M.R.O. 1—77,006—8-6-37.

(1) Number of pages 172

(2) Date of repair

(3) Initials of the Referencer

22.8.38

MADRAS RECORD OFFICE.

Government of Madras.

Revenue **DEPARTMENT.**

G.O. No. 1050	Press / ~~Mis.~~
Dated 17 - 9 - 1884.	

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14/2/38

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

READ—the following paper from M. A. LAWSON, Esq., Director of Government Cinchona Plantations, Parks and Gardens, Nilgiris, to the Secretary to Government, Revenue Department, dated Ootacamund, 7th July 1884 :—

I have the honor to forward the Administration Report on the Government Cinchona Plantations on the Nilgiris—Dodabetta, Naduvatam, Hooker, and Wood—for the official year 1883-84. Seventeen statements are enclosed giving the usual statistics.

2. I arrived in India in February 1883 and took over charge of the Plantations on the 18th June from Colonel Jago, the Nilgiri Forest Officer. Up to the close of the year I paid five visits, extending in all over a period of twenty-three days, to the Naduvatam, Hooker, and Wood Estates ; as regards Dodabetta, being on the spot, my visits were much more frequent.

3. SEASON AND RAINFALL—(*a*) *Rainfall.*—The rainfall at *Dodabetta* was 51·49 inches distributed over 140 days as against 61·35 inches in the previous year. The maximum fall occurred in October, when 12·63 inches of rain fell. In January only one inch was registered, while during the two months of February and March there was no rain at all.

4. *Naduvatam.*—The rainfall amounted to 102 inches spread over 162 wet days as against 178 wet days in 1882-83, when there was a fall of 195 inches of rain. The maximum fall was in July, when 32½ inches fell as against 102 inches in the same month of the previous year.

5. *Hooker.*—The amount of rain registered was 92 inches as against 143 inches in the previous year. The greater fall occurred during July of both years, but the rain which fell in July 1882-83 was just double (62 inches) of the amount which fell in the corresponding month of 1883-84.

6. *Wood.*—Here the rainfall amounted to 93 inches as against 155 inches in the previous year; the maximum fall, as in the above two estates, occurred in July, 28 inches being registered as against 71 inches in the previous year.

Statements 1 to 4 show the rainfall on all four estates in comparison with last year.

7. (*b*) *Season—Dodabetta.*—The season on the whole was favorable both for the growth of the trees and for the carrying out the general work of the estate. Many, however, of the younger plantations, especially in exposed situations, were much injured, first by the severity of the frosts in the early part of the year, and secondly by the prolonged drought which followed. On one particular plot it is estimated that no less than 50 per cent. of last year's plantings have been killed. There were also fifty beds of cinchona seedlings in the nursery on Plot VIII, which were entirely destroyed.

8. *Naduvatam.*—The season on this estate for nine months was exceedingly good for the growth and recuperation of those older plantations which had suffered so much from the storms and winds of the previous year, also for the growth of the younger

plantations, and at the close of the year the greater part of the estate looked very promising, particularly the younger plants in Plots XVIII to XX and XXI, the growth of which has been most satisfactory.

9. *Hooker.*—This estate suffered very severely from a hail-storm that occurred in April and which killed almost all the *Cinchona succirubra* and injured very many *C. officinalis.* (Most of the former had to be uprooted).

10. The drought at Naduvatam and Hooker, which lasted 107 days continuously, was very unusual, but comparatively not hurtful. The frost did a little damage at Naduvatam and much at Hooker. Private estates in and around Ootacamund were seriously injured, and many almost ruined. Whole plots of three and four years' growth were cut down to the collar and in some cases to the root.

11. *Wood.*—The drought on this estate also was very severe and retarded the growth of the young plantings. The frost also caused some injury to this estate.

12. RECEIPTS AND EXPENDITURE—*Receipts—Home.*—These amounted to Rs. 18,142-10-2 (£1,492-19-9 at 1*s.* 7¾*d.* per rupee—*vide* G.O., No. 623, dated 10th May 1884). These prices when compared with those obtained at former sales are very low, and this is to be accounted for by the recent great decrease in the value of bark generally.

13. *Local.*—Credit is taken in Statement 5 for the sum of Rs. 1,740 for 1,000 lb. of mossed red bark supplied to the Bombay Medical Department at Rs. 1-9-0 per pound, this being the average price realized at the Madras auction sales during 1882-83.

14. Rupees 55,896-10-5 were realized by the sale of 62,616 * pounds of cinchona bark sold by public auction in Madras. These prices compare favorably with those at home, and, when consideration is made of the risk and trouble of shipment and of the many incidental charges attendant upon sending bark to England, there is no doubt but that the suggestion made in the latter portion of para. 4 of the Right Honorable the Secretary of State's Despatch recorded in G.O., No. 623, dated 10th May 1884—to the effect that further sales of bark should be held in this country—will result in a material saving if carried out.

* Dodabetta	20,974
Nadavatam	41,642
	62,616

15. The proceeds realized by the sale of cinchona plants and seed amounted to Rs. 4,352 as against the budget estimate of Rs. 5,000; the difference is due to the fact that nearly all the older private planters have filled up their estates, and that the present low rates obtained for bark have deterred others from opening out new ones. Rs. 208-12-0 were realized by the sale of old tools, &c. Statement 5 gives the details of receipts.

16. *Expenditure.* — The charges amounted to Rs. 94,181-7-0 as per margin, for which detailed statements for each estate and for the "Office" and General (Nos. 6 to 10) are enclosed.

	RS.	A	P.
Office and General ...	21,114	10	10
Dodabetta Plantation ...	22,375	9	0
Naduvatam do. ...	37,607	10	10
Hooker do. ...	8,131	2	9
Wood do. ...	4,952	5	7
Total ...	94,181	7	0

17. From these statements it will be seen that the actual expenditure has been less than the estimated expenditure by Rs. 14,328, while the actual receipts have fallen short of what was estimated by Rs. 22,260. This deficiency is due to the heavy fall in the value of the bark which was sold at the last sales.

18. As regards the permanent advance, a sum of Rs. 1,711-15-2 was outstanding on the 31st March last:—

Name of Plantation.	Amount outstanding. RS.	A.	P.
Dodabetta	550	0	0
Naduvatam	1,161	15	2
Total ...	1,711	15	2

This amount has since been refunded.

19. Cinchona Villa was purchased during the year for the use of the Director, but the expenditure entailed on this property is not included in the charges shown above.

20. PERMANENT PLANTATION.—The following statement shows the number of trees, as calculated from office records, in the permanent plantations at the close of the year:—

Name of Plantation.	Number of Plants in Permanent Plantations on 31st March 1883.	Number of Trees uprooted.	Number of Trees coppiced.	Number of Plants planted out Permanently.	Balance.
Dodabetta	3,72,749	1,557	5,604	1,23,717	4,89,305
Naduvatam	2,36,580	13,179	9,330	84,539	2,98,610
Hooker	2,55,432	6,872	19	86,260	3,34,851
Wood	1,02,984	2,064	3,983	95,743	1,92,680
Total ...	9,67,795	23,672	18,936	3,90,259	1,315,446

21. It will thus be seen that 1,315,446 trees existed on the Government Cinchona estates on 31st March 1884 as against 967,795 in the previous year, but it must be recollected that quite half of this number, if not more, consist of young plants, which will take some years to come to maturity. The reason why so many more plants are to be found now than existed formerly upon the same extent of ground is that the trees are planted out 4 feet × 4 feet instead of 6 feet × 6 feet.

22. *Dodabetta.*—The trees on a considerable portion of this plantation at the close of the year looked in fine condition, but on some of the older and more exposed sites there were so many signs of the trees having passed their prime that I have directed that they should be coppiced.

23. The *Cinchona carthagena* plants, which were put out last year, have made but little progress, and I do not think that this species will thrive at this high (7,000 feet) elevation.

24. The *Cinchona Santa fe* was proving a complete failure when I put the single surviving plant into the hands of Mr. Jamieson, the Curator of the Government Gardens and Parks. Since that time the plant has steadily improved, and Mr. Jamieson has been able to raise from it seven healthy cuttings.

25. The seed of *Cinchona verde* and *morada*, which was bought last year from Mr. Christie, was also raised by Mr. Jamieson in the garden propagating houses, and, when ready, will be planted out in the nurseries at the Wood Plantation.

26. To prevent damage from the trespass of cattle, I have put a wood and wire fence round about three-fourths of the whole estate.

27. *Naduvatam.*—The trees on a large portion of this estate present, as at Dodabetta, a fine appearance, but as on that estate, so here, there are many plots on which the trees show unmistakably that they have passed their prime. I have, therefore, issued directions that all such plots shall be coppiced. But, in order that there may not be too great a felling taking place at one time, I have ordered that the coppicing should be spread over several years.

28. I purpose taking advantage of the opportunity, which this change in management will afford, of confining to particular plots particular varieties of cinchona. At present all the different kinds are intermixed, and the result of this is that, as some kinds grow more quickly than others, those which are of slow growth have a tendency to get smothered. The harvesting of a crop of a mixed plantation is attended also with more expense than is that of an unmixed one. Perhaps a still more important reason for keeping the different varieties separate is that, while at present the statements which are made of the number of any given kind of cinchona on an estate are little more than guesses, I shall in the future be able to inform Government very exactly.

29. *C. carthagena* cuttings were planted out below the new store-house, and are doing well.

30. Eighty-four thousand five hundred and thirty-nine plants were planted out, besides 15,987 as renewals. The young plantings of 1882-83 did extremely well, and the plots are really in a very fine condition. I regret, however, to have to report that the planting in "Denison" No. II proved almost an entire failure owing to the depradation of sambur. I have now erected a wire fence round this block, and therefore hope that the current year's renewed planting will prove as successful as were those of the previous year in the other plots.

31. I may remark in passing that the *Cinchona succirubra* in the year under report blossomed to a very small extent in comparison with previous years.

32. *Hooker.*—This estate, which in past years has been sadly neglected, presented so deplorable a condition that I proposed that it should be abandoned. As, however, it was thought that this proposal might have been made upon conclusions arrived at too hastily, it was decided that it should be retained, and I have, in accordance with this resolution, commenced the renovation of the plantation. Owing to a severe hail-storm in April 1883, which stripped them of all their leaves, nearly the whole of the *C. succirubra* were so injured that they had to be uprooted at once in order that the bark upon them might not be lost. The land upon which these plants stood has been pitted, and I propose replanting it with *C. robusta*, a variety which has proved itself to be more tolerant of cold and wind than *C. succirubra*.

33. One hundred and ninety-one thousand plants of *C. officinalis* were planted out during the year; of these, 104,740 were renewals. But, as the trees amongst which they are planted are so few in number and so meagre, these may very fittingly be regarded as "new plantings" also.

34. Speaking generally, this estate is greatly exposed to wind from the south-west; to mitigate the evil effects of this, I propose to protect the worst parts with thick shelter belts of *Frenela dedtoidea*.

35. *Wood.*—This estate, like the last, has been sadly neglected. It has also greatly suffered from the ravages of sambur. I proposed that on this account it should be abandoned, but as this suggestion was not approved, I have commenced its renovation, and I hope in two or three years to make it a valuable estate. Its position with respect to the winds of the south-west monsoon is more favorable than that of Hooker, and the soil in many parts of the estate is deep and rich.

36. I have placed a rough fence round the whole of the plantation, and this, with the occasional help of a shikari, will, I hope, be sufficient to keep the sambur away.

37. At the present time there are very few old trees on the estate, and those which do exist are in so unhealthy a condition that the yield of bark from these will be extremely small.

38. I purpose disregarding altogether the trees which are at present standing and intend planting, in broad stretches, the following varieties, viz., *C. officinalis* in the higher parts of the estate, *C. magnifolia* and *C. robusta* in the more exposed and less rich soils, while on the best and more sheltered and lower parts of the estate I propose filling up with *C. ledgeriana*, *C. moradi*, and *C. verde*.

39. Ninety-nine thousand five hundred and sixty-six plants were put out on the estate during the last year. Of these, 95,743 were first plantings, *i.e.*, they were planted upon those portions of the estate where the original cinchona trees had been uprooted. The remaining 3,823 were renewals.

