hand as soon as possible. The stone is stated to be all ready dressed

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The following works are to be undertaken this season as soon as His Excellency the Governor leaves for the plains

I. The New Road of Approach to Government House Estimate Rs. 5,900. This should be commenced as soon as the Back Road has been gravelled, and put in order throughout. The trees to be cut down should be marked and Mr. Lawson's opinion taken before cutting them down. One tree in particular pointed out by the Chief Engineer must be spared, though it will necessitate extra banking; and the general rule with the others is that nothing is to be cut down that can possibly be left standing.

II. Removal of Butler's House and Cistern. This is a petty work costing only Rupees 120 which may stand over until the new road is well advanced, but meantime the removal of the Cistern to its new site should be carried out

III. The Terracing of the ground to the west of Government House and obliteration of the present carriage drive in

in its upper part; estimate Rs: 6000; to be put in hand as soon as possible.

IV. Visitors' Rooms in the North Wing. This is a petty work not thought of when the revised estimate was framed. It is now considered urgent — and has been commenced

V. Three New Sinks; and four doors to be fitted with the latest pattern of door springs

VI. Two new blocks of Servants' quarters.

VII. Passage through the Aide-de-Camps' room, with new retiring room below.

VIII. Garden Cottage Improvements

IX. Upper Norwood do — to be thoroughly completed

X. Scullery improvements. This is a petty work estimated at Rs: 510, not in the revised estimate, but now considered indispensable.

XI. Foundations and basement for fountain.

XII. Conservatory and passage to Upper Norwood. Estimate Rs: 10,000.

XIII. Shed for Standing horses in on Party Nights. Estimate, Rs: 832.

Estimates for numbers IV and X should be submitted for sanction as soon as possible. Of the others, Nos. VI and XIII appear the least urgent, if there is any doubt of materials and labor being available in sufficient quantities. Nos. II, V. VII and X are petty improvements which it is thought there will be no difficulty in having thoroughly completed.

Only the southern half of Upper Norwood, No. IX should be put in hand this season, leaving the northern half and the Hall for the Private Secretary's use when Government returns from Madras. It is hoped that the other important improvements Nos. I III, VIII, XI and XII, will be fully completed before 1st April, and to this end should have the special attention of the Divisional and Subdivisional Officers

2. It is hoped that every portion of this work which has been undertaken will be completed without fail before the end of March 1884.

Officers.

3. New Road Across the Swamp opposite Otley Hall. The metalling, gravelling and turfing of this bit of road which has been so long in hand should be finished off as soon as possible.

4. Otley Hall. The Chief Engineer wants the survey and report on this as early as practicable. The report should state the amount of accommodation in the main building and in the outhouses; what extent of land goes with the house; the nature of the foundations, walls, and roof; and the probable value of the property.

5. Government Offices Stone House.

(1) No time must be lost in getting those finished, so that they may be thoroughly complete and ready for occupation by 1st April.

(2) As soon as the windows and doors have been fitted in, and the fire places completed

fires

3. Purchase of this property has been subsequently sanctioned.

4. All these items must be completed without fail before end of March 1884.

fires should be lighted in all the rooms, so as to test the draught of the chimneys, and admit of any needed alterations being made in good time.

(3) The removal of certain servants' quarters, and the old cookroom pointed out by the Chief Engineer, and provision of new quarters for a dozen persons on the site selected, should be put in hand as soon as possible; also,

(4) A step ladder with hand rails to enable the sweeper to reach the upper story.

(5) The back road to Stone House has apparently been long neglected. It should be put into and kept in good order; and no bandies allowed to use the carriage road, which is now being cut up by fire wood and other bandies using it.

6. Clerks' Quarters, Stone house. As pointed out by the Chief Engineer, the almost total absence of bond in the masonry is very objectionable. As far as

possible

possible alternate headers and stretchers should be insisted on and bond stones at intervals. There should be a maistry constantly on the work to see that this is done and also that all stone used is first wetted, and the work kept wet while the chunam is setting.

5. This should be carefully attended to.

7. Cinchona Villa.
A supplemental estimate is needed for the repairs of the approach road; for removing jungle from the compound; and for a path way leading from the Villa to Government House; which are improvements not contemplated when the original estimate was framed.

8. Plot of land to be taken up for the lower end of the stone house carriage road.
A correct plan of this on a large scale as pointed out by the Chief Engineer, should be sent to the Collector as soon as possible, with a view to its purchase by Government A copy of the plan should be registered in the Executive Engineer's Office.

9. Landslip at the Gorge near the Aqueduct on the Coonoor Road. The survey and levels for taking up the plot of land from the aqueduct to Burnfoot Boundary and from the road for about 50 yards away from it on the eastern side where there is danger of slips occurring has been ordered with a view to setting back the Dodabet road and supply channel and easing the present dangerous slopes on that side of the road. The survey is to be accompanied by six cross sections of the ground. It is understood that Mr Colquhoun will be given a trial on this work, but from his previous character it will be necessary to arrange for having his work well checked.

10. Post and Telegraph Office.
The revised Estimate for this building, providing for the additions and alterations asked for by the Post Master General, should be submitted as early as practicable. It should include provision for sloping and planting all the faces

p faces of the hill, filling up all
e holes and gullies about the ground,
o and making two good pathways
= from the corner opposite the li=
m brary, and from the one near
w Oakes' shop. As already explain
a ed demi-officially, these pathways
i will be gravelled throughout, and
t the steep slope will be partly over=
i come by flights of steps.

7 11. Bazaar Drainage.

= The principal works still to be
i carried out are those at the
t slaughter Houses, the main
= Bazaar Road, and Peyton's
C Road.

(1) At the Slaughter Houses there will be a separate cut stone drain from each of them, and a supply of water will be led through them by pipe or cut stone channel as may be found cheapest to one or more masonry cisterns in each of them. These Slaughter House improvements are considered most important.

The channel which receives the drainage of both slaughter houses also requires careful improvement the culverts through which it passes to be taken up, the channel through them laid with cut stone, and wells formed at each of the principal drops on the line, to catch solid matter and be cleared out daily by the Municipal Scavengers;

6. Concurred in. These three works should be taken up in the order named.

(2) The second most important improvement still wanting at the Bazaar, is the cut stone drain on the upper side of the main or centre street. Portions of this have been done, but it has to be completed throughout and as close to the foundations of the houses as possible. At the same time any culverts on the line, not yet attended to must be opened up, and the channel through them laid with cut stone. Above each culvert there is to be a stone lined well to catch solid matter and be cleaned out daily.

(3) A third improvement still to be done is the cut stone drain on the upper side of Peyton's Road which is to be continued down to the Lake; and the present open channel on the lower side of the road is to be closed; and the drainage diverted to an existing

existing Channel which flows more directly and with a better fall into the Lake.

12. Main Sewer, and Water supply.

It has now been decided that the water supply estimates are to provide for all the mea=sures recommended by the Improvement Committee.

An Estimate is wanted for a drop wall with water cush=ion below it in front of the site of the escape weir of the Lake with its crest at the level of the weir, so that the ordinary surplus* water may escape at the south end of the bund.

The estimate for the iron pipe which is to be substituted for a brick sewer recommended by the Improvement Committee is to be submitted with the least possible delay. It is believed that the levels and surveys for this work are nearly complete and it is particularly requested that the surveyor may be first employed in finishing them, so that the estimate may be made out at once. The maximum dimension

* Chief Engineer's No. 467 P of 23rd October 1883

dimension of the pipe which is to commence above the stables of Messrs Brown is to be 12 inches; it is to have connection with all the main drains on the line, and arrangements made for its being flushed along its en=tire length.

As soon as the Surveyor has completed the survey and levels required for the sewage pipe, he should be employed on the levels required for cutting off objectionable portions of the catchment basin above the Marlinmd Reservoir, for preserving the Reservoir and its drainage area from cattle and trespassers, and for supplement=ing the present supply by lead=ing into the Reservoir the drain=age of parts of the Hills about Knowdon.

13. Lawrence Asylum Build=ings.

It is understood that the instructions of the Chief Engineer given on his recent visit, for strengthening the edges of the steps leading to the Plunge Bath by means of wooden bars to each of them have been

attended

attended to.

No time should be lost in thoroughly Completing the gutters and fall pipes, if this has not already been done.

The Principal of the Asylum is, it is believed, having the new Lightning Conductors fitted up by his own people.

The petty improvement asked for by the Principal in one of the passages of the Asylum, by removing the pier between two arches, and supporting the wall above on girders made of double headed rails should be carried out at once.

Estimates are still awaited for draining and gravelling the Court yards of the Asylum; and for the new latrine and urinary and covered passage thereto: though in the present scarcity of funds under the head Military it is doubtful if these improvements can be carried out before 1st April. They might perhaps be commenced in March and paid for in April.

14. Cinchona Buildings at Neduvatum.

(1) Brickmaking should recommence at the earliest possible date. Probably it will be best to begin on 15th November, as the rains after that will probably be light.

(2) The furnaces will have to be rebuilt as early as practicable with a better description of fire brick, which it is presumed the improved means of manufacturing them now available at the Lower Kandab Brick field will enable the Executive Engineer to supply at an early date.

(3) Professor Lawson has agreed to the alterations proposed in the positions of the cistern hydrants, and line of piping to connect them. He has been asked to state what extra works he requires beyond painting the woodwork, gravelling about the buildings, and a new approach road.

(4) Supervisor Chinnathambi Pillay should make his Head Quarters at Neduvatam until

until the full supply of materials for completing the new Drying and Store sheds have been delivered at site of the works, and he should be instructed to keep the Executive Engineer informed of all causes of delay and means of hastening their completion.

7. It is hoped that these buildings will be completed with the least possible delay.

W. Ward Stewart
13-11-83. Col R.E.
Chief Engineer P.W.D.

L. Beatty - Colonel R.E.,
Supg. Engineer, 4th Circle.
30/10/83

Madras.
November 14th 1883.

To
The Chief Engineer,
P.W.D.

To,
The S.E. Fourth Circle

In Chr. 10917
~~7988~~

No 553.

Returned to the Chief Engineer, P. W. Department, the remarks having been noted.

J. Beatty - Col: R.E.,
Supt Engineer, 4th Circle.
Camp at Cox
4th Decr: 83

From
The Supt Engineer,
Fourth Circle.

SUPTG. ENGINEER'S OFFICE
NO. 12068W
21 NOV. 83
P. W. D.
FOURTH CIRCLE

To
The Chief Engineer,
P. W. Department.

No 2550 C a/ 18th Decr/83

Recorded

Dated 30th October 1883.
Recd: 24/12/83

No: 474

No 2550 C a/ 18th Dec/83

Notes of Inspection of Colonel J. Beatty R.E., Supt Engineer 4th Circle for Octo: 1883.

a/
8/10

With disposal
Cut in Supt Rectr

No 574 C of March 10. 1884.

No 220 C
Ex

Notes of Inspection of Work at Ootacamund at end of February 1884

Chief Engr's remarks.

C No 116.

Elk Hill Cutting.

× × × × ×

Reports that the Excavation for the Tramway has been completed - 2240 running ft. of rails, sufficient for 1220 R ft. of Tramway and 3 trolleys obtained from the Devala Gold mines being delivered at site - and a fourth trolley being prepared by Graves & Co., and Expects the tramway to be in working order very shortly.

1. It was hoped that this work would have been in hand sooner.

Special care should be taken to prevent stoppage of traffic on the public road, especially during April.

× ×

2. Govt Offices, Stonehouse

× × × × ×

That Out of 13 rooms in the building, the windows of only 5 rooms have been completely filled with glass, but that of the other 8 are being partly filled, owing

2. Care should be taken the insure the windows fitting properly.

S.E's Notes (contd)

to much of the plate glass obtained from England being broken on its journey - and which is now being replaced from Messrs Grove's stores.

That some of the fire places have been tried, and have burnt well without smoking - That the whole will be tried when the doors and windows are completed.

That in the estimate for fire-places provision is not made for fenders and as it was understood by the Chief Engr on his last visit to order their supply, Mr Larmine is now in communication about them with Messrs Oaker & Co.

C.E's remarks

3. This should be carefully attended to.

4. If these have not been provided, I think it would be better to provide each fire place with a dwarf wall of masonry in lieu of fender - the wall should be about 6" in height & plastered with cement.

C.E's remarks.

5. I suppose this is done in communication with the Sec'y to H.E. the Governor.

6. If a catch drain has not been already provided, this should be done at once.

S.E's Notes.

3. Genl Salmon's Property.

4. Gut House. Painting the Exterior.

That this is being done with a mixture of red ochre and lime wash, similar to what had already been used and stood well on parts of the rear face.

That the new approach road past Upper Norwood to the front of the house is nearly completed, it being metalled, gravelled and rolled throughout, the bank on the upper side sloped, and that on the lower side turfed; the H. Butlers House being cleared away and the roadway completed past it up to the front porch.

Inspectors Note referenced as 09/8

S.E's Notes.	C.E's remarks.
5. Garden Cottage.	
× × × × ×	
That the papering of the walls is delayed to allow of the walls to dry, but that this will be done in March.	7. If papering has not been begun, it had better be postponed till next cold weather.
× × × ×	
6. Ottley Hall	
× × × × ×	
7. Adam Memorial	
× × × × ×	
8. Bazaar Drains.	
× × × × ×	
That he observed all the pumps were full of solid matter at the time of his inspection (between 8 and 9 a.m.); and that he brought this to the notice of the Head of the Municipality, as he did not not meet with carts & scavengers clearing them.	8. The Ex. Engr. should be instructed to inspect this periodically.

C.E's remarks.	S.E's Notes
	9. Main Brick Sewer.
	10. Cinchona Buildings Nadurvatam.
	× × × ×
	That the furnaces of the Drying Shed have been rebuilt and the side walls faced with Mepn Grove's fire bricks.
	× × × ×
	and that the furnaces of the store shed are in progress being lined with Mepn Grove's fire bricks.
	× × × ×
	That it is understood that Mr Lawson intends making a new approach road himself.
9. It was understood that fire bricks were being made at Khandal - What has become of them?	(Sd) J Beatty - Col R.E. S.E. IV Circle
10. Noted.	dated 10/3
(Sd) J Shaw Stewart - Col R.E. Chief Engr & Sy D.	To, The S.E. IV Circle with Inspection Note returned in original

No. 574 C of March 10. 1884.

No. 153
Ex

Notes of Inspection of Works on the Nilgiris in March 1884.

Cinchona Buildings Sedwatam. It is understood that the whole of the materials, including bricks, timber, paint and iron pipes are now in hand at site; so there should be no delay in completing the Drying and Store sheds. If the last revised Estimate is likely to be exceeded, a supplemental estimate should be submitted for the extra works (such as, painting the exterior of the wood work of doors and windows; levelling clearing and draining the site; making ramps or flights of steps in front of the principal doors &c.) which were not allowed for in the sanctioned estimate

12/3 12/3 Entries kept Regts

estimate.

2. Escape Weir of Otacamund Lake. When last inspected, a small cut had been made through the bund in front of the escape weir, and water being admitted, there was found to be a dangerous leak apparently under or through the left front wing and through the new masonry and concrete in rear. This will have to be very carefully stopped by extending the puddle wall in front well into the hard soil on either side; and as the sill and aprons, front and rear, are now much below what there is any necessity for, it would be well to weight them with a couple of feet in depth of rubble masonry or concrete all over.

No 71,0 Cy 25th March 84

This is far from satisfactory after the expense that has been incurred.

It is hoped that special care will now be taken to make the work water tight.

3. Lake

3. Lake End Brick-field. It seems indispensable to good brickmaking at this field, where there are so many kinds of soil, that the mixtures of soil used should be thoroughly incorporated together, and to this end the convenient working of the brickmaking machine must be arranged. If the attempt to work it by horses continues to be a failure, this should be reported as soon as possible in order that a steam engine may be obtained. Possibly with stronger and steadier horses and beter harness than were used in the first trials, the use of horses may be found practicable.

Trial should be made with 6 H.P. engine from Lawrence Hayes, if it can be easily put in working order.

4. Bazaar Drains.

At last inspection — these were nearly completed, and the only part not work=ing well was the pipe that takes a supply of water to the slaughter Houses. The pipe appears to be too small, and gets choked; possibly a somewhat larger pipe, about 5 or 6 inches diameter, is all that is required. This should be attended to and put in good working order at once. The Executive Engineer should visit the Bazaar once or twice a month, about midday, to see if the Conservancy Esta=blishment is keeping the cumps and drains clean; and bring to the notice of the President of the Munic=ipality any neglect on the part of the sanitary Inspec=tors

noted & approved.

The President was asked to mention any additional work he thought necessary in connection with the drainage scheme in the Bazaar, but as yet he has not done so, and it is therefore assumed that he is satisfied.

5. <u>Main Sewer between the Willow Bund and the Tonga Stables.</u> The result of the reference made by the Executive Engineer to Messrs Richardson and Cruddas of Bombay regarding glazed earthenware pipes for the upper part of the main sewer should be reported as soon as possible; in order that the sanction of the Chief Engineer may be obtained, if necessary, to the purchase of the pipes.

The

The dimensions and cost
of the pipes proposed to be
used should be reported,
and whether any, and what,
saving will be effected by
using them.

6. New Post and Tele-
graph Offices. Orders
having now been given to
push on with all the ad-
ditional works to completion
as fast as possible, if Mr.
Groves is not making satis-
factory progress with them,
part of the work might
perhaps with advantage
be given to Mr. Vigor who
is understood to have done
good work elsewhere. All
details in connection with
the new porch in front of
the Building about which
there may be any doubt,
should be referred to Major
Morant

The delay in this matter
has not been satisfactory.

It is hoped that there is
no doubt on this point.

Morant.

7. Gola Hill Cutting.
It is understood that the
new breakwheel and wire
rope have been received, so
it is hoped that there will
be no further delay in working the
tramway. Very great care
will have to be taken, at
first especially, to prevent
accidents to the Convicts and
others working the trollies.

8. Government House,
Stone House. The com-
pletion of the glazing of
Windows; and the paint-
ing, varnishing and oiling
of the woodwork; also the
fitting of locks and bolts
to doors and windows, must
be pushed on as much as
possible so that the rooms
may be ready for occupation
early in April.

As already ordered

ordered, the fire places are to be provided with Masonry (instead of iron) fenders. The fenders should be of brick work, coated with cement about 6 inches high. Care must be taken that the fenders are built as neat and eightly as possible.

After the doors and windows have been made to fit properly, and all glazing completed, fires must be lighted in any of the fireplaces not yet tried and alterations made where necessary to ensure the Chimneys drawing properly.

The back staircase, or ladder with handrail, for the sweeper had not been completed at the time of last inspection. This requires special attention.

9. Commander-in-Chiefs Guard house.

This has now been completed with brick-in-mud walls pointed in chunam, instead of the wattle-in-daub at first tried, and with a gravelled approach and glazed windows, and it is hoped will now be found satisfactory. It is understood there has been some excess owing to the alterations and the exact amount of this should be reported at once, if this has not already been done in order that an extra allotment may be asked for.

10. Snowdon Road.

This has now been improved throughout with under tunnels and catch drains and widened to 15 feet at the narrowest parts. Nearly all

all of it is now 18 feet wide and at the principal culvert it is nearly 21 feet.

I observed the road-way obstructed at one place with logs of wood, and a tree lately cut down lying half across the road. On enquiry I found that this was the work of the Government House Servants who appear to have permis-sion to cut down trees where they please on the line of that road. I requested the Executive Engineer to take an opportunity of bring-ing this matter to the notice of the Military Secretary.

11. Government House. The matters specially requiring attention before the House is re occupied early in April are:-

I. The pane of glass in the drawing room window which was starred when blasting the rocks in rear of Upper Norwood should be taken out and replaced at once with a round sheet of plate glass.

II. The sloping and turfing of the bank at side of the road near the spot where the Butler's house used to stand should be attended to.

III. The gravelling of the tops of the terraces, with a flight of steps down each of the turfed slopes.

IV. The complete re-moval of the traces of the old road of approach & training of the drainage from the road culverts into its old

old channels.

V. The catch drains to be completed or provided where necessary along the hill side above the new road of approach.

VI. The completion of the repairs and improvements to side drains in the lower part of the approach road.

VII. The completion of Garden Cottage and its approach road.

VIII. The completion of the ornamental wings and pillars at the Lodge Gates; and of Garden Bridge.

It is hoped that these matters will be finished without fail by 31-3-84.

12. Flag Staff at Government House. The new flag-staff on the knoll to the east of Government House has been completed and painted, and is now in working order.

13. Conservatory and covered Way between Government House and Upper Dor. wood. The woodwork is in progress at Messrs. Groves' Works Bonnor, and the iron and glass may be expected from England about end of May.

14. New Sinks and door springs. These have arrived from England and will be put up at once.

15. New Pipe Sewer from Willow Bund to Lake End. Inspected plans in progress at the Executive Engineers Office, and read over his report on the proposed pipe sewer, the estimate for which will it is expected be submitted at a very early date awaited.

16. Water Supply Scheme The whole of the levels for the portion of this scheme

under

under the Marlimund Reservoir are now ready; and nearly all those for the part under Dodabetta Reservoir. These plans and estimates will be put in hand as soon as the Pipe Sewer Estimate has been finished.

Noted.

[illegible]

21-3-84.

[illegible] Beatty Col: Rt,
Supg: Engineer, 4th Circle.
Coimbatore
19th March/84

To

The Chief Engineer,
S. W. D.

See Para 13

To The Lr IV Circle

No. 2545

From

The Supg Engineer,
Fourth Circle.

To

The Chief Engineer,
P. W. D.

Dated 19th
Despd 20th } March 1884.

No. 153
Ltr.

Notes of Inspection of Colonel J. Beatty, R.E., Superintending Engineer, Fourth Circle, of works on the Nilgiris in March 1884.

With disposal

Entd in Recpt Regr

12TH MAY 1884, No. 1203 W./A PUBLIC WORKS.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

READ—the following paper :—

G.O., dated 7th May 1884, No. 1025, Financial.

Read—the following papers :—

Letter from the President, Local Fund Board, Nílgiris, dated 29th February 1884, No. 16.
Telegram from do. do. dated 2nd April 1884.
Endorsement of the Public Works Department, dated 11th April 1884, No. 7 E.
Proceedings of Government, Public Works Department, dated 3rd May 1884, No. 1111 W./A.

Order—dated 7th May 1884, No. 1025, Financial.

The maintenance of the main line of communication between Mettupálaiyam and Gúdalúr will accordingly be transferred to the Public Works Department with effect from the 1st April 1885, and such portions thereof as lie within the limits of the Coonoor and Ootacamund Municipalities with effect from the date of the notification appended to this order.

2. The estimates received with letter No. 16, dated 29th February 1884, from the President, Nílgiri Local Fund Board, will be made over to the Department of Public Works, and the Board of Revenue will report what amount should be withdrawn from the Provincial grant heretofore made to the Local Board for the upkeep of the road referred to, and what arrangements should be made for the levy of tolls thereon under Acts VIII of 1851 and X of 1864 (India).

3. The President, Coonoor and Ootacamund Municipalities, will report what amounts should be withdrawn from the Provincial grants made to those municipalities for the upkeep of the portions of the main line of communication of which they are now relieved.

4. The following notification will issue in the Fort St. George, and Nílgiri and Coimbatore District Gazettes :—

(Here enter notification, dated 7th May 1884.)

(True Extract.)

(Signed) E. F. WEBSTER,
Chief Secretary.

To the Public Works Department, with two estimates.

ORDER—dated 12th May 1884, No. 1203 W./A, Public Works.

Communicated to the Superintending Engineer, IV Circle, for information and guidance.

2. The estimates for improvements within the municipal limits of Coonoor and Ootacamund, referred to in paragraph 2 of the above Proceedings in the Financial Department, will be forwarded to the Superintending Engineer for scrutiny and submission for formal sanction in the form prescribed by the Public Works Code. Meanwhile the collection of material may be proceeded with, in anticipation of a specific appropriation of funds, which will be made on sanction to the estimates being communicated.

(True Extract.)

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineer, IV Circle, with two enclosures.
„ Examiner, Public Works Accounts.
„ Financial Department.

Exd. A. Aubert.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1884} Madras.

PUBLIC WORKS.

Dated May, 12th.

Recd. *Encl.*

G.O., 12th May 1884, No. 1203 W. A

MAY.

Mettupalaiyam-Gudalur Main Road

Regarding the transfer to the Public Works Department of charge of maintenance of the —.

No. 125 Ed/ May 13/1884

memo.

With adverteuce to G.O. dated 9th May 84 No. 1183 W, according Sanction to the construction of a new privy at Charing Cross, the S.E. Circle is requested to give the necessary orders for laying out the centre line of the new roadway on one continuous curve, instead of on three curves as proposed in the site plan, hereunto returned, — and on which the Approved line has been roughly shown in red pencil.

+ will follow

W.

12.5.84

S.E. Circle with site plan. Despd 13/5/84

No. 290 Ed/

Notes of Inspection of certain Works in the Nilgiri Division in May and beginning of June 1884.

Government House Works:-

1 Garden Cottage.

The largest excess, that has yet taken place on any item of the latest estimate, has been on this building. The floors were found to be so rotten that they had to be replaced by new boarded floors, and parts of the old brick in mud walls had to be pulled down to prevent them falling, and were rebuilt. A list of excesses over items of the revised estimate, and of extra works since sanctioned, should be maintained, and furnished with each application for sanction to any extra work or deviation

No. 299 Ed/ June 19, 1884

These instructions should be most carefully carried out.

deviation likely to cause excess.

2. Snowdon Road.

On this work which is now considered complete, an excess was caused by the construction of a pathway on the Hill side above the fountain. The Executive Engineer has been requested to furnish this Office with a copy of the Order received, it is understood, from the Military Secretary for the construction of the pathway. The excess was about Rs: 250, and is partly covered by materials which can be transferred to other works. The transfer should be hastened and the exact amount of the excess determined.

3. Servants' Quarters.

Twenty of these quarters which are now under construction have

have been modified so as to provide accommodation for Dhobi Washers, and for the Band; under instructions from the Military Secretary. It is understood that this alteration will not involve any excess on the revised estimate, a reduced number of Servants quarters being built.

4. All such changes shewed in future be reported at once to this Office, so that care may be taken that the revised estimate shall not be exceeded except under special sanction of Government. In this case work was put in hand in anticipation of sanction to the estimates. This should not be done again.

5 Lamps for Gardens Bridge Parapets, and for the

* 82 instead of 102

It is hoped that these instructions will not have to be repeated.

No deviation whatever from the Sanctioned estimates should on any account be allowed without the cognisance & approval of the S.E.

× since submitted

the main gate at the entrance of the Gardens. It is reported that these have arrived at Madras, and it is hoped they will be received in Ootacammnd very shortly and erected without delay.

6. Conservatory and covered way between Government House and Upper Norwood. The iron work and glass for this is also reported to have arrived, and there should now be no delay in pushing on the work to completion. The Chief Engineer on his recent inspection, directed a slight alteration of the level of the Platform at top of the lower flight of steps leading to Upper Norwood which should be attended to in carrying out the work.

7. Portion of Main Road from Mettapollium to Gundalur in the Ootacammnd Municipality.

This portion of the road has been handed over by the Local Fund Board to the care of this Department, under the recent orders of Government; and it has been arranged that the part from the first toll gate, half a mile from Burnfoot, to Charing Cross, together with the Elk Hill Cutting, shall be in future under the charge of Sub-Engineer Bragg.

8. At the Centre of the Elk Hill Cutting, where the road is narrowest, a width of 18 feet clear between the side channels is to be provided, and this is to be obtained by cutting into the foot of the

slope on the north (west?) side and revetting it as has been already done to the portion that slipped. This narrow part will not be more than 50 yards long.

Elsewhere, the minimum width to be provided will be 23 feet including side channels.

9. The old catch drains everywhere require attention especially the one on the South (west?) side of the Road above the Elk Hill Cutting.

10. The material at present upon the road is to be taken as a foundation for the fresh metal (4 inches thick) provided in the estimate now being revised.

The old material should be loosened with picks, and rocks removed, before the new material is laid.

11. The broken granite metal to be used in the improvements is to be broken

of

Wherever it is possible at small cost to improve the existing gradients, it should be done.

of a size to pass through a 1¼ inch ring.

12. The improvement of the metalled surface to a width of 5 yards and a depth of four inches with a blinding of one inch of gravel, and gravelled berms on either side, should proceed as fast as materials can be collected.

13. The slope from the centre to the sides of the road to be about 3/8 of an inch to one foot; ie, the centre of the 21 feet between side channels, not to be more than 4 inches above the sides.

14. <u>Elk Hill Cutting</u>

The position of the Dodabet Road, where it has now been set back, marks the extent to which the removal of the northern face of the cutting at the gorge, by means of

the

the tramway, is to be carried out.

15. The Dodabet Road is to be left of a width of 15 feet in addition to a berm of 3 feet on its outer edge carrying a small earthern turfed bund to act as a parapet. Beyond the bund the face of the excavation to be sloped away to about ½ horizontal to 1 vertical.

16. When as much as possible has been cleared away by means of the Tramway; the lower portion of the steep north face of the cutting will have to be eased off from the top and removed in hand carts.

The toe of the slope must then be cleared away and revetted as mentioned above para 8.

17. *New Approach to the Government Offices on Stone House Hill.* The revised estimate for diversion of the drainage channel near the Coonoor Road, at the lower end of the new approach, and for a masonry tunnel over it, should be submitted without any further delay. All the details having been settled, nothing should be allowed to delay the submission of this estimate.

The estimate for this road should be kept separate from that for the Secretariat buildings, that for the latter work being closed as soon as possible.

18. *New Bridge on the Coonoor Road near Charing Cross.* It has been decided that this work shall be commenced in October, and arrangements should now be made by the preparation of materials, and their collection at the site, to make

to ensure its thorough com-
the=pletion before 31st March
or next.

15. 19. Kitchen, Firewood
is=Store and Lumber Room
fu at Stone House. This
ty work having been sanc=
c=tioned for execution on a
t= site selected by the Chief
=p Engineer, below certain
th Peons' quarters to the
b South of the Government
n Offices, should be put in
hand as soon as possible
1 20. Clerks' Quarters
(Stone House. It is be=
i=lieved that a full supply
s of the Coonoor Tiles have
now been received, so that
the roof of this building
may be finished off at
once, and it is presumed
there is nothing to delay
the completion of the
interior
mentioned

interior and the outbuild=
=ings.

21. Main Road from
Charing Cross, by St Stephen's
Church and Hadfields Road,
to the 2nd Milestone on the
Pykara Road.

This part of the
main road is to be improved,
similarly to the other portion
from Charing Cross to the
Toll Gate beyond Burnbot,
and for the present it will
be in charge of Supervisor
Abdool Kareem Khan.

22. Here, as on the rest
of the 4½ miles of main
road in the Ootacammd
Municipality, the work
of widening and improving
should be hastened as much
as possible. The only dif=
=ference between this part
of the Road and the other
is
make

is that the piece from Charing Cross to St. Stephen's where the traffic is greatest, is to have its gradient improved wherever this is practicable, and here the centre of the road way is to receive a coating of metal 6 inches thick. The widening of the roadway wherever the boundary stones are found, to a clear minimum of 23 feet including side channels, should go on at once; and it is hoped the survey Department will have the stones replaced wherever they are missing without delay.

The gradients should be improved, not only on this portion, but wherever it is possible to do so at small cost.

The necessary steps should be taken to insure removal of all encroachments on the roadway, — and if additional land is anywhere needed to secure the minimum width of 23 feet, it should be applied for without delay.

23. The estimate for improving the whole of these four-and-a-half miles of road, now in the hands of the Executive Engineer mentioned

Milestones should also be provided, where needed. The distances should be measured from St. Stephens' Church, in each direction.

Ill.
17-7-84

S.E. IV Circle

Engineer, should be submitted forthwith. As prepared by the Local Fund Engineer, it required little beyond putting into the proper forms, and a revision of the rates and specification.

Provision should be made in it for furlong stones of the white Karamadi stone.

24. Main Sewer.

The Supervisor in charge of the Southern Sub Division should make occasional inspections of the Bazaar pumps and drains, especially those on the line of the main sewer, and bring to notice neglect of their duty on the part of the Conservancy Establishment; and the Executive Engineer should himself make

make periodical inspections till the system works properly.

25. An estimate is wanted for a regulating dam on the supply channel of the Lake, to turn water into the main sewer when it requires flushing; the cost of the dam to be met from the savings effected by the omission of under tunnels.

26. <u>New Pipe Sewer from the Willow Bmnd to Lake End.</u>

The Executive Engineer's Indent for the Iron work required from England is still awaited. It should be submitted as soon as possible.

27. <u>Portion of Ghaut Road in the Municipality of Coonoor.</u>

This was inspected with the Executive Engineer and found to be in fair order. Measurements of the surface, from the rough stone parapet to the earthern or rocky scarp on the inner side, showed that the width had evidently been intended for 16 feet; though in one or two places it was found to be less than that. This part of the road will now be taken over from the Local Fund Engineer by Subconductor Hollingsworth, who was directed to prepare sections at every 100 feet to show what widening would be practicable at a moderate cost. From the height of the scarp widening will it

is thought be expensive, though there is not much rock; but possibly it may be practicable to widen from a minimum of 16 to 18 feet.

E. V. Beatty - Lieut. R.E.,
Supg. Engineer, 4th circle.

Coimbatore
13th June 1854

To

The Chief Engineer,
P. W. Department.

W. P. W. C. No. 5216
19 [illegible]

From
The Supg. Engineer,
Fourth Circle.

No. 1915 Wd/9.7.83.
" 1183/A Wd/9.5.84.
" 1203/A Wd/12.5.84.
" 125 Ed/13.5.84.

To
The Chief Engineer,
P. W. Departt.

SECRETARY TO GOVERNMENT
16 JUN 84
PUBLIC WORKS DEPARTMENT

Dated 13th
Desp'd 21st } June/84.
No. 290 Ed. June 19. 84

No. 290
Encl.

Notes of Inspection of
Colnel J. Beatty, R.E.,
Supg. Engineer, 4th circle,
of certain works in the
Nilgiri Division in
May and beginning
of June 1884.

W. P. S. 5216.

With despatch

REPORT

ON

THE PROGRESS AND CONDITION

OF THE

GOVERNMENT BOTANICAL GARDENS AND PARKS ON THE NILGIRIS,

FOR THE YEAR

1882-83.

MADRAS:
PRINTED BY E. KEYS, AT THE GOVERNMENT PRESS.

1883.

REPORT

ON THE

PROGRESS AND CONDITION OF THE GOVERNMENT BOTANICAL GARDENS AND PARKS ON THE NILGIRIS FOR THE YEAR 1882-83.

During the year under report 2,086 fruit trees and economic plants, 7,874 timber trees, 11,908 ornamental trees, shrubs and herbaceous plants, 3,194 packets vegetables and flower seeds, 40 bouquets, and 160 baskets of cut-flowers were sold by the Gardens, which shows a considerable increase on the number distributed during the previous year.

2. *Receipts.*—The actual amount lodged in the Treasury last year from the sale of plants, seeds, &c., from the Ootacamund, Barliyár, Medicinal and Kalhatti Gardens was Rs. 3,439-0-4, which is an increase over the gross receipts of last year of Rs. 412-6-0. The details of receipts and expenditure are given in the statements appended to the report.

3. *Season.*—The total rainfall registered in the Ootacamund Gardens during the past year was 65 inches and 98 cents, being fully 14½ inches more than fell during the previous year, and about 20 inches above the average of the past ten years. The season all through was wet and stormy, and the south-west monsoon much heavier than has been experienced on the Nílgiris for many years. The monsoon may be said to have set in on the 3rd June, from which date high winds and rain almost without intermission prevailed up to the beginning of August when the wind veered round to the north-east and brought several heavy showers from that quarter with occasional glimpses of sunshine. In March last 4 inches and 88 cents were registered in the Gardens. Such a heavy rainfall so early in the year is very unusual. In ordinary seasons the month of March is characterized by dry parching winds from the north-east and a total absence of rain. During the twelve months rain fell on 175 days against 135 in the preceding year. In the Gardens several Eucalyptus trees were blown down, and others had limbs and branches broken; but, considering the unusual severity of the monsoon, the actual damage done in the Gardens was trifling when compared with what many Cinchona and Coffee estates in other parts of the District suffered. Notwithstanding the heavy monsoon, frost was not more severe than in ordinary seasons. The first frost fell on the night of the 3rd December and continued more or less up to the end of February. No plants of any consequence were injured by it.

4. *New Works.*—The principal improvement taken in hand and completed during the year was the clearing and turfing of the slope between Garden Cottage and the Fern House, which has been for many years overgrown with brambles, wattle, &c., and considerably detracted from the beauty of this part of the Garden. The ground was deeply trenched (so as to eradicate every Acacia rootlet), sloped and turfed with Cock's foot grass (*Dactylis glomerata*), and the bank planted with *Michelia Champaca*, *Saurauja*, *Pinus longifolia*, *Cryptomeria*, and other ornamental trees. In the ravine (the soil being favorable to the growth of such plants) specimens of the Nílgiri Tree ferns, *Alsophila latebrosa* and *A. crinita*, and the New Zealand species, *Dicksonia Anturctica*, *Cyathea dealbata* and others, have been planted, and on raised mounds, by the side of the path, a specimen each of *Doryanthus*

excelsa and *Thormium tenax*. A decided improvement has been effected by opening up and planting this portion of the Gardens, and, when the ferns and trees are grown up and established, the improvement will be more apparent. During the heavy rain in July, about 40 feet of the bank below the fountain terrace gave way and carried with it several large *Hydrangeas* and other shrubs. A considerable amount of time and labor was expended in repairing the damage. The slope being very steep, it was found necessary to drive in Eucalyptus posts and interlace them with branches to prevent the soil and turf from again slipping. As the ground is now thoroughly consolidated, and the turf grown together, I do not apprehend its giving way in future. Most of the roads and pathways in the Upper Garden were gravelled and put in thorough order, and the rose hedges, which had become ragged and stunted, were uprooted and replaced by heliotrope. A number of new trees and shrubs were planted in different parts of the grounds, and several minor improvements were carried out.

5. It is proposed to do away with the gravel road extending from the entrance gate to the Conservatory, also the flower-beds on each side of it, and to lay the whole down in grass. By so doing the beauty of the Lower Garden will be much enhanced by giving a greater extent of lawn and affording more space for the planting of specimen Conifers and other trees and shrubs at present unrepresented in this part of the Gardens. The turfing of the road and flower-beds will also effect a saving in labor, the upkeep and preservation of roads, where there is a heavy rainfall, being much more expensive and troublesome than lawns. These alterations will afford a favorable opportunity to remove the old Conservatory, which, besides being an unsightly and dilapidated structure in its present position, destroys the continuity of the lawn and obstructs the view to the Upper Garden. It is at the same time very defective as a plant-house and quite unsuited to the cultivation of specimen plants. The material could, at no great expense, be utilised in building an orchid house in a less conspicuous situation in the Upper Garden; such a house is much needed to accommodate our rapidly-increasing stock of these plants.

6. The two plots of ground in front of the Lodges at the entrance gate will be grassed over and planted with shrubs.

7. At the request of the Collector of the Nílgiris, 93 Cypress and 58 *Pinus longifolia* plants, intermixed with Callitris and hardy shrubs, were, last year, planted in groups along the margin of the Lake from St. Thomas' Church to the bend in the road under Awdry House. The planting and fencing were carried out by the Gardens and paid for by the Municipality. In the same manner, an avenue of *Grevillea robusta* and *Pinus longifolia* was planted along the north side of Church Hill Road.

8. Lawn grass seed was got from England, and operations have been commenced to sow grass and plant hardy shrubs on the vacant ground in front of Crewe Hall, and on each side of the new road.

9. *Buildings*.—In G.O., Financial Department, dated 14th February 1883, No. 359, a sum of Rs. 2,790 was sanctioned for new cooly lines in the Government Botanical Gardens; but owing to press of other work the erection of buildings could not be undertaken by the Public Works Department, and I was requested to execute the work. On receipt of the orders of Government I invited contracts for the work, but in consequence of heavy rain in March, and the nature of the material (wattle and daub), it was impossible to put it in hand or utilise the grant before the end of the official year, on which date the grant lapsed. I therefore immediately applied for reallotment of the grant, which has been sanctioned—*vide* G.O., No. 1061, dated 19th April last. The buildings will be put in hand as soon as the rains are over, and completed before the end of the current year.

10. The old Conservatory was partly reglazed, and the broken glass in the green house and propagating house repaired. The buildings were whitewashed and otherwise put in order. The propagating house handed over to the Gardens by the Cinchona Department has been very useful in the rearing of the *Cinchona calisaya* and other tender plants.

11. *Potatoes*.—In consequence of high winds and a heavy rainfall, last year's crop of potatoes was very small and of bad quality. The hulm was blown away by the wind when it had nearly attained full growth, and the tubers rotted in the ground from continuous wet before they reached maturity. From the same causes the potatoe crop in and around Ootacamund was almost a total failure. In fact in many places the crop was so poor that native cultivators allowed what crop there was to rot in the ground, as they did not consider the yield would pay the cost of lifting. The only localities where there was anything of a crop was in sheltered parts of the Kaity valley and at Kalhatti. The result was that for several months in the year Ootacamund was dependent on Bangalore and Poona for its supply of potatoes. This season I have a small but healthy crop of kidneys coming on. The new varieties mentioned in last year's report were preserved and have been again planted. I intend this year to introduce some healthy seed from England and Malta. Bangalore seed, although healthy and sound, does not succeed well in the Nílgiri soil.

12. *Fodders*.—A good stock of Prickly Comfrey and Brome Grass has been maintained in the Garden nurseries for distribution among planters and others to whom a heavy cropping and nutritious fodder is a desideratum. A new fodder plant was introduced last year, viz., the Salt Bush of New South Wales (*Rhagodia Billardieri*) which is said to withstand long periods of drought. It is worthy of a trial, and if found to thrive in the climate and soil of the Nílgiris, may afford food for sheep and cattle when there is nothing else to be had.

13. *Tagasaste*.—The following persons received a supply of Tagasaste seed from the Gardens last year:—

C. W. Watson, Esq., Kartary.
Mr. Richter, Ootacamund.
Lady Souter, do.
Mr. Kemp, do.
H. W. Baker, Esq., Periyakulam, Travancore.
Alex. Allan, Esq., Coonoor.
A. S. Cowdell, Esq., Ootacamund.
General Thatcher, Kartary.
Mr. Barnard, Ootacamund.

The parent plants continue to make a healthy growth in the Ootacamund Garden and are again in flower, so that a further supply of seed will be available for distribution in October next.

Mr. Watson has kindly favored me with the following interesting report on the fodder plants supplied to him:—

(*a*.) "*Tagasaste*.—Seed kept in water at a temperature of 92°—98° Fahr. for twenty-four hours, then sown (21st August 1882) 3 inches apart in prepared beds, germinated in eight days, growth very slow, now (2nd June 1883) about six feet high. Cattle will not eat it. Elevation too low for rapid growth."

(*b*.) "*Teosinte*.—Seed soaked as above, some sown in sholah soil, some in swamp and some in nursery and afterwards transplanted. That sown in sholah soil has grown well and yielded three crops. The seed was sown four feet apart, and nearly all germinated. That sown in swamp came up though no care was taken of it. Transplanting from beds should be done as soon as the sprout shows above ground. Cattle and horses eat this fodder greedily green or dried. Deer are also fond of it, so a fence is necessary. Each plant will yield about 10 lb. of green fodder at a cutting. Teosinte should prove a valuable fodder at this elevation. It seeds freely. I have a quantity of self-sown seed now sprouting."

(*c*.) "*Sorghums*—(Kaffrarium and Saccharatum).—Sown broadcast in sholah soil, yielded one good crop in two months then died back, requires irrigation."

(*d*.) "*Brome Grass*.—Grows well, but was entirely destroyed by hares who prefer it to anything else; would make a capital hay for the hot season."

(*e*.) "*Symphytum Asperrimum*.—Grows luxuriantly, and once firmly established may be cut every three weeks; grows everywhere, prefers steep side of drains, roads &c.; cattie will only eat it when mixed with other fodders. Buffaloes and pigs thrive on it."

(*f.*) *Remarks.*—Teosinte and Prickly Comfrey are the only two fodders I would recommend for this District on account of their rapid growth and yield. They are both inferior to Guinea Grass. Prickly Comfrey, however, does not require irrigation and with care cattle may be induced to eat it. When pigs are kept, it is invaluable."

14. *Cinchona Carthagena.*—The *C. Carthagena* plants at Coonoor and Kalhatti continue to make a very satisfactory growth, especially the plant in Sim's Park which has now attained a height of 48 inches, having made a growth of 23 inches during the twelve months. This plant has remarkably handsome foliage, and is altogether very healthy and vigorous. I have not received reports from all the parties to whom plants were supplied, but, where they have been planted in suitable localities, I have been told they are doing well. The plants sent to Naduvatam and Pykara last year are now quite established. Propagation from the small stock (two plants) was carried on successfully. Twenty-six plants were distributed during the year, and the stock at present consists of fifty-six plants.

The following persons were recipients of plants :—

Edward Hamlin, Esq., Wynaad.
J. Ferguson, Esq., Messrs. Hinde and Co., Calicut.
W. Lee Kirby, Esq., Coonoor.
C. Sheldrick, Esq., Nellakóta.
C. M. Grant, Esq., Ouchterlony Valley.
S. Millan, Esq., Terrioot.
E. McMaster, Esq., Tattapollium.
G. F. Bell, Esq., Ceylon.
James Keary, Esq., Manantoddy.
W. Griffith, Esq., Kótagiri.
E. Harding, Esq., Ceylon.
C. Grey, Esq., Coonoor.
Rhodes Morgan, Esq., Wynaad.

As the stock of plants increases the distribution of the plants will be proportionately greater during the current year.

15. *Cinchona calisaya.*—In March last a packet of seed of each of the following four valuable Cinchonas was received from the Secretary to Government, Revenue Department, viz., *Cinchona calisaya morada, C. calisaya verde, C. calisaya Zamba morada* and *Cinchona calisaya verde* and *morada*. Immediately on receipt, I had about two-thirds of the seed carefully sown reserving the remainder in case of accident. From the time of sowing up till they began to germinate the seed was looked after by myself. The number of seedlings pricked off to date is roughly estimated at 43,750, which may be considered a very satisfactory result from seed imported from South America. All the seed received equal attention and the same treatment, but the percentage of Morada seed which germinated was much less than of the other varieties. The seedlings are very healthy, and as soon as they are strong enough to be moved into a cooler house the remainder of the seed will be sown.

16. *Castilloa elastica.*—About this time last year our stock of Castilloa consisted of 14 small plants including the two in the Barliyár Garden. Since then 16 plants have been distributed and there are now in the propagating house 18 healthy plants and cuttings. It may now be accepted that the Castilloa is successfully established in the Nílgiri District. Time and capital are all that is now required to develop the cultivation of this valuable species. Considering the facilities at my command for the propagation of tropical plants in Ootacamund, the rapid increase in these plants is very satisfactory. I believe at Nilambúr, all the cuttings and layers put down have failed. In Ceylon and even at Kew they have experienced some difficulty in propagating the Castilloa from cuttings. The 16 plants were distributed as follows :—

J. Thomson, Esq., Nellakóta	...	1 plant.
Geo. Oakes, Esq., Sígúr	...	1 ,,

James Keary, Esq., Manantoddy.	...	2 plants.
E. Harding, Esq., Ceylon	...	2 ,,
S. Muller, Esq., Terrioot	...	1 plant.
C. Sheldrick, Esq., Wynaad	...	1 ,,
J. Ferguson, Esq., Calicut	...	1 ,,
E. McMaster, Esq., Tattapolliam.	...	1 ,,
Rhodes Morgan, Esq., for Botanical Garden, Wynaad	...	1 ,,
Colonel Scott, Nelliampathis	...	1 ,,
Major Johnston, Chelmsford Estate, Kullar	...	2 plants.
Barliyár Garden recently planted	...	2 ,,
Total	...	16 plants.

Mr. Thomson's plant has, I believe, died, but all the others, I hear, are doing well. Mr. Oakes sends me the following note on his plant :—

"The plant of *Castilloa elastica* you were good enough to give me on the 12th of July 1882 was then about 5 inches high. It was planted among the Coffee in black loamy soil. On the 22nd June last, it measured 4⅛ feet in height and was in beautiful foliage, some of the leaves being 10 inches long by 4 broad. It has not yet made any branches."

17. *Acacia decurrens.*—Extracts from my last report on the Black Wattle having been published in the local and other newspapers, I have received applications for seed and several letters asking for information regarding the manner and probable cost of cultivating the Wattle, all of which were replied to. Five pounds of seed were imported from Australia, half of which has been distributed. On my recommendation a gentleman in Coonoor is opening up ten acres of land which he intends planting entirely with *Acacia decurrens.*

18. *Labels.*—The labelling of trees and shrubs was continued during the year until nearly all identified species have been labelled. The collection of Nílgiri and exotic Ferns so far as they have been identified have been provided with strong dealwood tallies. Many are the forms and substances employed in making labels for plants. The lettering on the majority of the teakwood labels put out last year has resisted the action of the atmosphere very well. In a few cases only has the painted surface peeled off. As an experiment I am having a few zinc labels painted and put out, and am disposed to think that they will hold the inscription better, will be cheaper, and more durable than teakwood labels.

19. An Agri-Horticultural Exhibition was held in the Government Gardens on the 6th of October last. The exhibition, as a whole, may be considered to have been a success; had it been known earlier throughout the District that an exhibition was to be held in October, the number of exhibitors would have been larger. Many persons would, no doubt, have grown vegetables and flowers specially for it. The show of grains, fruit, plants in pots and cut-flowers was very good, but that of vegetables comparatively poor both in quality and quantity, and not what one would expect in Ootacamund, and not near so fine as I have seen at former exhibitions. This result was no doubt mainly due to the unusually heavy and prolonged monsoon. The constant sunless weather materially affected the growth of vegetables and caused successive sowings of marrow, fat peas, salads, French beans and even cauliflower to damp off before they were half grown. Many of the vegetables exhibited were large and coarse, the consequence of being too old.

I consider that little or no visible improvement has taken place in the cultivation of the finer sorts of vegetables since the Agri-Horticultural Society first held an exhibition. With a view to encourage native gardeners to cultivate the most improved varieties of such vegetables as cauliflower, cabbage, beet, &c., the Committee provided Rs. 50 worth of imported seeds of these vegetables. A packet of each was given to the successful competitors.

20. *Tour of the Superintendent.*—In the latter part of December and beginning of January last, I availed myself of the permission granted me (*vide* paragraph 9

of G.O., No. 1398, dated 12th December 1882) to visit the Carcoor and Sispara Ghâts with the result of obtaining many valuable additions to the Garden collection of plants and seeds. Among the plants collected the following were previously represented in the Garden collection by single specimens only and, in some cases, not at all :—

Flowering Plants.

Torena Asiatica (Sispara).
Strobilanthes gossypinus (do.)
Impatiens Jerdoniæ (do.)
Do. Denisonii (do.)
Exacum bicolor (Ouchterlony Valley).
Sonerila elegans (Sispara.)
Hoya pauciflora (do.)
Ceropegia elegans (do.)
Begonia dipetala (Aratapara Valley).
Do. subpeltata (do.)
Æschynanthus. Sps. (Sispara).
Didymocarpus tomentosa (Sispara).
Thunbergia mysorensis (Ouchterlony Valley).
Asystasia, species (do.)
Cycas circinalis (Aratapara Valley).

Orchids.

Dendrobium aureum (Wálaghât).
Do. aqueum (do.)
Do. Jerdonianum (do.)
Liparis biloba (Naduvatam).
Oberonia Arnottiana (do.)
Bulbophyllum Nílagiriense (Naduvatam).
Eria polystachya (do.)
Do. pubescens (do.)
Cœlogyne corrugata (Sispara).
Do. nervosa (do.)
Pholidota imbricata (Aratapara Valley).
Vanda Roxburghii (do.)
Saccolabium paniculatum (do.)
Cymbidium aloefolium (do.)
Saccolabium rubrum (Avalanche).
Calanthe Perottetii (do.)
Ærides Lindleyanum (Naduvatam).
Do. speciosum (Ouchterlony Valley).
Do. cylindricum (do.)

Ferns.

*Anemia Wightiana (Sispara).
*Lastræa ferruginea (do.)
Cheilanthes tenuifolia (Sígúr).
Pteris patens (Carcoor).
Asplenium Zenkerianum (Avalanche).
Do. contiguum (do.)
Do. planicaule (do.)
Do. heterocarpum (do.)
Do. nidus (Carcoor).
Tæniopsis lineata (Sispara).
Alsophila crinita—Tree fern (Sispara).
Asplenium varians (Sígúr).
Diplazium Sylvaticum (Carcoor).
Do. Australe (Avalanche).

* Both these ferns are very rare and now almost extinct on the Nílgiris.

Lomaria elongata (Carcoor).
Pleopeltis oxyloba (Avalanche).
Cyrtomium caryotideum, and several others.

21. *Catalogue.*—The price list of plants and seeds for sale at the Gardens has been revised and corrected and will shortly be sent to the Press. As time permits material for the compilation of a complete catalogue of all the plants in the Government Gardens is being collected and arranged.

22. *Library.*—In G.O., No. 3477, dated 23rd October 1882, a sum of Rs. 330 was sanctioned for the purchase of books and periodicals for the Garden Library.

With the above sum the following books have been purchased :—

Beddome's Ferns of Southern India.
Do. Flora Sylvatica.
Bentham's Flora Australiensis
Bentham and Hooker's Genera Plantarum.
Gordon's, the Pinetum and Supplement.
The Treasury of Botany.
The Tropical Agriculturist;

and the following periodicals and reports were received from Government :—

The Indian Agriculturist.
Flora of British India.
Gardener's Chronicle.
Indian Forester.
Report on Saidápet Farm for 1880-81.
Annual Report of the Madras Agricultural Department for 1880-81.
Mr. Benson's Report on Agricultural Implements suitable for introduction into India.
General Report on Saidápet Farm for 1881-82.
Report on the exhibition of Silk cocoons held at Mudiapur and Punjab.
Extract from the Annual Report on Royal Botanical Gardens, Calcutta, for 1881-82.

23. *Assistants.*—The Garden Overseer (C. McDonald), Writer (A. N. Vencataramanier) and Propagator (T. Burrows) have each given me satisfaction in the discharge of their respective duties during the year.

24. *Donations and interchange of living plants.*—During the past year considerable additions were made to the Garden collection both by purchase and exchange. The principal purchases were from L. Paillet, Paris, viz., a collection of finer kinds of Apples, Pears, Plums, Apricots, Cherries, Peaches, Nectrines, Raspberries, &c. The young trees arrived in excellent condition, and will shortly be planted at Kalhatti. From Messrs. Cannell and Sons, Swanley, Kent, a collection of Abutilons, Single Dhalias, Chrysanthemums, Sempervivums, Geraniums, Begonias, &c.; from W. Griffith, Esq., bulbs of Gladioli, Narcissus, Hyacinths, Amaryllis, Spiraxis, Scillas and other bulbous plants. The following contributions are specially worthy of notice. From Kew. through His Excellency the Governor, seeds of nine varieties of Perennial Lathyrus, four of Bomarea (all the former and three of the latter have germinated and are growing freely), a packet each of Protea cyanoides, Sabal mauritiana and Rhus vernicifera. From J. Ferguson, Esq., Calicut, six Calabar beans (Physos-tigma venenosum), six plants Landolphia florida and two plants each of the Soudan and Currant vines. The Soudan vines were in a weak state when received, and soon died. The Currant vines are doing well and have been propagated. From E. Greenslade, Esq., Pykara, a large and valuable collection comprising 135 species of Australian tree and shrub seeds. The other receipts and distributions are detailed below.

25. *Receipts.*—From the Superintendent, Lal Bagh, Bangalore, Tacsonia ignea, Schinus molle, Coprosma lucida; from Mrs. Grant Duff, 2 packets of Pansies and one packet each of Auricula and Penstemon seeds; from W. Lee Kirby, Esq., 40 Pinus

martima and two Lilac plants; from Thomas Laing, Esq., a packet of Salt Bush seed; from General Morgan, smooth Cayanne pine; from Messrs. Nagappa and Co., Bangalore, 13 kinds of Roses; from Colonel Scott, Coimbatore, a packet each of Ceara rubber, Acacia and Boronia seeds; from H. Sheldrick, Esq., Wynaad, one plant of Landolphia; from J. Stephenson, Esq., Agri-Horticultural Gardens, Madras, Clematis, Eucalyptus and Eugenía seeds; and from Dr. Trimen, Ceylon, Stillingia sebifera seed.

26. The following plants and seeds were distributed:—To the Superintendent, Lal Bagh Garden, Bangalore, Ipecacuanha, new Geraniums, new Chrysanthemums, Phormium tenax, Tritoma, Acacia decurrens and Neapolitan violet plants; to W. Logan, Esq., Collector of Malabar, two plants Coca (Erythroxylon coca); to W. E. White, Esq., Thoppa Taluk, Jalap tubers, Chinchona, Lavender and Dandelion seeds; to C. W. Watson, Esq., Kartary, Teosinte and Sorghum seeds; to the Rev. Dene, Lawrence Asylum, Ootacamund, one collection of Ornamental Tree plants; to Lady Souter, Ootacamund, Reana seed; to J. H. Thomson, Esq., Nellakóta, Castilloa elastica; to Dr. Bidie, Madras, Violets, Nílgiri ferns, Bulbous plants, Aloes and other succulent plants; to Colonel Lee Strange, Secunderabad, Coca plants; to J. G. Apkar, Calcutta, Nílgiri ferns, Nílgiri orchids and a collection of flower, &c., plants; to Messrs. Nagappa and Co., Bangalore, white and large flowering Fuchsias, Camelias and Coronation plants; to J. Stephenson, Esq., Madras, Cinchona seed; to T. H. Story, Esq., Madras, collection of Flower plants and 300 Clove seeds; to J. Keary, Esq., Manantoddy, Castilloa elastica; to the Honorary Secretary, Shevaroy Planters' Association, Jalap tubers and Peppermint roots; to J. F. Ferguson, Esq., Calicut, Castilloa elastica and Nílgiri nettle fibre; to H. B. Barclay, Nílgiris, Sorghum seeds; to Mr. Pink, Brisbane Gardens, Nílgiri orchids; to J. Roberts, Esq., Melbourne, Nílgiri orchids and bulbs; to His Excellency the Governor Nílgiri orchids and Lily bulbs; to the Deputy Conservator of Forests, Nílgiris, Callitris rhomboidea and Albizzia lophantha seeds; to Colonel Scott for Director, Brisbane Gardens, Nílgiri orchids, Jalap tubers and Peppermint roots; to G. F. Bell, Esq., Colombo, Castilloa, Mangosteen, Erythroxylon coca, Myristica moschata, Caryophyllus aromaticus, Ipecacuanha and Begonias; and to Rhodes Morgan, Esq., Cuzco maize, Nutmeg, Acacia dealbata, and Melanoxylon seeds and Castilloa elastica, Mangosteen, Nutmeg and Clove plants.

27. Sim's Park.—The Budget allotment for the year was Rs. 1,600, of which Rs. 1,471-12-7 was expended on wages of gardeners, repairs to seats and buildings, leaving an unexpended balance of Rs. 128-3-5.

28. *Season.*—I have no means of registering the rainfall in Sim's Park, but last year it must have been above the average, having received a fair share of the heavy south-west monsoon rains in June and July. These months, as a rule, are very dry in Coonoor. Frost was very severe for several nights towards the end of December and beginning of January. In the bottom of the valley a number of Chinchona plants four and five feet in height and some shrubs, which had withstood the frosts of previous years, were killed to the ground. With this exception the season was a favorable one.

29. *New Works.*—A decided improvement has been effected by opening out and altering the piece of ground near the main entrance to the Park known as "Hannington's Tope." At the request of the Collector all the Acacia trees that were either dead or dying from the effects of parasites, were uprooted and some of them replaced by young plants of *Pinus longifolia*. The Coonoor water-supply channel was diverted several yards to admit of the public road being widened and the sharp corners reduced. The mound forming a triangle in the centre of the Bleakhouse and Wellington roads, and the banks protecting the water channel have been turfed. All that remains to be done to complete the work is the planting of a few trees and ornamental shrubs, which will be done as soon as the weather is favorable. Part of the cost of the work was met from the sale of the trees cut down, the remainder was paid by the Municipality. In the Park another three acres of land was cleared of scrub, trenched and planted with a strong-growing variety of Hurriah Grass. A small tank was made near the nurseries to facilitate the watering

of young plants and flower borders during dry weather. Several species of trees, shrubs and herbaceous plants not previously represented in the Park were planted out.

30. The Lawn Tennis grounds commenced last year (*vide* paragraph 29 of the Report for 1881-82) are still unfinished. Nothing in the way of completing the grounds has been done since December last, and what was formerly a pretty piece of lawn is now an unsightly excavation, destroying the beauty of what once was the most picturesque portion of the Park. I would suggest that the Committee, who undertook to carry out the work, be asked either to complete the grounds, or relinquish their claim to it so that it may be planted up and its present unsightliness removed.

31. *Fences.*—The galvanized iron-wire fencing with gates on the south-east boundary of the Park has been completed by Messrs. Groves and Company according to estimate. The erection of this fence, besides opening up and improving the general appearance of the property as seen from the public road, forms an effective and long-needed barrier against cattle.

32. *Arbours.*—The arbour on the upper terrace which was for a long time in a ruinous and very unsafe condition has been rebuilt in a substantial and permanent manner. The Acacia posts have been replaced by brick and chunam pillars, and the bamboo mat roof by corrugated iron and tiles. The other arbours will be replaced and strengthened as funds are available.