40. UPKEEP—(*a*) *Conservancy—Dodabetta.*—The usual weeding was carried on throughout the estate.

41. In those steeper parts of the estate, and especially on slopes, where the trees have been coppiced, and where therefore the loose earth is more exposed to the action of rain, stone revetments have been built to prevent the soil from being washed away. The ordinary repairs have been carried out in the case of all roads and drains.

42. *Naduvatam.*—In addition to the usual works connected with "upkeep" and which have been carried out efficiently, a wire fencing has been placed all round those parts of the estate which were infested by sambur or exposed to the trespass of cattle.

43. *Hooker and Wood.*—The main roads and drains have been put into repair on both these estates. But, owing to the very neglected condition of these estates (of which I have made mention above), I have only attempted to put portions of them in order so far as the weeding and other works go. I propose, in order that the work may be done thoroughly and not involve too great an outlay of money in any one year, to spread the renovation of these two estates over the next three years.

44. (*b*) *Manure—Dodabetta.*—Thirty-one thousand and five hundred cinchona trees were manured with stable manure and 19,500 with poudrette obtained from the Ootacamund Municipality. The previous year's application of poudrette to the trees has resulted in their vigorous growth.

45. *Naduvatam.*—Plots 18 to 21 were manured with cattle-dung. The above plots were all young plantings, and the growth of the plants on them since the application of this manure is very noticeable. The effects of the patent manure ordered in G.O., No. 962, dated 21st June 1881, and referred in paragraph 17 of the last year's Administration Report, recorded in G.O., No. 1427, dated 19th November 1883, are still invisible, but samples of bark have been collected from the trees so manured and are being retained for analysis by the Government Quinologist, who is shortly expected. The result of the analysis will be reported in due course. The manure collected from the newly-erected chattram and other places is now ample for all the requirements of the estate.

46. *Hooker.*—Plots II and III were treated with farm-yard manure, the result being that the young plants have made good growth.

47. *Wood.*—No manuring operations were carried on, but larger quantities of manure were collected by the herding of Toda buffaloes in the estate kraals. This however I have put a stop to, as the rent paid to the Todas for stalling their cattle was too high, and the distance from the estate at which the cattle were stalled rendered the carriage of the manure very expensive. I have instead ordered the purchase of twenty-five head of cattle at Rs. 20 per head for the sole purpose of making manure for the trees on the plantation.

48. NURSERIES—*Dodabetta.*—Thirty-nine thousand plants and seedlings as per margin were sold to the public, and 650 plants were sent for experimental purposes to Malabar and Mudamalai. 94¾ lb. of cinchona seed were sold to the public. A large quantity remained on hand at the close of the year under report.

5,000	plants.
34,000	seedlings.
39,000	

All of this I had destroyed, as towards the end of the monsoon I found that it was being attacked by weevils and mould.

49. *Naduvatam.*—Thirty-six thousand plants and 339,000 seedlings were sold to the public. Besides the above, the following plants were supplied to the Forest Department for experimental purposes at Calicut and Mudumalai:—

800	*C. pulescens.*
750	*C. sucirubra.*
550	*C. calsaya, var. ledgeriana.*
10	*C. carthagena.*

390 lb. and 4½ oz. of cinchona seed were sold to the public. The great demand of the past year was for seed of *C. magnifolia* and *pubescens.*

50. *Hooker and Wood.*—The nurseries on these estates were well stocked with plants and seedlings, which will be used for replanting up the decayed portions of the plantations.

51. CROP.—The total crop of all four estates amounted to 186,652 lb. of dry bark including 2,887 lb. of bark, the balance on 31st March 1883.

Naduvatam.

	LB.
Natural Red Mossed	28,600
Renewed "	5,600
Branch "	30,200
Root "	13,500
Sliced "	4,300
Crown Bark	410
Calisaya "	13,000
Pubescens "	600
Samples "	900
	42
Total ...	97,152

Dodabetta.

	LB.
Renewed Crown Mossed	19,600
Natural "	11,500
Branch "	23,400
Root "	8,080
Magnifolia bark	500
	20
Total ...	63,100

Hooker.

Natural Red Mossed	4,900
Renewed "	700
Branch "	5,600
Root "	2,600
Crown bark	2,300
	300
Total ...	16,400

Wood.

Natural Red Mossed	2,200
Renewed "	500
Root "	4,200
Branch "	400
Dust	600
Crown bark	920
	1,180
Total ...	10,000
Grand Total ...	186,652

52. *Dodabetta.*—The crop for the year under report was the largest harvested since the beginning of the enterprise. The cause of this great increase is due to the fact that I coppiced two blocks (Nos. V and VI). I did this because I found that the trees on these tracts were very sickly, and it appeared to me certain that they would shortly die.

Fifty-two thousand two hundred and forty-three trees were operated on as follows:—

Stripped	
Shaved	44,623
Coppiced	459
Uprooted	5,604
	1,557

53. The difficulty of obtaining moss in sufficient quantities is yearly increasing, and, considering that in a few years more very many private estates will come into bearing, I have turned my attention to the shaving system, and which I hope will prove successful.

54. *Naduvatam.*—The crop for the year amounted to 97,152 lb. This was collected from 22,830 trees, which were treated as below:—

Stripping System	50
Coppicing "	9,330
Uprooting "	13,179
Shaving "	271

55. *Hooker and Wood.*—The chief system of harvesting was by coppicing and uprooting.

56. In the former estate 6,872 trees were uprooted owing to the injury caused to them by the severe hail-storm which occurred in April as stated in paragraphs 9 and 32.

57. The bark was disposed of as follows:—

	LB.
Shipped to the Home Market	30,510
Supplied to Bombay Medical Department	1,000
Local Sales	62,616
	94,126
Balance on 31st March 1884	92,526
Total Crop ...	186,652

58. There were three sales by public auction at Madras during the year, namely, in December, January, and February, when 62,616 lb. were sold. The prices realized on each occasion were very much lower than at any of the former sales; *e.g.*, the upset price in the December's sale of "renewed crown" bark was Rs. 265, the reduced price Rs. 199, and even then the bark was bought in. In the January sale the upset price was Rs. 182, the realized price Rs. 136 as against Rs. 265 realized in the first sale. In every description and variety of bark the fall in prices was very great, and I feared that the sale of bark in Madras would have to be discontinued on account of failure. Since then I have learnt that the low prices which were obtained were due entirely to the great fall which had taken place in the value of bark at home, and that, when compared with the prices realized in England, those obtained in Madras were satisfactory.

59. I enclose a statement showing the variation in the prices of bark, from which it will be seen what the fluctuations of the past seven sales have been (Appendix 16).

60. It would appear that there were several causes operating which resulted in the fall in the value of bark:—

1*st*—The enormous amount of cinchona which is now grown in all suitable parts of the world has brought about the natural result of making bark cheaper.

2*ndly*—For advantages, supposed or real, to be gained, the manufacturers of the cinchona drugs have of late (as will be seen from a letter from Messrs. Oakes and Co. quoted below *) been preferring to buy South American rather than Indian barks.

3*rdly*—The manufacturers, being few in number, have been able to restrain the market.

61. The first cause of the depreciation of the value of bark cannot but be a source of congratulation to Government, while the two last might to a large extent be obviated in the future by the establishment of a manufactory for the extraction of cinchona alkaloids in this country, and by using every possible means for the extension of the market for a cheap febrifuge in those parts of the Indian Empire which are most afflicted with malarious ailments.

62. All—even the poorer classes of natives—are becoming acquainted with the efficacy of quinine as a febrifuge and seek for it greedily; but the present price of

* Messrs. Oakes and Co.'s letter dated 27th February last.—"After Monday's sale we undertook to wire to you the offers received for the unsold lots, but at the same time expressed our opinion that the seriously reduced prices of bark as represented by the offers would probably be unacceptable to the Government, and in any case would prove a discouragement to the holding of further auction sales, which had hitherto proved greatly to the convenience of manufacturers' agents here and profitable to the Government as compared with the result of the shipping the produce to England. Our opinion appears to have been telegraphed to Europe, and a reply has been received to-day resulting in the enhanced offers accepted by us. We are convinced that the prices are considerably above the parity of price of cinchona bark in Europe, and are naturally gratified at the result."

the alkaloid is far beyond the reach of any but the rich, and therefore, before cinchona can be brought to the doors of the many buying poor, some method must be discovered by which the medicinal virtues of the bark may be extracted in a manner that shall render the sale of it cheap and at the same time be profitable to the grower. Pending the discovery of such a method, I would suggest, for the consideration of the Government medical experts, whether it might not be of advantage to supply the local dispensaries with crude bark to be used, as it was in old times.

63. I regret to report that the packing presses which were bought from Messrs. Groves and Co. are not giving as much satisfaction as might be desired. The bark is packed more quickly with less expense and in better form by the old system of wooden boxes and rammers.

64. BUILDING—(*a*) *New Dodabetta.*—Two sets of cooly lines (five huts in each line) were erected during the year—one near the old tea garden and the other in No. I Plantation. Owing to the want of sufficient accommodation for the storage of bark, I have arranged that a cattle-shed situated on the jail premises should be converted into an additional store room.

65. *Naduvatam.*—The new drying shed and store houses, which were sanctioned in February 1881, have at last been handed over by the Public Works Department.

66. The drying shed is of inferior construction, and the flues which were first put in split up throughout half their length shortly after the fires were first lighted. These flues have now been repaired and the furnaces lined with a better sort of brick.

67. The store houses and packing sheds are of very superior construction when compared with the drying shed, and I have no doubt but that they will be lasting.

68. These works have cost about Rs. 40,000.

69. REPAIRS—(*b*) *Dodabetta and Wood.*—The usual annual repairs to all the permanent buildings were carried out.

70. *Naduvatam and Hooker.*—At Naduvatam the chattram, the roof of which had been injured by the high winds of the south-west monsoon, was put into a state of repair.

71. The walls of all the permanent buildings were covered with grass tatties to protect them from the driving rain of the monsoon.

72. The roof of the new drying shed, as also that of the new store rooms, has been covered with a thick thatch in order to prevent the drip which was occasioned by the condensation of moisture whenever the fires were lighted.

73. As the new drying shed was not completed in time to allow of my using it during the time that the crop was being harvested, it was necessary to temporarily repair, at the cost of Rs. 500, the old shed. These repairs consisted mainly in covering the decayed zinc sheets of the roof with tar and sand and in protecting the roof with a further covering of mats and grass thatch in repairs to the walls, especially to the partition wall, which was said to be in a dangerous condition. The furnaces had also to be rebuilt.

74. EXPERIMENTS—*Dodabetta and Wood.*—In Plot XXVIII of Dodabetta 457 trees were treated under the Java method of slicing. The result will be reported in due course. The following statement shows the present condition of those plantations which were coppiced in 1879 on both estates :—

Plantation.	Plot.	Acreage.	Number of Trees coppiced.	Number of Trees sprouted.	Number of Failures.	In 1882-83.		In 1883-84.	
						Maximum Height.	Maximum Girth.	Maximum Height.	Maximum Girth.
						FEET.	INCHES.	FEET.	INCHES.
Dodabetta ..	XI	5·00	3,356	3,201	155	8¾	6¾	9¼	7
	XXVIII	5·00	2,493	2,096	397	8	6	8¼	6¼
	Total ..	10·00	5,849	5,297	552	..	..	..	..
Wood	VIII	5·00	2,540	1,302	1,238	15	11¼	15	12

75. *Naduvatam.*—Some small portions of the plantation which had been coppiced in 1871 were recoppiced in the spring of 1881. The result was most satisfactory in so far as most of the trees sent up young shoots; many of these, however, I regret to say, were afterwards destroyed by sambur. I propose filling up the vacant places with plants which have been established in baskets.

76. The coppices of 1879, especially that on Plot No. VII, is, as I have said above, very promising; the accompanying statement will show how few in number the failures have been if we exclude Plot XXIII *:—

* The number of failures on this plot was due in part to the poverty of the soil, but chiefly to the havoc committed by sambur and cattle.