33. *Cinchona Ledgeriana.*—The *Cinchona Calisaya Ledgeriana* plants raised from Java seed in 1880, and planted in a plot of ground near the Park cooly lines, continue to make a most satisfactory and healthy growth, some of them having attained a height of nearly five feet. A good percentage of the plants are undoubtedly pure Ledgeriana, having all the characteristics in foliage and habit of growth of that valuable species.

34. The Superintendent visited the Park on thirty-eight days during the year.

35. Barliyar Garden.—The allotment for the upkeep of the Garden for the year was Rs. 312, and the expenditure Rs. 333-6-3. The gross receipts from sale of plants and fruit during the same period was Rs. 383-10-9, which is Rs. 50-4-6 in excess of the expenditure and Rs. 199-2-5 more than was realised last year. This result is mainly due to an increase in the sale of plants, the demand for which we have not hitherto been able to meet. Owing to the fruit being leased out, none was available for the purpose of propagation. The distribution of young plants will, I feel sure, increase as it becomes known that young plants of all the spice and fruit trees under cultivation in the Garden can be had on application.

36. *Season.*—The season was drier than usual. The fruit crop in consequence was under the average of former years.

37. *New Works.*—The area of the lower garden was somewhat extended by cutting down and clearing away a strip of scrub jungle. The Upper Garden was thoroughly cleaned, water channels repaired and put in good order. The nurseries are well stocked with Cocoa, Nutmeg, Clove, Cinnamon and other plants in excellent condition for planting out this season. Up till last year the number of young Mangosteen plants raised in one season never exceeded a couple of dozen. During the past twelve months several were sent out, and I have now 150 healthy young plants which were raised and are now in the propagating house in the Ootacamund Gardens.

38. *Liberian Coffee.*—The old plants are very healthy and continue to produce regular crops. There will be a good quantity of seed and plants available during the current year. The seed I propose to give away gratis to any one willing to give it a trial in districts where the *Coffee Arabica* has failed.

39. *Ipecacuanha.*—The plants left in the Barliyár nurseries were transplanted into beds specially prepared for them and have since then somewhat improved in health and growth. During the year one plant bore perfect seed from which a few plants were raised. This is the first instance of Ipecacuanha seeding at Barliyár. In the early part of last year a few dozen plants were brought from Barliyár and placed

in the propagating house in the Ootacamund Gardens. Since then propagation has been carried on by root, stem and leaf cuttings. Sixty plants were sent out and the stock now consits of 170 plants. The Collector of Malabar received twelve of the strongest plants carefully packed in a Wardian case for transmission to the Laccadives. The recipients of plants were—

	Plants.
Geo. Romilly, Esq., Wynaad	6
Colonel Scott, Nellramphasis	3
The Collector of Malabar	12
The Deputy Conservator of Forests, Nilambúr	10
The Dewan of Travancore	25
A. Lone, Esq., Wynaad	4
Total ...	60

40. The following note on the planting and propagation of Ipecacuanha was sent with the case of plants forwarded to the Laccadives :—

(*a.*) *Plant Cuttings.*—These when taken from the tops of the plant while in vigorous growth and inserted in well-drained pots filled with finely-sifted sand and kept moist, should produce roots in from five to six weeks with or without artificial heat. After the cuttings are sufficiently strong, they should be potted in a mixture of fine loam and sand.

(*b.*) Ipecacuanha may also be propagated by leaf cuttings by simply inserting the leaves up to the middle of the mid-rib in pots filled with sand. This system, when successful, produces very strong plants; but great care and attention is necessary, otherwise losses will be heavy from damp, &c.

(*c.*) As a means of increasing the Ipecacuanha plant, root cutting is at once the safest and quickest mode of propagation. To ensure success these must be strong and vigorous. In propagating by root cuttings it is not necessary to work with large pieces. If a root be cut into very small portions and the pieces be planted with the precaution of always keeping the top of the pieces upwards and quite uncovered by the sand, the lower extremities alone being in contact therewith, they will, in a month or six weeks, throw out young shoots and form fresh fibrous roots. When sufficiently rooted, they should be potted into a mixture of loam and sand. The formation of roots does not always take place with the appearance of the shoots. In moist climates Ipecacuanha cuttings are liable to be attacked by a minute thread-like fungus which should be destroyed in the earlier stages of its growth by dusting the cuttings and surface of the pot with flowers of sulphur.

(*d.*) Before planting out Ipecacuanha a shady and moist (but not wet) situation should be chosen where the drainage is good, and stagnant water not likely to accumulate about the roots which are thick and fleshy and easily damp off and rot.

(*e.*) Pits should now be dug six feet square and two feet deep and the bottom filled to a depth of six inches with pounded (coarsely) bricks or tiles, or if these cannot be obtained, with gravel.

(*f.*) A layer of well-cleaned cocoanut nar should be spread to a depth of half an inch over the gravel or brick rubble and the pit then filled in with well-rotted leaf mould and coarse sand in the proportion of $\frac{1}{4}$ of sand and $\frac{3}{4}$ of leaf mould.

(*g.*) If obtainable a little old cattle manure can be added to this compost, say $\frac{1}{4}$ of cattle manure and $\frac{1}{2}$ of leaf mould.

(*h.*) The plants in the pots should be very slightly sprinkled with water for a few days before planting out. The planting out should be done only in the afternoon.

(*i.*) The pot having been inverted and the stem of the plant seized at the base between the index and the next finger, the rim of the pot with the plant head downwards should be gently tapped against a block of wood of sufficient height.

(*j.*) The ball of earth will now leave the pot entirely, the rootlets being enclosed in the earth uninjured.

(*k.*) A hole of the size of the ball of earth that has come out of the pot having been scooped in the prepared soil, the plant should be turned up the proper way and the ball of earth holding its roots gently placed in the hole.

(*l.*) The surrounding soil should be then raked forwards to fill in any opening that may be left round the ball of earth, and gently but firmly pressed down with the hands.

(*m.*) The plant should now be watered as well as the soil for a radius of three feet from the base of the stem of each plant.

(*n.*) And a pandal six feet high erected over the plants and covered with cadjan.

(*o.*) The plants should after this be watered every evening.

(*p.*) But at no time should the watering be so copious as to saturate the soil which must only be kept damp and no more. Any excess of water will rot the roots.

(*q.*) The pandal can be removed when the plants commence to grow. The natural shade will then be sufficient.

41. *Erythroxylon Coca.*—The original plant has made a vigorous growth, has borne perfect seed and in appearance much resembles a healthy Tea bush. In a letter received from W. Logan, Esq., Collector of Malabar, in February last, he says :

"The two plants you kindly gave me have flourished well down here on the sea coast, elevation about fifty feet above sea level, soil laterite red earth with much gravel, pits dug about two feet square, manure, a barrowful of rotted stable manure and refuse. One plant is now over three feet high, standing well out in the open, in form a struggling bush; it put out flowers almost as soon as it was planted out and it continues to flower even now. The gardeners commenced watering it while I was away and I shall continue it now, but it looked so robust when I left here in November, that I think it might have done without water. The growth has never had a check."

"I gave the other plant after it had been well established to Ferguson of Hinde and Company. It too is doing well. F. says the flowers should be rubbed off, and it will then throw out suckers. Is this so."

Mr. Oakes, Sígúr, sends me the following remarks on the plant he received in July last :—

"A small plant of this shrub was received with the rubbers and has taken kindly to the soil. It is now a nice little shrub of about two feet high and two feet across. It has blossomed profusely several times, but I have not succeeded in saving any seed.

42. *Castilloa elastica.*—The plants put out last year have made a good growth and have apparently become quite established. Other two plants were put out recently, so there are now four plants permanently planted out at Barliyár.

43. *Heonvea Braziliensis.*—The solitary Heonvea plant made no growth for some months after it was planted out. It has, however, lately made a start and is now very healthy and promising.

44. *Landolphia Florida.*—Four of the six Landolphias kindly presented to the Gardens by F. J. Ferguson, Esq., Calicut, have lately been planted at Barliyár. The plants are rather small and weak, but I trust with care and attention to establish them.

45. *Ceara Rubber* (Manihot Glaziovii).—The oldest plants continue to thrive and are now beginning to assume the character of trees and have grown proportionately more in girth than height during the past twelve months. Three of them yielded seed, some of which was sown and the remainder distributed. As an instance of the rapidity with which this tree grows in favorable localities, I quote the following from letters received from the Collector of Malabar and Mr. Oakes, Sígúr :—

"Cearas grow here astonishingly. Six plants put out in the beginning of July 1882 are now (2nd February 1883) respectively 11′-4″, 11′-4″, 10′-11″, 11′-9″, 10′-7″, and 10′-7″. They made, all but the last, few inches of this growth between beginning July and beginning October. They are now wintering."

Mr. Oakes says :

"Two plants were received, one being planted in a light black loam, the other in rather a stiff red soil. The plant seems to prefer the former. They were both planted on the same day (12th July 1882), and on the 22nd June, the one in black soil measured 13½ feet in height with a clean straight stem which at one foot from the ground is 6 inches in circumference. It blossomed and set a few seeds when ten months old. The plant put out in red soil measures 10 ½ feet, but the circumference of the stem is almost equal to the larger tree. I think our elevation is very suitable for Ceara Rubber, and with moderate care for the Castilloa. Of the former variety I have now some hundreds of young plants put out between every two rows of Coffee bushes and am under the impression the Coffee will benefit by the shade which the Rubber will, after a year or two, afford. Our annual rainfall is very small, averaging 25 to 30 inches; but all the Coffee is under irrigation when necessary."

46. *Carob Tree* (Ceratonia siliqua).—One young tree flowered last year, but did not set fruit.

The fruit trees received from the Straits three years ago and from Ceylon last year are all doing well. Two of the Mahogany trees alongside of the public road made an exceptionally rapid growth and are now several feet in advance of the others that were planted at the same time.

47. I am pleased to report that no death from fever or sickness occurred among the coolies employed in the Gardens during the year.

48. The Superintendent visited the Garden on nine days during the twelve months.

49. KALHATTI GARDEN.—The Budget grant for the Kalhatti Garden was Rs. 180, receipts from sale of plants Rs. 17-14-0, and the expenditure during the year on account of labor, &c., Rs. 186.

50. *New Works.*—No new work or extension was undertaken during the year. Ground is being cleared and prepared for the fruit trees imported from France. They will be kept here, as stock plants for grafting and propagation. The Kalhatti nursery is useful in many respects, especially for raising young fruit trees; but if it is to be maintained in anything like order, a more liberal grant is required for its upkeep. The nursery at present contains a fair stock of Orange and other fruit trees. Among the plants noticed in former reports the following continue to make satisfactory progress.

51. *Ceara Rubber.*—The largest plant has attained a height of 15 feet with a girth of 14 inches.

52. *Cinchona Ledgeriana.*—The largest plant is now 14½ feet high which gives a growth of six feet during the year and has a girth of 13 inches. The plants are vigorous and healthy, are covered with flowers, and if weather continue favorable will yield a good crop of seed this season. The two *C. Carthagena* plants are very healthy and promise to do well at Kalhatti.

53. *Carob Tree.*—The young plant of this tree put down three years ago has now attained the dimension of a fair-sized tree, having made an upward growth of about five feet last year and is proportionately branched. It flowered recently and I think will set fruit.

54. *Peppermint.*—Did not make the growth last year that I expected. The yield of herb was in consequence very small. This result was entirely due to the land having become exhausted for want of manure which is difficult to be had and expensive at Kalhatti. The ground is now being trenched over, manured, and the roots replanted, which I hope will cause a more satisfactory growth during the present year.

55. *Medicinal Garden.*—The Budget allotment was Rs. 400, of which Rs. 320-7-9 was expended on labor, cultivation, &c. The receipts were from sale of Jalap tubers, Taraxacum, &c., to the public, Rs. 296-10-0. Sale of Jalap tubers to the Medical Department credited by book transfer, Rs. 110-15-0. Total receipts, Rs. 407-9-0, or Rs. 87-2-3 over the expenditure.

56. *Jalap.*—The total number of tubers sold and distributed gratis during the year was 9,051, which is 3,741 more than was sent out in 1881-82. From the above figures it will be apparent that the cultivation of this drug is being taken up by private individuals. To those who purchased a large number of tubers a considerable reduction in the price (Rs. 5 per 100) was made. This plan I consider preferable to supplying tubers gratis to any and every applicant. As directed by G.O., No. 1637, dated 6th December 1880, the area under this crop has not been extended, the present stock being sufficient to meet a considerable increase on last year's demand for tubers, and leave a quantity available for the Medical Stores. The cultivation of Jalap was commenced towards the end of 1877. Our stock then consisted of 100 tubers. Since then 536 lb. of dry tubers have been supplied to the Medical Stores, and upwards of 18,000 tubers distributed. The following table gives the distribution of tubers for last year:—

Statement showing the Names of Applicants, Number of Jalap Tubers applied for and supplied to each during the Official Year ending 31st March 1883.

Names of Applicants.	Number of Tubers applied for.	Number supplied.
J. F. Ferguson, Esq.	1,000	1,000
C. McMaster, Esq.	6,700	6,700
A. W. Turner, Esq.	100	100
Mrs. Nanney	2	2
Mr. Goodrich	25	25
George S. Nash, Esq., ...	100	100
W. E. White, Esq.	12	12
North Davidson, Esq.	As much as can be spared ...	1,000
Honorary Secretary, Shevaroy Planters' Association ...	12	12
G. F. Bell, Esq.	100	100
	Total distributed ...	9,051

57. *Medicinal Rhubarb.*—The plants continue to grow very slowly. Two plants were given to a gentleman in Coonoor for trial, leaving a stock of twenty plants in the Ootacamund Gardens.

58. *Taraxacum.*—A quantity of Taraxacum root was supplied to applicants during the year at one anna per lb. of green root.

59. *Essential Oils.*—I distilled some very fine samples of Pepperment, Eucalyptus, Rosemary, Lavender and other essential oils which were awarded a prize at the Agricultural Exhibition held in Madras in February last, and were afterwards handed over to Dr. Bidie for the Museum. In September last I supplied a quart bottle of Blue-gum oil to the Medical Stores, but have not yet heard whether it is as good as the English article, the present price of which is, I believe, 5*s.* per lb. If the distillation of this oil was conducted on a large scale, I have no doubt it could be produced at half that price; but with the imperfect appliances at my command, it is doubtful whether it would pay to undertake the distillation of other essential oils for the Medical Stores.

60. CHURCH HILL PARK.—The grant for the year was Rs. 200 and the expenditure Rs. 196.

61. The young trees and shrubs made an excellent growth during the past year and will soon give a decided and pleasing effect to the face of the hill. Arrangements will be made to have the planted portion fenced in this year.

62. STONEHOUSE PARK.—The allotment for this property was Rs. 600, of which Rs. 550-15-10 was expended.

63. At the request of the Acting Collector of the Nílgiris a number of Acacia trees in the vicinity of the offices were cut down. The removal of the trees has considerably opened up and improved the general appearance of the property. The entire hill was twice weeded and cleared of undergrowth, but I regret to add that some of what would soon have been handsome specimen trees were much injured by stray bullocks. I have found it almost impossible to keep the grounds in anything like order owing to a large amount of carting, brick-making, and other traffic in connection with the new buildings.

64. UPPER NORWOOD.—The Budget grant for Government-house grounds was Rs. 1,500, and the expenditure Rs. 1,179-7-6.

65. The principal work carried out during the year in addition to the general upkeep and improvement of the property was the making of a small kitchen garden and the planting of half an acre of land with Lucerne, Brome Grass, Carrots and

other fodder plants. A number of young Cupressus, Pinus, Araucaria, and other ornamental trees were planted in different parts of the grounds.

66. Plants in pots, cut-flowers, &c., were as hitherto supplied when required.

18th July 1883.

(Signed) A. JAMIESON,
Supt., Govt. Botanical Gardens.

ENCLOSURES.

METEOROLOGICAL OBSERVATIONS from April 1882 to March 1883 made on the Government Botanical Gardens, Ootacamund.

Months.		Monthly mean of Minimum Thermometer.				Maximum observed during the Month.	Rainfall.		Days with Rain.	Days without Rain.
		7 A. M.	2 P. M.	5 P. M.	Daily.		Inches.	Cents.		
April	1882 ..	13·06	16·05	15·08	14·18	70·20	5	47	7	23
May	,, ..	14·25	15·26	15·12	15·02	70·09	8	45	18	13
June	,, ..	18·14	18·26	18·00	18·07	66·19	7	38	20	10
July	,, ..	21·07	19·24	20 03	20·02	67·28	12	06	31	..
August	,, ..	23·03	22·00	21·07	21 25	63·17	4	88	25	6
September	,, ..	20·12	20·05	20·29	20·09	68·14	3	15	20	10
October	,, ..	27·09	25·28	25·24	26·01	68·19	10	06	18	13
November	,, ..	25·07	24·18	24·16	24·13	69·17	9	14	19	11
December	,, ..	18·01	19·12	18·00	18·03	70·23	..	43	5	26
January	1883 ..	18·10	17·16	16·13	17·03	72·10	..	4	1	30
February	,, ..	15·23	15·15	15·17	15·11	72·03	..	4	1	27
March	,, ..	..	..	..	..	70·18	..	88	10	21
Annual Mean	..	19·87	19·25	18·93	18·99	68·91	..	..	..	..
Total	..	..	..	..	..	..	65	98	175	190

OOTACAMUND,
10th May 1883.

(Signed) A. JAMIESON,
Supt., Govt. Botanical Gardens.

DR. STATEMENT of Receipts and Charges of the Government Botanical Gardens, Ootacamund, for the Official Year ending 31st March 1883. CR.

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS. A. P.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To Cash on hand on 1st April 1882	..	268 4 0	268 4 0	By Cash paid for salary of Superintendent and Fixed Establishment including Peons ..	4,859 4 6		
,, Amount realised by sale of plants, seeds, &c.	3,000 0 0	2,740 13 7	2,740 13 7	,, Permanent Cooly Establishment ..	950 2 6	5,809 7 0	70 9 0
,, Cash received from the Collector of Nilgiris for salary of Superintendent, Fixed Office and Cooly Establishment	5,880 0 0	5,809 7 0	5,809 7 0	,, Temporary Coolies for their wages ..	4,567 3 8		
,, Cash from the Collector of Nilgiris being the amount sanctioned in G.O., No. 874, of 5th July 1872	500 0 0	500 0 0	500 0 0	,, For purchase and freight of seeds and plants	874 13 8		
Temporary Establishment .. 3,000 0 0				,, Do. tools	93 9 0		
Contingencies 1,000 0 0				,, Do. water-pots	31 8 0		
Grant for labelling plants .. 600 0 0				,, Do. flower-pots	56 8 0		
Add sale of produce credited in Treasury 2,740 13 7				,, Do. Service Stamps	18 0 0		
	7,340 13 7			,, On account of postage on Banghies received and despatched	31 3 6		
,, Cash received from the Collector of Nilgiris for Contingencies, Temporary Establishment and for labelling plants, &c. ..	..	6,796 3 0		,, Carriage and packing of plants	495 14 6		
,, Amount paid by Accountant-General to Master Attendant for Garden Contingencies.	..	42 8 8		,, Carpenters' wages for the year	358 13 1		
,, Amount transferred to the credit of Cinchona Department for cost of a Still purchased	..	100 0 0		,, Bricklayers' wages	172 4 0		
,, Amount transferred to the Forest Department for a teak log	..	49 8 0	6,988 3 8	,, Sawyers' wages	93 14 3		
				,, Blacksmiths' wages	16 4 0		
				,, Accountant-General to Master Attendant..	42 8 8		
				,, To Cinchona Department for Still purchased	100 0 0		
				,, Forest Department for teak log	49 8 0		
				,, Clothing for the two Garden Peons ..	28 0 0		
				,, For printing two Memorandum Books ..	7 0 0		
				,, Sundry charges	394 1 8		
				,, For cost of, and writing labels for, plants.	208 0 0	7,639 2 0	352 9 11
				,, Cash credited in Treasury	2,740 13 7	2,740 13 7	
				,, Cash on hand	117 5 8	117 5 8	
Total ..	16,720 13 7	..	16,306 12 3	Total ..	..	16,306 12 3	423 2 11

OOTACAMUND,
10th May 1883.

(Signed) A. JAMIESON,
Supt., Govt. Botanical Gardens.

DR. STATEMENT showing the Receipts and Charges of the Government Botanical Gardens CR.
at Barliyár for the Official Year ending 31st March 1883.

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To cash received from the Collector of Nilgiris for Contingencies and Temporary Establishment ..	312	333 6 3	333 6 3	By cash paid Gardeners and Coolies employed during the year	312 0 0	312 0 0	
To amount realised by sale of plants, fruits, &c. ..	650	383 10 9	383 10 9	By cash paid Coolies for taking plants from Ooty.. ..	2 8 0		
				Do. for weeding.	7 0 0		
				Do. for sundry expenses	11 14 3		
				By cash credited in Treasury	383 10 9	21 6 3	
						383 10 9	
Total ..	962	..	717 1 0	Total ..	..	717 1 0	..

OOTACAMUND,
10th May 1883.

(Signed) A. JAMIESON,
Supt., Govt. Botanical Gardens.

DR. STATEMENT showing the Receipts and Charges of the Government Botanical Garden CR.
at Kalhatti for the Official Year ending 31st March 1883.

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To cash received from the Collector of Nilgiris for Contingencies and Temporary Establishment ..	180	186 0 0	186 0 0	By cash paid to two Gardeners employed during the year	186 0 0	186 0 0	
To amount realised by sale of plants, fruits, &c. ..	50	17 14 0	17 14 0	By cash credited in Treasury	17 14 0	17 14 0	
Total ..	230	..	203 14 0	Total ..	..	203 14 0	..

OOTACAMUND,
10th May 1883.

(Signed) A. JAMIESON,
Supt., Govt. Botanical Gardens.

DR. STATEMENT showing the Receipts and Charges of Stonehouse Park, Ootacamund, CR.
for the Official Year ending 31st March 1883.

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To cash received from the Collector of Nilgiris for Contingencies and Temporary Establishment ..	600	550 15 10	550 15 10	By cash paid Gardeners and Coolies employed during the year.. ..	536 15 10	536 15 10	49 0 2
				By cash paid for sundry charges..	14 0 0	14 0 0	
Total ..	600	..	550 15 10	Total ..	..	550 15 10	49 0 2

OOTACAMUND,
10th May 1883.

(Signed) A. JAMIESON,
Supt., Govt. Botanical Gardens.

DR. STATEMENT of Receipts and Charges of Sim's Park, Coonoor, for the Official Year ending 31st March 1883. CR.

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To cash received from the Collector of Nilgiris for Contingencies and Temporary Establishment ..	1,600	1,471 12 7	1,471 12 7	By cash paid Gardeners and Coolies employed during the year ..	1,210 6 7	1,210 6 7	
				By cash paid for corrugated iron sheets ..	200 0 0		
				By cash paid for water-cans ..	12 0 0		
				By cash paid for scissors ..	2 0 0		
				By cash paid for assessment on Cooly lines ..	12 0 0		128 3 5
				By cash paid for Peons' clothing .	14 0 0		
				By cash paid for baskets ..	5 0 0		
				By cash paid for 2,000 Gum-plants.	11 0 0		
				By cash paid for sundry charges .	5 6 0		
						261 6 0	
Total ..	1,600	..	1,471 12 7	Total ..	..	1,471 12 7	128 3 5

OOTACAMUND,
10th May 1883.

(Signed) A. JAMIESON,
Supt., Govt. Botanical Gardens.

DR. STATEMENT of Receipts and Charges of the Government Medicinal Gardens, CR.
Ootacamund, for the Official Year ending 31st March 1883.

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To cash received from the Collector of Nilgiris for Contingencies and Temporary Establishment ..	400	320 7 9	320 7 9	By cash paid to Gardeners and Coolies employed during the year .	320 7 9	320 7 9	79 8 3
				By cash credited in Treasury ..	296 10 0	296 10 0	
To amount realised by sale of Jalap tubers and Taraxicum root to the Public ..	600	296 10 0	296 10 0				
Total ..	1,000	..	617 1 9	Total ..	..	617 1 9	79 8 3

OOTACAMUND,
10th May 1883.

(Signed) A. JAMIESON,
Supt., Govt. Botanical Gardens.

DR. STATEMENT of Receipts and Charges of the Upper Norwood, Ootacamund, for the Official Year ending 31st March 1883. CR.

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To cash received from the Collector of Nilgiris for Contingencies and Temporary Establishment ..	1,500	1,179 7 6	1,179 7 6	By cash paid Temporary Coolies employed during the year.. ..	1,139 12 6	1,139 12 6	
				By cash paid for plants and seeds purchased ..	33 11 0		320 8 6
				By cash paid for water-cans ..	6 0 0		
						39 11 0	
Total ..	1,500	..	1,179 7 6	Total ..	..	1,179 7 6	320 8 6

OOTACAMUND,
10th May 1883.

(Signed) A. JAMIESON,
Supt., Govt. Botanical Gardens.

DR. STATEMENT of Receipts and Charges of St. Stephen's Church Hill Park, Ootacamund, for the Official Year ending 31st March 1883. CR.

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To cash received from the Collector of Nilgiris for Contingencies and Temporary Establishment ..	200	196 0 0	196 0 0	By cash paid to Gardeners and Coolies employed during the year.	96 0 0	96 0 0	
				By cash paid for Blue-gum posts for fencing ..	100 0 0		4 0 0
						100 0 0	
Total ..	200	..	196 0 0	Total ..	..	196 0 0	4 0 0

OOTACAMUND,
10th May 1883.

(Signed) A. JAMIESON,
Supt., Govt. Botanical Gardens.

DR. FINANCIAL STATEMENT of the Government Botanical Gardens and Parks on the Nilgiris for the Official Year ending 31st March 1883, as compared with the Budget Estimate and Actuals of the last year. CR.

Heads.	Receipts.				Expenditure.				Unexpended Balance.	
	Budget Allotment.		Actuals.		Budget Allotment.		Actuals.		Actuals of last Year.	
	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.	RS.	A. P.
Government Botanical Gardens, Ootacamund.										
To cash on hand on 1st April 1882 ..	..		268	4 0					8	6 0
To amount realised by sale of plants, seeds, &c.	3,000	0 0	2,740	13 7					2,522	13 0
To salary of Superintendent and Fixed Establishment including Peons ..	4,872	0 0	4,859	4 6					4,742	13 1
To wages of Fixed Cooly Establishment ..	1,008	0 0	950	2 6					955	4 3
To grant for developing vegetable products of other Countries	500	0 0	500	0 0					500	0 0
	7,340	13 7								
Temporary Establishment.. ..	RS.	A. P.								
Contingencies	3,000	0 0								
Grant for labelling	1,000	0 0								
Add sale of produce credited in Treasury	600	0 0								
	2,740	13 7								
To amount received from the Collector of Nilgiris for Temporary Establishment, labelling plants and contingencies, including all book transfers	7,340	13 7								
By cash paid to Superintendent and Fixed Establishment for their pay					4,872	0 0	4,859	4 6	4,742	13 1
By cash paid to Permanent Cooly Establishment for their pay					1,008	0 0	950	2 6	955	4 3
Temporary Establishment ..					RS.	A. P.				
Contingencies					3,000	0 0	..		..	
Grant for labelling					1,000	0 0	..		..	
Add sale of produce credited in Treasury					600	0 0	..		..	
					2,740	13 7				
By cash paid to Temporary Coolies employed during the year					7,340	13 7				
							4,567	3 8	4,351	6 11
By cash paid for cost of and writing labels for plants					..		208	0 0	..	
By cash paid for contingencies and other charges					..		1,989	0 8	1,900	1 11
By cash paid for cost and freight of seeds and plants purchased					500	0 0	874	13 8	886	12 11
By cash credited in Treasury					..		2,740	13 7	2,522	13 0
Do. on hand on 31st March 1883					..		117	5 8	268	4 0
Total ..	13,720	13 7	16,306	12 3	13,720	13 7	16,306	12 3	15,627	8 1
Bariiydr Garden.										
To cash received from the Collector of Nilgiris for Contingencies and Temporary Establishment	312	0 0	333	6 3	312	0 0	312	0 0	327	12 0
To amount realised by sale of plants, fruits, &c.	650	0 0	383	10 9	..		21	6 3	15	12 0
					..		383	10 9	184	8 4
Total ..	962	0 0	717	1 0	312	0 0	717	1 0	512	4 4
Kalhatti Garden.										
To cash received from the Collector of Nilgiris for Contingencies and Temporary Establishment	180	0 0	186	0 0	180	0 0	186	0 0	180	0 0
To amount realised by sale of plants, &c..	50	0 0	17	14 0	..		17	14 0	15	14 0
Total ..	230	0 0	203	14 0	180	0 0	203	14 0	196	14 0

Heads.	Unexpended Balance.	
	RS.	A. P.
Government Botanical Gardens, Ootacamund.		
By cash paid to Superintendent and Fixed Establishment for their pay	12	11 6
By cash paid to Permanent Cooly Establishment for their pay	57	13 6
Temporary Establishment ..		
Contingencies		
Grant for labelling		
Add sale of produce credited in Treasury		
By cash paid to Temporary Coolies employed during the year		
By cash paid for cost of and writing labels for plants		
By cash paid for contingencies and other charges	352	9 11
By cash paid for cost and freight of seeds and plants purchased		
By cash credited in Treasury		
Do. on hand on 31st March 1883		
Total ..	423	2 11
Bariiydr Garden.		
By cash paid to one Gardener and a Cooly employed during the year		
By cash paid for sundry expenses, &c. ..		
By cash credited in Treasury		
Total ..		
Kalhatti Garden.		
By cash paid to two Gardeners employed during the year		
By cash paid on account of sundry expenditure		
By cash credited in Treasury		
Total ..		

DR. Financial Statement of the Government Botanical Gardens and Parks on the Nílgiris for the Official Year ending 31st March 1883, &c.— (*Continued*). CR.