Name of Plantation.	Number of Sub-division.	Acreage.	Number of Trees coppiced.	Number of Stools with Shoots.	Number of Failures.	Maximum Height.	Maximum Girth.
						FT. IN.	FT. IN.
Naduvatam	I	0·65	200	140	60	11 5	0 7
	VI	0·25	56	50	5	20 0	1 3
	VII	0·75	2,263	2,081	182	19 6	1 4
	XXIII	5·00	2,128	1,586	1,042	16 9	1 1
	Total ..	10·65	5,47	3,857	1,290	..	..

77. Several experiments under the various systems of cropping were carried out, the results of which are being noticed and recorded. Samples of bark from each tree under each system are being retained at the office for analysis by the Quinologist, who is expected shortly. The results will be reported to Government in due course.

78. LABOR.—Laborers were plentiful on all the plantations, but a large number of the more experienced Canarese coolies were enticed away by the high wages which were paid at the gold mines of the Wynaad.

79. GENERAL REMARKS—*Subordinate Officers.*—The subordinate officers have, without exception, performed their duties efficiently and heartily.

80. FUEL SUPPLY.—The different sholas upon which the estates have been hitherto dependent for fuel are now nearly exhausted, and in another two years at the furthest I shall have to buy. I am therefore replanting the sholas with *Eucalyptus* and *Acacia melanoxylon*, with the view of making the estates again self-supporting in this respect as soon as possible.

81. SEED.—I received at the beginning of the year many complaints from the purchasers that the seed which they had bought during the previous year was bad and that a very small portion of it germinated. The cause of the badness of the seed was probably due to its being carelessly picked off the trees and to its being dried at too high a temperature in the drying shed. I have no doubt but that the excessive severity of the monsoon during the harvesting season in that year was a great difficulty and not properly allowed for. To prevent a repetition of this evil, I have laid down special rules for gathering and drying the seed, and there will for the future be no difference in the quality of the seed which is sold to the public and that which is used for the purposes of the estates.

82. PLANTATION BOOKS.—I have to report that I have made no progress in the compilation of plantation books. The various transactions on the estates are now carefully recorded, and, with the sanction of Government, I propose not altering the present system until the changes which I am making in the arrangement of the trees on the different plots of the several estates are completed.

83. DR. TRIMEN'S VISIT.—In May last Dr. Trimen, Director of the Royal Gardens, Peradeniya, Ceylon, was invited by the Madras Government to visit Ootacamund, in order that I might confer with him on certain vexed questions relating to the names of some of the varieties which are grown on these hills. We went over all the estates in company with Dr. Bidie and Mr. Gass and examined very carefully all the trees about which doubt existed. The result of our inspection was that we were able to settle most of the questions, and this has already been made known to you in Dr. Trimen's Report dated 30th June 1883.

84. AMSTERDAM EXHIBITION.—I have to record that the authorities acting on behalf of the Amsterdam Exhibition awarded the gold medal to the Madras Government for the best collection of specimens of cinchona, or rather that they thought that the collection deserved a gold medal, but that, if the Madras Government desired to have the medal, they must pay for it the sum of £20.

85. The medal was presented by Government to Mr. Gass, whose past careful attention to everything connected with the cinchona estates rendered him well worthy of the honor.

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No. 1.—STATEMENT showing the Rainfall at the Government Cinchona Plantations, *Dodabetta*, during the official year 1883-84.

Months.	For 1882-83.		For 1883-84.	
	Rainfall.	Number of Wet Days.	Rainfall.	Number of Wet Days.
April ...	4·87	8	2·72	9
May ...	6·48	11	7·58	19
June ...	8·12	22	3·97	14
July ...	11·22	29	9·35	24
August ...	4·40	24	6·47	26
September ...	3·34	16	2·39	7
October ...	10 29	18	12·63	23
November ...	8·90	16	2·95	10
December ...	0·35	4	2·34	5
January ...	0·01	2	1 09	3
February ...	...	...	...	...
March ...	3·36	10	...	...
Total ...	61·35	160	51·49	140

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No. 2.—STATEMENT showing the Rainfall at the Government Cinchona Plantations, *Naduvatam*, during the official year 1883-84.

Months.	For 1882-83.		For 1883-84.	
	Rainfall.	Number of Wet Days.	Rainfall.	Number of Wet Days.
April ...	1·21	4	2·45	9
May ...	6·54	19	3·78	15
June ...	34·70	25	15·13	27
July ...	102·11	30	32·48	30
August ...	16·94	27	27·76	31
September ...	12·61	25	5·04	13
October ...	12·20	21	8·89	24
November ...	5·71	14	3·43	8
December ...	0·11	2	3·10	5
January ...	...	...	...	...
February ...	...	...	...	...
March ...	2·80	1	...	...
Total ...	194·93	168	102·06	162

OOTACAMUND,
7th July 1884.

(Signed) M. A. LAWSON,
Director.

No. 3.—STATEMENT showing the Rainfall at the Government Cinchona Plantations, *Hooker*, during the official year 1883-84.

Months.	For 1882-83.		For 1883-84.	
	Rainfall.	Number of Wet Days.	Rainfall.	Number of Wet Days.
April ...	0·25	1	3·95	9
May ...	8·23½	19	3·85	14
June ...	29·03	21	11·45	25
July ...	61·87	31	30·23	27
August ...	13·16	25	22·95	28
September ...	0·21	19	3·11	12
October ...	11·56	20	9·46	23
November ...	6·50	16	4·19	9
December ...	0·01	1	2·72	5
January ...	...	...	...	...
February ...	...	...	...	...
March ...	2·71	10	...	...
Total ...	113·53	163	91·91	152

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No. 4.—STATEMENT showing the Rainfall at the Government Cinchona Plantations, *Wood*, during the official year 1883-84.

Months.	For 1882-83.		For 1883-84.	
	Rainfall.	Number of Wet Days.	Rainfall.	Number of Wet days.
April ...	0·86	5	4·28	9
May ...	9·07	18	3·91	11
June ...	26·08	22	11·07	23
July ...	71·09	31	28·24	28
August ...	13·74	27	21·30	30
September ...	10·10	22	2·31	9
October ...	14·16	20	12·19	22
November ...	7·22	18	5·66	7
December ...	0·12	1	3·85	7
January ...	...	...	0·45	2
February ...	...	...	...	...
March ...	2·66	9	...	...
Total ...	155·01	173	93·26	148

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No. 5.—STATEMENT showing the Receipts on account of the Government Cinchona Plantations, Nilgiris, for the official year 1883-84.

Particulars.	Sanctioned Budget Estimate for 1883-84.	Actuals for 1883-84.	Remarks.
	RS. A. P.	RS. A. P.	
Value of bark sent home (306 bales per "Dacca"	...	18,142 10 2 1,740 0 0	£1,492-19-9 at 1*s.* 7½*d.* per rupee.
Value of bark sent to Bombay Government.	97,600 0 0	55,896 10 5	
Do. sold locally	5,000 0 0	4,352 6 8	
Sale-proceeds of seed and plant	...	208 12 0	
Miscellaneous			
Total ...	1,02,600 0 0	80,340 7 3	

OOTACAMUND,
7th July 1884.

(Signed) M. A. LAWSON,
Director.

No. 6.

STATEMENT showing the Expenditure of Office and General for the official year 1883-84.

Months.	ESTABLISHMENT.			TRAVELLING ALLOWANCE			CONTINGENCIES.			WORKING CHARGES.						
	Salary of the Director.	Allowance to the Deputy Conservator of Forests in charge Cinchona.	Office Establishment.	Of Establishment.	To Dr. Trimen for visiting Nilgiris.	To Mrs. McIvor (*vide* G.O., No. 2372, 12th June 1883).	Service Stamp.	Service Telegram.	Miscellaneous.	Wire-setting.	Packing Presses.	Assessment on Cinchona Villa.	Gunnies.	Carriage of Cinchona Bales to Mettupálayam.	Carriage of Gunnies, &c.	Miscellaneous.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	RS	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
April 1883 ..	600	200 0 0	131 0 0	241 3 0	..	..	5	..	2 0 0	..	..	..	..	25 13 0	..	9 8 0
May ,, ..	600	200 0 0	131 0 0	79 8 0	..	..	..	..	2 4 6	..	..	..	..	..	..	..
June ,, ..	600	200 0 0	97 8 3	..	453 2 0	..	5	..	13 4 0	..	..	..	..	..	..	..
July ,, ..	600	113 5 4	151 0 0	..	..	301 14 0	15	..	13 15 9	..	..	..	..	..	..	..
August ,, ..	600	..	151 0 0	140 0 0	..	..	..	..	40 7 0	..	..	..	..	..	..	..
September ,, ..	600	..	151 0 0	..	..	..	..	..	212 6 6	..	..	..	..	..	..	17 0 0
October ,, ..	600	..	116 0 0	483 13 7	..	..	15	2 0 0	80 2 6	..	..	..	..	..	..	..
November ,, ..	600	..	151 0 0	..	..	..	..	..	..	..	1,099	..	..	..	..	..
December ,, ..	600	..	151 0 0	87 0 0	..	..	6	1 2 0	138 2 6	1,984 13 1	..	..	304 10 0	..	206 2 8	..
January 1884 ..	600	..	151 0 0	51 11 0	..	..	10	0 8 0	12 0 0	..	..	..	..	..	..	..
February ,, ..	600	..	151 0 0	..	..	..	..	..	..	..	..	36 14 0	277 4 0	..	..	..
March ,, ..	600	..	150 14 0	249 0 0	..	..	5	4 9 0	95 3 3	..	..	..	..	313 4 0	..	..
Total ..	7,200	713 5 4	1,683 6 3	1,332 3 7	453 2 0	301 14 0	61	8 3 0	609 14 0	1,984 13 1	1,099	36 14 0	581 14 0	339 1 0	206 2 8	26 8 0

Statement showing the Expenditure of Office and General for the official year 1883-84—(*Continued*).

Months.	AMOUNT PAID BY THE ACCOUNTANT-GENERAL, MADRAS.								Peons' Clothing.	Book adjustment with the Forest Department for Firewood.	Office Rent.	Total.
	Value of C. morada and Verde seed.	Railway Charges.	Insurance.	Gunnies.	Shipping Charges.	Freight.	Advertisement.	Demurrage.				
	18	19	20	21	22	23	24	25	26	27	28	29
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
April 1883	..	..	..	..	27 10 9	..	..	9 10 0	..	25 0 0	20 0 0	1,296 12 9
May ,, ...	..	121 13 0	..	..	30 15 0	..	..	..	..	..	20 0 0	1,185 8 6
June ,, ...	1,200 0 0	..	..	1,355 4 0	28 8 9	10 0 0	..	..	..	..	20 0 0	3,982 11 0
July ,, ...	..	..	..	..	..	..	..	..	..	..	20 0 0	1,215 3 1
August	..	..	..	..	..	..	..	..	..	..	..	964 8 0
September ,, ...	..	..	..	..	..	..	..	..	..	50 0 0	..	1,030 6 6
October ,, ...	..	..	..	..	..	..	..	..	..	..	..	1,297 0 1
November ,, ...	..	470 12 0	..	..	2 4 8	..	..	..	..	..	..	2,323 0 8
December ,, ...	..	341 14 0	..	..	..	..	..	..	..	..	..	3,820 12 3
January 1884	..	..	568 3 6	..	37 2 0	..	..	..	..	..	..	1,430 8 6
February ,, ...	..	..	..	..	28 11 0	..	..	..	..	..	..	1,093 13 0
March ,, ...	..	..	..	..	..	..	..	..	56 8 3	..	..	1,474 6 6
Total ..	1,200 0 0	934 7 0	568 3 6	1,355 4 0	155 4 2	10 0 0	33 1 0	9 10 0	56 8 3	75 0 0	80 0 0	21,114 10 10

OOTACAMUND,
7th July 1884.

(Signed) M. A. LAWSON,
Director.

No. 7.

STATEMENT showing the Expenditure in detail on the Government Cinchona Plantations, *Dodabetta*, for 1883-84.

Months.	Establishment.	Nurseries.			Building.		Upkeep.				
		Labor.	Propagation.	Seed, Postage, &c.	New.	Repairs.	Manure.	Working Charges.			
								Roads.	Weeding.	Pitting and Planting.	Various.
1	2	3	4	5	6	7	8	9	10	11	12
	RS.	RS. A. P.	RS.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
April 1883 ...	293	65 0 6	23	30 11 0	...	4 4 0	22 3 0	17 14 0	485 14 0	6 11 0	366 1 0
May „ ...	293	52 5 6	23	11 3 0	...	...	285 13 0	28 12 6	216 7 3	34 4 6	281 11 6
June „ ...	293	20 12 0	20	4 0 0	...	110 11 0	202 10 0	30 0 0	140 7 0	304 12 0	170 11 0
July „ ...	293	46 10 0	20	3 0 0	...	14 11 0	80 13 0	43 5 0	44 5 6	146 5 6	91 15 0
August „ ...	293	70 15 0	20	9 10 6	...	24 2 0	57 4 6	75 11 0	5 13 6	144 5 9	140 2 0
September „ ...	293	46 6 0	25	...	...	61 5 0	57 8 6	53 1 6	109 13 9	92 14 0	162 9 0
October „ ...	293	43 13 0	25	24 14 6	...	50 3 0	28 8 0	34 1 0	342 5 0	32 5 0	141 11 0
November „ ...	293	40 14 0	25	0 6 0	...	3 2 0	30 14 0	23 0 0	93 7 0	50 9 0	132 9 0
December „ ...	293	52 6 0	25	0 13 0	...	64 9 3	28 7 6	16 14 0	56 7 0	165 14 6	223 8 3
January 1884 ...	293	45 2 0	25	6 13 0	68 13 0	...	31 5 6	45 0 0	710 4 6	133 12 0	296 6 0
February „ ...	293	45 7 6	25	6 12 0	205 3 0	...	92 15 0	48 7 0	698 13 6	18 14 6	467 9 0
March „ ...	293	44 11 0	25	7 11 6	521 12 6	...	52 15 0	37 1 0	446 11 0	244 5 0	580 4 0
Total ...	3,516	612 7 0	284	106 1 6	795 12 6	365 15 9	1,053 5 6	456 8 0	3,350 13 0	1,375 0 9	3,055 0 9

Statement showing the Expenditure in detail on the Government Cinchona Plantations, *Dodabetta*, for 1883-84—(*Continued*).

Months.	Crop.							Total.
	Collection of Moss.	Barking.	Mossing.	Drying.	Packing.	Storage.	Various.	Carriage.	
	13	14	15	16	17	18	19	20	21
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
April 1883	...	0 10 0	...	6 12 0	...	...	20 0 0	...	1,342 0 6
May „	...	...	...	...	...	2 13 0	10 0 0	...	1,339 6 3
June „	8 8 6	76 7 0	...	16 15 0	...	...	42 5 0	...	1,600 12 0
July „	337 13 0	209 9 6	46 10 3	17 3 0	...	...	84 13 0	...	1,480 1 9
August „	254 6 0	270 12 0	71 3 7	16 1 6	...	...	398 4 8	...	1,851 12 0
September „ ...	271 5 0	275 13 6	199 11 3	24 7 0	17 12 0	1 7 0	69 0 0	...	1,861 1 6
October „	482 15 0	378 14 6	42 3 9	17 15 6	26 7 0	2 2 0	98 3 0	...	2,064 9 3
November „	303 3 0	543 2 9	301 15 6	19 10 0	43 8 0	5 1 3	141 12 0	...	2,051 1 6
December „	74 6 3	562 6 0	83 11 0	21 13 6	64 14 0	17 11 6	628 7 0	43 12 0	2,424 0 9
January 1884	...	24 14 6	...	7 15 0	43 14 0	...	248 10 0	...	1,980 13 6
February „	...	19 3 0	...	25 0 0	79 12 6	...	167 0 0	...	2,193 1 0
March „	...	..	...	6 7 0	2 3 0	...	24 12 0	...	2,286 13 0
Total ...	1,832 8 9	2,361 12 9	745 7 4	180 3 6	278 6 6	29 2 9	1,933 2 0	43 12 0	22,375 9 0

OOTACAMUND,
7th July 1884.

(Signed) M. A. LAWSON,
Director.

No. 8.

STATEMENT showing the Expenditure in detail on the Government Cinchona Plantations, *Naduvatam*, for the official year 1883-84.

Months.	ESTABLISHMENT.		NURSERIES.				UPKEEP.					
	Salaries.	Travelling Allowance.	Labor, &c.	Propagation.	Collection of Seed.	Various.	Pitting and Planting.	Weeding.	Roads, &c.	Various.	Materials.	Manure.
1	2	3	4	5	6	7	8	9	10	11	12	13
	RS.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
April 1883 ..	213	..	73 8 3	32 0 0	18 7 6	..	77 0 0	..	613 11 5	110 0 7	10 8 0	167 8 8
May ,, ..	213	31 0 0	78 11 6	32 0 0	92 8 0	10 8 0	111 2 0	..	11 13 6	116 0 6	..	127 13 5
June ,, ..	213	..	73 3 6	32 0 0	549 2 0	..	601 10 4	97 0 3	71 2 8	134 6 7	..	93 6 0
July ,, ..	213	..	65 5 0	32 0 0	96 0 0	10 0 0	427 1 10	11 1 6	272 2 4	106 8 3	..	83 6 10
August ,, ..	213	63 6 0	66 3 3	32 0 0	27 12 11	..	594 3 3	80 7 0	258 10 2	205 13 2	..	158 1 8
September ,, ..	213	26 14 0	94 12 10	32 0 0	44 8 10	5 0 0	475 10 2	203 9 0	56 4 4	217 3 11	..	966 14 5
October ,, ..	213	..	92 4 2	32 0 0	..	..	319 13 11	234 3 5	240 6 6	204 9 2	..	274 4 9
November ,, ..	213	73 8 0	117 2 5	32 0 0	..	191 4 0	54 3 0	645 13 5	21 2 6	166 0 4	1,756 8 0	551 8 1
December ,, ..	213	..	103 10 10	12 0 0	..	..	217 6 6	704 14 5	160 0 0	200 1 11	..	234 7 5
January 1884 ..	243	29 2 0	101 5 11	44 7 1	..	..	652 9 8	541 8 3	..	204 9 3	..	235 0 4
February ,, ..	243	..	105 4 1	32 0 0	..	..	396 7 0	253 9 9	27 0 0	224 0 0	..	593 15 6
March ,, ..	723	..	98 9 11	32 0 0	..	15 2 0	377 14 1	291 2 6	41 11 6	162 9 7	..	462 7 9
Total ..	3,126	223 14 0	1,070 1 8	376 7 1	828 7 3	231 14 0	4,305 1 9	3,063 5 6	1,774 0 11	2,051 15 3	1,767 0 0	3,948 14 10

Statement showing the Expenditure in detail on the Government Cinchona Plantations, *Naduvatam*, for the official year 1883-84—(*Continued*).

Months.	COLLECTION OF CROP.							BUILDING.		Firewood Plantation.	Wire-fencing.	Total.
	Barking and Mossing.	Collection of Moss and Grass.	Drying Bark.	Packing Bark.	Storage.	Carriage of Bark	Various.	New.	Repair.			
	14	15	16	17	18	19	20	21	22	23	24	25
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
April 1883 ..	146 3 9	15 7 5	92 7 0	3 15 0	49 13 6	70 0 0	37 3 11	..	209 12 4	19 11 8	..	1,960 7 0
May ,, ..	139 15 0	..	378 14 6	5 10 0	40 0 0	45 8 0	40 4 4	..	57 13 4	16 5 3	..	1,548 15 0
June ,, ..	68 10 0	..	46 11 0	1 15 6	40 0 0	..	323 10 0	..	118 4 4	15 10 2	..	2,479 12 4
July ,, ..	212 13 9	..	111 7 0	0 2 0	53 1 6	..	63 7 2	..	654 1 5	84 11 2	..	2,506 5 9
August ,, ..	91 7 0	..	200 12 0	12 1 0	44 12 6	72 4 0	402 12 10	..	92 6 7	92 10 22	..	2,700 14 9
September ,, ..	313 7 0	..	371 3 6	3 1 6	65 0 6	80 0 0	869 14 10	..	58 9 2	255 13 0	..	4,352 15 0
October ,, ..	492 2 3	..	359 14 5	5 12 0	45 5 6	25 0 0	408 8 6	..	49 1 4	14 12 6	80 7 0	3,091 9 5
November ,, ..	421 15 0	..	414 3 6	31 11 0	41 2 0	..	1,466 12 3	..	766 0 0	302 15 3	7 11 9	7,274 8 6
December ,, ..	400 11 3	..	184 13 0	12 6 0	28 2 6	34 10 0	439 2 11	..	155 9 6	14 9 9	16 1 5	3,131 11 5
January 1884 ..	327 0 6	..	181 4 9	7 5 0	60 9 6	43 1 0	235 3 5	..	..	21 2 3	176 11 1	3,104 0 0
February ,, ..	..	..	179 14 0	16 5 0	56 5 0	9 9 0	99 7 0	..	2 0 0	22 8 3	68 1 0	2,329 5 7
March ,, ..	..	..	59 1 0	0 9 0	46 3 0	80 6 0	117 13 9	..	..	381 13 11	146 10 4	3,037 2 4
Total ..	2,614 5 6	15 7 5	2,646 10 1	110 13 6	570 7 6	460 6 0	4,594 3 11	..	2,105 10 0	1,226 14 1	495 10 7	37,607 10 10

OOTACAMUND,
7th July 1884.

(Signed) M. A. LAWSON,
Director.

No. 9.

STATEMENT showing the Expenditure in detail on the Government Cinchona Plantations, *Hooker*, for the official year 1883-84.

Months.	Establishment.	NURSERIES.				UPKEEP.					
		Labor, &c.	Propagation.	Collection of Seed.	Various.	Pitting and Planting.	Weeding.	Roads, &c.	Various.	Materials.	Manure.
1	2	3	4	5	6	7	8	9	10	11	12
	RS.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
April 1883 ...	50	76 3 0	...	9 9 0	8 9 2	11 15 6	...	0 4 6	42 5 5	...	19 14 5
May „ ...	50	76 7 6	...	...	7 10 4	26 0 0	78 11 3	25 12 6	46 9 9	...	24 9 3
June „ ...	50	63 2 6	...	...	6 5 1	72 15 3	3 3 6	3 14 6	36 9 0	...	37 13 2
July „ ...	50	34 11 0	...	...	3 7 6	82 8 0	...	...	45 15 11	...	41 11 4
August „ ...	50	48 5 0	...	1 2 0	4 15 1	286 8 0	...	22 3 6	71 5 10	...	28 12 11
September „ ...	50	65 10 6	...	...	6 9 1	236 7 3	196 0 0	15 7 6	91 5 6	...	25 15 9
October „ ...	50	66 2 0	...	...	6 9 9	195 4 9	375 9 6	14 1 0	62 4 8	...	39 2 7
November „ ...	50	67 9 6	...	...	6 12 2	138 10 6	108 2 6	7 9 6	87 5 9	...	43 10 5
December „ ...	50	66 14 0	...	...	6 11 0	299 14 0	128 3 6	7 9 6	103 4 5	...	36 5 11
January 1884 ...	50	83 14 0	...	...	8 6 2	275 9 6	287 13 0	13 12 6	101 6 8	...	35 2 11
February „ ...	50	120 15 0	...	...	12 1 6	120 6 0	113 14 0	21 15 0	55 12 3	...	66 13 11
March „ ...	50	84 6 9	...	...	8 7 0	72 1 0	239 1 6	29 2 6	212 3 9	...	91 9 9
Total ...	600	854 4 9	...	10 11 0	86 7 10	1,818 3 9	1,530 10 9	161 12 6	956 8 11.	...	491 10 4

Statement showing the Expenditure in detail on the Government Cinchona Plantations, *Hooker*, for the official year 1883-84—(*Continued*).