Heads.	Receipts. Budget Allotment.	Receipts. Actuals.	Receipts. Actuals of last Year.	Unexpended Balance.	Heads.	Expenditure. Budget Allotment.	Expenditure. Actuals.	Expenditure. Actuals of last Year.	Unexpended Balance.
Stonehouse Park.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	*Stonehouse Park.*	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
To cash received from the Collector of Nílgiris for Contingencies and Temporary Establishment	600 0 0	550 15 10	562 1 3	49 0 2	By cash paid Gardeners and Coolies employed during the year	600 0 0	536 15 10	514 13 3	49 0 2
					By cash paid for sundry expenses	..	14 0 0	47 4 0	
Total ..	600 0 0	550 15 10	562 1 3	49 0 2	Total ..	600 0 0	550 15 10	562 1 3	49 0 2
Sim's Park, Coonoor.					*Sim's Park.*				
To cash received from the Collector of Nílgiris for Contingencies and Temporary Establishment	1,600 0 0	1,471 12 7	1,537 12 1	128 3 5	By cash paid to Gardeners and Coolies employed during the year	1,600 0 0	1,210 6 7	1,202 2 1	128 3 5
					Do. for corrugated iron sheets ..	..	200 0 0	..	
					Do. water-cans	..	12 0 0	12 0 0	
					Do. manure	..	..	34 8 0	
					Do. a pair of scissors	..	2 0 0	..	
					By cash paid on account of assessment on Cooly lines	..	12 0 0	12 0 0	
					Do. hire of 11 carts with plants to Coonoor	..	..	38 8 0	
					By cash paid to baskets purchased	..	5 0 0	29 14 0	
					Do. for sundry charges	..	19 6 0	14 0 0	
					By cash paid for 2000 Blue-gum plants ..	..	11 0 0	..	
					Do. for tools	..	..	138 8 0	
					Do. for lawn mowers and syringes .	..	..	56 4 0	
Total ..	1,600 0 0	1,471 12 7	1,537 12 1	128 3 5	Total ..	1,600 0 0	1,471 12 7	1,537 12 1	128 3 5
Medicinal Gardens, Ooty.					*Medicinal Gardens, Ootacamund.*				
To cash received from the Collector of Nílgiris	400 0 0	320 7 9	320 6 9	79 8 3	By cash paid to Gardeners and Coolies employed during year	400 0 0	320 7 9	320 6 9	79 8 3
To amount realised by sale of Jalap tubers, &c., to the public	600 0 0	296 10 0	192 8 0	..	By cash credited in Treasury	..	296 10 0	192 8 0	..
Total ..	1,000 0 0	617 1 9	512 14 9	79 8 3	Total ..	400 0 0	617 1 9	512 14 9	79 8 3
Upper Norwood.					*Upper Norwood.*				
To cash received from the Collector of Nílgiris for Contingencies and Temporary Establishment	1,500 0 0	1,179 7 6	1,110 1 5	320 8 6	By cash paid Temporary Coolies employed during year	1,500 0 0	1,139 12 6	1,064 13 5	320 8 6
					By cash paid for seeds, &c., purchased ..	..	33 11 0	..	
					Do. for water-cans	..	6 0 0	..	
					Do. for baskets	..	..	1 0 0	
					Do. for tools	..	..	44 4 0	
Total ..	1,500 0 0	1,179 7 6	1,110 1 5	320 8 6	Total ..	1,500 0 0	1,179 7 6	1,110 1 5	320 8 6

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DR. Financial Statement of the Government Botanical Gardens and Parks on the Nílgiris for the Official Year ending 31st March 1883, &c.— (*Continued*). CR.

Heads.	Receipts. Budget Allotment.	Receipts. Actuals.	Receipts. Actuals of last Year.	Unexpended Balance.	Heads.	Expenditure. Budget Allotment.	Expenditure. Actuals.	Expenditure. Actuals of last Year.	Unexpended Balance.
St. Stephen's Church Hill Park.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	*St. Stephen's Church Hill Park.*	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
To cash received from the Collector of Nílgiris for Blue-gum posts and pay of a Cooly employed during the year ..	200 0 0	196 0 0	660 10 7	4 0 0	By cash paid on account of a Cooly employed during the year	200 0 0	96 0 0	639 10 7	4 0 0
					By cash paid on account of Blue-gum posts for fencing	..	100 0 0	..	
					By cash paid on account of tools, &c. ..	..	..	21 0 0	
Total ..	200 0 0	196 0 0	660 10 7	4 0 0	Total ..	200 0 0	196 0 0	660 10 7	4 0 0

OOTACAMUND,
10th May 1883.

(Signed) A. JAMIESON,
Supt., Govt. Botanical Gardens.

23

Ch Enl 8488/83

RETURN of Seeds, Plants, &c., distributed from the Government Botanical Gardens, Ootacamund, Barliyár and Kallatti during the Official Year ending 31st March 1883.

Names of Month.	Fruit Trees and Economic Plants.	Value.	Timber Trees.	Value.	Ornamental Trees, Shrubs and Medicinal Plants.	Value.	Bouquets and Cut-flowers.	Value.	Packets of Vegetable, Flower and other Seeds.	Value.	Sundry Receipts.	Total.
		Rs. A. P.		Rs. A. P.		Rs. A. P.	B. C.F.	Rs. A. P.		Rs. A. P.	Rs. A. P.	Rs. A. P.
April 1882 ..	...	...	..	...	72	...	... ...	...	113	Rs. 64 15 0	5 3 0	Rs. 134 14 0
May ,, ...	...	...	...	...	1,073	...	7 14	19 4 0	276	60 11 7	6 14 6	161 6 1
June ,, ...	2	0 8 0	626	49 10 0	1,095	...	5 15	13 2 0	432	134 6 6	64 6 0	395 3 6
July ,, ...	36	9 0 0	195	50 2 0	917	...	9 13	23 8 0	323	107 13 6	47 8 0	393 8 6
August ,, ...	10	3 14 0	100	25 0 0	152	...	1 12	8 9 0	274	77 11 3	12 6 0	158 5 3
September ,, ..	42	10 8 0	888	181 6 0	1,373	...	2 11	8 14 0	380	110 9 9	46 8 6	532 3 3
October ,, ...	18	6 4 0	5,247	131 6 0	324	...	10 24	14 2 0	146	62 13 9	11 8 0	286 11 9
November ,, ...	...	...	762	73 8 0	343	...	3 60	26 0 0	181	76 8 3	14 2 0	287 3 3
December ,, ...	...	...	...	...	83	...	... ...	...	80	22 14 6	2 6 0	44 12 6
January 1883 ...	23	5 10 0	...	...	32	...	3 1	6 0 0	28	24 0 0	1 6 0	48 7 0
February ,, ...	...	...	1	0 8 0	194	...	... ...	...	37	16 14 6	3 1 9	85 4 3
March ,, ...	2,675	262 12 0	55	110 4 0	6,250	...	0 10	5 4 0	924	97 9 0	156 12 0	911 1 0
Total ...	2,806	298 8 0	7,874	621 12 0	11,908	...	40 160	124 11 0	3,194	856 15 7	372 1 9	3,439 0 4

(Signed) A. JAMIESON,
Supt., Govt. Botanical Gardens.

OOTACAMUND,
10th May 1883.

31ST AUGUST 1883, No. 1064, REVENUE.

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—the following letter from M. A. LAWSON, Esq., Director of the Government Parks and Gardens, to the Secretary to Government, Revenue Department, dated Ootacamund, 19th August 1883:—

Mr. Jamieson, the Curator, who has been in charge of the Government Gardens, having reported upon their progress during the past year, I propose confining my remarks to such alterations as I consider desirable should be made in them:—

A.—The Government Gardens—Ootacamund.

1. Many portions of these gardens are very swampy, and it is absolutely necessary that a thorough system of drainage should be undertaken forthwith.
2. The lawns need to be re-levelled; and for their further proper keeping, mowing machines are wanted.
3. The roads and walks are in a bad state of repair; and of both of these there are more than sufficient for the requirements of the gardens. It would be well to do away with such as are not wanted, and to re-make the rest.
4. There are many rare and interesting trees and shrubs, which are not named. The naming of these should be proceeded with at once.
5. It would add largely to the beauty of the gardens, if all that part, which lies between the entrance gates, the old Cinchona laboratory and the lower terrace was to be laid out in a more park-like manner; while retaining the portion immediately above the terrace as an ornamental garden.
6. It would increase the efficiency of the gardens if the terraces, which contain the present nurseries, were enlarged and made serviceable for the purposes of—

   A.—An Herbaceous Botanical Garden.
   B.—An Experimental Kitchen Garden.

7. A more extended series of meteorological observations, than at present made, would be of considerable advantage; in so far as it would enable us to make more accurate comparisons between the climates of this and other localities. The record of such observations might be posted daily on one of the entrance gates, and thus furnish information of an always interesting character to the public. Should this suggestion be adopted, it would be necessary to purchase the following instruments, and to make arrangements for their being properly served and properly maintained.

Instruments.

1. Barometer.
2. Thermometer—
   - *a.* Maximum.
   - *β.* Minimum.
   - *γ.* Solar radiating (black bulb.)
   - *δ.* Wet and dry bulb.
3. A Rain Gauge we possess.

B.—Sim's Park—Coonoor.

1. The gardens here are generally in a better state of repair and more neatly kept than those at Ootacamund; but, as at Ootacamund, the drainage requires looking to; while the roads and walks in many cases need substantial repairs.
2. The plants need naming.
3. Meteorological observations, similar to those, which I have suggested should be taken at Ootacamund, would be of great use.
4. It would add largely to the pleasure and convenience of those residing in Coonoor and Wellington, if the Shola (now a Government Forest Reserve) which lies in the lower part of that ravine in which Sim's Park is situated, and which connects the park with the Wellington Racing flat, was to be taken into the park; and a road made through it, so that persons passing between Coonoor and Wellington might be able to drive direct through the park.

C.—Barliyár.

This garden contains a few rare and very interesting plants; and is admirably situated for experimenting upon tropical species. It is, however, a deadly excavation in a deadly ghât, and it will be for Government to decide whether it shall be retained or if another spot less unhealthy shall be acquired.

N. B.—I have been informed by the Overseer that during the months of February and March last, no less than nine coolies were dismissed on account of their having been attacked by fever. The gardens employ only one laborer at a time.

D.—Kalhatti.

This garden I have not yet visited.

Order—dated 31st August 1883, No. 1064, Revenue.

Miscellaneous.

The Director submits a brief report on the alterations required in the Nílgiri Botanical Parks and Gardens, a full report * on which for the year 1882-83 had previously been received from the Curator Mr. Jamieson. These documents may conveniently be disposed of at one and the same time in order that the improvements suggested by Mr. Lawson may be set in hand in the current year 1883-84, a supplemental grant of the necessary amount being made for the purpose.

* Dated 18th July 1883.

2. To deal first with the Director's letter, the Right Honorable the Governor in Council entirely concurs in thinking that the drainage is susceptible of considerable improvement in parts of the *Ootacamund Gardens*, and that a decrease in the number of roads and an improvement in the upkeep of the lawns is most desirable. On receipt of an indent, the necessary mowing machines and the instruments required for meteorological observations will be procured. Their cost and that of the alterations and improvements proposed in paragraphs 1, 5 and 6 of Mr. Lawson's letter should be included in the Budget Estimate for 1884-85, which will be due on the 1st October next, and the Department of Public Works will be requested to issue orders for the speedy preparation of estimates by the Executive Engineer in concert with the Director. The labelling ordered by G.O., 21st September 1882, No. 3097, should be completed as soon as possible. The Government highly approve the proposed institution of an experimental kitchen garden in which vegetables which hitherto have not been grown on the Nílgiris may be given a fair trial, and they note with regret that Mr. Jamieson's statement (paragraph 19 of report) that little or no improvement in the cultivation of the finer sort of vegetables has taken place, is only too true.

3. The proposed repairs at *Sim's Park* and the cost of the meteorological instruments required there, should also be estimated at an early date for inclusion in the Budget of 1884-85, and the plants should certainly be labelled as those in the Ootacamund Gardens have been. The Conservator of Forests, Northern Circle, and the Collector of Nílgiris will be requested to give their opinion on the proposal made for including the shola, referred to in Mr. Lawson's letter, in the park and for constructing a road through it from Coonoor to Wellington.

4. The Government will await the Director's matured opinion as to the proposed abandonment of the gardens at Barliyár, the climate of which, though unfortunately so inimical to man, has none the less proved favorable to exotics, which have not hitherto succeeded elsewhere. It is observed, moreover, that no death from fever or sickness occurred among the coolies during the year under report.

5. Turning to the *Curator's Report*, the Government observe that the receipts (Rs. 3,439-0-4) which are in excess of those of the last year by Rs. 412-6-0 probably admit of further development, and that their suggestion of 1878-79, referred to in the review of last year's report, has not apparently been acted on up to date. Much has been done during the year under report to enhance the beauty of the *Ootacamund Gardens*, and the turfing over of the gravel road leading from the entrance gate to the Conservatory, which has been taken in hand since Mr. Jamieson wrote his report, will vastly improve their general appearance. The Government, however, see no reason at present to remove the Conservatory. The cooly lines, it is hoped, will be completed long ere the expiry of the current year.

6. The Government learn with great satisfaction that *Cinchona Carthagena* continues to make a very satisfactory growth at Coonoor and Kalhatti and that healthy seedlings have been propagated from the varieties of *Calisaya* (*Morada*, *Verde*, *Zamba morada*) obtained last year from the Secretary of State; and they trust that it may prove, as Mr. Jamieson holds, that the *Castilloa* is successfully established in the Nílgiri District. The Conservator of Forests, Southern Circle, will report at an early date as to its alleged failure at Nilambúr, and the progress of the plants distributed should be carefully watched and noted in next year's report. The Government will also be glad to hear of the result of the experiment being made in Coonoor with *Acacia decurrens*, 10 cwt. of the bark of which is, it is observed, to be forwarded to Cawnpore at the request of the Director of Agriculture and Commerce, North-Western Province and Oudh.

7. The Curator should persevere in experiments with potatoes. Mr. Watson's report on fodder plants should be published in the District Gazette. The Tagasaste, Mr. Jamieson's former praise of which is quoted in the Kew Report for 1881, is, it now appears, inferior to Teosinte and Prickly Comfrey and cattle will not eat it.

8. The results of the Curator's tour (paragraph 20 of report) are satisfactory; but it is observed that no definite information is given as to the progress made with the catalogue of plants, the preparation of which under Mr. Lawson's superintendence was enjoined on Mr. Jamieson by the order on last year's report, and that nothing is said as to the result of the Curator's visit to the Madras Agricultural Exhibition, which is only incidentally alluded to in paragraph 59 of his report.

9. The Committee who undertook to construct the Lawn Tennis ground in *Sim's Park*, Coonoor, will be called on to complete the courts and fence them off from the park, or to relinquish them altogether, as their present unfinished condition is reported to mar the appearance of the park. Attention is directed in this connection to paragraph 13 of G.O., 12th December 1882, No. 1398. The condition of the *Cinchona Ledgeriana* plants raised from Java seed in 1880 is matter for congratulation.

10. Operations at the *Barliyár Garden* evidence no inconsiderable progress, and the Government learn with very great pleasure of an improvement in the health and growth of *Ipecacuanha* which, in the year under report, has *seeded* for the first time. Its propagation at Ootacamund is satisfactory and no possible pains should be spared in securing the successful establishment of this "the most important of

recent introductions to India," experiments with which have recently been ordered * in various localities throughout the Presidency.

* G.O., 18th November 1882, No. 1276.

11. *Castilloa Elastica* made a good growth during the year under report and the further progress of the four plants permanently put out will be watched with interest. *Hevea* also promises well. The weakly *Landolphias* should receive every attention. The threatened exhaustion of the natural sources of supply of Gutta-purcha and India rubber makes the acclimatisation of all plants of the rubber species a matter of great importance.

Kew Report, 1881, pp. 38, 39.

12. If the Director considers it necessary, the Government will be prepared to consider the propriety of sanctioning "a more liberal grant for *Kalhatti Garden*." Mr. Jamieson does not say on what particular head he considers more liberal expenditure called for. *Cinchona Carthagena* and *Ledgeriana* did well here.

13. With reference to paragraph 56 of the Curator's report, it is observed that the prohibition of the extension of the cultivation of *Jalap* was withdrawn by paragraph 17 of the review of his report of last year. If, however, a supply of tubers be maintained for distribution and for the requirements of the Medical Store Department, it will suffice. With reference to paragraph 59, the Surgeon-General will be requested to advise as to the expediency of Mr. Jamieson's prosecuting his experiments with essential oils. Should it be desirable that he should do so, better apparatus will be supplied.

14. The expenditure on the *Upper Norwood* property fell short of the grant (Rs. 1,500) by upwards of Rs. 300. The whole allotment might have been expended with advantage in maintaining the grounds between the garden cottage and Government House in a higher state of efficiency and in removing the wattle which now disfigures this part of the gardens.

15. On the whole the operations of the year are satisfactory and show that the observation of the Agri-Horticultural Committee in their last annual report to the effect that considerable impetus has been given during the year to the demand for, and distribution of, economic plants in consequence of the action of Government, is not without foundation.

(True Extract.)

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

To the Director, Government Cinchona Plantations, Parks and Gardens, Nilgiris.
„ the Director of Agriculture and Revenue Settlement.
„ the Board of Revenue.
„ the Superintendent, Government Central Museum.
„ the Surgeon-General with the Government of Madras.
„ the Department of Public Works.
„ the Financial Department.
„ the Honorary Secretary, Agri-Horticultural Society, Madras.
„ the „ Wynaad, } Planters' Associations.
„ the „ Yercaud, }
„ the „ Nilgiri, }
„ the Editors' Table.

Exd. W. H. French.

200 Copies.

No. 2827 Rev. 8th Octr/83.

Communicated to the S. E. Fourth Circle who will instruct the Ex: Engr. Nilgiri Division to draw up further details in Communication with the Director, the Estimates referred to in para 2 of the G.O. in the Revl. Depth.

Sd. C.B. Irs.

To

The S.E. Fourth Circle

Govt. of {1883} Madras.

REVENUE.

Issued

Recd. Encl.

G.O., 31st August 1883, No. 1064.

No. 2827 Rev. 8th Octr/83.

AUGUST.

Government Botanical Parks and Gardens,

Nilgiris.—Reviewing the report on the — for 1882-83.

Withorder

REPORT

ON

THE PROGRESS AND CONDITION

OF THE

GOVERNMENT BOTANICAL GARDENS AND PARKS ON THE NILGIRIS,

FOR THE YEAR

1883-84.

MADRAS:
PRINTED BY E. KEYS, AT THE GOVERNMENT PRESS.

1884.

REPORT

ON THE

PROGRESS AND CONDITION OF THE GOVERNMENT BOTANICAL GARDENS AND PARKS, NILGIRIS, FOR THE OFFICIAL YEAR 1883-84.

In conformance with the desire expressed in G.O., No. 204-B, Revenue, 10th February 1883, and G.O., No. 443, Revenue, 14th April 1883, I took over charge of the several Government Gardens and Parks, Nilgiris, on the 18th June 1883, from Mr. Jamieson, who had been in control of them since the year 1871, and the following is a list of those horticultural establishments over which I now exercise supervision :—

I.—Ootacamund.

(*a*) Government Gardens.
(*b*) Government House Gardens with the Eucalyptus Forest attached.
(*c*) Stonehouse Park.
(*d*) Church Hill.
(*e*) Crewe Hall Estate and adjoining grounds.

II.—Coonoor.

Sim's Park.

III.—Barliyar.

Experimental Garden.

IV.—Kalhatti.

Experimental Garden.

2. On my taking over charge, Government desired me to submit to them my views as to what was necessary in order that the gardens might be put into a perfect state of repair. This I did. The Government approved of my proposals, and granted the money, which was required for carrying into effect the many much needed alterations.

3. I. Ootacamund—(*a*) Government Gardens.—The staff of officers is the same as heretofore. They have all performed their duties to my entire satisfaction, and I take this opportunity of thanking them for the heartiness with which they have responded to my demands for increased assiduity. I wish especially to record my obligations to the Curator, Mr. Jamieson, for the loyal manner in which he has on every occasion supported me in designing the alterations I wished to introduce, and for the skill and perseverance which he has evinced in carrying out those alterations to a satisfactory conclusion.

4. *Alterations.*—Of those changes which I stated in my letter to Government, dated 19th August 1883, as being desirable, the following have been already completed, or are now in the course of being carried out :—

(1) The more swampy portions of the gardens have been thoroughly drained; and to this end open drains have for the most part been preferred to the closed ones, which were proposed in my letter of 19th August 1883, quoted above. The reason for making this change was that I could obtain drain-pipes of second-rate quality only, and these too at a cost much greater than I could approve.

(2) All the old lawns between the entrance gates and the lower terrace have been levelled and the greater part of them re-grassed. The broad walk also, which formerly extended from the entrance gates to the lower conservatory, has been dug up and laid down in grass. All this portion of the gardens, with the exception of a few trifling works which have still to be executed, may be regarded as finally completed. The lawns to the left of the entrance gates as you approach the gardens, together with the environments of the old Cinchona Laboratory, are being proceeded with, and will, I hope, be finished before the end of the present year. Mowing machines and rollers have been purchased and the grass, though by no means yet in perfect order, is greatly improved in appearance. When these works connected with the lawns are completed, visitors on entering the gardens will have presented to their view a very much more extensive sweep of smooth sward than was to be had formerly.

(3) All the roads and walks of the lower gardens have been re-made, and are now in good order. Some of them, however, will shortly need more gravel, and this will be supplied during the ensuing winter. The road and walks in front of the entrance gates will also be completed about the same time.

(4) Nearly all the plants which have flowered during the past year have been identified, and the trees and shrubs have been labelled. Great difficulty was experienced in finding any one who could paint the labels properly, and this must account for the delay which took place in respect of their being put down.

(5) Very little has yet been done in the way of making an *herbaceous botanical garden*, and nothing at all in the way of making the proposed *experimental kitchen garden*, as the labor which would have been required for these objects has been expended upon other more pressing works; but I hope that, during the course of next year, I shall be able to establish both.

(6) Nothing has yet been done towards making the *meteorological observations* which are taken daily in the gardens more complete, beyond instituting preliminary inquiries as to the cost of instruments. At present the only observations which are recorded are those connected with the rainfall; these are punctually and trustworthily made.

5. *Repairs.*—The Arbor and Bandstand have been either rebuilt or substantially repaired, and some slight repairs have been done also to the lower conservatory. This latter building is, however, in a very bad condition; and it will be a matter for not distant consideration, whether or no it had not better be pulled down. If it should be determined to pull this building down, I would recommend that it should not be rebuilt on its present site, but in some other part of the gardens, as then there would be one unbroken sweep of lawn extending from the entrance gates to the lower terrace. The other two conservatories are in fair order. The Propagating houses are, on the other hand, in bad condition and need considerable alterations. The usual annual repairs have been made to the Curator's house as well as to those of the head and under Overseers, and all are now in good condition. It is, however, desirable that the present tile and matting roofs of these three houses should be replaced before long by iron ones. New cooly lines containing fifteen substantial brick-houses have been put up during the past year, and it is intended to supplement these by another set of lines which shall contain ten houses. The lines are intended to give accommodation to the more permanent laborers on the establishment.

6. *Nuisances.*—The chief annoyances in the maintenance of these gardens arise from the trespass of cattle, the depredation of porcupine, and the inveterate habit which the coolies have of making short cuts in every direction over the lawns and grass slopes. The first and second of these nuisances I hope to remedy; the one by fencing the more exposed boundaries of the gardens, and the other by the administration of poisoned favorite foods. To attempt a remedy for the third nuisance seems useless.

7. *Season.*—The light monsoon of last year and the, as yet, almost total failure of the present one has been very favorable for carrying on work connected with the alterations and repairs mentioned in paragraphs 4 and 5, but the want of rain has thrown the planting season back to an unusually late period. There was abnormally severe frost in January, the thermometer falling on more than one occasion to below 20° Fr. This extreme cold destroyed many of our more tender plants in the gardens and has temporarily spoiled the appearance of many others. So great was the intensity of the frost that even large shola trees were killed on the less sheltered parts of the hills. Water placed in an earthenware chatty is said to have frozen to the depth of more than two inches, and ice, the thickness of a rupee, was of constant occurrence in the early morning on shallow ponds.

(*b.*) Government House Gardens.—These gardens and grounds, which were in a very rough and unfinished state, are now undergoing reconstruction. A large amount of work was got through during the past year, and it may be expected that the forthcoming season will see their completion. Little more remains now to be done beyond clearing the grass slopes of the more unsightly scrub and planting trees in clumps. The annexation of the Eucalyptus wood adjoining the house has added greatly to the charm of the grounds. The wood requires thinning and a few more walks might with advantage be made through it.

(*c.*) Stonehouse Park.—Many of the isolated and more ungainly trees have been cut down and fresh ones planted in groups. I wish particularly to draw the attention of Government to the absolute necessity of protecting these young plantations from the ravages of straying cattle. Further plantations of trees and shrubs will be required when the builders and road-makers shall have completed their present works.

(*d.*) Church Hill.—The usual upkeep has been maintained. No extra work has been carried out, and none is required.

(*e.*) Crewe Hall Estate and adjoining Grounds.—This has only quite recently been placed under my superintendence. Propositions for its future management and ornamentation will be made in my budget estimate for next year.

II. Coonoor—Sim's Park—(1) *Alterations.*—Nothing of much importance has been carried out during the past year under this head in the old portion of the park. The general upkeep has been well maintained. Some few of the roads and paths have been re-made, and the remainder have been repaired. The summer houses have been rebuilt.

(2) *Private Lawn Tennis Ground.*—This has been taken back into the park as the club to whom it was lent had failed to carry out certain stipulated improvements.

(3) *Labelling.*—Most of the plants have been identified, and I am having labels painted for all the more conspicuous trees and shrubs. These labels I hope to put down before the end of the year.

(4) *New Shola.*—The wood which lies between the lower end of Sim's Park and the upper end of the Wellington Race-course has been handed over by the Forest Department. . A three-foot path has been cut through this wood so that persons may now walk through the park from Coonoor to Wellington, and I propose next year to convert this path into a carriage road.

(5) *Cattle Trespass.*—This plague is not so great as it is in the corresponding grounds belonging to Government at Ootacamund, nevertheless it will be necessary to erect a substantial fence round that portion of the newly added shola which is bounded by the pnblic road.

III. Barliyar—*Upkeep.*—This has been the same as in past years, and I do not think that any changes are required. The garden continues to have the same bad reputation for unhealthiness, but from inquiries which I have made concerning the inhabitants of the neighbouring village, I cannot help thinking that the unwholesomeness of the place has been exaggerated. The trees and shrubs which have been planted out here thrive wonderfully well; and I consider this garden, for its size, to be the most important one, which the Government possesses on the slopes of the Nílgiri plateau.

IV. Kalhatti.—With the exception of planting out a few thousand seedlings of *Cinchona morada* and *C. verde*, which had been raised by Mr. Jamieson in the Government Gardens, Ootacamund, from seed purchased last year from Messrs. Christie and Co., nothing of importance has been added to these gardens during the past twelve months. The position and climate of Kalhatti resemble so closely those of Sim's Park, Coonoor, that I doubt if it is worth the while of Government to continue its cultivation. I should prefer seeing it abandoned, and a plot of about the same size taken up somewhere in the neighbourhood of Gúdalúr in the Wynaad. Gúdalúr possesses deep rich soil, and has all the characteristics of the Wynaad climate. By establishing a garden here, Government would be able to grow successfully many plants, especially palms, which they cannot grow now in any of their other gardens. The cost of opening out and fencing such a plot of ground ought not to be great, while the annual charge for maintaining the garden would not be much greater than what is at present incurred at Kalhatti. An experimental garden at Gúdalúr would be easily supervised, as it would be within easy reach of the Government plantations at Naduvatam.

Herbarium.—Since the time of my first landing in India, I have occupied much of my leisure in the collection and preservation of Indian plants, as without such a collection it is not possible to determine with any degree of accuracy many of the plants which are being constantly sent for identification. The herbarium contains now some four thousand species, the most part of which are correctly named. The specimens having been poisoned to protect them from the attacks of insects, are mounted on paper and enclosed in genus covers, and arranged according to the "Flora of British India" now in the course of publication by Sir J. D. Hooker, Director of the Royal Gardens, Kew. For this large number of species I am to no small extent indebted to the following gentlemen for their liberal assistance:—

(1) *Mr. Hollingsworth, Government Apothecary*, for many rare plants collected about Madras and Ootacamund, as well as for much critical information respecting many of our more doubtful species.

(2) *Mr. Gamble, Conservator of Forests, Northern Circle*, for a very valuable and extensive series of beautifully preserved specimens, being duplicates from his own very rich and magnificent collections.

(3) *Mr. Ferguson of Colombo, Ceylon*, for about 150 specimens of named Ceylon grasses.

(4) *Dr. Trimen, Director of the Royal Gardens, Peradiniya, Ceylon*, for many of the rarer plants of Ceylon, and for much novel and valuable information concerning them.

(5) *Dr. Bidie, Central Museum, Madras*, for duplicate specimens from the herbarium under his control. Also for the loan of the *Wight Herbarium* lately received from Kew. This Herbarium was presented to the Madras Government by Sir J. D. Hooker and contains the greater part of the *Thalamifloræ, Gamopetalæ*, as well as many of the *Orchids* of Wight's collections, from the specimens in which nearly all the figures in the "*Icones Plantarum Indiæ Orientalis*" were drawn. Dr. Wight may be said to have been the first scientific botanist who carefully examined and described the plants of Southern India on any large scale, and I consider it a cause for much congratulation that Madras should have been put in possession of so large a portion of his plants.

(6) *Mr. Wilson, Director of Revenue Settlement and Agriculture*, for specimens of plants of economic interest and information respecting them.

(7) *Mr. Weld, Assistant Collector, South Arcot*, for plants sent from the neighbourhood of Cuddalore.

(8) *Mr. Wedderburn, Head Assistant Collector, Wynaad*, for specimens of plants collected in the neighbourhood of Devála. .

(9) *Captain Quentin Agnew*, for about one hundred and thirty excellently chosen and well-preserved specimens of plants from the neighbourhood of Guindy.

(10) *Captain Evans Gordon*, for two packets of plants from Central India.

(11) *Mr. J. Cameron, Lal Bagh, Bangalore*, for about 200 specimens of plants indigenous to the district of Bangalore, or which had been cultivated by him in the Lal Bagh.

The cabinets which had been specially made to contain these collections are at present housed in one of the lodges at the entrance to Government Gardens. The accommodation which this lodge affords is growing insufficient, and next year I shall propose that the old cinchona laboratory, which is now being used temporarily as an office, should be fitted up for their reception.

Museum.—A small collection of woods, fruits, seeds and other vegetable products of botanical or economic interest to those living on the Nílgiri plateau has been brought together. This collection is unarranged for want of space and cases, and is therefore at present of no practical value, but I would venture to suggest the desirability of having this small collection added to, and provision being made eventually for its exhibition to the public. I think that while Madras ought to possess the first museum in the Presidency, inasmuch as it is the most important town, it would not be exorbitant to ask that small museums, containing typical collections of objects of interest in their special neighbourhood, should be established in various centres over the country. If Government should sanction a museum in Ootacamund, I would advise that it should contain such objects only as would be of interest to those living on the Nílgiri plateau and the Wynaad. I would like also to see the museum take in all the chief branches of Natural Science—Botany, Zoology, Geology, Mineralogy and Ethnology. I am sure that such a museum of local products would be of service to those who are engaged in commercial, agricultural or other pursuits in this district, and I do not think that it would cost very much to set one on foot.

Library.—The botanical books at present in keeping at the gardens are chiefly benefactions from the Forest Department or loans from the library of the central museum in Madras. The very liberal grant which Government made last year for the purchase of botanical works will enable me to add many books which are pressingly needed.

Receipts and Expenditure.—The following is a summary of moneys granted for the maintenance of the various Government gardens for the year ending 31st March 1884, a detailed account of which will be found in Appendices 5—13:—

	Rs.	A.	P.
Ootacamund Government Gardens, budget grant	10,380	0	0
Grant for cooly lines	911	9	2
Supplemental grant	2,400	0	0
Sale of plants, &c.	3,101	14	4
Seed supplied to the Cinchona Department	60	0	0
	16,853	7	6

	Rs.	A.	P.			
Sim's Park budget grant	1,600	0	0			
Grant for fencing	148	12	0			
Barliyár	350	0	0			
Kalhatti	200	0	0			
Stonehouse Park	600	0	0			
Upper Norwood	1,000	0	0			
Medicinal Gardens	350	0	0			
Church Hill Park	100	0	0			
Total ...				4,348	12	0
				21,202	3	6

EXPENDITURE—

	Rs.	A.	P.
Ootacamund Government Gardens	16,339	3	0
Sim's Park	1,732	3	5
Barliyár	346	5	8
Kalhatti	193	0	0
Stonehouse Park	591	7	0
Upper Norwood	1,000	4	6
Medicinal Garden	317	1	6
Church Hill Park	72	8	0
Total ...	20,592	1	1

Short Notices of some of the more interesting Plants which have been grown in the Gardens during the past year.

1. *Liberian Coffee.*—Although this grows vigorously and fruits abundantly wherever it has been cultivated, there is very little demand for it. The outer portion of the pericarp are much less succulent than in *C. Arabica*; and this accident makes it more difficult to pulp.

2. *Ipecacuanha.*—The stock of plants of this species, which at the end of last year consisted of 170 plants, has been increased to 630. All the plants are in a healthy and growing condition, and there will be in the future no difficulty in increasing the number to an indefinite degree. 12 plants well established were sent to Mr. Hadfield, Assistant Conservator of Forests, for cultivation at Nilambúr, 24 plants are also nearly ready to be despatched to each of the following gentlemen, viz., Mr. T. J. Ferguson of Calicut, to Mr. R. Morgan, District Forest officer of the Wynaad and Malabar, and to the Forest Ranger at Pálghat. Detailed directions for their cultivation have been sent with the plants. I have remarked on a former occasion that I do not think the production of Ipecacuanha will ever become a part of forestry proper, but I feel sure that in the moister climates of the West Coast and the Wynaad it may be cultivated profitably in gardens.

3. *Cinchona Santa Fé.*—In October last I had one specimen of this species left alive in the Propagating house belonging to the Cinchona Department, but as it was in a very bad condition, I had it removed and placed it under the care of Mr. Jamieson. Since then it has gradually improved and is now in a perfectly healthy state. Mr. Jamieson has already taken from this stock plant no less than thirteen cuttings. Of these, ten are rooted and thriving, and the remaining three, though not yet rooted, are looking quite healthy.

4. *Cinchona Carthagena.*—The cultivation of this species has been carried on most successfully. A few of the plants raised during the past year have been distributed to the public for experimentation, while some hundreds have been planted permanently out at Naduvatam, and some score at the Wood estate. The habit of this plant (in its young state at least) is peculiar. The lateral branches exceed considerably in growth the terminal shoot and the tendency of the plant is to become more or less like a ball stuck upon the end of a stick.

5. *Cuprea bark.* (*Remijia Purdieana*).—Out of the packet of seed, which was sent from Kew, about 250 seedlings have been raised. This is much less than was hoped for, as a great deal of the seed appeared to be quite sound. The seed was sown in nearly pure sand and watched carefully every day, and as soon as the radicle pierced the outer covering they were removed to pans containing suitable soils.

6. *Rhus vernicifera or the Japan Lacquer plant.*—Upwards of 100 plants have been raised from seed sent from Kew. The plants have not made satisfactory progress as yet. I do not think that the climate of Ootacamund quite suits them, and I intend to remove them at the proper times to Coonoor, Barliyár and Kalhatti.

7. *Rhus succedanea or the Japan Wax plant.*—Some fifty plants of this have been raised from seed sent from the Agri-Horticultural Gardens, Madras. All are doing well and have made better growth than has been the case in the last species.

8. *Quilaja saponaria.*—A few only of the seeds of this Rosaceous plant which were sent from Kew have germinated. The plants, however, which have been raised are doing well. The Quilaja is a native of Chili. It grows to the height of sixty feet, and its inner bark produces a saponaceous substance. This bark after it has been ground into a powder is used largely by the natives of the country in which it grows as a substitute for soap; and is said to be superior to the ordinary mercantile soap for many purposes in the fuller's trade.

9. *Yucca Gloriosa.*—An experiment made on slices of the stem of this plant showed that it possesses saponaceous properties similar to those of the Quilaja. The slices when rubbed between the hands with water gave a copious and pleasant lather of a highly cleansing quality.

10. *Cola nut* (*Cola acuminata, R. Br*).—Four plants of this nut have been raised from seed sent to the gardens by Colonel S. P. Scott. The *Cola* or *Kola-nut* is a native of tropical Western Africa, and is eaten largely by the natives of Guinea. The nut has a bitter taste, and is said to improve the flavor of whatever is partaken of immediately after it. It is reported also that it gives to chronic inebriates a distaste for intoxicants.

11. *Kumera* (*Convolvulus Chrysorhizus, Soland*).—This is a native of New Zealand and yields tubers resembling those of the sweet potatoe. The tubers which were received from Kew have made as yet no progress. It is probable that the climate of Ootacamund is too cold to suit the plants, and I shall therefore transfer them to Coonoor and Barliyár.

12. *Arracha* (*Arracacia esculenta, &c*).—This is an umbelliferous plant, which inhabits the more mountainous tracts of the northern parts of South America. It is closely allied to the poisonous hemlock of Europe. The roots are divided into several fleshy lobes, each of which resembles the root of a carrot, and are said to have a flavor between a chestnut and a parsnip. The plants which have been raised of this esculent, are from tubers which were sent from Kew.

13. *Castilloa elastica.*—Thirty-one plants were distributed during the year to Mr. G. Murray of Hosúr in Salem, to Mr. H. P. Hodgson of Kolacambay, Coonoor, and Mr. W. Teare of Naduvatam. The stock in the Propagating house consists at the present time of eighteen healthy plants.

14. *Hevea Brasiliensis.*—Of this I have only one specimen. It is planted out at Barliyár, and during the last year grew eighteen feet.

15. *Manihot Glaziovii.*—This grows freely wherever it has been tried. At Barliyár there are many trees over thirty feet in height with a diameter at one foot above the ground of eighteen inches. The trees fruit abundantly, and produce good seed; but there is no demand for it on the part of the public.

16. *Landolphia florida.*—I am sorry to say that all the Government plants of this rubber-yielding climber are dead, but am glad in being able to report that the species is doing well at Nilambúr, where it is being grown under the auspices of Mr. T. J. Ferguson. A second unnamed species, which was sent from the Agri-Horticultural Gardens, Madras, is doing well.

17. *Carissa Macrophylla.*—This is another climber, which was reported last year might be expected to yield a valuable rubber. Mr. Gamble found it growing wild about Coonoor, and roughly tested its yielding qualities. It does not seem likely to be ever of much commercial importance.

18. *Jalap* (*Exogonium purga.*)—29,212 plants were sold last year to the public for the sum of Rs. 492-12-0 and 112 were distributed gratis.

19. *Cacao.*—This thrives well at Barliyár and the seeds germinate freely. There was no demand for plants during the past year.

20. *Mangosteen and Litchi.*—Both of these fruit trees bore heavy crops this year at Barliyár. It is to be regretted that these fruits are not more generally grown in Southern India. They would be a welcome addition to our meagre catalogue and ought to do well in many parts of the Presidency.

21. *Amherstia Nobilis.*—One plant, only six years old, of this magnificent Malacca tree flowered for the first time in Barliyár in March last.

22. *Potatoes.*—Half a ton of seed was imported from England in the early part of the season. A small portion of this stock was distributed, and the remainder planted in the gardens. The resulting crop has been a fair one and free from disease. A considerable quantity of tubers will be available for distribution next year.

23. *Paspalum Conjugatum.*—This is an excellent fodder for horses and cattle generally. In places where it takes kindly to the soil and climate it ousts the native grasses. It loves a wet climate and thrives best between the altitudes of 1,500 feet and 4,000 feet. I hope to be able to distribute seed of this next year from plants grown at Barliyár.

24. *Symphytum Asperrimum.*—Abundance of the better varieties of this fodder is to be had in the neighbourhood of Ootacamund, and it is odd that there should be such a widespreatl prejudice against its use. Grown in deep soil in more humid places, such as the sides of streams, it would produce a crop of most nutritious food for cattle all through the dry season.

25. *Lasiosiphon eriocephalus.*—This plant is nearly allied to the species of the same genus, which produces the Nepalese silk paper. It is extremely abundant on the Nílgiri plateau, and might I feel sure be used for the same purpose as its congener.

26. *Kol-naru* (*Helicteres Isora*).—The bark of this species yields a fibre of great strength and delicacy. It is used chiefly for making fishing nets by the natives on the West Coast, especially about Mangalore. The plant grows abundantly in the woods on the lower slopes of the Nílgiris and over the whole of the Wynaad.

27. *Cochin-China tuberous-rooted vine.*—Some tubers and a quantity of seed was presented by M. Alb. De Guigne, the French Consul at Madras. From these a large number of plants has been raised, which will be put out for experimentation in all the Government Gardens.

28. *Waras* (*Flemingia Grahamiana*?).—This is a strong herbaceous plant, belonging to the natural order Legumenosæ. It is extremely abundant on the grassy slopes of the Nílgiris and probably extends equally commonly all over the Wynaad. The leaves and especially the fruits are most frequently densely clothed with bright red glands, which when separated and made into a paste yield a beautiful reddish yellow dye. The following is an account of the way in which "Waras" is grown and manufactured in Arabia by Major Hunter, Resident at Aden. Major Hunter's note is extracted from a paper by Mr. W. T. Thiselton Dyer in the Pharmaceutical Journal of May 31st, 1884:—

Note on "Waras" collected at Harrav in February and March 1884.

"In the neighbourhood of the city "Waras" is not now raised from seed sown artificially, and it is left to nature to propagate the shrub in the surrounding terraced gardens. The plant springs up amongst jawari, coffee, &c., in bushes scattered about at intervals of several yards more or less. When sown as among the Gallas it is planted before the rains in March. If the soil be fairly good a bush bears in about a year. After the berries (pods) have been plucked the shrub is cut down to within six inches of the ground. It springs up again after rain and bears a second time in about six months, and this process is repeated every second year till the tree dies. Rain destroys the berry (pod) for commercial purposes, it is therefore only gathered in the dry season ending about the middle of March. The bush grows to a maximum height of six feet, and it branches close to the ground. The growth is open and the foliage sparse. Each owner has a few acres of land.

"In the middle of February 1884, the following processes were observed:—

"The leaves (? fruiting shoots) of some plants were plucked and allowed to dry in the sun for three or four days [the picking is not done carefully and a considerable quantity of the surrounding twigs, &c., is mixed with the berries (pods)]. The collected moss was placed on a skin heaped up to about six or eight inches high and was tapped gently with a short stick about half an inch thick. After some time the pods were denuded of their outer covering of red powder which fell through the mass on to the skin. The upper portion of the heap was then cleaned away, and the residual reddish green powder was placed in a flat woven grass dish with a sloping rim of about an inch high. The receptacle was agitated gently and occasionally tapped with the fingers, the result being the subsidence of the red powder and the rising to the surface of the chaffy refuse, which latter was carefully worked aside to the edge of the dish, and then removed by hand. This winnowing was continued until little remained but red powder. (No great pains are ever taken to eliminate *all* foreign matter). A rotl was sold in 1884 for about 13 piasters = 1 rupee 10 annas nearly.

"Waras is sent to Arabia, chiefly to Yemen and Hadhramaut, where it is used as a dye, a cosmetic and a specific against cold. In order to use it a small portion of the powder is placed in one palm and moistened with water, the hands are then rubbed smartly together, producing a lather of a bright gamboge colour which is applied as required."

There are several species of *Flemingia* growing on the Nílgiris and their slopes all of which produce the red glands, the richest of all being probably *F. Vestita var. Neilgheriensis.*

From inquiries which I have made, I cannot learn that anything like the preparation of "waras" is manufactured in Southern India, though I am informed by the coolies working on the Government Cinchona estate at Naduvatam that the plant is used in some places in the Wynaad for dyeing clothes.

29. *Bodu* (*Orobanche Nicotiana*).—Very rotten specimens of this parasite, which is so destructive to the tobacco crops, was sent me in the spring of last year, when I thought I identified it as *Orobanche* (*Phelipæa*) *Indica.* In this I was wrong as the examination of more perfect specimens, which I have since seen, show it to be the *Orobanche Nicotiana.* With respect to eradicating this pest, I could last year only suggest persistent hand-picking before it comes into flower, and I am unable now to add anything more to that suggestion.

(Signed) M. A. LAWSON,
Director.

OOTACAMUND,
15th September 1884.

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ENCLOSURES.

METEOROLOGICAL OBSERVATIONS from April 1883 to March 1884 made on the Government Botanical Gardens, Ootacamund.

Months.	Maximum observed during the Month.	Rainfall. Inches.	Rainfall. Cents.	Days with Rain.	Days without Rain.
April 1883	70·18	4	03	8	22
May "	69·15	6	22	14	17
June "	68·10	3	12	18	12
July "	66·05	8	36	24	7
August "	66·21	6	04	22	9
September "	70·09	1	86	5	25
October "	65·26	10	43	22	9
November "	71·01	4	55	13	17
December "	70·25	4	09	9	22
January 1884	71·08	1	35	3	28
February "	71·26	..	..	..	29
March "	75·18	..	..	..	31
Annual mean ..	69·48	..	..	..	..
Total ..	..	50	05	138	228

OOTACAMUND,
15th September 1884.

(Signed) M. A. LAWSON,
Director, Govt. Gardens and Parks, &c.

RETURN of Seeds, Plants, &c., distributed from the Government Botanical Gardens, Ootacamund, Barliyár and Kalhatti, during the official year ending 31st March 1884.

Months.	Fruit Trees.	Value.	Timber Trees.	Value.	Ornamental Shrubs and Herbaceous Plants.	Value.
1	2	3	4	5	6	7
		RS. A. P.		RS. A. P.		RS. A. P.
April 1883	211	31 0 0	60	19 8 0	2,033	96 4 0
May ,, ...	..	..	15	4 0 0	133	42 4 0
June ,, ...	45	16 0 0	92	46 10 0	582	110 12 0
July ,, ...	4	2 0 0	270	68 8 0	48	42 4 0
August ,, ...	25	25 0 0	237	62 4 0	1,329	100 6 0
September ,, ...	..	..	121	41 14 0	188	83 12 0
October ,, ...	..	..	158	16 0 0	90	52 12 0
November ,, ...	..	..	23	6 12 0	91	29 0 0
December ,, ...	6	4 8 0	42	12 0 0	86	15 4 0
January 1884	45	21 12 0	125	37 8 0	180	17 10 0
February ,, ...	470	70 8 0	..	..	363	30 14 0
March ,, ...	28	10 0 0	306	33 9 0	25,921	584 14 0
Total ..	834	180 12 0	1,449	348 9 0	31,044	1,206 0 0

Months.	Packets of Vegetable, Flower and other Trees.	Value.	Bouquets and Cut-flowers.	Value.	Sundry Charges.	Total.
8		9	10	11	12	13
		RS. A. P.	B. C. FRS.	RS. A. P.	RS. A. P.	RS. A. P.
April 1883	204	92 2 0	2 1	2 12 0	10 14 9	252 8 9
May ,, ...	143	88 1 3	11 7	18 12 0	4 9 3	157 10 6
June ,, ...	329	126 9 6	3 24	22 12 0	23 13 0	346 8 6
July ,, ...	228	92 9 6	7 15	23 2 0	35 8 4	263 15 10
August ,, ...	226	124 4 6	0 4	2 4 0	60 4 6	374 7 0
September ,, ...	166	37 6 6	2 6	6 14 0	37 0 0	206 14 6
October ,, ...	273	52 1 0	5 3	12 8 0	89 1 9	222 6 9
November ,, ...	86	31 8 0	0 1	2 0 0	39 14 0	109 2 6
December ,, ...	110	38 6 0	2 4	4 0 0	4 4 0	78 6 0
January 1884	88	35 5 0	1 0	2 8 0	63 4 9	177 15 9
February ,, ...	25	29 10 0	4 4	7 12 0	10 8 0	149 4 0
March ,, ...	236	91 7 9	1 1	3 8 0	39 4 0	762 10 9
Total ..	2,114	839 7 0	38 70	108 12 0	418 6 4	3,101 14 4

OOTACAMUND,
15th September 1884.

(Signed) M. A. LAWSON,
Director, Govt. Gardens and Parks, &c.

The following is a list of those who have been benefactors to the Gardens during the past year.

Date	From whom.	Particulars.
1st August 1883 ...	Agri-Horticultural Gardens, Madras.	12 packets of Eucalypti seed.
		1 packet of Tristania conferta.
		1 ,, of Catalpa Bignonioides.
1st September 1883.	Do. do. ...	32 packets of tree and shrub seeds.
24th ,, ,,	Do. do. ...	1 packet of Catalpa speciosa.
8th October ,,	Do. do. ...	66 packets of tree and shrub seeds.
24th November ,,	Do. do. ...	6 kinds of flowering plants.
24th March 1884 ...	Do. do. ...	1 packet of Juniperus Virginiana.
27th October 1883 ...	Christy and Co., Messrs., London.	12 beans of Maragogipe coffee.
3rd August ,, ...	Director, Government Cinchona Plantations and Parks and Gardens, Ootacamund.	1 packet of Kengia Notiviana.
11th August ,, ...	Do. do. ...	1 ,, of Convolvolus rufescens.
8th October ,, ...	Do. do. ...	6 plants of Ophiopogon indicum.
22nd November,, ...	Do. do. ...	1 packet of Impaticus, new sps.

List of those who have been benefactors to the Gardens during the past year—(*Continued*).

Date.	From whom.	Particulars.
24th November 1884.	Director, Government Cinchona Plantations and Parks and Gardens, Ootacamund.	1 packet of Smithia dichotoma.
24th ,, ,, ...	Dawson, Mr. H R., Madras ...	1 ,, of Tropæolum speciosum.
28th August ,, ...	Hewston, Dr., Manantoddy ...	5 kinds of flowering plants.
20th November ,, ...	His Excellency the Governor, Madras.	1 packet of Coprosma Baneriana.
7th January 1884 ...	Do. do. ...	A collection of tree and shrub seeds received from Kew.
13th May 1883 ...	Leishman, Mr. T., Ootacamund...	1 packet of Hop seed.
28th August ,, ...	Oakes and Co., Messrs., Ootacamund.	5 kinds of wheat.
27th October ,, ...	Parsons, Mr. A., Simla ...	A collection of flowering plants, Potentillas, Clematis, &c.
20th June ,, ...	Royal Gardens, Kew ...	1 packet of Rhus vernicifera.
		30 lb. of carob.
25th July ,, ...	Do. do. ...	6 kinds of tree and shrub seeds.
4th August ,, ...	Do. do. ...	2 ,, do. do.
28th ,, ,, ...	Do. do. ...	2 ,, do. do.
11th December ,, ...	Do. do. ...	1 packet of Washingtonia filifera.
		1 ,, of Salvia Columboræ.
25th October ,, ...	Royal Botanical Gardens, Ceylon.	A collection of tree and shrub seeds, 20 kinds.
15th November ,, ...	Roberts, Mr. J. F.	A collection of tree and shrub seeds, 68 kinds.
	Kew Nursery, Melbourne, Australia.	1 packet of Australian and New Zealand Fern Spores.
		A few Australian orchids.
5th February 1884.	Superintendent, Saharunpur Gardens.	A collection of Himalayan and other seeds, 24 kinds.
15th March ,, ..	Scott, Col. S. P., Ootacamund ...	A few Kolanut tree seeds.
2nd September 1883.	Underwood, Mr., Manantoddy ...	1 plant of Modecca palmata.
30th November ,,	William and Brothers, Messrs. Ceylon.	2 kinds of Cinchona seed.
		1 kind of Croton oil-seed.
		1 ,, of Oncosperma fasciculata.

The following is a list of those to whom seeds or plants have been distributed during the past year.

Date.	To whom.	Particulars.
1st January 1884 ...	Agri-Horticultural Gardens, Madras.	1 packet of Fuchsia seed.
10th March ,, ...	Brown, Mr. Thos.	5 kinds of potato seed.
2nd October 1883 ...	Bidie, Brigade-Surgeon G., for the Calcutta Exhibition.	2 lb. of Taraxacum roots.
		4½ lb. of Exogonum tubers.
		9 lb. of Digitalis folio.
31st ,, ,, ...	Caine, Colonel, Ootacamund.	1 lb. of Carob seed.
		1 oz. of Tagasata seed.
		5 packets of Maize seed.
6th November 1883 ...	Cameron, Mr. J., Bangalore ...	1 lb. of Cypress seed.
2nd July 1883 ...	Dene, Rev. O., Ootacamund.	A collection of flowering plants.
20th February 1884 ...	Director, Government Cinchona Plantations, Ootacamund.	4 lb. of Frenela Rhomboidea seed.
25th March 1884 ...	Do. do.	½ lb. of Eucalyptus globulus seed.
10th ,, ,, ...	Director of Agriculture and Commerce, Cawnpore.	8 lb. of Acacia melanoxylon seed.
		1 lb. of Acacia decurrens seed.

List of those to whom seeds or plants have been distributed during the past year—(*Continued*).

Date.	To whom.	Particulars.
6th March 1884 ...	Fursdon, Mr. C. A. T., Nellakóta.	6 plants of Rhea.
15th November 1883...	Honorary Secretary, Planters' Association, Yercaud.	100 Jalap tubers. 40 Peppermint plants. 1 lb. of carob seed. 4 oz. of black wattle seed. ½ oz. of Paspalum conjugatum seed.
9th July 1883... ...	Lone, Mr. A., Vayitri ...	4 plants of Ipecacuanha.
1st June ,, ...	Morgan, Mr. R., for the Botanical Gardens, Manantoddy.	1 plant of Castilloa. 2 ,, of Mangosteen. 2 ,, of Nutmeg. 6 ,, of Clove. 1 ,, of Cinchona Carthagena.
2nd July ,, ...	Martin, Mr. G. R.	1 packet of white Rhododendron seed.
7th ,, ,, ...	Manackji Soraljí, Ahmednugger.	2 lb. of Sorghum seed, 2 kinds. 2 packets of Eucalypti seed, 2 kinds. 1 packet of Michelia Nilagirica.
15th November 1883...	Murray, Mr. G., Hosúr ...	21 packets of Eucalypti seed. 1 packet of Ceara rubber seed.
9th July 1883 ...	Nock, Mr. N., Botanical Gardens, Ceylon.	12 Jalap tubers. 6 packets of Eucalypti.
19th May ,, ...	Nagappah and Co., Messrs., Bangalore.	1 plant of Begonia. 2 plants of Fuchsia. 2 plants of Gymnogramma peruviana.
8th December 1883 ...	Parsons, Mr. A., Simla ...	A collection of tree, shrub and flowering plants. 8 kinds of Acacia seed.
15th November ,, ...	Redley, Mr. M., Lucknow ...	3 kinds of Eucalypti seed.
2nd July 1883 ...	Superintendent, Sutton's Estate, Kolacambay.	24 plants of Prickly confrey. 6 oz. of Reana seed.
1st November ,, ...	Smith, Mr. E. A., Madras ..	2 oz. of Couch grass seed.
15th May 1883 ...	Trimen, Dr., Ceylon	9 kinds of tree and shrub seeds.
1st November 1883 ...	Do. do.	A collection of tree, shrub, and flowering plants.
15th ,, ,, ...	Underwood, Mr., Manantoddy.	3 kinds of vegetable seeds.
6th ,, ,, ...	Wylie, Mr. S., Wynaad ...	1 oz. of Brazil cherry seed.
30th ,, ,, ...	William and Brothers, Messrs., Ceylon.	1 lb. of Acacia Dealbata seed. 2 lb. of Acacia Melanoxylon seed.
8th February 1884 ...	Do. do.	2 oz. of Acacia Decurrens seed. 1 oz. of Eucalyptus globulus seed.

Dr. STATEMENT showing the Receipts and Charges of the Government Botanical Gardens, Ootacamund, for the official year ending 31st March 1884. *Cr.*

Receipts.	Budget Allotment.	Amount.	Total.
	RS. A. P.	RS. A. P.	RS. A. P.
To Cash on hand	..	117 5 8	
,, do. being undisbursed pay	..	4 13 5	
			122 3 1
,, Amount realized by sale of plants, &c.	3,000 0 0	2,185 15 4	
			2,185 15 4
,, Cash received from the Collector of Nílgiris on account of salary of Curator, office, and fixed cooly establishment	5,880 0 0	5,812 15 1	
			5,812 15 1
,, Cash received from the Collector of Nílgiris, being amount sanctioned in G.O., No. 874, dated 5th July 1872	500 0 0	500 0 0	
			500 0 0
Temporary establishment .. 3,000 0 0			
Contingencies 1,000 0 0			
Amount sanctioned in G.O., No. 302, dated 6th March 1884, for new works 2,400 0 0			
Add sale of produce credited in treasury 2,185 15 4			
	8,585 15 4		
,, Cash received from the Collector of Nílgiris for contingencies and temporary establishment ..	..	8,665 10 10	
			8,665 10 10
,, Amount paid by Accountant-General to Master Attendant for garden contingencies	..	33 12 11	
			33 12 11
,, Amount transferred to the credit of Cinchona department for cost of seeds supplied	..	60 0 0	
			60 0 0
,, Cash received from the Collector of Nílgiris on account of travelling allowance of the Curator to Sispara and Madras	..	155 0 0	
			155 0 0
,, Amount paid by the Collector of Nílgiris, being municipal assessment on the buildings of the Government Gardens	..	223 0 0	
			223 0 0
,, Cash received from the Collector of Nílgiris, being part of Rs. 2,790 sanctioned in G.O., No. 1909, dated 9th May 1883, on account of cooly lines ..	..	911 9 2	
			911 9 2
Total ..	17,965 15 4	..	18,670 2 5

Expenditure.	Amount.	Total.	Unexpended Balance.
	RS. A. P.	RS. A. P.	RS. A. P.
By Cash paid for salary of Curator, office, and fixed cooly establishment	5,817 12 6		62 3 6
		5,817 12 6	
,, Temporary cooly establishment	3,766 8 9		
		3,766 8 9	
,, Draining the lower part of the gardens	448 0 0		
,, Carting soil for filling disused roads and levelling the lawns	560 12 0		
,, Formation of new roads and carting gravel ..	406 2 0		
,, Planting grass	391 0 0		
,, Clearing brushwood and felling Eucalypti on the northern slope of the upper part of gardens ..	484 3 0		
,, Sundry works	59 13 0		
		2,349 14 0	
,, For purchase and freight, &c., of seeds and plants ..	699 8 10		
		699 8 10	
,, For cost of and writing labels for plants	53 2 0		
		53 2 0	
,, For purchase of tools	115 2 0		
,, Do. of water pots	59 0 0		
,, Do. of flower pots	82 8 0		
,, Do. of service stamps	37 0 0		
,, Do. of office furniture	18 0 0		
,, Do. of *Gardener's Chronicle*	14 6 0		
,, Do. of iron standards	55 0 0		
,, On account of postage on banghies received, &c. ..	3 1 6		
,, Carriage and packing of plants	652 8 7		
,, Carpenters' wages for the year	390 5 6		
,, Bricklayers' do. do.	142 7 0		
,, Sawyers' do. do.	62 11 7		
,, Blacksmith and stonecutters' wages	8 12 0		
,, For printing and binding charges	21 8 0		
,, Clothing for the two peons	26 0 0		
,, Accountant-General to Master Attendant	33 12 11		
,, To Cinchona department for seeds supplied ..	60 0 0		
,, To the Curator, Government Gardens, being his travelling allowance to Sispara and to the Flower show at Madras	155 0 0		
,, To the Collector of Nílgiris, being municipal assessment on buildings	223 0 0		
,, Sundry charges	580 8 8		
		2,740 11 9	
,, For the construction of cooly lines	911 9 2		
		911 9 2	
,, Cash credited in treasury	2,185 15 4		
,, Do. do. on account of stationery and printing	2 8 0		
		2,188 7 4	
,, Cash on hand	142 8 1		
		142 8 1	
Total ..	..	18,670 2 5	62 3 6

OOTACAMUND,
15th September 1884.

(Signed) M. A. LAWSON,
Director, Govt. Gardens and Parks, &c.

Dr. STATEMENT showing the Receipts and Charges of Sim's Park at Coonoor for the official year ending 31st March 1884. *Cr.*

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS. A. P.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To cash received from the Collector of Nílgiris for contingencies and temporay establishment ..	1,600 0 0	1,583 7 5		By cash paid to gardeners and coolies employed during the year ..	1,156 4 5		
,, cash received from the Collector of Nílgiris, being amount sanctioned in G.O., No. 3896, dated 24th September 1883, for the fencing of Sim's Park ..	..	148 12 0	1,583 7 5	By cash paid for assessment and cooly lines ..	12 0 0		
				By cash paid for water pots ..	12 0 0		
				By cash paid to Messrs. Groves and Co. for fencing	148 12 0		
			148 12 0	By cash paid for pillar and step works	185 9 0		
				By cash paid to purchase of wood for Arbors, &c.	99 11 6		
				By cash paid for purchase of lawn-mower	72 8 0		
				By cash paid for sundry charges ..	45 6 6		
						1,732 3 5	16 8 7
Total ..	1,600 0 0	..	1,732 3 5	Total ..	..	1,732 3 5	16 8 7

Dr. STATEMENT showing the Receipts and Charges of the Government Botanical Gardens at Barliyár for the official year ending 31st March 1884. *Cr.*

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS. A. P.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To amount realized by sale of plants, &c.	600 0 0	134 14 0		By cash paid to gardeners and coolies employed during the year ..	322 0 0		
,, cash received from the Collector of Nílgiris for contingencies and temporary establishment ..	350 0 0	346 5 8	134 14 0	By cash paid for weeding ..	14 5 8		
				By cash paid for the repair of gardener's hut ..	10 0 0		
			346 5 8	By cash credited in treasury ..	134 14 0		
						346 5 8	3 10 4
						134 14 0	
Total ..	950 0 0	..	481 3 8	Total ..	..	481 3 8	3 10 4

Dr. STATEMENT showing the Receipts and Charges of the Government Botanical Gardens at Kalhatti for the official year ending 31st March 1884. *Cr.*

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS.
To amount realized by sale of plants, &c.	50	92 4 0		By cash paid to gardeners employed during the year	193 0 0		
,, cash received from the Collector of Nílgiris for gardeners ..	200	193 0 0	92 4 0	By cash credited in treasury ..	92 4 0		
			193 0 0			193 0 0	7
						92 4 0	
Total ..	250	..	285 4 0	Total ..	..	285 4 0	7

OOTACAMUND,
15th September 1884.

(Signed) M. A. LAWSON,
Director, Govt. Gardens and Parks, &c.