Months.	COLLECTION OF CROP.							BUILDING.		MISCELLANEOUS.	Total.
	Barking and Mossing.	Collection of Moss and Grass.	Packing Bark.	Storage.	Carriage of Bark.	Drying Bark.	Various.	New.	Repairs.	Firewood Plantation.	
	13	14	15	16	17	18	19	20	2	22	23
	RS. A. P.	RS. A. P.	RS. A. P.	RS.	RS. A. P.	RS. A. P.	RS. A. P.	RS.	RS. A. P.	RS.	RS. A. P.
April 1883 ...	58 12 0	6 1 0	1 11 0	10	...	11 5 6	18 7 1	...	90 15 10	...	416 1 5
May „ ...	2 2 6	16 15 6	...	10	...	2 0 6	12 6 10	...	...	...	379 5 11
June „ ...	73 8 6	...	...	10	...	3 12 0	28 0 2	...	...	...	389 3 8
July „ ...	94 11 9	...	...	10	16 0 6	24 7 6	32 11 11	...	4 2 7	...	440 8 0
August „ ...	45 1 3	...	...	10	5 1 0	...	24 9 9	...	...	...	598 0 4
September „ ...	111 12 6	...	...	10	16 9 6	...	52 12 5	...	...	...	878 10 0
October „ ...	151 0 0	...	1 2 0	10	7 9 6	9 8 0	36 2 3	...	...	...	1,024 8 0
November „ ...	58 9 6	...	1 6 6	10	...	23 7 0	40 15 7	...	...	...	644 2 11
December „ ...	...	...	0 9 0	10	...	12 5 6	20 14 2	...	14 7 0	...	757 2 0
January 1884 ...	...	...	0 9 0	10	...	0 5 0	38 2 1	...	...	...	905 0 10
February „ ...	18 1 0	...	...	10	...	73 6 6	42 5 7	...	113 3 8	...	818 14 5
March „ ...	...	...	...	10	...	...	39 9 6	...	42 15 6	...	879 9 3
	613 11 0	23 0 6	5 5 6	120	45 4 6	160 9 6	387 1 4	...	265 12 7	...	8,131 2 9

(Signed) M. A. LAWSON,
Director.

OOTACAMUND,
7th July 1884.

No. 10.

STATEMENT showing the Expenditure in detail on Government Cinchona Plantations, *Wood*, for the official year 1883-84.

Months.	Establishment.	Nurseries.		Building.		Upkeep.				
							Working Charges.			
		Labor.	Collection of Seed.	New.	Repairs.	Manure.	Roads and Drains.	Weeding.	Pitting and Planting.	Various.
1	2	3	4	5	6	7	8	9	10	11
	RS.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
April 1883 ...	70	28 1 6	...	...	18 13 9	20 8 6	4 3 6	...	13 12 0	56 10 6
May „ ...	70	23 5 9	...	...	...	8 7 0	10 3 6	...	27 13 9	53 7 6
June „ ...	70	22 13 0	...	...	...	9 5 0	4 7 6	6 15 0	2 2 0	44 0 6
July „ ...	70	14 4 9	0 9 0	...	...	21 13 0	4 9 0	6 13 0	49 4 6	43 6 6
August „ ...	70	17 10 6	...	...	...	26 4 6	6 6 6	...	138 2 6	91 12 0
September „ ...	70	16 7 9	...	...	0 9 0	62 5 0	12 15 3	24 15 6	112 7 9	108 12 10
October „ ...	70	22 5 0	0 6 9	...	...	25 15 0	7 8 6	8 15 9	41 12 6	40 12 0
November „ ...	70	21 15 9	...	...	3 1 6	27 0 9	21 4 0	118 8 9	18 2 3	54 1 0
December „ ...	70	20 4 6	...	...	31 12 0	64 5 6	24 9 3	114 8 3	4 15 6	120 8 9
January 1884 ...	70	24 3 6	...	...	...	39 0 0	11 5 0	108 7 9	4 8 0	389 10 0
February „ ...	70	21 15 0	...	...	13 3 6	38 5 0	22 8 6	201 7 3	7 0 6	193 5 5
March „ ...	70	16 14 6	...	...	13 8 6	37 3 4	27 10 0	163 3 0	48 9 0	57 6 6
Total ...	840	250 5 6	0 15 9	...	81 0 3	380 8 7	157 10 6	753 14 3	468 10 3	1,253 13 6

Statement showing the Expenditure in detail on Government Cinchona Plantations, *Wood*, for the official year 1883-84—(*Continued*).

Months.	Crop.							Carriage.	Total.
	Collecting Moss and Grass.	Barking.	Mossing.	Drying.	Storage.	Packing.	Various.		
	12	13	14	15	16	17	18	19	20
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
April 1883	...	...	...	0 14 0	...	...	9 5 6	...	222 5 3
May „	...	1 1 6	...	0 15 0	...	...	1 11 0	...	197 1 0
June „	...	67 15 6	...	9 2 0	0 8 0	1 2 0	5 0 0	...	243 6 6
July „	...	10 13 0	...	10 13 0	...	...	8 11 0	...	241 0 9
August „	...	0 13 6	...	...	...	...	1 9 0	...	352 10 6
September „	...	2 13 6	...	...	...	...	0 5 0	...	411 11 7
October „	...	100 13 3	...	11 15 0	1 2 0	1 15 6	41 9 0	...	375 2 3
November „	...	71 7 6	...	20 7 6	0 4 6	0 13 6	41 4 0	...	468 7 0
December „	...	46 3 6	...	19 0 3	0 4 6	...	31 4 0	...	547 12 0
January 1884	...	4 11 6	...	6 5 3	...	2 8 6	26 13 0	...	687 8 6
February „	...	64 14 6	...	10 6 9	...	4 1 6	30 2 3	...	677 6 2
March „	...	49 3 0	...	10 13 0	...	3 1 6	30 5 9	...	527 14 1
Total ...	...	420 14 3	...	100 11 9	2 3 0	13 10 6	227 15 6	...	4,952 5 7

OOTACAMUND,
7th July 1884.

(Signed) M. A. LAWSON,
Director.

No. 11.

STATEMENT showing the Number of Trees Barked, Coppiced, Uprooted, Sliced and the Quantity of Green Bark taken during the year 1883-84.

Dodabetta.

Number of Plots.	Crown.								Magnifolia or Pubescens.				Prunings.	Total.	
	Stripping and Mossing.		Slicing.		Coppicing.		Uprooting.		Stripping and Mossing.		Slicing.				
	Number of Trees.	Bark.	Number of Trees.	Bark.	Number of Trees.	Bark.	Number of Trees.	Bark.	Number of Trees.	Bark.	Number of Trees.	Bark.		Number of Trees.	Bark.
		LB.		LB.		LB.		LB.		LB.		LB.			LB.
V ..	..	..	..	..	1,827	12218	606	3,636	..	..	..	..	..	2,433	15,854
VI ..	..	..	..	..	3,583	20084	951	4,755	..	..	..	..	..	4,534	24,839
VII ..	..	..	..	..	8	25	..	..	..	..	..	..	1,800	8	1,825
VIII ..	9,593	24,251	..	..	186	945	..	..	26	55	..	..	..	9,805	25,251
X ..	2,426	4,284	..	..	..	..	..	..	..	..	..	..	..	2,426	4,284
XVII ..	2,152	4,535	..	..	..	..	..	..	..	..	..	..	..	2,152	4,535
XVIII to XX.	9,662	22,290	..	..	..	..	..	..	..	..	..	..	..	9,662	22,290
XXII ..	2,432	3,963	..	..	..	..	..	..	..	..	..	..	..	2,432	3,963
XXVII ..	7,659	9,526	..	..	..	..	..	..	..	..	..	..	..	7,659	9,526
XXVIII ..	6,396	11,612	..	..	..	..	..	..	..	..	..	..	..	6,396	11,612
Do. ..	299	581	457	595	..	..	..	..	..	..	..	..	..	758	1,178
XXIX ..	3,978	5,675	..	..	..	..	..	..	..	..	..	..	..	3,978	5,675
Total ..	44,597	66,717	457	595	5,604	33	272	1,557	8,391	26	55	2	2	1,800	52,243	130,832

OOTACAMUND,
7th July 1884.

(Signed) M. A. LAWSON,
Director.

No. 12.

STATEMENT showing the Number of Trees Barked and the Quantity of Bark obtained under various systems of Cropping on the Government Cinchona Plantations, *Naduvatam*, during the official year 1883-84.

	Under Stripping and Mossing Process.		Coppicing Process.						Slicing.		Java Process.		For Samples		Fallen Trees.		Total.	
	Red.		Crown.		Red.		Caliseya.		Red.		Red.		Of all varieties.		Red.			
	Trees.	Bark.	Trees.	Bark.	Trees.	Bark.	Trees.	Bark.	Trees.	Bark.	Trees.	Bark.	Trees.	Bark.	Trees.	Bark.	Trees.	Bark.
I	..	..	..	..	2,389	171	..	..	..	..	..	..	..	..	..	..	..	..
II	..	..	..	..	..	72,408	..	..	..	..	..	..	..	..	..	..	2,812	171
III	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,701	77,367
IV	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,807	12,861
V	..	..	..	..	..	2,641	..	..	..	..	..	..	..	..	..	..	1,412	39,637
VI	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	129	12,379
VII	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	5
VIII	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	2,765
IX	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,959	14,694
X	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
XI	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
XII	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	4,226	98,069
XIII	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	17,262	9,[illegible]
XIV	..	..	..	..	665	6,814	..	..	..	..	..	..	..	..	..	..	665	6,814
XV	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
XVI	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	321	1,048½
XVII	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
XVIII	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,377	6,637
XIX	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,375	11,508
XX	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
XXI	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
XXII	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
XXIII	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
XXIV	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
XXV	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
XXVI	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	769	4,604
XXVII	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	100
XXVIII	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,159
XXIX	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
For samples	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..
Fallen trees	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	..	1,159	1,159
Total ..	50	237	..	..	8,945	190,375	221	738	164	1,135	82	319½	189	492	..	100	22,830	299,025½

OOTACAMUND,
7th July 1884.

(Signed) M. A. LAWSON,
Director.

No. 13.

Statement showing the Number of Trees Barked and the Quantity of Bark obtained under various systems of Cropping on the Government Cinchona Plantations, *Hooker*, during the official year 1883-84.

—	Under Stripping and Mossing Process.				Copsicing Process.						Uprooting Process.				Total.	
	Red.		Crown.		Red.		Crown.		For Samples		Red.		Crown.			
	Trees.	Bark.	Trees.	Bark.	Trees.	Bark.	Trees.	Bark.	Of all varieties.		Trees.	Bark.	Trees.	Bark.	Trees.	Bark.
									Trees.	Bark.						
	...	...	...	...	...	...	...	...	...	...	4,297	41,370	...	...	4,297	41,370
I	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...	...
III	...	...	...	...	3	20	...	...	...	...	...	...	...	...	3	20
IV	...	...	...	...	...	...	4	27	...	...	...	...	...	...	4	27
VIII	...	...	203	740	1	20	...	...	...	...	2,186	13,250	...	...	2,390	14,010
VIII	...	...	...	...	3	25	...	...	...	...	125	2,030	...	...	128	2,055
X	...	...	...	...	...	...	...	...	...	...	61	700	...	...	61	700
XI	...	...	...	...	8	100	...	...	...	...	...	...	...	...	8	100
Total ...	...	...	203	740	15	165	4	27	...	...	6,669	57,350	...	...	6,891	58,282

(Signed) M. A. LAWSON,
Director.

Ootacamund,
7th July 1884.

No. 14.

Statement showing the Number of Trees Coppiced, Uprooted and the Amount of Bark taken at *Wood* Estate during the official year 1883-84.

Number of Plots.	Red Bark.			Crown Bark.			Total.	
	Number of Trees Coppiced.	Number of Trees Uprooted.	Bark.	Number of Trees Coppiced.	Number of Trees Uprooted.	Bark.	Number of Trees.	Bark.
			lb.			lb.		lb.
I	55	5	274	..	116	...	176	274
II	322	...	1,710	...	504	...	826	1,710
III	826	...	5,620	...	174	...	1,000	5,620
IV	226	9	1,296	...	...	...	235	1,296
V	880	221	9,575	...	...	...	1,101	9,575
VI	554	531	5,027	..	1	...	1,086	5,027
VII	605	132	3,232	..	...	...	737	3,232
VIII	515	92	3,136	...	...	...	607	3,136
IX	...	279	1,309	...	...	...	279	1,309
Total ...	3,983	1,269	31,179	..	795	...	6,047	31,179

No. 15.