Dr. STATEMENT showing the Receipts and Charges of the Stonehouse Park, Ootacamund, for the official year ending 31st March 1884. *Cr.*

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To cash received from the Collector of Nílgiris for temporary establishment ..	600	591 7 0	591 7 0	By cash paid to gardeners and coolies employed during the year.	591 7 0	591 7 0	8 9 0
Total ..	600	..	591 7 0	Total ..	..	591 7 0	8 9 0

Dr. STATEMENT showing the Receipts and Charges of the Upper Norwood, Ootacamund, for the official year ending 31st March 1884. *Cr.*

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To cash received from the Collector of Nílgiris for contingencies and temporary establishment ..	1,000	1,000 4 6	1,000 4 6	By cash paid to gardeners and coolies employed during the year.	903 0 6		..
				By cash paid for purchase of tools	88 4 0		..
				By cash paid for sundry charges.	9 0 0		
						1,000 4 6	..
Total ..	1,000	..	1,000 4 6	Total ..	..	1,000 4 6	..

Dr. STATEMENT showing the Receipts and Charges of the Government Medicinal Gardens, Ootacamund, for the official year ending 31st March 1884. *Cr.*

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To amount realized by sale of Jalap tubers, &c. ..	650	688 13 0	688 13 0	By cash paid to gardeners and coolies employed during the year.	317 1 6	317 1 6	32 14 6
To cash received from the Collector of Nílgiris for temporary establishment ..	350	317 1 6	317 1 6	By cash credited in treasury	688 13 0	688 13 0	..
Total ..	1,000	..	1,005 14 6	Total ..	..	1,005 14 6	32 14 6

Dr. STATEMENT showing the Receipts and Charges of St. Stephen's Church, Hill Park, Ootacamund, for the official year ending 31st March 1884. *Cr.*

Receipts.	Budget Allotment.	Amount.	Total.	Expenditure.	Amount.	Total.	Unexpended Balance.
	RS.	RS. A. P.	RS. A. P.		RS. A. P.	RS. A. P.	RS. A. P.
To cash received from the Collector of Nílgiris for temporary establishment.	100	72 8 0	72 8 0	By cash paid to gardeners employed during the year	72 8 0	72 8 0	27 8 0
Total ..	100	..	72 8 0	Total ..	..	72 8 0	27 8 0

OOTACAMUND,
15th September 1884.

(Signed) M. A. LAWSON,
Director, Govt. Gardens and Parks, &c.

Dr. **FINANCIAL STATEMENT** of the Government Botanical Gardens and Parks on the Nilgiris for the official year ending 31st March 1884 as compared with the Budget Estimate and Actuals of the last year. *Cr.*

Heads.	Receipts. Budget Allotment.	Receipts. Actuals.	Receipts. Actuals of last year.	Unexpended Balance.	Heads.	Expenditure. Budget Allotment.	Expenditure. Actuals.	Expenditure. Actuals of last year.	Unexpended Balance.
Government Botanical Gardens, Ootacamund.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	*Government Botanical Gardens, Ootacamund.*	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
To cash on hand on 1st April 1883 ..	..	117 5 8	268 4 0	..	By cash paid to Curator, office, and fixed cooly establishment	5,880 0 0	5,817 12 6	5,809 7 0	62 3 6
To cash on hand, being undisbursed pay ..	..	4 13 5	..	..	Rs. A. P.				
To amount realized by sale of plants, &c...	3,000 0 0	2,185 15 4	2,740 13 7	62 3 6	Temporary establishment .. 3,000 0 0				
To cash received from the Collector of Nilgiris on account of salary of Curator, office, and fixed cooly establishment ..	5,880 0 0	5,812 15 1	5,809 7 0	..	Contingencies 1,000 0 0				
To cash received from the Collector of Nilgiris, being amount sanctioned in G.O., No. 874, dated 5th July 1872	500 0 0	500 0 0	500 0 0	..	Amount sanctioned in G.O., No. 302, dated 6th March 1884, for new works .. 2,400 0 0				
Rs. A. P.					Add sale of produce credited in treasury 2,185 15 4				
Temporary establishment .. 3,000 0 0						8,585 15 4			
Contingencies 1,000 0 0					By cash paid to temporary coolies employed during the year	..	3,766 8 9	4,567 3 8	..
Amount sanctioned in G.O., No. 302, dated 6th March 1884, for new works .. 2,400 0 0					By cash paid to new works	..	2,349 14 0	..	..
Add sale of produce credited in treasury 2,185 15 4					By cash paid for cost and freight of seeds ..	500 0 0	699 8 10	874 13 8	..
	8,585 15 4				By cash paid for cost of and writing labels..	..	53 2 0	208 0 0	..
To amount received from the Collector of Nilgiris for contingencies and temporary establishment, &c.	..	8,665 10 10	6,988 3 8	..	By cash paid for contingencies and other charges	..	2,740 11 9	1,989 0 8	..
To amount paid by the Accountant-General to Master Attendant for garden contingencies	..	33 12 11	..	..	By cash paid for the construction of cooly lines	..	911 9 2	..	..
To amount transferred to the credit of the Cinchona department for seeds supplied.	..	60 0 0	..	..	By cash credited in treasury	..	2,185 15 4	2,740 13 7	..
To amount received from the Collector of Nilgiris for travelling allowance and municipal assessment	..	378 0 0	..	..	By cash credited in treasury on account of printing	..	2 8 0	..	..
To amount received from the Collector of Nilgiris for cooly lines	..	911 9 2	..	..	By cash on hand on 31st March 1884 ..	..	142 8 1	117 5 8	..
Total ..	17,965 15 4	18,670 2 5	16,306 12 3	62 3 6	Total ..	14,965 15 4	18,670 2 5	16,306 12 3	62 3 6
Barliyár Garden.					*Barliyár Garden.*				
To amount realized by sale of plants, &c. ..	600 0 0	134 14 0	383 10 9	..	By cash paid to gardeners and coolies employed	350 0 0	322 0 0	312 0 0	3 10 4
To cash received from the Collector of Nilgiris for contingencies and temporary establishment	350 0 0	346 5 8	333 6 3	3 10 4	By cash paid for sundry charges	..	24 5 8	21 6 3	
					By cash credited in treasury	..	134 14 0	383 10 9	..
Total ..	950 0 0	481 3 8	717 1 0	3 10 4	Total ..	350 0 0	481 3 8	717 1 0	3 10 4

Dr. Financial Statement of the Government Botanical Gardens and Parks on the Nilgiris for the official year ending 31st March 1884, &c.— *Cr.*
(Continued).

Heads.	Receipts. Budget Allotment.	Receipts. Actuals.	Receipts. Actuals of last year.	Unexpended Balance.	Heads.	Expenditure. Budget Allotment.	Expenditure. Actuals.	Expenditure. Actuals of last year.	Unexpended Balance.
Kalhatti Garden.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	*Kalhatti Garden.*	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
To amount realized by sale of plants, &c. ..	50 0 0	92 4 0	17 14 0	..	By cash paid to gardeners employed ..	200 0 0	193 0 0	186 0 0	7 0 0
To cash received from the Collector of Nilgiris for temporary establishment ..	200 0 0	193 0 0	186 0 0	7 0 0	By cash credited in treasury	..	92 4 0	17 14 0	..
Total ..	250 0 0	285 4 0	203 14 0	7 0 0	Total ..	200 0 0	285 4 0	203 14 0	7 0 0
Stonehouse, Park.					*Stonehouse Park.*				
To cash received from the Collector of Nilgiris for temporary establishment ..	600 0 0	591 7 0	550 15 10	8 9 0	By cash paid to gardeners and coolies employed during the year	600 0 0	591 7 0	550 15 10	8 9 0
Total ..	600 0 0	591 7 0	550 15 10	8 9 0	Total ..	600 0 0	591 7 0	550 15 10	8 9 0
Sim's Park, Coonoor.					*Sim's Park, Coonoor.*				
To cash received from the Collector of Nilgiris for contingencies and temporary establishment	1,600 0 0	1,583 7 5	1,471 12 7	16 8 7	By cash paid to gardeners and coolies employed	1,600 0 0	1,156 4 5	1,210 6 7	16 8 7
To cash received from the Collector of Nilgiris, being amount sanctioned in G.O., No. 3896, dated 24th September 1883, for fencing of the Sim's Park	..	148 12 0	..	..	By cash paid for assessment on cooly lines ..	..	12 0 0	12 0 0	..
					By cash paid to Messrs. Groves and Co. for fencing	..	148 12 0	..	..
						..	72 8 0	..	..
					By cash paid for lawn-mower	..	342 11 0	249 6 0	..
					By cash paid for sundry charges	..			..
Total ..	1,600 0 0	1,732 3 5	1,471 12 7	16 8 7	Total ..	1,600 0 0	1,732 3 5	1,471 12 7	16 8 7
Medicinal Gardens, Ootacamund.					*Medicinal Gardens, Ootacamund.*				
To amount realized by sale of Jalap tubers, &c., to the public	650 0 0	688 13 0	296 10 0	..	By cash paid to gardeners and coolies employed	350 0 0	317 1 6	320 7 9	32 14 6
To cash received from the Collector of Nilgiris for temporary establishment ..	350 0 0	317 1 6	320 7 9	32 14 6	By cash credited in treasury	..	688 13 0	296 10 0	..
Total ..	1,000 0 0	1,005 14 6	617 1 9	32 14 6	Total ..	350 0 0	1,005 14 6	617 1 9	32 14 6
Upper Norwood.					*Upper Norwood.*				
To cash received from the Collector of Nilgiris for contingencies and temporary establishment	1,000 0 0	1,000 4 6	1,179 7 6	..	By cash paid to gardeners and coolies employed during the year	1,000 0 0	903 0 6	1,139 12 6	..
					By cash paid for tools and sundry	..	97 4 0	39 11 0	..
Total ..	1,000 0 0	1,000 4 6	1,179 7 6	..	Total ..	1,000 0 0	1,000 4 6	1,179 7 6	..
St. Stephen's Church Hill Park.					*St. Stephen's Church Hill Park.*				
To cash received from the Collector of Nilgiris for temporary establishment ..	100 0 0	72 8 0	196 0 0	27 8 0	By cash paid to coolies employed during the year	100 0 0	72 8 0	196 0 0	27 8 0
Total ..	100 0 0	72 8 0	196 0 0	27 8 0	Total ..	100 0 0	72 8 0	196 0 0	27 8 0

OOTACAMUND,
15th September 1884.

(Signed) M. A. LAWSON,
Director, Govt. Gardens and Parks, &c.

20th October 1884, No. 1155, Revenue.

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—the following letter from the Director of Government Cinchona Plantations, Parks and Gardens, Nílgiris, to the Secretary to Government, Revenue Department, dated 15th September 1884, No. 259 :—

I have the honor to forward to you my report on the Government Gardens and Parks, Nílgiris, for the past year.

ORDER—dated 20th October 1884, No. 1155, Revenue.

Miscellaneous.

With the letter read above the Director submits his report for the year 1883-84 on the progress and condition of the Government Botanical Gardens and Parks on the Nílgiris.

2. SEASON.—The total rainfall registered during the year in the gardens at Ootacamund was 50·05 inches, being about 16 inches less than in 1882-83, though still slightly above the yearly average. Owing to the unusually severe frosts in January, many of the more tender plants in the gardens were injured, but the season was not on the whole unfavorable to horticultural operations.

3. BOTANICAL GARDENS, OOTACAMUND.—Many of the alterations and improvements advocated by the Director and approved by Government in reviewing the report for the previous year, were carried out in 1883-84. The swampy portions of the gardens were thoroughly drained, the lawns below the lower terrace levelled and re-grassed, the roads and walks remade, and the greater number of the trees and shrubs identified and labelled. No steps have yet been taken towards the establishment of an experimental kitchen garden or towards extending the scope of the meteorological observations taken daily at the gardens. The former suggestion has been delayed owing to the demand for labor in connection with more pressing improvements, while the latter proposal must await the purchase of the necessary instruments, an item of expenditure not provided for in the budget for the year. Of the special allotment of Rs. 2,790 for new cooly lines, Rs. 911 were expended during the year and the balance re-allotted at its close. Lines for fifteen coolies and their dependents have now been completed, which it is intended shortly to supplement by accommodation for ten more families.

4. The several buildings connected with the gardens underwent the usual repairs, including the lower conservatory, which is stated, however, to be in so bad a condition that it must soon become matter for consideration whether it should not be pulled down and removed to some more suitable part of the grounds. The propagating houses are also stated to be in bad condition and to need considerable alteration. It is observed that an expenditure of Rs. 522 was incurred on them during the first five months of the current year.

5. No information is furnished as to the progress of the catalogue of plants which was stated in the report for the previous year to be in process of compilation.

6. GOVERNMENT HOUSE GARDENS.—Most of the work of reconstruction connected with these gardens has now been completed, and it only remains now to clear away the scrub which still disfigures some portions of the grounds and to plant them with ornamental trees.

7. STONEHOUSE PARK.—Pending the completion of the building and road-making operations in connection with the Government offices, but little can be done for the improvement of this property. Many of the more unsightly trees have, however, been cut down and others planted in their stead. The Director urges the importance of protecting these young plantings from the ravages of stray cattle, but in view of the open nature of the estate, it is not easy to see how this is to be done at a reasonable cost. The exclusion of cattle at night would be a matter of very great difficulty,

while duriug the day the cheapest and most effectual plan would probably be to employ watchers for the purpose.

8. Church Hill and Crewe Hall Estate.—No special work was carried out during the year in connection with these properties. With regard to the latter, the Director remarks that proposals for its management and ornamentation will be submitted with his budget for 1885-86, but in the budget, which has since been received, no reference is made to the subject.

9. Sim's Park, Coonoor.—No new work was undertaken during the year. The usual repairs were carried out, and the lawn tennis ground lent to a private committee was re-included in the park, the committee having failed to complete the courts and fence them off as required. Most of the plants were named and are now in process of being labelled.

10. Barliyar Gardens.—The Government note the Director's belief that the unhealthiness of Barliyár has been exaggerated, and gather that he is no longer disposed to recommend the abandonment of the gardens there in favor of a possibly more wholesome locality. There can be no doubt that the climate is admirably adapted to the growth of certain species, and it has yet to be shown that similar results are attainable elsewhere.

11. Kalhatti Gardens.—In his present report the Director recommends the abandonment of the Kalhatti gardens in favor of a site to be selected in the neighbourhood of Gúdalúr. The reasons urged are that the climate and position of the Kalhatti gardens are so similar to those of Sim's Park, Coonoor, as to render the maintenance of the former unnecessary, and that an experimental garden at Gúdalúr, besides having the advantage of a different climate, could be easily supervised from Naduvatam. The suggestion is certainly worthy of consideration, and should the Director on further inquiry and consideration be still disposed to recommend the change, the Government will be prepared to receive favorably his matured proposals. The cost of a suitable plot of ground at Gúdalúr should be ascertained, and proposals should also be submitted for the disposal of the existing gardens at Kalhatti.

12. Herbarium, &c.—The Government note with pleasure the very great progress achieved by Mr. Lawson in the formation of a herbarium and the valuable assistance afforded him by various gentlemen, to whom the thanks of Government are due, towards the attainment of so important an object. The suggestion that a district museum of local products should be established in Ootacamund commends itself to Government, and the Director will accordingly be requested to work out the details of the scheme in communication with the Superintendent of the Government Central Museum, Madras, the Conservator of Forests, Northern Circle, and the Collector of the Nílgiris.

13. Special Products.—The cultivation of *Cinchona Carthagena* was carried on very successfully during the year. Of *Cinchona Santa Fé* but a single specimen remained in the propagating house in October 1883, and this plant, being in bad condition, was removed to the Botanical Gardens, where it has since made a very satisfactory growth and furnished no fewer than thirteen cuttings. About 250 seedlings of *Remijia Purdieana* (Cuprea bark) were raised during the year from seed obtained from Kew.

14. The different rubber plants under cultivation did well, for the most part, during the year, but the specimens of *Landolphia florida* at Barliyár, which were described as small and weak in the previous year, are now reported to have died. There can be little doubt, however, judging by the better results obtained by Mr. Ferguson of Calicut and the Agri-Horticultural Society of Madras, that this species will eventually be established in India. The Collector of Salem will be requested to ascertain and report the present condition of the plants of *Castilloa elastica* stated to have been sent to Hosúr.

15. The Government note the success which has attended the cultivation of *Cacao* at Barliyár. The creation of a demand for this plant, as well as for the mangosteen and litchi, is probably only a question of time, whereas in the case of Liberian coffee there would seem to be practical disadvantages attending its cultivation, which are likely always to outweigh its comparative freedom from leaf-disease.

16. Experiments with potatoes were continued with fair results, and two other descriptions of tuber (*Convolvulus chrysorhizus* and *Arracacia esculenta*) were introduced. Sufficient time has not yet elapsed to afford the means of judging as regards these latter experiments. Four plants of the Cola nut, which is stated to be eaten largely on the coast of Guinea, and a large number of plants of the Cochin-China tuberous-rooted vine, which is said to yield good wine, were raised from seed during the year. Nothing is stated as regards the growth of the Carob tree at Barliyár and Kalhatti.

17. The Government note the Director's remarks as regards *Paspalum conjugatum* and *Symphytum asperrimum*. It is presumed that further experiments are considered unnecessary in connection with the other fodder plants mentioned in previous reports.

18. Some information would have been interesting as regards the experimental cultivation of *Acacia decurrens*, which, it was stated in the previous year's report, was about to be commenced on a comparatively large scale by a gentleman near Coonoor.

19. Among other valuable plants introduced in the course of the year were the Japan lacquer plant, the Japan wax plant, and the *Quilaja saponaria* of Chili. An experiment with the *Yucca gloriosa* showed that it possessed saponaceous properties akin to those of the last-mentioned species. At Barliyár the beautiful *Amherstia nobilis* flowered for the first time.

20. The attention of the Director of Agriculture will be drawn to the very interesting note on *Flemingia Grahamiana* contained in paragraph 28 of Mr. Lawson's report, as also to paragraphs 25 and 29, the latter furnishing the true scientific name of the *bodu* parasite, and the former relating to *Lasiosiphon eriocephalus*, a congener of the *Daphne papyracea* or paper-shrub of the Himalayas, which yields the Nepaul silk paper said to be universally used in Kumaon and elsewhere for genealogical records, deeds, and other documents requiring unusual fineness and durability. As regards the Kol-naru (*Helicteres Isora*) the Government observe that from the experiments made by Messrs. Arbuthnot and Company, it would appear that this fibre is not suitable for weaving purposes.

21. The stock of *Ipecacuanha* plants increased largely during the year, and the Director states that there will be no difficulty in future in increasing indefinitely the number available for distribution. There was also a large increase in the number of jalap plants sold to the general public, showing that the cultivation of this drug is being rapidly taken up by private individuals. No mention is made, however, of *Taraxacum*, medicinal rhubarb, or *Hyoscyamus*.

22. The Government observe that the statements of receipts and charges appended to the report contain a number of unnecessary entries, especially under the head of receipts. There is no need to show as charges in an annual account prepared for submission to Government the sums paid into the treasury at different times, nor as receipts, the sums drawn therefrom for the purpose of meeting sanctioned expenditure. Only genuine cash transactions should appear in the account, the actual receipts from sale of plants, &c., being shown under receipts, and the actual charges incurred in the upkeep and improvement of the gardens under expenditure. The two statements appended to this order illustrate the transactions of the year on this principle, and the forms therein adopted should be followed in future in place of those hitherto in use. Mere book transactions such as that in the accounts submitted relating to a supply of seed from the Cinchona Department should be excluded altogether, and accordingly this item finds no place in the appended statements. It must be understood that expenditure must be strictly confined within the limits of the budget estimate and subsequent supplementary allotments (if any), and that receipts from sale of plants, &c., cannot be drawn against as distinct from the budget and other allotments, but must be paid into the treasury for credit to Government. Seeing that any balance remaining unexpended at the close of the year lapses to Provincial Funds, the entry of "cash in hand" is misleading, and is accordingly omitted in the appended statements.

23. The receipts of the year amounted to Rs. 3,104-6-4 against Rs. 4,300, the budget estimate, and Rs. 3,549-15-4, the actuals of the previous year. The falling off occurs under sale of plants, fruit, seeds, &c., at Ootacamund and Barliyár. The Government would be glad to know whether their suggestion of 1878-79 referred to in the orders reviewing the reports for the last two years has been acted upon up to date.

24. The charges amounted to Rs. 19,531-12-7, exceeding the budget estimate by Rs. 613-0-7 and the actuals for 1882-83 by Rs. 3,024-9-2. The excess over the budget would have been much larger but for a special allotment of Rs. 2,790 for cooly lines, only one-third of which was expended. Under "contingencies" in connection with the Ootacamund Gardens, Rs. 2,525-11-9 were expended against an allotment of only Rs. 1,000. Similar excess expenditure is noticeable under "temporary establishment" (including new works) and "acclimatization of foreign plants."

25. In conclusion, the Government have much pleasure in expressing their satisfaction with the progress achieved during the year; and note especially the Director's acknowledgments of the skill and energy displayed by the Curator, Mr. Jamieson, in carrying out his proposals, and of the hearty assistance rendered him by the rest of his officers.

(True Extract.)

Secretary to Government.

To the Director, Government Cinchona Plantations, Parks and Gardens, Nílgiris.
" the Director of Revenue Settlement and Agriculture.
" the Board of Revenue.
" the Accountant-General.
" the Superintendent, Government Central Museum.
" the Surgeon-General with the Government of Madras.
" the Public Works Department.
" the Financial Department.
" the Honorary Secretary, Agri-Horticultural Society, Madras.
" the Collector of Nílgiris.
" the " of Salem.
" the Honorary Secretary, Wynaad Planters' Association.
" the " " Yercaud " "
" the " " Nílgiri " "
" the Editors' Table.

APPENDIX.

Statement showing the Receipts of the Government Botanical Gardens and Parks for the Official Year ending 31st March 1884.

—	Actuals, 1882-83.	Budget Estimate, 1883-84.	Actuals, 1883-84.
	RS. A. P.	RS. A. P.	RS. A. P.
Government Gardens, Ootacamund.			
Sale of plants, seeds, &c.	2,740 13 7	3,000 0 0	2,185 15 4
Sale of old box	...	...	2 8 0
	2,740 13 7	3,000 0 0	2,188 7 4
Government Gardens, Barliyár.			
Sale of plants, fruit, &c.	383 10 9	600 0 0	134 14 0
Government Gardens, Kalhatti.			
Sale of plants, &c.	17 14 0	50 0 0	92 4 0
Government Medicinal Gardens, Ootacamund.			
Sale of Jalap tubers, &c.	407 9 0	650 0 0	688 13 0
Total ...	3,549 15 4	4,300 0 0	3,104 6 4

Statement of Expenditure on the Government Botanical Gardens and Parks for the Official Year ending 31st March 1884.

—	Actuals, 1882-83.	Budget Estimate, 1883-84.	Actuals, 1883-84.
	RS. A. P.	RS. A. P.	RS. A. P.
Pay of Curator	3,600 0 0	3,600 0 0	3,600 0 0
1. Travelling Allowance of Curator ...	...	...	155 0 0
2. Pay of Curator's office establishment ...	549 4 6	552 0 0	552 0 0
	4,149 4 6	4,152 0 0	4,307 0 0
Government Gardens, Ootacamund.			
1. Overseers and fixed cooly establishment.	1,660 2 6	1,728 0 0	1,665 12 6
2. Temporary establishment	4,567 3 8	5,400 0 0*	6,116 6 9
3. Acclimatization of foreign plants (G.O., 5th July 1872, No. 874)	874 13 8	500 0 0	699 8 10
	208 0 0	...	53 2 0
4. Labelling of plants	...	2,790 0 0†	911 9 2
5. Construction of cooly lines	1,989 0 8	1,000 0 0	2,525 11 9
6. Contingencies			
	9,299 4 6	11,418 0 0	11,972 3 0
Government Gardens, Barliyár.			
1. Temporary establishment	333 6 3	350 0 0	346 5 8
Government Gardens, Kalhatti.			
1. Temporary establishment	186 0 0	200 0 0	193 0 0
Government Medicinal Gardens, Ootacamund.			
1. Temporary establishment	320 7 9	350 0 0	317 1 6
Sim's Park, Coonoor.			
1. Temporary establishment and contingencies.	1,471 12 7	1,748 12 0‡	1,732 3 5
Stonehouse Park, Ootacamund.			
1. Temporary establishment	550 15 10	600 0 0	591 7 0
Church Hill Park.			
1. Temporary establishment	196 0 0	100 0 0	72 8 0
Total ...	16,507 3 5	18,918 12 0	19,531 12 7

* Including amount sanctioned in G.O., 6th March 1884, No. 302.
† Sanctioned in G.O., 9th May 1883, No. 1909.
‡ Including amount sanctioned in G.O., 24th September 1883, No. 3596.

Exd. W. J. Lewis.

200 Copies.

Govt. of {1884} Madras.

REVENUE.

Communicated to the Supt Engineer IV Circle

CA. 10-11-84

8 NOV 84 SECRETARIAT TO GOVERNMENT MADRAS DEPARTMENT

Issued

Recd. 8/11/84 Encl.

G.O., 20th October 1884, No. 1155.

OCTOBER.

Government Botanical Gardens and Parks, Nilgiris.

Report on — for 1883-84, reviewed.

Supt IV Circle Dept 7/11/84

14/11/84

With order

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—the following letter from M. A. LAWSON, Esq., Director of Government Cinchona Plantations, &c., Nílgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 15th September 1884, No. 260 :—

I have the honor to forward herewith my estimate of what will be the cost of maintaining the Government Parks and Gardens on the Nílgiris for the year ending 31st March 1886.

The amount I ask for is Rs. 25,109. This is Rs. 3,609-8-0 more than the current year's grant. The reasons why I have to ask for so much are—

1*st*.—The making of the new road, which runs through the gardens to Government House, renders necessary the re-forming a good deal of the ground through which it has been cut, and I estimate that to do this quite satisfactorily will cost about Rs. 2,000.

2*ndly*.—The ravine above the house in which Dr. Mackenzie resides is in a very disorderly condition, and I propose clearing and planting this at a cost of Rs. 300.

3*rdly*.—Owing to the great demand there will be during the next few years for all kinds of trees and shrubs for planting in the several Government establishments in Ootacamund and Coonoor, I ask for Rs. 300 in order that I may extend the present nurseries.

4*thly*.—I desire Rs. 150 for maintaining a small portion of the gardens, which has been set aside for the cultivation of indigenous herbaceous plants.

5*thly*.—As there is an increased demand for garden seeds, I ask for Rs. 600, instead of Rs. 500, under the head of vegetable products. The price realized by the sale of these seeds always does a little more than cover the cost of purchase, so that the extra Rs. 100 will be recouped at the end of the year.

6*thly*.—For repairing the slopes, tanks, &c., in the upper gardens, I ask Rs. 500.

7*thly*.—For the completion and maintenance of the experimental kitchen garden I want Rs. 300. I have been unable as yet to commence this garden, but I hope to have it in working order by the end of the year.

8*thly*.—There are now in the gardens a number of mowing machines and other instruments which are constantly requiring repair. There are also many accidents occurring, which need the almost daily services of a carpenter or blacksmith. For the engagement of these two artizans, I ask for Rs. 500.

9*thly*.—The increase of Rs. 758 to the Sim's Park last year's allotment is for a watchman to look after the new shola and for making a road through it.

10*thly*.—*Travelling allowance, Rs.* 1,000.—This is to provide for the expenses incurred by the Director and Curator in visiting the more distant gardens of Sim's Park and Barliyár. Each of these gardens should be visited at least once a month. This sum is also to provide for the sending out of coolies and bandies for the collection and transportation of living plants. During the past year, and for the present year, these expenses have been defrayed by the Cinchona Department. I now propose that, instead of that department being called upon to pay Rs. 2,000 as heretofore, this sum should be divided, and Rs. 1,000 be paid by the gardens.

11*thly.*—*Travelling Allowance under Herbarium, Rs.* 200.—This is to pay the travelling expenses of the Assistant Herbarium-keeper when sent on tour for the purpose of collecting specimens, as well as for all charges connected with the conveyance of presses and other botanical materials.

12*thly.*—The clerk, overseer and apprentice ask for an increase of pay. They have done their work very well during the past year, and I think they deserve the increase they ask for. I propose that they should each be allowed Rs. 5 per mensem extra, that is, Rs. 180 in all.

13*thly.*—*Upper Norwood.*—I ask for Rs. 1,000 in addition to what was allotted last year for upkeep of these gardens. This garden, which was never properly made, owing to the unfinished state of the house and its surroundings, will, if this sum is granted, be put into thorough order with respect to its lawns, beds and walks. The ground about Lower Norwood will also be made more sightly and the kitchen garden enlarged.

REGULAR Estimate of Receipts of the Government Botanical Gardens and Parks on the Nilgiris for the year 1884-85.

Items.	Actuals of the first five Months of 1884-85.	Actuals of the last seven Months of 1883-84.	Probable Receipts of the last seven Months of 1884-85.	Total of Columns 2 and 4.	Budget Estimate for 1884-85.
1	2	3	4	5	6
Ootacamund Gardens.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Sale of plants and seeds, &c.	869 4 0	1,042 13 0	2,130 12 0	3,000 0 0	3,000 0 0
Barliyár Gardens.					
Sale of plants and fruits, &c.	31 3 0	41 1 9	568 13 0	600 0 0	600 0 0
Kalhatti Gardens.					
Sale of plants	10 0 0	92 4 0	40 0 0	50 0 0	50 0 0
Medicinal Gardens.					
Sale of Jalap tubers, &c.	0 14 0	530 9 0	587 4 0	650 0 0	650 0 0
Value of drugs supplied to Medical Department	61 14 0				
Total ..	973 3 0	1,706 11 9	3,326 13 0	4,300 0 0	4,300 0 0

REGULAR Estimate of Expenditure of the Government Botanical Gardens and Parks on the Nilgiris for 1884-85.

Items.	Actuals of the first five Months of 1884-85.	Actuals of the last seven Months of 1883-84.	Probable Charges of the last seven Months of 1884-85.	Total of Columns 2 and 4.	Budget Allotment for 1884-85.
1	2	3	4	5	6
Government Botanical Gardens.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Salary of Curator	1,500 0 0	2,100 0 0	2,100 0 0	3,600 0 0	3,600 0 0
Do. of fixed establishment	530 0 0	742 0 0	742 0 0	1,272 0 0	1,272 0 0
Government contribution in aid of the establishment at Rs. 84 per mensem ..	407 3 10	547 3 8	600 12 2	1,008 0 0	1,008 0 0
Grant for developing the vegetable products of other countries..	500 0 0	..	..	500 0 0	500 0 0
Temporary establishment	1,265 13 1	4,028 2 5	1,734 2 11	3,000 0 0	3,000 0 0
Contingencies	610 10 5	1,317 2 7	389 5 7	1,000 0 0	1,000 0 0
New works, drainage, &c.	717 7 6	..	760 0 6	1,477 8 0	1,477 8 0

Regular Estimate of Expenditure of the Government Botanical Gardens, &c.—(*Continued*).

Items.	Actuals of the first five Months of 1884-85.	Actuals of the last seven Months of 1883-84.	Probable Charges of the last seven Months of 1884-85.	Total of Columns 2 and 4.	Budget Allotment for 1884-85.
1	2	3	4	5	6
Horticultural Implements.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Purchase of mowing machines, rollers and garden tools..	391 5 2	..	308 10 10	700 0 0	700 0 0
Painting of the conservatory greenhouse and repairs of propagating houses	522 7 4	..	77 8 8	600 0 0	600 0 0
Cutting down and uprooting Eucalypti and Acacia on the northern slope of the gardens	319 4 3	..	200 11 9	520 0 0	520 0 0
Labelling	175 7 5	..	374 8 7	550 0 0	550 0 0
Herbarium.					
Pay of Assistant, cooly and peon.. ..	264 0 0	..	528 0 0	792 0 0	792 0 0
Purchase of cabinets and materials ..	98 9 6	..	701 6 6	800 0 0	800 0 0
Library	13 1 0	..	1,186 15 0	1,200 0 0	1,200 0 0
Barliyár Garden.					
Temporary establishment	155 4 11	206 9 6	334 11 1	490 0 0	490 0 0
Kalhatti Garden.					
Temporary establishment	112 8 0	108 8 0	227 8 0	340 0 0	340 0 0
Medicinal Garden.					
Temporary establishment..	142 0 9	167 14 3	207 15 3	350 0 0	350 0 0
Sim's Park.					
Temporary establishment	660 5 6	1,149 3 11	1,339 10 6	2,000 0 0	2,000 0 0
Stone House Park.					
Temporary establishment	409 5 9	332 10 6	590 10 3	1,000 0 0	1,000 0 0
Church Hill Park.					
Temporary establishment	40 15 0	56 6 0	59 1 0	100 0 0	100 0 0
Purchase of meteorological instruments.	..	..	200 0 0	200 0 0	200 0 0
Total ..	8,835 13 5	10,755 12 10	12,663 10 7	21,499 8 0	21,499 8 0

BUDGET Estimate of Cash Requirements, Madras, for the Official Year ending 31st March 1886. F. Estimate Civil Service, Government Botanical Gardens and Parks, Nílgiris.

Description of Receipts.	Actuals of 1883-84.	BUDGET ESTIMATE. 1884-85 or from April 1884 to March 1885.	BUDGET ESTIMATE. 1885-86 or from April 1885 to March 1886.	NUMBERS. 1883-84.	1884-85.	1885-86.	Description of Charges.	Actuals of 1883-84.	BUDGET ALLOTMENT. 1884-85 or from April 1884 to March 1885.	BUDGET ALLOTMENT. 1885-86 or from April 1885 to March 1886.	Total.
Ootacamund Gardens.	RS. A. P.	RS. A. P.	RS. A. P.				PROVINCIAL SERVICE, 16 MINOR DEPARTMENT.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Sale of plants and seeds, &c. ..	2,188 7 4	3,000 0 0	2,500 0 0				*Botanical Gardens and Parks, Nílgiris, Salaries and Allowances.*				
Barliyár Garden.				1	1	1	Curator at Rs. 300 per month	3,600 0 0	3,600 0 0	3,600 0 0	
Sale of plants and fruits, &c. ..	134 14 0	600 0 0	200 0 0				*Fixed Establishment.*				
Kalhatti Garden.				1	1	1	Writer at Rs. 30 per month ..	360 0 0	360 0 0	360 0 0	
				1	1	1	Overseer at ,, 35 ,, ..	420 0 0	420 0 0	420 0 0	
Sale of plants, &c.	92 4 0	50 0 0	50 0 0	1	1	1	Apprentice at ,, 25 ,, ..	300 0 0	360 0 0	300 0 0	
				2	2	2	Peons at ,, 8 each per month ..	192 0 0	192 0 0	192 0 0	
Medicinal Garden.				6	6	6	Coolies at Rs. 7-8-0 each per month. / Coolies at Rs. 6-8-0 each per month. — Government contribution at Rs. 84 per month.	945 12 6	1,008 0 0	1,008 0 0	
Sale of jalap tubers, &c. ..	688 13 0	650 0 0	100 0 0	6	6	6					5,880 0 0
							Travelling allowance of the Director and Curator	155 0 0	..	1,000 0 0	1,000 0 0
							Temporary Establishment.				
							Working charges	6,116 6 9	3,000 0 0	5,000 0 0	5,000 0 0
							Pay of carpenter and blacksmith ..	390 5 6	..	500 0 0	500 0 0
							Special Allotment.				
							Grant for developing the vegetable products of other countries	580 11 0	500 0 0	600 0 0	600 0 0
							Contingencies	2,139 2 1	1,000 0 0	1,000 0 0	1,000 0 0
							Barliyár Garden.				
							Temporary establishment, &c.	346 5 8	490 0 0	490 0 0	490 0 0
							Kalhatti Garden.				
							Temporary establishment, &c.	193 0 0	340 0 0	340 0 0	340 0 0
								15,738 11 6	11,210 0 0	..	14,810 0 0
Carried forward ..	3,104 6 4	4,300 0 0	2,850 0 0	18	18	18					

Budget Estimate of Cash Requirements, Madras, for the Official Year ending 31st March 1886, &c.—(*Continued*).

Description of Receipts.	Actuals of 1883-84.	BUDGET ESTIMATE. 1884-85 or from April 1884 to March 1885.	BUDGET ESTIMATE. 1885-86 or from April 1885 to March 1886.	NUMBERS. 1883-84.	1884-85.	1885-86.	Description of Charges.	Actuals of 1883-84.	BUDGET ALLOTMENT. 1884-85 or from April 1884 to March 1885.	BUDGET ALLOTMENT. 1885-86 or from April 1885 to March 1886.	Total.
	RS. A. P.	RS. A. P.	RS. A. P.					RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Brought forward ..	3,104 6 4	4,300 0 0	2,850 0 0	18	18	18		15,738 11 6	11,210 0 0	..	14,810 0 0
							MISCELLANEOUS.				
							Medicinal Gardens, Ootacamund.				
							Temporary establishment, &c.	317 1 6	350 0 0	300 0 0	300 0 0
							Sim's Park, Coonoor..				
							Temporary establishment, &c.	1,732 3 5	2,000 0 0	2,000 0 0	
							Pay of one watchman at Rs. 9 per month.	..	..	108 0 0	
							NEW WORKS.				
							Making a Bridle-road and a Bridge.				
							Making a three feet riding path 900 yards in length with the necessary revetments	..	..	125 0 0	
							Catch drains	..	..	60 0 0	
							Bridge.				
							Revetments, 90 yards, with chunam at the base	..	..	125 0 0	
							Wood-work	..	..	300 0 0	
							Contingencies	..	..	40 0 0	2,758 0 0
							Stonehouse Park.				
							Temporary establishment, &c.	591 7 0	1,000 0 0	700 0 0	700 0 0
							Church Hill Park.				
							Temporary establishment	72 8 0	100 0 0	100 0 0	100 0 0
							Horticultural Implements.				
							Garden rollers and mowing machines ..	..	380 0 0	300 0 0	
							Garden tools (spades, rakes, shears, &c.)	115 2 0	320 0 0	200 0 0	500 0 0
							Painting of the green-house and repairs of propagating houses	..	600 0 0	600 0 0	600 0 0
								18,567 1 5	15,960 0 0	..	19,768 0 0
Carried forward ..	3,104 6 4	4,300 0 0	2,850 0 0	18	18	18					

Budget Estimate of Cash Requirements, Madras, for the Official Year ending 31st March 1886, &c.—(*Continued*).

Description of Receipts.	Actuals of 1883-84.	Budget Estimate. 1884-85 or from April 1884 to March 1885.	Budget Estimate. 1885-86 or from April 1885 to March 1886.	Numbers. 1883-84.	Numbers. 1884-85.	Numbers. 1885-86.	Description of Charges.	Actuals of 1883-84.	Budget Allotment. 1884-85 or from April 1884 to March 1885.	Budget Allotment. 1885-86 or from April 1885 to March 1886.	Total.
	Rs. A. P.	Rs. A. P.	Rs. A. P.					Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Brought forward ..	3,104 6 4	4,300 0 0	2,850 0 0	18	18	18		18,567 1 5	15,960 0 0	..	19,768 0 0
							Labelling.				
							Cost of labels and carriage of same ..	53 2 0	550 0 0	350 0 0	350 0 0
							Herbarium.				
				..	1	1					
				..	1	1	Assistant at Rs. 50 per month	..	600 0 0	600 0 0	
				..	1	1	Cooly to the Assistant at Rs. 8 per month	..	96 0 0	96 0 0	
							Peon at Rs. 8 per month	..	96 0 0	96 0 0	
							Purchase of cabinets and materials ..	..	800 0 0	400 0 0	
							Travelling allowance of the Herbarium Assistant	..	..	200 0 0	1,392 0 0
							Library.				
							Library	..	1,200 0 0	1,200 0 0	1,200 0 0
							NEW WORKS.				
							Government Botanical Gardens.				
							Regrassing slopes, gravelling of walks in upper gardens, formation of a kitchen garden, and the clearing of ravine, &c.	..	..	2,050 0 0	2,050 0 0
							Municipal assessment on buildings ..	..	..	169 0 0	169 0 0
							Increase of pay of Rs. 5 each to the Writer, Overseer, and Apprentice ..	..	..	180 0 0	180 0 0
							Erection of cooly lines	911 9 2	..	..	..
							Purchase of meteorological instruments	..	200 0 0	..	..
							Cutting down eucalyptus, &c., on the northern slope of the gardens ..	..	520 0 0	..	..
							New Works.				
							Government Botanical Gardens, Drainage	..	1,477 8 0	..	..
Total ..	3,104 6 4	4,300 0 0	2,850 0 0	18	21	21	Total ..	19,531 12 7	21,499 8 0	..	25,109 0 0

OOTACAMUND,
15th September 1884,

(Signed) M. A. LAWSON,
Director.

5TH NOVEMBER 1884, No. 1211, REVENUE.

Budget Estimate of Cash requirements, Madras, for the Official Year ending 31st March 1886.
F. Estimate Civil Service, Upper Norwood, Nilgiris.

Numbers.	Description of Charges.	Actuals of 1883-84.	Budget Allotment. 1884-85 or April 1884 to March 1885.	Budget Allotment. 1885-86 or April 1885 to March 1886.	Total.	Amendments proposed by the Local Government.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
	PROVINCIAL SERVICE, 16 MINOR DEPARTMENT.					
	Upper Norwood, Ootacamund.					
	Temporary establishment, &c.	1,000 4 6	2,000 0 0	3,000 0 0	3,000 0 0	
	Total ..	1,000 4 6	2,000 0 0	3,000 0 0	3,000 0 0	

OOTACAMUND,
15th September 1884.

(Signed) M. A. LAWSON,
Director.

ORDER—dated 5th November 1884, No. 1211, Revenue.

With the foregoing letter the Director of Government Cinchona Plantations, Botanical Gardens and Parks, Nilgiris,

Miscellaneous.

submits the budget estimates of the Botanical Gardens and Parks for 1885-86, and the revised estimates for 1884-85.

2. The revised estimate of receipts and charges for the current year is the same as the budget estimate, the receipts and charges being respectively Rs. 4,300 and Rs. 21,500.

3. The receipts for 1885-86 are estimated at Rs. 2,850, or Rs. 1,450 less than the budget and revised estimates for the current year, the actuals of 1883-84 being Rs. 3,104 and the average of the preceding five years Rs. 3,532. The decrease, which occurs chiefly under "sale of Jalap tubers, &c.," from the medicinal gardens, should have been explained.

4. The charges for 1885-86 are estimated at Rs. 25,109, or Rs. 3,609 in excess of the estimate for the current year. This increase is the net result of an increase under some heads of Rs. 6,957 and a decrease under others of Rs. 3,348. The several items of increase are as follows:—

		Rs.
(*a*)	Curator's office establishment	60
(*b*)	Travelling allowance of Director and Curator	1,000
(*c*)	Travelling allowance of Herbarium Assistant	200
(*d*)	Fixed establishment, Ootacamund Gardens	120
(*e*)	Temporary establishment do.	2,500
(*f*)	Regrassing slopes, &c., Ootacamund Gardens, and formation of Kitchen garden	2,050
(*g*)	Grant for acclimatization of foreign plants	100
(*h*)	Municipal assessment on buildings	169
(*i*)	Temporary establishment, Sim's Park, Coonoor	108
(*j*)	New bridle road and bridge, Sim's Park, Coonoor	650
	Total ...	6,957

5. The increase under items (*a*) and (*d*) is due to a proposal to increase the pay of the Curator's clerk and the overseer and apprentice of the Ootacamund Gardens. No sufficient grounds are adduced for the proposed increase, which must therefore be disallowed. Item (*b*) is a new head of charge. It is explained that hitherto the entire charge on account of the Director's travelling allowance has been debited to the Cinchona Department, a provision of Rs. 2,000 being made for the purpose in the Cinchona budget. It is now proposed to debit a moiety of this charge, as well as the

whole expenditure on account of the Curator's travelling allowance, to the Government Botanical Gardens and Parks. So far as regards the Curator, the suggested allotment is open to no objection, but with reference to the principle laid down in the Resolution of the Government of India read in G.O., 2nd August 1883, No. 1638, Financial, the proposal to divide the allowances of the Director between two heads of account cannot be approved. The provision will accordingly be reduced to Rs. 500, which will probably suffice to meet the charges on account of the travelling allowances of the Curator and Herbarium Assistant. The Director states that the allotment under this head "is also to provide for the sending out of coolies and bandies for the collection and transportation of living plants." Such charges, however, should not be debited to "travelling allowance" but to "contingencies." The same remark applies to "charges connected with the conveyance of presses and other botanical materials," which the Director mentions as provided for by the proposed allotment of Rs. 200 for "travelling allowance of Herbarium Assistant."

6. The increase under temporary establishment is due partly to the necessity for reforming, at a cost of about Rs. 2,000, the grounds through which the new road to Government House has been cut, and partly to the need which has arisen for the services of a carpenter and blacksmith for the repair of the numerous mowing and other machines purchased for the gardens. The proposed permanent entertainment of a carpenter and blacksmith for such a purpose appears to require further explanation. The Director could probably get the repairs done by private labor or by the Public Works Department as required from time to time at much less cost. The provision is therefore disallowed. Under item (*f*) a lump sum of Rs. 2,050 is provided, but the total amount required for the purposes named, according to the details given in the Director's letter, is only Rs. 1,550 as shown in the margin. It is presumed that the sum of Rs. 500 required for the services of a carpenter and blacksmith has been counted twice over. The allotment under (*f*) will accordingly be reduced to Rs. 1,550. The increase of Rs. 100 in the grant for the acclimatization of foreign plants, originally sanctioned in G.O., 5th July 1872, No. 874, is approved, the expenditure under this head having for several years exceeded the original amount of the grant. The provision of Rs. 169 for municipal assessment is also approved. It is observed that although the expenditure under "Contingencies" in connection with the Ootacamund Gardens amounted in 1883-84 to Rs. 2,526 and in each of the two preceding years to close upon Rs. 2,000, the provision in the budget now under review is only Rs. 1,000. The amount will, however, remain unaltered, pending any further communication the Director may wish to make, as it is gathered from the report for 1883-84 that several charges have hitherto been debited under this head, which will in future be otherwise provided for.

	Rs.
Clearing of ravine	300
Extension of nurseries...	300
Forming Herbaceous Botanical Garden	150
Repairing slopes, tanks, &c.	500
Forming kitchen garden	300
Total ...	1,550

7. The provision of Rs. 108 for the entertainment of a watchman for the shola recently added to Sim's Park, Coonoor, is approved; but with regard to the proposed bridle road and bridge through the park, it is observed that the further information called for in G.O., 14th July 1884, No. 843, has not yet been received. Pending the submission of the required explanation no expenditure should be incurred on this account, but meanwhile the allotment will be allowed to remain.

8. The budget estimates, as approved and passed, will thus stand as follows:—

	Rs.
Receipts	2,850
Charges	23,229

9. In his administration report for the year 1883-84, the Director stated that propositions for the future management and ornamentation of the Crewe Hall Estate and adjoining grounds would be made in his budget estimate for 1885-86. The present estimate, however, contains no provision on this account, and the omission, which was doubtless accidental, should now be supplied.

10. There is a discrepancy, which should be explained, between the details of the receipts and charges for 1883-84 as given in the statement of estimates for 1885-86, and the totals of the actuals for five and seven months respectively as given in the revised (formerly known as "regular") estimates for 1883-84 and 1884-85. In the case of the charges the discrepancy is considerable and extends to the totals as well as to the details. There is also a further discrepancy between either set of figures and the details as given in the statements appended to the annual report for 1883-84. Care should be taken in future to secure perfect agreement throughout.

11. The Director also submits an estimate, amounting to Rs. 3,000, for the upkeep and improvement of the Government House Gardens. This will be transferred as usual for disposal in the Financial Department.

(True Extract.)

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

To the Director, Government Cinchona Plantations, Parks and Gardens, Nilgiris.
" Financial Department.
" Accountant-General.
" Board of Revenue.
" Collector of Nilgiris.
" Public Works Department.

Exd. W. J. Lewis.

100 Copies.

P. W. Deptt

Govt. of {1884} Madras.

REVENUE.

Issued

Recd. Encl.

G.O., 5th November 1884, No. 1211.

NOVEMBER.

Budget Estimate of Botanical Gardens and Parks, Nilgiris for 1885-86, reviewed.

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

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2*ndly*.—The ravine above the house in which Dr. Mackenzie resides is in a very disorderly condition, and I propose clearing and planting this at a cost of Rs. 300.

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9*thly*.—The increase of Rs. 758 to the Sim's Park last year's allotment is for a watchman to look after the new shola and for making a road through it.

10*thly*.—*Travelling allowance, Rs.* 1,000.—This is to provide for the expenses incurred by the Director and Curator in visiting the more distant gardens of Sim's Park and Barliyár. Each of these gardens should be visited at least once a month. This sum is also to provide for the sending out of coolies and bandies for the collection and transportation of living plants. During the past year, and for the present year, these expenses have been defrayed by the Cinchona Department. I now propose that, instead of that department being called upon to pay Rs. 2,000 as heretofore, this sum should be divided, and Rs. 1,000 be paid by the gardens.

11*thly.*—*Travelling Allowance under Herbarium, Rs.* 200.—This is to pay the travelling expenses of the Assistant Herbarium-keeper when sent on tour for the purpose of collecting specimens, as well as for all charges connected with the conveyance of presses and other botanical materials.

12*thly.*—The clerk, overseer and apprentice ask for an increase of pay. They have done their work very well during the past year, and I think they deserve the increase they ask for. I propose that they should each be allowed Rs. 5 per mensem extra, that is, Rs. 180 in all.

13*thly.*—*Upper Norwood.*—I ask for Rs. 1,000 in addition to what was allotted last year for upkeep of these gardens. This garden, which was never properly made, owing to the unfinished state of the house and its surroundings, will, if this sum is granted, be put into thorough order with respect to its lawns, beds and walks. The ground about Lower Norwood will also be made more sightly and the kitchen garden enlarged.

Regular Estimate of Receipts of the Government Botanical Gardens and Parks on the Nílgiris for the year 1884-85.

Items.	Actuals of the first five Months of 1884-85.	Actuals of the last seven Months of 1883-84.	Probable Receipts of the last seven Months of 1884-85.	Total of Columns 2 and 4.	Budget Estimate for 1884-85.
1	2	3	4	5	6
Ootacamund Gardens.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Sale of plants and seeds, &c.	869 4 0	1,042 13 0	2,130 12 0	3,000 0 0	3,000 0 0
Barliyár Gardens.					
Sale of plants and fruits, &c.	31 3 0	41 1 9	568 13 0	600 0 0	600 0 0
Kalhatti Gardens.					
Sale of plants	10 0 0	92 4 0	40 0 0	50 0 0	50 0 0
Medicinal Gardens.					
Sale of Jalap tubers, &c.	0 14 0	530 9 0	587 4 0	650 0 0	650 0 0
Value of drugs supplied to Medical Department	61 14 0				
Total ..	973 3 0	1,706 11 9	3,326 13 0	4,300 0 0	4,300 0 0

Regular Estimate of Expenditure of the Government Botanical Gardens and Parks on the Nílgiris for 1884-85.

Items.	Actuals of the first five Months of 1884-85.	Actuals of the last seven Months of 1883-84.	Probable Charges of the last seven Months of 1884-85.	Total of Columns 2 and 4.	Budget Allotment for 1884-85.
1	2	3	4	5	6
Government Botanical Gardens.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Salary of Curator	1,500 0 0	2,100 0 0	2,100 0 0	3,600 0 0	3,600 0 0
Do. of fixed establishment	530 0 0	742 0 0	742 0 0	1,272 0 0	1,272 0 0
Government contribution in aid of the establishment at Rs. 84 per mensem ..	407 3 10	547 3 8	600 12 2	1,008 0 0	1,008 0 0
Grant for developing the vegetable products of other countries	500 0 0	..	..	500 0 0	500 0 0
Temporary establishment	1,265 13 1	4,028 2 5	1,734 2 11	3,000 0 0	3,000 0 0
Contingencies	610 10 5	1,317 2 7	389 5 7	1,000 0 0	1,000 0 0
New works, drainage, &c.	717 7 6	..	760 0 6	1,477 8 0	1,477 8 0

Regular Estimate of Expenditure of the Government Botanical Gardens, &c.—(*Continued*).

Items.	Actuals of the first five Months of 1884-85.	Actuals of the last seven Months of 1883-84.	Probable Charges of the last seven Months of 1884-85.	Total of Columns 2 and 4.	Budget Allotment for 1884-85.
1	2	3	4	5	6
Horticultural Implements.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Purchase of mowing machines, rollers and garden tools	391 5 2	..	308 10 10	700 0 0	700 0 0
Painting of the conservatory, greenhouse and repairs of propagating houses	522 7 4	..	77 8 8	600 0 0	600 0 0
Cutting down and uprooting Eucalypti and Acacia on the northern slope of the gardens	319 4 3	..	200 11 9	520 0 0	520 0 0
Labelling	175 7 5	..	374 8 7	550 0 0	550 0 0
Herbarium.					
Pay of Assistant, cooly and peon	264 0 0	..	528 0 0	792 0 0	792 0 0
Purchase of cabinets and materials ..	98 9 6	..	701 6 6	800 0 0	800 0 0
Library	13 1 0	..	1,186 15 0	1,200 0 0	1,200 0 0
Barliyár Garden.					
Temporary establishment	155 4 11	206 9 6	334 11 1	490 0 0	490 0 0
Kalhatti Garden.					
Temporary establishment	112 8 0	108 8 0	227 8 0	340 0 0	340 0 0
Medicinal Garden.					
Temporary establishment	142 0 9	167 14 3	207 15 3	350 0 0	350 0 0
Sim's Park.					
Temporary establishment	660 5 6	1,149 3 11	1,339 10 6	2,000 0 0	2,000 0 0
Stone House Park.					
Temporary establishment	409 5 9	332 10 6	590 10 3	1,000 0 0	1,000 0 0
Church Hill Park.					
Temporary establishment ..	40 15 0	56 6 0	59 1 0	100 0 0	100 0 0
Purchase of meteorological instruments.	..	..	200 0 0	200 0 0	200 0 0
Total ..	8,835 13 5	10,755 12 10	12,663 10 7	21,499 8 0	21,499 8 0

BUDGET Estimate of Cash Requirements, Madras, for the Official Year ending 31st March 1886. F. Estimate Civil Service, Government Botanical Gardens and Parks, Nílgiris.

Description of Receipts.	Actuals of 1883-84.	Budget Estimate. 1884-85 or from April 1884 to March 1885.	Budget Estimate. 1885-86 or from April 1885 to March 1886.	Numbers. 1883-84.	Numbers. 1884-85.	Numbers. 1885-86.	Description of Charges.	Actuals of 1883-84.	Budget Allotment. 1884-85 or from April 1884 to March 1885.	Budget Allotment. 1885-86 or from April 1885 to March 1886.	Total.
Ootacamund Gardens.	RS. A. P.	RS. A. P.	RS. A. P.				PROVINCIAL SERVICE, 16 MINOR DEPARTMENT.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Sale of plants and seeds, &c. ..	2,188 7 4	3,000 0 0	2,500 0 0				*Botanical Gardens and Parks, Nílgiris, Salaries and Allowances.*				
Barliyár Garden.				1	1	1	Curator at Rs. 300 per month	3,600 0 0	3,600 0 0	3,600 0 0	
Sale of plants and fruits, &c. ..	134 14 0	600 0 0	200 0 0				*Fixed Establishment.*				
Kalhatti Garden.				1	1	1	Writer at Rs. 30 per month ..	360 0 0	360 0 0	360 0 0	
				1	1	1	Overseer at ,, 35 ,, ..	420 0 0	420 0 0	420 0 0	
Sale of plants, &c.	92 4 0	50 0 0	50 0 0	1	1	1	Apprentice at ,, 25 ,, ..	300 0 0	300 0 0	300 0 0	
				2	2	2	Peons at ,, 8 each per month ..	192 0 0	192 0 0	192 0 0	
Medicinal Garden.				6	6	6	Coolies at Rs. 7-8-0 each per month. } Government contribution at				
Sale of jalap tubers, &c. ..	688 13 0	650 0 0	100 0 0	6	6	6	Coolies at Rs. 6-8-0 each per month. } Rs. 84 per month.	945 12 6	1,008 0 0	1,008 0 0	5,880 0 0
							Travelling allowance of the Director and Curator	155 0 0	..	1,000 0 0	1,000 0 0
							Temporary Establishment.				
							Working charges	6,116 6 9	3,000 0 0	5,000 0 0	5,000 0 0
							Pay of carpenter and blacksmith ..	390 5 6	..	500 0 0	500 0 0
							Special Allotment.				
							Grant for developing the vegetable products of other countries	580 11 0	500 0 0	600 0 0	600 0 0
							Contingencies	2,139 2 1	1,000 0 0	1,000 0 0	1,000 0 0
							Barliyár Garden.				
							Temporary establishment, &c.	346 5 8	490 0 0	490 0 0	490 0 0
							Kalhatti Garden.				
							Temporary establishment, &c.	193 0 0	340 0 0	340 0 0	340 0 0
								15,738 11 6	11,210 0 0	..	14,810 0 0
Carried forward ..	3,104 6 4	4,300 0 0	2,850 0 0	18	18	18					

Budget Estimate of Cash Requirements, Madras, for the Official Year ending 31st March 1886, &c.—(*Continued*).

Description of Receipts.	Actuals of 1883-84.	Budget Estimate. 1884-85 or from April 1884 to March 1885.	Budget Estimate. 1885-86 or from April 1885 to March 1886.	Numbers. 1883-84.	Numbers. 1884-85.	Numbers. 1885-86.	Description of Charges.	Actuals of 1883-84.	Budget Allotment. 1884-85 or from April 1884 to March 1885.	Budget Allotment. 1885-86 or from April 1885 to March 1886.	Total.
								RS. A. P. 15,738 11 6	RS. A. P. 11,210 0 0	RS. A. P. ..	RS. A. P. 14,810 0 0
Brought forward ..	RS. A. P. 3,104 6 4	RS. A. P. 4,300 0 0	RS. A. P. 2,850 0 0	18	18	18	MISCELLANEOUS.				
							Medicinal Gardens, Ootacamund.				
							Temporary establishment, &c.	317 1 6	350 0 0	300 0 0	300 0 0
							Sim's Park, Coonoor..				
							Temporary establishment, &c.	1,732 3 5	2,000 0 0	2,000 0 0	
							Pay of one watchman at Rs. 9 per month.	..	..	108 0 0	
							NEW WORKS.				
							Making a Bridle-road and a Bridge.				
							Making a three feet riding path 900 yards in length with the necessary revetments	..	..	125 0 0	
							Catch drains	..	..	60 0 0	
							Bridge.				
							Revetments, 90 yards, with chunam at the base	..	..	125 0 0	
							Wood-work	..	..	300 0 0	
							Contingencies	..	..	40 0 0	2,758 0 0
							Stonehouse Park.				
							Temporary establishment, &c.	591 7 0	1,000 0 0	700 0 0	700 0 0
							Church Hill Park.				
							Temporary establishment	72 8 0	100 0 0	100 0 0	100 0 0
							Horticultural Implements.				
							Garden rollers and mowing machines ..	..	380 0 0	300 0 0	
							Garden tools (spades, rakes, shears, &c.)	115 2 0	320 0 0	200 0 0	500 0 0
							Painting of the green-house and repairs of propagating houses	..	600 0 0	600 0 0	600 0 0
								18,567 1 5	15,960 0 0	..	19,768 0 0
Carried forward ..	3,104 6 4	4,300 0 0	2,850 0 0	18	18	18					

Budget Estimate of Cash Requirements, Madras, for the Official Year ending 31st March 1886, &c.—*(Continued)*.

Description of Charges.	Actuals of 1883-84.	Budget Allotment. 1884-85 or from April 1884 to March 1885.	Budget Allotment. 1885-86 or from April 1885 to March 1886.	Total.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
	18,567 1 5	15,960 0 0	..	19,768 0 0
Labelling.				
Cost of labels and carriage of same ..	53 2 0	550 0 0	350 0 0	350 0 0
Herbarium.				
Assistant at Rs. 50 per month	..	600 0 0	600 0 0	
Cooly to the Assistant at Rs. 8 per month	..	96 0 0	96 0 0	
Peon at Rs. 8 per month	..	96 0 0	96 0 0	
Purchase of cabinets and materials ..	..	800 0 0	400 0 0	
Travelling allowance of the Herbarium Assistant	..	..	200 0 0	1,392 0 0
Library.				
Library	..	1,200 0 0	1,200 0 0	1,200 0 0
NEW WORKS.				
Government Botanical Gardens.				
Regrassing slopes, gravelling of walks in upper gardens, formation of a kitchen garden, and the clearing of ravine, &c.	..	..	2,050 0 0	2,050 0 0
Municipal assessment on buildings ..	..	..	169 0 0	169 0 0
Increase of pay of Rs. 5 each to the Writer, Overseer, and Apprentice ..	..	..	180 0 0	180 0 0
Erection of cooly lines	911 9 2	..	..	..
Purchase of meteorological instruments ..	..	200 0 0	..	..
Cutting down eucalyptus, &c., on the northern slope of the gardens ..	..	520 0 0	..	..
New Works.				
Government Botanical Gardens, Drainage	..	1,477 8 0	..	..
Total ..	19,531 12 7	21,499 8 0	..	25,109 0 0

Description of Receipts.	Actuals of 1883-84.	Budget Estimate. 1884-85 or from April 1884 to March 1885.	Budget Estimate. 1885-86 or from April 1885 to March 1886.	Numbers. 1883-84.	Numbers. 1884-85.	Numbers. 1885-86.
	Rs. A. P.	Rs. A. P.	Rs. A. P.			
Brought forward ..	3,104 6 4	4,300 0 0	2,850 0 0	18	21	18
Total ..	3,104 6 4	4,300 0 0	2,850 0 0	18	21	18

OOTACAMUND,
15th September 1884.

(Signed) M. A. LAWSON,
Director.