Statement showing the Quantity of Seed and the Number of Plants sold to the Public during the official year 1883-84.

Particulars.	Seed.	Plants.	Seedlings.
Dodabetta.	lb. oz.		
Cinchona officinalis	85 3	5,000	34,000
Do. magnifolia	6 14	...	...
Do. uritusinga	2 11	...	...
Naduvatam.			
Cinchona succirubra	174 7½	...	...
Do. officinalis	77 12	16,000	...
Do. pubescens	138 1	20,000	339,000
Total ...	485 ½	41,000	373,000

Ootacamund,
7th July 1884.

(Signed) M. A. LAWSON,
Director.

No. 16.

STATEMENT showing the variation in the Prices of Bark sold in Madras.

Name of Plantation.	Description of Bark sold.	1882-83. In January 1882. Per 100 lb. Upset price.	Price realized.	September 1882. Per 100 lb. Upset price.	Price realized.	February 1883. Per 100 lb. Upset price.	Price realized.	March 1883. Per 100 lb. Upset price.	Price realized.	1883-84. December 1883. Per 100 lb. Upset price.	Price realized.	January 1884. Per 100 lb. Upset price.	Price realized.	February 1884. Per 100 lb. Upset price.	Price realized.
		RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.	RS.
Dodabetta ..	Natural Crown ..	215	231	231	247	247	189	189	192	192	104	104	95	104	95
	Trunk ,, ..	212	221	..	..	..	..	..	..	..	..	..	..	..	..
	Mossed ,, ..	300	324	324	338	338	254	254	233	233	95	95	84	95	93
	Trunk Mossed ,, ..	265	270	..	..	..	..	..	..	..	..	..	..	..	..
	Renewed ,, ..	328	340	..	..	340	255	..	..	235	102	102	136	182	136
	Trunk Renewed ,, ..	303	315	..	..	..	..	..	..	..	..	..	..	..	..
	Branch ,, ..	51	55	55	56	56	54	54	57	57	33	33	Bought in.	33	25
Naduvatam ..	Natural ,, ..	232	236	..	..	..	..	..	..	..	..	..	..	..	..
	Branch ,, ..	149	150	..	..	..	..	..	..	..	..	..	..	..	..
	Trunk Red ..	138	144	..	..	..	..	..	..	..	..	..	..	..	..
	Mossed ,, ...	130	146	146	171	171	171	..	..	..	..	..	..	..	..
	Natural ,, ...	104	114	114	122	122	122	122	135	135	85	85	Bought in.	85	64
	Branch ,, ...	71	72	72	73	73	55	..	..	55	30	30	22	30	35
	Renewed ,, ...	..	..	..	..	232	174	174	170	170	110	110	90	110	90
	Branch ,, ...	71	72	72	73	73	55	55	54	..	..	..	..	..	..
Pykara ..	Mossed ,, ...	..	..	146	171	..	..	171	160	..	..	..	..	..	..
	Renewed ,, ...	..	..	..	..	..	..	174	165	..	..	..	..	..	..
	Natural ,, ...	..	..	..	..	..	..	122	138	..	..	..	..	..	..
	Renewed Crown ..	..	..	..	..	..	..	265	247	..	..	..	..	..	..
	Mossed ,, ..	..	..	..	..	..	..	254	221	..	..	..	..	..	..
	Natural ,, ..	..	..	..	..	..	..	189	162	..	..	..	..	..	..
	Branch ,, ..	..	..	..	..	..	..	54	65	..	..	..	..	..	..

OOTACAMUND,
7th July 1884.

(Signed) M. A. LAWSON,
Director.

No. 17.

A.—Statement showing the Total Yield of the Government Cinchona Plantations, Nilgiris, for the official year 1883-84.

1	2	3 BARK. a Under Stripping and Mossing System. No. of Plots.	No. of Trees decorticated.	Outturns of Green Bark.	b Uprooting. No. of Plots.	No. of Trees decorticated.	Outturns of Green Bark.	c Coppicing. No. of Plots.	No. of Trees decorticated.	Outturns of Green Bark.	d Scraping. No. of Plots.	No. of Trees decorticated.	Outturns of Green Bark.	Total Quantity of Green Bark collected during the year.	Quantity when dry.	4 Seed	5 PROPAGATION. a Plants.	b Seedlings.	c Rooted Cuttings
Name of Plantation.	Species of Produce.			LB.			LB.			LB.			LB.		LB.	LB.	NO.	NO.	NO.
Dodabetta ..	Crown bark	9	44,597	86,717	2	1,557	8,391	2	5,604	33,272	1	457	595	130,832	62,650	..	227,070	34,650	..
	Do.	Prunings.		1,800	..	..	..	..	..	..	..	..	..						
	Magnifolia bark ..	1	20	60	..	..	..	..	..	..	..	..	..						
	Red bark	1	50	237	10	8,497	64,907	6	8,945	190,375	1	271	811½	299,025½	97,152	..	483,271	344,900	..
Naduvatam ..		Fallen trees.		1,159	..	..	..	..	..	738	..	..	..						
	Crown bark	..	..	..	8	4,480	36,357	4	221	164	..	..	..						
	Various	..	..	100	5	202	3,206	..	164	1,135	..	..	..						
Hooker ..	Red bark	..	..	..	4	6,669	57,350	4	15	165	..	..	..	58,282	16,400	..	192,000	..	..
Wood	Crown bark	..	..	..	1	203	740	1	4	27	..	..	..	31,179	7,563	..	104,560	..	..
	Red bark	..	..	..	6	1,269	8,000	8	3,983	23,179	..	..	..		183,765				
	Add last year's balance.	..	..	..	..	..	..	..	..	..	..	..	..	..	2,887				
	Total ..	..	..	..	..	..	..	..	..	..	..	..	..	..	186,652	..	..	..	..

No. 17—(*Continued*).

B.—Statement showing the disposal of Bark and other Produce collected in the Government Cinchona Plantations during the official year 1883-84.

1	2	3								4			5					
		BARK.								SEED.			REPROPAGATED PLANTS AND SEEDLINGS.					
Name of Plantation	Names of Species.	*a* Sent to Madras for shipment to London.		*b* Sold in the Country.		*c* Supplied to the Medical Department, &c.		*d* Total.		*a* Sold to the Public.	*b* Used for Nurseries.	*c* Total.	*a* Plants.		*b* Seedlings..		*c* Rooted Cuttings.	Remarks.
		Bales.	Quantity.	Bales.	Quantity.	Bales.	Quantity.	Bales.	Quantity.				Sold to Public.	Permanently put up in the Plantations.	Sold to Public.	Transplanted.	Transplanted to Nurseries.	
		NO.	LB.	NO.	LB.	NO.	LB.	NO.	LB.	LB.	LB.	LB.						
Dodabetta Plantation.	Crown bark	..	..	209	20,974	..	..	209	20,974	94¾	..	94¾	5,000	138,737	34,000	..	..	..
Naduvatam do.	Red bark	191	19,010	416	41,642	10	1,000	625	62,452	390¼	..	390¼	35,000	100,526	339,000	..	..	..
	Crown do.	2	200	..	..	..	..											
	Calisaya do.	6	600	..	..	..	..											
Hooker do.	Red do.	105	10,500	..	..	..	..	107	10,700	..	..	..	1,000	191,000	..	..	..	..
	Crown do.	2	200	..	..	..	..											
Wood do. ..	.... ..	..	..	..	..	..	..	..	..	..	..	..	..	99,566	..	..	..	..
									94,126									
	Add balance on 31st March 1884 ..	..	..	..	..	..	..	..	92,526									
	Total ..	..	..	..	..	..	..	..	186,652	..	..	..	..	..	..	..	..	..

C.—Statement showing the Receipts and Expenditure of the Government Cinchona Plantations, Nilgiris, for the official year 1883-84.

Name of Plantation.	RECEIPTS.		EXPENDITURE.						GRAND TOTAL OF ALL EXPENDITURE.	
			A. Conservancy and Works.			B. Establishment.				
	Budget Estimate.	Total.	Budget Estimate.	Amount.	Total.	Budget Estimate.	Amount.	Total.	Budget Estimate.	Total.
	RS.	RS. A. P.	RS.	RS. A. P.	RS. A. P.	RS.	RS. A. P.	RS. A. P.	RS.	RS. A. P.
Office and General	1,02,600	80,340 7 3	88,425	9,337 1 5	74,097 15 7	20,084	11,777 9 5	20,083 7 5	1,08,509	94,181 7 0
Dodabetta Plantations				18,859 9 0			3,516 0 0			
Naduvatam do.				34,257 12 10			3,349 14 0			
Hooker do.				7,531 2 9			600 0 0			
Wood do.				4,112 5 7			840 0 0			

(Signed) M. A. LAWSON,
Director.

OOTACAMUND,
7th July 1884.

ORDER—dated 17th September 1884, No. 1050, Revenue.

Miscellaneous.

The Director of Government Cinchona Plantations, Parks and Gardens, Nilgiris, took up the duties of his appointment on the 18th June 1883, prior to which date the plantations remained under the care of the Deputy Conservator of Forests. The Government note with satisfaction the punctuality with which Mr. Lawson's first annual Administration report has been submitted.

2. *State of the Season.*—The season was on the whole fairly favorable, though many of the younger plantings, especially on the Dodabetta estate, suffered severely from the frost and the drought which followed. On the Hooker estate much damage was also done by a hailstorm, which killed nearly the whole of the *C. succirubra* besides injuring much of the *C. officinalis*. It is satisfactory to note, on the other hand, that the older plantations did exceedingly well, and especially that the Naduvatam plantation, which had suffered so much from the storms and winds of 1882-83, looked very promising at the close of the year under report.

3. *Condition of the Plantations.*—Both at Naduvatam and on the Dodabetta estate the trees presented generally a fine appearance, but on some of the older plots there were signs that the trees had passed their prime, and it was therefore decided to coppice them. This was done at once over two of the Dodabetta blocks, while at Naduvatam it was resolved to carry out the operation gradually during a series of years. In the latter estate a large number of trees were uprooted. In replanting vacant plots advantage will be taken of the opportunity to confine particular varieties to particular plots, as it is found that the intermixture of different kinds leads to the smothering of those of slower growth, and as the harvesting of a mixed is more costly than that of an unmixed plantation. Under the proposed system hybridization will be avoided, and it will also be possible, as it is not at present, to ascertain the number of plants of each description with ease and accuracy. The proposed retention of the present system of book-keeping pending the complete carrying out of this scheme is approved.

4. It is observed that *C. Carthagena* and *C. Santa Fé* do not thrive at Dodabetta, the elevation being too great, but that the former variety is doing well at Naduvatam. The sole surviving plant of C. Santa Fé has been removed to the Government Gardens, Ootacamund, and has since shown steady improvement.

5. In consequence of past neglect and of their exposed situation, the condition of the Hooker and Wood plantations leaves so much to be desired that their entire renovation by means of more hardy varieties has been resolved on. It is hoped that in the course of two or three years these estates will become really valuable once more.

6. The new drying shed and store-houses at Naduvatam were completed during the year and two sets of cooly lines erected at Dodabetta. Wire-fences have been placed round a considerable portion of the Naduvatam and Dodabetta estates in order to prevent the ravages of sambur and cattle, and with the same object a rough fence has been erected round the whole of the Wood plantation. It is observed that the packing presses bought in the previous year failed to give satisfaction and that their use has been abandoned.

7. The total number of trees at the end of the year was 13,15,446 against 9,67,795 on the 31st March 1883, but of these it would appear that fully half are comparatively young plants. The number of new plants permanently planted out during the year was 3,90,259, exclusive of renewals. The new trees have been planted 4 feet × 4 feet apart, instead of 6 feet × 6 feet as hitherto.