BUDGET Estimate of Cash requirements, Madras, for the Official Year ending 31st March 1886.
F. Estimate Civil Service, Upper Norwood, Nílgiris.

Numbers.	Description of Charges.	Actuals of 1883-84.	Budget Allotment. 1884-85 or April 1884 to March 1885.	Budget Allotment. 1885-86 or April 1885 to March 1886.	Total.	Amendments proposed by the Local Government.
	PROVINCIAL SERVICE, 16 MINOR DEPARTMENT.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
	Upper Norwood, Ootacamund.					
	Temporary establishment, &c.	1,000 4 6	2,000 0 0	3,000 0 0	3,000 0 0	
	Total ..	1,000 4 6	2,000 0 0	3,000 0 0	3,000 0 0	

OOTACAMUND,
15th September 1884.

(Signed) M. A. LAWSON,
Director.

ORDER—dated 5th November 1884, No. 1211, Revenue.

Miscellaneous.

With the foregoing letter the Director of Government Cinchona Plantations, Botanical Gardens and Parks, Nílgiris, submits the budget estimates of the Botanical Gardens and Parks for 1885-86, and the revised estimates for 1884-85.

2. The revised estimate of receipts and charges for the current year is the same as the budget estimate, the receipts and charges being respectively Rs. 4,300 and Rs. 21,500.

3. The receipts for 1885-86 are estimated at Rs. 2,850, or Rs. 1,450 less than the budget and revised estimates for the current year, the actuals of 1883-84 being Rs. 3,104 and the average of the preceding five years Rs. 3,532. The decrease, which occurs chiefly under "sale of Jalap tubers, &c.," from the medicinal gardens, should have been explained.

4. The charges for 1885-86 are estimated at Rs. 25,109, or Rs. 3,609 in excess of the estimate for the current year. This increase is the net result of an increase under some heads of Rs. 6,957 and a decrease under others of Rs. 3,348. The several items of increase are as follows:—

		Rs.
(*a*)	Curator's office establishment	60
(*b*)	Travelling allowance of Director and Curator	1,000
(*c*)	Travelling allowance of Herbarium Assistant	200
(*d*)	Fixed establishment, Ootacamund Gardens	120
(*e*)	Temporary establishment do.	2,500
(*f*)	Regrassing slopes, &c., Ootacamund Gardens, and formation of Kitchen garden	2,050
(*g*)	Grant for acclimatization of foreign plants	100
(*h*)	Municipal assessment on buildings	169
(*i*)	Temporary establishment, Sim's Park, Coonoor	108
(*j*)	New bridle road and bridge, Sim's Park, Coonoor	650
	Total ...	6,957

5. The increase under items (*a*) and (*d*) is due to a proposal to increase the pay of the Curator's clerk and the overseer and apprentice of the Ootacamund Gardens. No sufficient grounds are adduced for the proposed increase, which must therefore be disallowed. Item (*b*) is a new head of charge. It is explained that hitherto the entire charge on account of the Director's travelling allowance has been debited to the Cinchona Department, a provision of Rs. 2,000 being made for the purpose in the Cinchona budget. It is now proposed to debit a moiety of this charge, as well as the

whole expenditure on account of the Curator's travelling allowance, to the Government Botanical Gardens and Parks. So far as regards the Curator, the suggested allotment is open to no objection, but with reference to the principle laid down in the Resolution of the Government of India read in G.O., 2nd August 1883, No. 1638, Financial, the proposal to divide the allowances of the Director between two heads of account cannot be approved. The provision will accordingly be reduced to Rs. 500, which will probably suffice to meet the charges on account of the travelling allowances of the Curator and Herbarium Assistant. The Director states that the allotment under this head "is also to provide for the sending out of coolies and bandies for the collection and transportation of living plants." Such charges, however, should not be debited to "travelling allowance" but to "contingencies." The same remark applies to "charges connected with the conveyance of presses and other botanical materials," which the Director mentions as provided for by the proposed allotment of Rs. 200 for "travelling allowance of Herbarium Assistant."

6. The increase under temporary establishment is due partly to the necessity for reforming, at a cost of about Rs. 2,000, the grounds through which the new road to Government House has been cut, and partly to the need which has arisen for the services of a carpenter and blacksmith for the repair of the numerous mowing and other machines purchased for the gardens. The proposed permanent entertainment of a carpenter and blacksmith for such a purpose appears to require further explanation. The Director could probably get the repairs done by private labor or by the Public Works Department as required from time to time at much less cost. The provision is therefore disallowed. Under item (*f*) a lump sum of Rs. 2,050 is provided, but the total amount required for the purposes named, according to the details given in the Director's letter, is only Rs. 1,550 as shown in the margin. It is presumed that the sum of Rs. 500 required for the services of a carpenter and blacksmith has been counted twice over. The allotment under (*f*) will accordingly be reduced to Rs. 1,550. The increase of Rs. 100 in the grant for the acclimatization of foreign plants, originally sanctioned in G.O., 5th July 1872, No. 874, is approved, the expenditure under this head having for several years exceeded the original amount of the grant. The provision of Rs. 169 for municipal assessment is also approved. It is observed that although the expenditure under "Contingencies" in connection with the Ootacamund Gardens amounted in 1883-84 to Rs. 2,526 and in each of the two preceding years to close upon Rs. 2,000, the provision in the budget now under review is only Rs. 1,000. The amount will, however, remain unaltered, pending any further communication the Director may wish to make, as it is gathered from the report for 1883-84 that several charges have hitherto been debited under this head, which will in future be otherwise provided for.

	Rs.
Clearing of ravine	300
Extension of nurseries...	300
Forming Herbaceous Botanical Garden	150
Repairing slopes, tanks, &c.	500
Forming kitchen garden	300
Total ...	1,550

7. The provision of Rs. 108 for the entertainment of a watchman for the shola recently added to Sim's Park, Coonoor, is approved; but with regard to the proposed bridle road and bridge through the park, it is observed that the further information called for in G.O., 14th July 1884, No. 843, has not yet been received. Pending the submission of the required explanation no expenditure should be incurred on this account, but meanwhile the allotment will be allowed to remain.

8. The budget estimates, as approved and passed, will thus stand as follows:—

	Rs.
Receipts	2,850
Charges	23,229

9. In his administration report for the year 1883-84, the Director stated that propositions for the future management and ornamentation of the Crewe Hall Estate and adjoining grounds would be made in his budget estimate for 1885-86. The present estimate, however, contains no provision on this account, and the omission, which was doubtless accidental, should now be supplied.

10. There is a discrepancy, which should be explained, between the details of the receipts and charges for 1883-84 as given in the statement of estimates for 1885-86, and the totals of the actuals for five and seven months respectively as given in the revised (formerly known as "regular") estimates for 1883-84 and 1884-85. In the case of the charges the discrepancy is considerable and extends to the totals as well as to the details. There is also a further discrepancy between either set of figures and the details as given in the statements appended to the annual report for 1883-84. Care should be taken in future to secure perfect agreement throughout.

11. The Director also submits an estimate, amounting to Rs. 3,000, for the upkeep and improvement of the Government House Gardens. This will be transferred as usual for disposal in the Financial Department.

(True Extract.)

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

To the Director, Government Cinchona Plantations, Parks and Gardens, Nílgiris.
" Financial Department.
" Accountant-General.
" Board of Revenue.
" Collector of Nílgiris.
" Public Works Department.

Exd. W. J. Lewis.

100 Copies.

P. W. Dept.

No. 2906 Wdy 20 Nov. 1884

Communicated to the Supdg: Engineer IV Circle.

(Signed)

Govt. of {1884} Madras.

REVENUE.

Issued

Recd. Encl.

G.O., 5th November 1884, No. 1211.

No. 2906 Wdy 20 Nov. 1884

NOVEMBER.

Budget Estimate of Botanical Gardens and Parks, Nilgiris

for 1885-86, reviewed.

With Order

S. E. IV Circle

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—the following letter from M. A. LAWSON, Esq., Director of Government Cinchona Plantations, &c., Nilgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 15th September 1884, No. 260 :—

I have the honor to forward herewith my estimate of what will be the cost of maintaining the Government Parks and Gardens on the Nilgiris for the year ending 31st March 1886.

The amount I ask for is Rs. 25,109. This is Rs. 3,609-8-0 more than the current year's grant. The reasons why I have to ask for so much are—

1*st*.—The making of the new road, which runs through the gardens to Government House, renders necessary the re-forming a good deal of the ground through which it has been cut, and I estimate that to do this quite satisfactorily will cost about Rs. 2,000.

2*ndly*.—The ravine above the house in which Dr. Mackenzie resides is in a very disorderly condition, and I propose clearing and planting this at a cost of Rs. 300.

3*rdly*.—Owing to the great demand there will be during the next few years for all kinds of trees and shrubs for planting in the several Government establishments in Ootacamund and Coonoor, I ask for Rs. 300 in order that I may extend the present nurseries.

4*thly*.—I desire Rs. 150 for maintaining a small portion of the gardens, which has been set aside for the cultivation of indigenous herbaceous plants.

5*thly*.—As there is an increased demand for garden seeds, I ask for Rs. 600, instead of Rs. 500, under the head of vegetable products. The price realized by the sale of these seeds always does a little more than cover the cost of purchase, so that the extra Rs. 100 will be recouped at the end of the year.

6*thly*.—For repairing the slopes, tanks, &c., in the upper gardens, I ask Rs. 500.

7*thly*.—For the completion and maintenance of the experimental kitchen garden I want Rs. 300. I have been unable as yet to commence this garden, but I hope to have it in working order by the end of the year.

8*thly*.—There are now in the gardens a number of mowing machines and other instruments which are constantly requiring repair. There are also many accidents occurring, which need the almost daily services of a carpenter or blacksmith. For the engagement of these two artizans, I ask for Rs. 500.

9*thly*.—The increase of Rs. 758 to the Sim's Park last year's allotment is for a watchman to look after the new shola and for making a road through it.

10*thly*.—*Travelling allowance, Rs.* 1,000.—This is to provide for the expenses incurred by the Director and Curator in visiting the more distant gardens of Sim's Park and Barliyár. Each of these gardens should be visited at least once a month. This sum is also to provide for the sending out of coolies and bandies for the collection and transportation of living plants. During the past year, and for the present year, these expenses have been de[illegible]ayed by the Cinchona Department. I now propose that, instead o[illegible]hat department being called upon to pay Rs. 2,000 as heretofore, t[illegible] sum should be divided, and Rs. 1,000 be paid by the gardens.

11*thly.*—*Travelling Allowance under Herbarium, Rs.* 200.—This is to pay the travelling expenses of the Assistant Herbarium-keeper when sent on tour for the purpose of collecting specimens, as well as for all charges connected with the conveyance of presses and other botanical materials.

12*thly.*—The clerk, overseer and apprentice ask for an increase of pay. They have done their work very well during the past year, and I think they deserve the increase they ask for. I propose that they should each be allowed Rs. 5 per mensem extra, that is, Rs. 180 in all.

13*thly.*—*Upper Norwood.*—I ask for Rs. 1,000 in addition to what was allotted last year for upkeep of these gardens. This garden, which was never properly made, owing to the unfinished state of the house and its surroundings, will, if this sum is granted, be put into thorough order with respect to its lawns, beds and walks. The ground about Lower Norwood will also be made more sightly and the kitchen garden enlarged.

REGULAR Estimate of Receipts of the Government Botanical Gardens and Parks on the Nílgiris for the year 1884-85.

Items.	Actuals of the first five Months of 1884-85.	Actuals of the last seven Months of 1883-84.	Probable Receipts of the last seven Months of 1884-85.	Total of Columns 2 and 4.	Budget Estimate for 1884-85.
1	2	3	4	5	6
Ootacamund Gardens.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Sale of plants and seeds, &c.	869 4 0	1,042 13 0	2,130 12 0	3,000 0 0	3,000 0 0
Barliyár Gardens.					
Sale of plants and fruits, &c.	31 3 0	41 1 9	568 13 0	600 0 0	600 0 0
Kalhatti Gardens.					
Sale of plants	10 0 0	92 4 0	40 0 0	50 0 0	50 0 0
Medicinal Gardens.					
Sale of Jalap tubers, &c.	0 14 0	530 9 0	587 4 0	650 0 0	650 0 0
Value of drugs supplied to Medical Department	61 14 0				
Total ..	973 3 0	1,706 11 9	3,326 13 0	4,300 0 0	4,300 0 0

REGULAR Estimate of Expenditure of the Government Botanical Gardens and Parks on the Nílgiris for 1884-85.

Items.	Actuals of the first five Months of 1884-85.	Actuals of the last seven Months of 1883-84.	Probable Charges of the last seven Months of 1884-85.	Total of Columns 2 and 4.	Budget Allotment for 1884-85.
1	2	3	4	5	6
Government Botanical Gardens.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Salary of Curator	1,500 0 0	2,100 0 0	2,100 0 0	3,600 0 0	3,600 0 0
Do. of fixed establishment	530 0 0	742 0 0	742 0 0	1,272 0 0	1,272 0 0
Government contribution in aid of the establishment at Rs. 84 per mensem ..	407 3 10	547 3 8	600 12 2	1,008 0 0	1,008 0 0
Grant for developing the vegetable products of other countries	500 0 0	..	..	500 0 0	500 0 0
Temporary establishment	1,265 13 1	4,028 2 5	1,734 2 11	3,000 0 0	3,000 0 0
Contingencies	610 10 5	1,317 2 7	389 5 7	1,000 0 0	1,000 0 0
New works, drainage, &c.	717 7 6	..	760 0 6	1,477 8 0	1,477 8 0

Regular Estimate of Expenditure of the Government Botanical Gardens, &c.—(*Continued*).

Items.	Actuals of the first five Months of 1884-85.	Actuals of the last seven Months of 1883-84.	Probable Charges of the last seven Months of 1884-85.	Total of Columns 2 and 4.	Budget Allotment for 1884-85.
1	2	3	4	5	6
Horticultural Implements.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Purchase of mowing machines, rollers and garden tools	391 5 2	..	308 10 10	700 0 0	700 0 0
Painting of the conservatory greenhouse and repairs of propagating houses	522 7 4	..	77 8 8	600 0 0	600 0 0
Cutting down and uprooting Eucalypti and Acacia on the northern slope of the gardens	319 4 3	..	200 11 9	520 0 0	520 0 0
Labelling	175 7 5	..	374 8 7	550 0 0	550 0 0
Herbarium.					
Pay of Assistant, cooly and peon	264 0 0	..	528 0 0	792 0 0	792 0 0
Purchase of cabinets and materials ..	98 9 6	..	701 6 6	800 0 0	800 0 0
Library	13 1 0	..	1,186 15 0	1,200 0 0	1,200 0 0
Barliyár Garden.					
Temporary establishment	155 4 11	206 9 6	334 11 1	490 0 0	490 0 0
Kalhatti Garden.					
Temporary establishment	112 8 0	108 8 0	227 8 0	340 0 0	340 0 0
Medicinal Garden.					
Temporary establishment	142 0 9	167 14 3	207 15 3	350 0 0	350 0 0
Sim's Park.					
Temporary establishment	660 5 6	1,149 3 11	1,339 10 6	2,000 0 0	2,000 0 0
Stone House Park.					
Temporary establishment	409 5 9	332 10 6	590 10 3	1,000 0 0	1,000 0 0
Church Hill Park.					
Temporary establishment	40 15 0	56 6 0	59 1 0	100 0 0	100 0 0
Purchase of meteorological instruments.	..	..	200 0 0	200 0 0	200 0 0
Total ..	8,835 13 5	10,755 12 10	12,663 10 7	21,499 8 0	21,499 8 0

BUDGET Estimate of Cash Requirements, Madras, for the Official Year ending 31st March 1886. F. Estimate Civil Service, Government Botanical Gardens and Parks, Nílgiris.

Description of Receipts.	Actuals of 1883-84.	BUDGET ESTIMATE. 1884-85 or from April 1884 to March 1885.	BUDGET ESTIMATE. 1885-86 or from April 1885 to March 1886.	NUMBERS. 1883-84.	NUMBERS. 1884-85.	NUMBERS. 1885-86.	Description of Charges.	Actuals of 1883-84.	BUDGET ALLOTMENT. 1884-85 or from April 1884 to March 1885.	BUDGET ALLOTMENT. 1885-86 or from April 1885 to March 1886.	Total.
	RS. A. P.	RS. A. P.	RS. A. P.				PROVINCIAL SERVICE, 16 MINOR DEPARTMENT.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Ootacamund Gardens.							*Botanical Gardens and Parks, Nilgiris, Salaries and Allowances.*				
Sale of plants and seeds, &c. ..	2,188 7 4	3,000 0 0	2,500 0 0								
Barliyár Garden.				1	1	1	Curator at Rs. 300 per month	3,600 0 0	3,600 0 0	3,600 0 0	
Sale of plants and fruits, &c. ..	134 14 0	600 0 0	200 0 0				*Fixed Establishment.*				
Kalhatti Garden.				1	1	1	Writer at Rs. 30 per month ..	360 0 0	360 0 0	360 0 0	
				1	1	1	Overseer at ,, 35 ,, ..	420 0 0	420 0 0	420 0 0	
Sale of plants, &c.	92 4 0	50 0 0	50 0 0	1	1	1	Apprentice at ,, 25 ,, ..	300 0 0	300 0 0	360 0 0	
				2	2	2	Peons at ,, 8 each per month ..	192 0 0	192 0 0	192 0 0	
Medicinal Garden.				6	6	6	Coolies at Rs. 7-8-0 each per month. Government contribution at Rs. 84 per month.				
Sale of jalap tubers, &c. ..	688 13 0	650 0 0	100 0 0	6	6	6	Coolies at Rs. 6-8-0 each per month.	945 12 6	1,008 0 0	1,008 0 0	5,880 0 0
							Travelling allowance of the Director and Curator	155 0 0	..	1,000 0 0	1,000 0 0
							Temporary Establishment.				
							Working charges	6,116 6 9	3,000 0 0	5,000 0 0	5,000 0 0
							Pay of carpenter and blacksmith ..	390 5 6	..	500 0 0	500 0 0
							Special Allotment.				
							Grant for developing the vegetable products of other countries	580 11 0	500 0 0	600 0 0	600 0 0
							Contingencies	2,139 2 1	1,000 0 0	1,000 0 0	1,000 0 0
							Barliyár Garden.				
							Temporary establishment, &c.	346 5 8	490 0 0	490 0 0	490 0 0
							Kalhatti Garden.				
							Temporary establishment, &c.	193 0 0	340 0 0	340 0 0	340 0 0
								15,738 11 6	11,210 0 0	..	14,810 0 0
Carried forward ..	3,104 6 4	4,300 0 0	2,850 0 0	18	18	18					

Budget Estimate of Cash Requirements, Madras, for the Official Year ending 31st March 1886, &c.—(*Continued*).

Description of Receipts.	Actuals of 1883-84.	BUDGET ESTIMATE. 1884-85 or from April 1884 to March 1885.	BUDGET ESTIMATE. 1885-86 or from April 1885 to March 1886.	NUMBERS. 1883-84.	NUMBERS. 1884-85.	NUMBERS. 1885-86.	Description of Charges.	Actuals of 1883-84.	BUDGET ALLOTMENT. 1884-85 or from April 1884 to March 1885.	BUDGET ALLOTMENT. 1885-86 or from April 1885 to March 1886.	Total.
	RS. A. P.	RS. A. P.	RS. A. P.					RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
Brought forward ..	3,104 6 4	4,300 0 0	2,850 0 0	18	18	18		15,738 11 6	11,210 0 0	..	14,810 0 0
							MISCELLANEOUS.				
							Medicinal Gardens, Ootacamund.				
							Temporary establishment, &c.	317 1 6	350 0 0	300 0 0	300 0 0
							Sim's Park, Coonoor..				
							Temporary establishment, &c.	1,732 3 5	2,000 0 0	2,000 0 0	
							Pay of one watchman at Rs. 9 per month.	..	..	108 0 0	
							NEW WORKS.				
							Making a Bridle-road and a Bridge.				
							Making a three feet riding path 900 yards in length with the necessary revetments	..	..	125 0 0	
							Catch drains	..	..	60 0 0	
							Bridge.				
							Revetments, 90 yards, with chunam at the base	..	..	125 0 0	
							Wood-work	..	..	300 0 0	
							Contingencies	..	..	40 0 0	2,758 0 0
							Stonehouse Park.				
							Temporary establishment, &c.	591 7 0	1,000 0 0	700 0 0	700 0 0
							Church Hill Park.				
							Temporary establishment	72 8 0	100 0 0	100 0 0	100 0 0
							Horticultural Implements.				
							Garden rollers and mowing machines ..	..	380 0 0	300 0 0	
							Garden tools (spades, rakes, shears, &c.)	115 2 0	320 0 0	200 0 0	500 0 0
							Painting of the green-house and repairs of propagating houses	..	600 0 0	600 0 0	600 0 0
								18,567 1 5	15,960 0 0	..	19,768 0 0
Carried forward ..	3,104 6 4	4,300 0 0	2,850 0 0	18	18	18					

Budget Estimate of Cash Requirements, Madras, for the Official Year ending 31st March 1886, &c.—*(Continued)*.

Description of Receipts.	Actuals of 1883-84.	Budget Estimate. 1884-85 or from April 1884 to March 1885.	Budget Estimate. 1885-86 or from April 1885 to March 1886.
	Rs. A. P.	Rs. A. P.	Rs. A. P.
Brought forward ..	3,104 6 4	4,300 0 0	2,850 0 0
Total ..	3,104 6 4	4,300 0 0	2,850 0 0

Description of Charges.	Actuals of 1883-84.	Budget Allotment. 1884-85 or from April 1884 to March 1885.	Budget Allotment. 1885-86 or from April 1885 to March 1886.	Total.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
Labelling.				
Cost of labels and carriage of same ..	53 2 0	550 0 0	350 0 0	350 0 0
Herbarium.				
Assistant at Rs. 50 per month	..	600 0 0	600 0 0	600 0 0
Cooly to the Assistant at Rs. 8 per month	..	96 0 0	96 0 0	96 0 0
Peon at Rs. 8 per month	..	96 0 0	96 0 0	96 0 0
Purchase of cabinets and materials ..	..	800 0 0	400 0 0	400 0 0
Travelling allowance of the Herbarium Assistant	..	..	200 0 0	200 0 0
Library.				
Library	..	1,200 0 0	1,200 0 0	1,200 0 0
New Works.				
Government Botanical Gardens.				
Regrassing slopes, gravelling of walks in upper gardens, formation of a kitchen garden, and the clearing of ravine, &c.	..	..	2,050 0 0	2,050 0 0
Municipal assessment on buildings ..	..	..	169 0 0	169 0 0
Increase of pay of Rs. 5 each to the Writer, Overseer, and Apprentice ..	..	..	180 0 0	180 0 0
Erection of cooly lines	911 9 2	..	..	..
Purchase of meteorological instruments ..	..	200 0 0	..	..
Cutting down eucalyptus, &c., on the northern slope of the gardens ..	..	520 0 0	..	..
New Works.				
Government Botanical Gardens, Drainage	..	1,477 8 0	..	..
Total ..	19,531 12 7	21,499 8 0	..	25,109 0 0

Numbers. 1883-84.	1884-85.	1885-86.
18	18	18
..	1	1
..	1	1
..	1	1
21	21	18

(Signed) M. A. LAWSON,
Director.

OOTACAMUND,
15th September 1884.

Budget Estimate of Cash requirements, Madras, for the Official Year ending 31st March 1886.
F. Estimate Civil Service, Upper Norwood, Nilgiris.

Numbers.	Description of Charges.	Actuals of 1883-84.	Budget Allotment. 1884-85 or April 1884 to March 1886.	Budget Allotment. 1885-86 or April 1885 to March 1886.	Total.	Amendments proposed by the Local Government.
		Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	
	Provincial Service, 16 Minor Department.					
	Upper Norwood, Ootacamund.					
	Temporary establishment, &c.	1,000 4 6	2,000 0 0	3,000 0 0	3,000 0 0	
	Total ..	1,000 4 6	2,000 0 0	3,000 0 0	3,000 0 0	

(Signed) M. A. LAWSON,
Director.

OOTACAMUND,
15th September 1884.

ORDER—dated 5th November 1884, No. 1211, Revenue.

Miscellaneous.

With the foregoing letter the Director of Government Cinchona Plantations, Botanical Gardens and Parks, Nilgiris, submits the budget estimates of the Botanical Gardens and Parks for 1885-86, and the revised estimates for 1884-85.

2. The revised estimate of receipts and charges for the current year is the same as the budget estimate, the receipts and charges being respectively Rs. 4,300 and Rs. 21,500.

3. The receipts for 1885-86 are estimated at Rs. 2,850, or Rs. 1,450 less than the budget and revised estimates for the current year, the [illegible] Nilgiris, 84 being Rs. 3,104 and the average of the preceding five years Rs. 3,532. The decrease, which occurs chiefly under "sale of Jalap tubers, &c.," from the medicinal gardens, should have been explained.

4. The charges for 1885-86 are estimated at Rs. 25,109, or Rs. 3,609 in excess of the estimate for the current year. This increase is the net result of an increase under some heads of Rs. 6,957 and a decrease under others of Rs. 3,348. The several items of increase are as follows:—

		Rs.
(*a*)	Curator's office establishment	60
(*b*)	Travelling allowance of Director and Curator	1,000
(*c*)	Travelling allowance of Herbarium Assistant	200
(*d*)	Fixed establishment, Ootacamund Gardens	120
(*e*)	Temporary establishment do.	2,500
(*f*)	Regrassing slopes, &c., Ootacamund Gardens, and formation of Kitchen garden	2,050
(*g*)	Grant for acclimatization of foreign plants	100
(*h*)	Municipal assessment on buildings	169
(*i*)	Temporary establishment, Sim's Park, Coonoor	108
(*j*)	New bridle road and bridge, Sim's Park, Coonoor	650
	Total ...	6,957

5. The increase under items (*a*) and (*d*) is due to a proposal to increase the pay of the Curator's clerk and the overseer and apprentice of the Ootacamund Gardens. No sufficient grounds are adduced for the proposed increase, which must therefore be disallowed. Item (*b*) is a new head of charge. It is explained that hitherto the entire charge on account of the Director's travelling allowance has been debited to the Cinchona Department, a provision of Rs. 2,000 being made for the purpose in the Cinchona budget. It is now proposed to debit a moiety of this charge, as well as the

whole expenditure on account of the Curator's travelling allowance, to the Government Botanical Gardens and Parks. So far as regards the Curator, the suggested allotment is open to no objection, but with reference to the principle laid down in the Resolution of the Government of India read in G.O., 2nd August 1883, No. 1638, Financial, the proposal to divide the allowances of the Director between two heads of account cannot be approved. The provision will accordingly be reduced to Rs. 500, which will probably suffice to meet the charges on account of the travelling allowances of the Curator and Herbarium Assistant. The Director states that the allotment under this head "is also to provide for the sending out of coolies and bandies for the collection and transportation of living plants." Such charges, however, should not be debited to "travelling allowance" but to "contingencies." The same remark applies to "charges connected with the conveyance of presses and other botanical materials," which the Director mentions as provided for by the proposed allotment of Rs. 200 for "travelling allowance of Herbarium Assistant."

6. The increase under temporary establishment is due partly to the necessity for reforming, at a cost of about Rs. 2,000, the grounds through which the new road to Government House has been cut, and partly to the need which has arisen for the services of a carpenter and blacksmith for the repair of the numerous mowing and other machines purchased for the gardens. The proposed permanent entertainment of a carpenter and blacksmith for such a purpose appears to require further explanation. The Director could probably get the repairs done by private labor or by the Public Works Department as required from time to time at much less cost. The provision is therefore disallowed. Under item (*f*) a lump sum of Rs. 2,050 is provided, but the total amount required for the purposes named, according to the details given in the Director's letter, is only Rs. 1,550 as shown in the margin. It is presumed that the sum of Rs. 500 required for the services of a carpenter and blacksmith has been counted twice over. The allotment under (*f*) will accordingly be reduced to Rs. 1,550. The increase of Rs. 100 in the grant for the acclimatization of foreign plants, originally sanctioned in G.O., 5th July 1872, No. 874, is approved, the expenditure under this head having for several years exceeded the original amount of the grant. The provision of Rs. 169 for municipal assessment is also approved. It is observed that although the expenditure under "Contingencies" in connection with the Ootacamund Gardens amounted in 1883-84 to Rs. 2,526 and in each of the two preceding years to close upon Rs. 2,000, the provision in the budget now under review is only Rs. 1,000. The amount will, however, remain unaltered, pending any further communication the Director may wish to make, as it is gathered from the report for 1883-84 that several charges have hitherto been debited under this head, which will in future be otherwise provided for.

	Rs.
Clearing of ravine	300
Extension of nurseries...	300
Forming Herbaceous Botanical Garden	150
Repairing slopes, tanks, &c.	500
Forming kitchen garden	300
Total ...	1,550

7. The provision of Rs. 108 for the entertainment of a watchman for the shola recently added to Sim's Park, Coonoor, is approved; but with regard to the proposed bridle road and bridge through the park, it is observed that the further information called for in G.O., 14th July 1884, No. 843, has not yet been received. Pending the submission of the required explanation no expenditure should be incurred on this account, but meanwhile the allotment will be allowed to remain.

8. The budget estimates, as approved and passed, will thus stand as follows:—

	Rs.
Receipts	2,850
Charges	23,229

9. In his administration report for the year 1883-84, the Director stated that propositions for the future management and ornamentation of the Crewe Hall Estate and adjoining grounds would be made in his budget estimate for 1885-86. The present estimate, however, contains no provision on this account, and the omission, which was doubtless accidental, should now be supplied.

10. There is a discrepancy, which should be explained, between the details of the receipts and charges for 1883-84 as given in the statement of estimates for 1885-86, and the totals of the actuals for five and seven months respectively as given in the revised (formerly known as "regular") estimates for 1883-84 and 1884-85. In the case of the charges the discrepancy is considerable and extends to the totals as well as to the details. There is also a further discrepancy between either set of figures and the details as given in the statements appended to the annual report for 1883-84. Care should be taken in future to secure perfect agreement throughout.

11. The Director also submits an estimate, amounting to Rs. 3,000, for the upkeep and improvement of the Government House Gardens. This will be transferred as usual for disposal in the Financial Department.

(True Extract.)

J Nicolas

Secretary to Government.

To the Director, Government Cinchona Plantations, Parks and Gardens, Nilgiris.
" Financial Department.
" Accountant-General.
" Board of Revenue.
" Collector of Nilgiris.
" Public Works Department.

Exd. W. J. Lewis.

100 Copies.

20 De

Communicated
to the Supdg. Engineer
IV Circle.

CJ.
19.11.84

Govt. of [1884] Madras.

REVENUE.

SECRETARY TO GOVERNMENT
18 NOV 84
P.W. DEPARTMENT

Issued

Recd. 18/11/84 Encl.

G.O., 5th November 1884, No. 1211.

NOVEMBER.

Budget Estimate of Botanical Gardens and Parks, Nilgiris

for 1885-86, reviewed.

S.E. IV Circle
Despd 24-11-84