8. *Use of Manures.*—At Naduvatam the trees on four plots were manured with cattle-dung, the beneficial results of which are reported to have been very noticeable. The effects of the artificial manures (crushed bones, poonac, &c.,) applied in April 1883 are still imperceptible, but samples of bark have been collected from the trees so treated and will be analysed in due course. Stable and farm-yard manure was also used on the Dodabetta and Hooker plantations with good results, and the application of poudrette to a number of trees on the former plantation in 1882-83 is stated to have resulted in their vigorous growth.

9. *Sale of Plants and Seedlings.*—A large number of plants and seedlings were raised during the year, and 41,000 plants, 373,000 seedlings, and 485 lbs. of seed were distributed to the public, realizing Rs. 4,352. The chief demand was for seed of the hybrid varieties, *C. magnifolia* and *pubescens*.

10. *Crop.*—The crop of the year was 1,8[illegible],765 lbs. of dry bark against 1,29,712¾ lbs. in 1882-83, the increase being due to the large amount of coppicing and uprooting that was found necessary. Including the balance on the 31st March 1883, the available quantity was 1,86,652 lbs., of which 94,126 lbs. were disposed of as shown in the margin, the balance remaining in stock.

	LBS.
Shipped to the Home market per S. S. *Dacca*	30,510
Supplied to Bombay Medical Department	1,000
Locally sold	62,616
Total ...	94,126

11. The home shipment was sold in London in January 1884, the gross proceeds averaging 1*s.* 1½*d.* per lb. and the net price obtained, after deducting expenses in England, amounting only to one shilling per lb., or little more than the cost of production in India. Under these circumstances it was suggested by the Right Honorable the Secretary of State that it would be better to sell the bark in this country and thus save the cost of freight and insurance, which amounted in the case of the particular shipment referred to to 13·8 per cent. on the gross proceeds. The prices obtained in Madras, although lower than in former years, compared favorably with those of the home market, and it was therefore resolved to accept the Secretary of State's recommendation and to adhere for the present to the policy of local sales. It is observed that some 25,681 lbs. of bark shipped home by the S. S. "Teheran" and "Peshawar" in February and April 1883 are still awaiting disposal.

12. *Receipts and Expenditure.*—The receipts, as reported by the Director, amounted to Rs. 80,340-7-3 under the marginally noted heads. To the first of these, however, must be added the sum of Rs. 7,[illegible]20-1-0, being the estimated net value of 393 lbs. of febrifuge into which the shipment per S. S. "Ravenna" in 1882-83 was converted (*vide* the Secretary of State's despatch read in G.O., 4th June 1884, No. 705, Revenue). The total receipts of the year were thus Rupees 87,660-8-3, against a budget estimate of Rs. 4,10,000 * and a revised estimate of Rs. 1,02,600 †. The difference is due partly to the injury sustained by the plantations during the previous season and partly to the great fall in prices.

	RS.	A.	P.
Proceeds of home sale ... (£ 1,492-19-9 at 1*s.* 7¾*d.* per rupee).	18,142	10	2
Proceeds of local sales ...	55,896	10	5
Value of bark supplied to Bombay Medical Department	1,740	0	0
Sale of plants, &c.	4,352	6	8
Miscellaneous...	208	12	0
Total ...	80,340	7	3

	RS.
* Proceeds of home sales	4,01,000
Supplied to Bombay Medical Department	1,500
Sale of plants, &c.	7,500
Total ...	4,10,000
† Proceeds of local sales	97,600
Sale of plants, &c.	5,000
Total ...	1,02,600

13. The expenditure amounted to Rs. 94,181-7-0 against a budget estimate of Rs. 1,00,500, and a revised estimate of Rs. 1,05,800. To this figure must, however, be added the sum of Rs. 30,379-7-4 expended by the Public Works Department in the construction of the new buildings at Naduvatam and the purchase and repair of Cinchona Villa as a residence for the Director. The total charges incurred during the year in connection with the plantations amounted thus to Rupees 1,24,560-14-4.

14. Seventeen tabular statements accompany the Director's report. It appears to the Government that the number of these might easily be reduced without any sacrifice of information. The four rainfall statements might be compiled into one on a

single page of foolscap paper without omitting any of the details now given. Similarly statements 7 to 10 might be superseded by a single statement showing the annual totals under each item of expenditure, the heading "months" in column 1 being altered into "name of plantation." So again in statements 11 to 14 the particulars of trees barked, coppiced, &c., on each *plot* are not required and these statements should, if possible, be amalgamated, the heading "number of plot" being altered into "name of plantation."

15. The statement of Capital and Revenue account appended to this review shows the financial results of the Cinchona enterprise from its commencement to the close of 1883-84. The net result is a surplus of Rs. 6,31,489-12-7. In this statement credit has been taken for the value of products manufactured in England at market rates as ascertained from the Examiner of Medical Accounts, less cost of freight, manufacture, &c., as advised by the Secretary of State. The reasons for the adoption of this course were given in the order reviewing the report for 1882-83. No credit has been taken in this statement for interest on receipts, as was erroneously done in former years, while on the charges simple interest only has been allowed for, in lieu of compound interest as hitherto. This mode of calculation is in accordance with the practice of the Public Works Department in regard to remunerative public works, and is obviously sounder and more accurate than the method hitherto in vogue.

16. Statement No. 2 shows the receipts and expenditure of the year calculated in the manner directed in the Secretary of State's despatch No. 31, dated 14th September 1882..

17. The suggestion at the close of paragraph 62 of the report will be referred to the Surgeon-General for remarks.

(True Extract.)

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

To the Director, Government Cinchona Plantations, Parks and Gardens, Nilgiris.
" the Board of Revenue.
" the Director of Revenue Settlement and Agriculture.
" the Superintendent, Government Central Museum.
" the Accountant-General.
" the Public Works Department.
" the Surgeon-General with the Government of Madras.
" the Honorary Secretary, Agri-Horticultural Society.
" the Financial Department.

No. I.

STATEMENT showing the Capital and Revenue Account of the Government Cinchona Plantations, Nilgiris, from the commencement up to the Official Year 1883-84.

Year.	Working Charges.				Charges.			
	Establishment including Superintendent's Salary.	Building and Plant.	Departmental Labor.	Convict Labor.	Total.	Total outlay to end of Year.	Simple interest at 4½ per cent. on outlay to end of previous year *plus* half outlay during the year.	Total of Columns 6 and 8.
1	2	3	4	5	6	7	8	9
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1860-61	..	..	4,821 15 0	..	4,821 15 0	4,821 15 0	108 7 11	4,930 6 11
1861-62	..	..	22,914 15 4	..	22,914 15 4	27,736 14 4	732 9 2	28,647 8 6
1862-63	..	..	48,390 0 0	..	48,390 0 0	76,126 14 4	2,336 15 0	50,726 15 0
1863-64	12,726 14 7	..	53,173 9 2	..	65,900 7 9	1,42,027 6 1	4,908 7 7	70,808 15 4
1864-65	24,444 8 11	..	59,666 12 0	..	84,111 4 11	2,26,138 11 0	8,283 11 9	92,395 0 8
1865-66	25,449 14 0	3,700 0 0	55,887 5 0	..	88,037 3 0	3,14,175 14 0	12,167 1 4	1,00,104 4 4
1866-67	23,803 9 10	3,025 0 0	52,632 0 0	48,666 10 8	1,28,127 4 6	4,42,303 2 6	17,020 12 6	1,45,148 1 0
1867-68	26,087 3 1	2,600 0 0	43,295 14 4	48,666 10 8	1,20,649 12 1	5,62,952 14 7	22,618 3 6	1,43,267 15 7
1868-69	25,671 7 10	2,080 0 0	30,636 1 0	48,666 10 8	1,07,004 3 6	6,69,957 2 1	27,740 7 8	1,34,744 11 2
1869-70	25,783 5 4	5,334 5 8	19,163 0 0	..	50,280 11 0	7,20,237 13 1	31,279 6 2	81,560 1 2
1870-71	23,730 5 4	300 0 0	6,143 0 0	..	30,173 5 4	7,50,411 2 5	33,089 9 8	63,262 15 0
1871-72	17,157 5 4	3,250 0 0	13,160 4 9	..	33,567 10 1	7,83,978 12 6	34,523 12 5	68,091 6 6
1872-73	12,724 0 0	650 0 0	16,441 0 0	..	29,715 0 0	8,13,693 12 6	35,947 10 2	65,662 10 2
1873-74	12,574 0 0	2,758 0 0	15,091 14 0	..	30,423 14 0	8,44,117 10 6	37,300 12 2	67,724 10 2
1874-75	16,406 8 0	1,700 0 0	17,417 0 0	..	35,523 8 0	8,79,641 2 6	38,784 9 2	74,308 1 2
1875-76	17,234 0 0	1,650 0 0	27,422 0 0	..	46,207 0 0	9,26,848 2 6	40,623 8 3	86,830 8 3
1876-77	8,064 5 4	6,715 8 11	44,850 3 0	..	59,630 1 3	9,85,478 3 9	43,004 13 6	1,02,634 14 9
1877-78	8,061 5 4	5,468 13 8	56,241 10 3	..	69,771 13 3	10,55,250 1 0	45,916 6 3	1,15,688 3 6
1878-79	9,637 2 8	10,090 14 1	53,954 10 3	..	73,682 11 6	11,28,932 12 5	49,144 1 10	1,22,826 13 3
1879-80	10,092 0 0	6,537 4 9	63,095 0 3	..	79,724 5 0	12,08,657 1 5	52,595 12 4	1,32,320 1 4
1880-81	11,879 1 0	11,367 0 4	72,858 15 3	..	96,105 0 7	13,04,762 2 0	56,551 14 11	1,52,656 15 6
1881-82	16,375 14 6	6,278 4 9	60,049 11 5	..	1,13,575 6 4	14,18,337 7 4	61,269 11 11	1,74,845 1 3
1882-83	15,094 14 1	32,247 11 5	59,128 8 6	..	1,06,392 4 11	15,24,729 12 3	66,219 0 3	1,72,611 5 2
1883-84	20,083 7 5	35,348 14 6	69,128 8 6	1,46,000 0 0	1,24,560 14 4	16,49,290 10 7	71,415 7 4	1,95,976 5 8
Total ..	3,63,081 4 7	1,40,351 14 0	9,99,357 8 0	1,46,000 0 0	16,49,290 10 7	..	7,93,573 4 9	24,42,863 15 4

Statement showing the Capital and Revenue Account of the Government Cinchona Plantations, Nilgiris, &c.—(Continued).

Years.	Receipts.				Net Revenue (Difference between Columns 9 and 13).	
	Value of Bark supplied to Quinologist.	Value of Bark sent to England and supplied to other Governments or Departments.	Sale of Plants, Seeds, &c.	Total.	Surplus.	Deficit.
	10	11	12	13	14	15
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
1860-61	..	..	..	..	..	4,930 6 11
1861-62	..	..	..	..	..	23,617 8 6
1862-63	..	..	..	..	..	60,726 15 0
1863-64	..	..	..	..	..	70,809 15 4
1864-65	..	..	..	..	..	92,395 0 8
1865-66	..	..	..	..	..	1,00,194 4 4
1866-67	..	..	..	..	..	1,42,608 1 0
1867-68	..	..	..	..	..	1,42,980 7 7
1868-69	..	..	..	..	..	1,33,061 11 2
1869-70	..	..	2,450 0 0	2,450 0 0	..	80,047 10 10
1870-71	..	..	287 8 0	287 8 0	..	68,574 2 4
1871-72	..	..	1,680 0 0	1,680 0 0	..	55,069 6 4
1872-73	..	..	..	1,612 6 4	..	44,240 7 1
1873-74	1,612 6 4	..	323 14 0	4,688 12 8	..	9,570 3 11
1874-75	4,364 14 8	3,479 3 6	..	13,022 0 2	..	65,456 13 2
1875-76	9,542 12 8	4,388 2 1	227 1 4	21,422 3 1	..	24,426 0 4
1876-77	16,806 15 8	36,417 6 3	300 9 0	67,854 6 8	..	..
1877-78	21,136 7 0	..	273 4 0	8,849 4 0	..	..
1878-79	8,676 0 0	60,404 7 11	2,000 0 0	62,404 9 11	..	..
1879-80	..	1,07,878 4 0	2,679 3 10	1,10,487 7 10	7,822 9 1	..
1880-81	..	3,51,746 0 6	5,469 0 2	3,57,215 0 8	2,41,626 13 2	..
1881-82	..	3,92,217 10 1	8,136 9 2	4,00,354 3 3	2,77,627 6 0	..
1882-83	..	4,24,323 12 8	15,462 12 4	4,39,786 9 0	3,07,466 7 8	..
1883-84	..	3,33,295 1 3	13,175 4 8	3,46,470 5 11	1,93,813 6 5	..
	..	5,64,230 3 11	7,653 2 9	5,71,883 6 8	3,07,044 6 5	..
	..	6,82,003 10 1	4,345 7 10	6,86,349 1 11	4,18,737 12 9	..
	..	83,009 5 7	4,561 2 8	87,660 8 3	..	1,08,315 13 5
Total ..	61,039 8 4	29,43,776 11 10	68,637 7 9	30,74,353 11 11	6,31,489 12 7	..

No. II.

Dr. STATEMENT showing the Receipts and Charges on account of the Government Cinchona Plantations, Nilgiris, for 1883-84, calculated in accordance with orders of the Secretary of State (*vide* G.O., No. 1163, dated 23rd October 1883). Cr.

	Rs. A. P.		Rs. A. P.
To value of stock at 31st March 1883 of 2,887 lb., at 10 annas 3·375 pies per lb.	1,855 2 0	* By value of stock at 31st March 1884 of 92,526 lb., at 8 annas 2·402 per lb.	47,420 8 7
To establishment and working	94,181 7 0	By value of 5,900 lb. of bark at cost price, freight and charges of manufacture of product.	4,555 2 7
† Profit on the year's working	52,781 10 2	By value of 25,681 lb. of bark at cost price awaiting disposal at home.	16,502 0 9
		By value of 30,510 lb. of bark sold at home.	18,142 10 2
		By value of 1,000 lb. of bark supplied to the Bombay Government.	1,740 0 0
		By value of 62,616 lb. of bark sold locally.	55,896 10 5
		By sale proceeds of seeds and plants ..	4,352 6 8
		By miscellaneous receipts	208 12 0
Total ..	1,48,818 3 2	Total ..	1,48,818 3 2

* In 1883-84 the cost price of 1 lb. of bark is 8 annas 2·402 pies, *i.e.*, Rs. 94,181-7-0 expenditure÷1,83,765 lb. of bark, crop of the year.

† If the produce had been taken credit for at its market value an additional sum of Rs. 3,528-13-7 would have been realised and the whole profit for the year would be Rs. 52,781-10-2+3,528-13-7=56,310-7-9.

No. III.

STATEMENT showing the Expenditure incurred in the Department of Public Works on Buildings, &c., on account of the Government Cinchona Plantations on the Nilgiris during the year 1883-84.

Item No.	Division.	Name of Work.	Estimate.	Outlay during 1883-84.
				Rs. A. P.
1	Nilgiri.	Purchase of the Cinchona Villa property, repairs and other incidental expenses, Ootacamund .	17,000	16,986 1 3
2	Do.	Constructing Cinchona building, Naduvatam .	38,220	13,393 6 1
		Total ...	...	30,379 7 4

Exd. W. H. French.

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Govt. of Madras. (1884)

REVENUE.

Issued

Recd.

G.O., 17th September 1884, No. 1050.

SEPTEMBER.

Government Cinchona Plantations,

Report on the — for 1883-84, reviewed.

No 1

Statement showing the Rainfall at the Government Cinchona Plantations, Dodabetta, during the official year 1883-84.

Months	For 1882-83 Rainfall	For 1882-83 Number of wet days	For 1883-84 Rainfall	For 1883-84 Number of wet days
April	4·87	8	2·72	9
May	6·48	11	7·58	19
June	8·12	22	3·97	14
July	11·22	29	9·35	24
August	4·40	24	6·47	26
September	3·34	16	2·39	7
October	10·29	18	12·63	23
November	8·90	16	2·95	10
December	0·35	4	2·34	5
January	0·01	2	1·09	3
February	"	"	"	"
March	3·36	10	"	"
Total	61·35	160	51·49	140

Forwarded
7th July 1884.

M. A. Lawson
Director

No 2

2.8

39

Statement shewing the Rainfall at the Government Cinchona Plantations, Nadiwattam, during the official year 1883-84.

Months	Year 1882-83		Year 1883-84	
	Rainfall	Number of wet days	Rainfall	Number of wet days
April	1.21	4	2.45	7
May	6.54	17	3.78	15
June	34.70	25	15.13	27
July	102.11	30	32.48	30
August	16.94	27	27.76	31
September	12.61	25	5.04	13
October	12.20	21	8.89	24
November	5.71	14	3.43	8
December	0.11	2	3.10	5
January	"	"	"	"
February	"	"	"	"
March	0.21	1	"	"
Total	194.93	178	102.06	162

Ootacamund
7th July 1884

J. L. Lawson
Director

No 3

2 C

41

Statement Showing the Rainfall at the Government Cinchona Plantations, Hooker, during the Official Year 1883-84.

Months	For 1882-83		For 1883-84	
	Rainfall	Number of wet days	Rainfall	Number of wet days
April	0.25	1	3.95	9
May	8.23½	14	2.85	14
June	29.03	21	11.45	25
July	61.87	31	20.23	27
August	13.16	25	22.95	28
September	10.21	14	3.11	12
October	11.56	20	9.46	23
November	6.50	16	4.19	9
December	0.01	1	2.72	5
January	"	"	"	"
February	"	"	"	"
March	2.71	10	"	"
Total	143.53	163	91.91	152

Ootacamund
7th July 1884

M. A. Lawson
Director

No 4

Statement showing the Rainfall at the Government Cinchona Plantations, Mungpoo, during the official year 1883-84

43

Months	For 1882-83 Rainfall	For 1882-83 Number of wet days	For 1883-84 Rainfall	For 1883-84 Number of wet days
April	0.86	5	4.28	9
May	9.07	18	3.91	11
June	26.08	22	11.7	23
July	71.09	31	28.24	28
August	13.74	27	21.30	30
September	10.10	22	2.31	9
October	14.16	20	12.19	22
November	7.22	18	5.66	7
December	0.12	1	3.85	7
January	"	"	.45	2
February	"	"	"	"
March	2.66	7	"	"
Total	155.01	173	93.26	148

Forwarded
7th July 1884

M. L. Lawson
Director

No 5

Statement shewing the Receipts on account of the Government Cinchona Plantations Nilgiris for the Official Year 1883/84.

Particulars	Sanctioned Budget Estimate for 1883/84	Actuals for 1883/84	Remarks.
Value of Bark sent Home (306 Bales of "Dacca")		18,142 lbs	£1492-19-9 @ 1 shilling 7 3/4d of Rupee
" " to Bombay Government		1740 "	
" " Sold locally	97.600	55896 lbs	
Sale proceeds of Seed & plant	5000	4352 6 8	
Miscellaneous		208 12	
	102,600	80,340-7-3	

Ootacamund
7th July 1884

M. A. Lawson
Director

Statement Showing the Expenditure in Detail on the Government Cinchona Plantation, Dodabetta, for 1883-84.

Months		Establishment	Nurseries Labor	Nurseries Inspection	Nurseries Seed Postage &c	Building New	Building Repairs	Manure	Upkeep Working Charges Roads	Upkeep Weeding	Upkeep Pitting & Planting	Upkeep Various
April	1883	293 ..	65 6	23 ..	30 11	.. ..	4 4	22 3	17 14	485 14	6 11	366 1
May	"	293 ..	52 56	23 ..	11 3	.. ..	.. ..	285 13	28 126	216 73	34 46	281 11 6
June	"	293 ..	58 126	23 ..	4 3	.. ..	143 116	284 116	33 5	140 7	304 12	170 11
July	"	293 ..	46 10	20 ..	3 ..	.. ..	14 11	80 13	43 5	44 56	146 56	91 15
August	"	293 ..	70 15	20 ..	9 106	.. ..	24 2	57 46	75 11	5 136	144 59	140 2
September	"	293 ..	46 6	25 ..	.. ..	.. ..	61 5	57 86	53 16	109 139	92 14	162 9
October	"	293 ..	43 13	25 ..	24 146	.. ..	50 3	28 8	34 1	342 5	32 5	141 11
November	"	293 ..	40 4	25 ..	.. 6	.. ..	3 2	30 14	23 ..	93 7	50 9	132 9
December	"	293 ..	52 6	25 ..	.. 13	.. ..	64 93	28 76	16 4	56 7	165 46	223 83
January	1884	293 ..	45 2	25 ..	6 13	68 13	.. ..	31 56	45 ..	710 46	133 12	296 6
February	"	293 ..	45 76	25 ..	6 12	205 3	.. ..	92 15	48 7	698 136	18 146	467 9
March	"	293 ..	44 11	25 ..	7 116	521 126	.. ..	52 15	37 1	446 11	244 5	580 4
Total		3516 ..	612 7	284 ..	106 16	795 126	365 159	1053 56	456 8	3350 13	1375 9	3955 9

— Do — Continued.

Months		Cinchona Collection of Moss	Packing	Weighing	Drying	Packing	Storage	Various	Carriage	Total
April	1883	.. ..	10 ..	.. ..	6 12	.. ..	.. ..	20 ..	.. ..	1,342 .. 6
May	"	.. ..	.. ..	.. ..	.. ..	.. ..	2 13	10 ..	.. ..	1,239 63
June	"	8 86	76 7	.. ..	16 15	.. ..	.. ..	42 5	.. ..	1,660 12
July	"	337 13	209 96	46 103	17 3	.. ..	.. ..	84 13	.. ..	1,480 19
August	"	254 6	270 12	71 37	16 16	.. ..	.. ..	398 48	.. ..	1851 12
September	"	371 5	275 136	199 113	24 7	17 12	1 7	69 ..	.. ..	1361 16
October	"	482 15	378 146	42 39	17 156	26 7	2 2	98 3	.. ..	2064 93
November	"	303 3	543 29	301 156	19 10	43 8	5 13	141 12	..	2051 16
December	"	74 63	562 6	83 11	21 136	64 14	17 116	628 7	43 12	2424 9
January	1884	.. ..	24 146	.. ..	7 15	43 14	.. ..	248 10	.. ..	1980 136
February	"	.. ..	19 3	.. ..	25 ..	79 126	.. ..	167 ..	.. ..	2193 1
March	"	.. ..	.. ..	.. ..	6 7	2 3	.. ..	24 12	.. ..	2,286 13
Total		1832 89	2361 129	745 74	180 36	278 66	29 29	1493 28	43 12	22,375 9

Ootacamund
7th July 1884

M. A. Lawson
Director

No 8

Statement shewing the Expenditure in Detail on the Government Cinchona Plantations Nadiuvatam for the official year 1883-84.

Months	Establishment Salaries	Establishment Travelling allowances	Tuesseries Labor & Propagation	Collection of Seed	Various	Digging and Planting	Weeding	Road Side Various	Materials	Manure	Total
April 1883	213 ..	.. ..	73 8 3	32 ..	18 7 6	.. ..	77 ..	.. ..	613 11 5	110 .. 7	10 8 ..	167 8 8	1,315 12 5
May .	213 ..	31 ..	78 11 6	32 ..	92 8 ..	10 8 ..	111 2 ..	.. ..	11 13 6	116 .. 6	.. ..	127 13 5	824 8 11
June .	213 ..	.. ..	73 3 6	32 ..	54 9 2 ..	.. ..	601 10 4	97 .. 3	71 2 8	134 6 7	.. ..	93 6 ..	1864 15 4
July .	213 ..	.. ..	65 5 ..	32 ..	96 ..	10 ..	427 1 10	11 16	272 2 4	106 8 3	.. ..	83 6 10	1316 9 9
August .	213 ..	63 6 ..	66 3 3	32 ..	27 12 11	.. ..	594 3 3	80 7 ..	258 10 2	205 13 2	.. ..	158 1 8	1699 9 5
September .	213 ..	26 4 ..	94 12 10	32 ..	44 8 10	5 ..	475 10 2	203 9 ..	56 4 4	217 3 11	.. ..	966 14 5	2335 13 6
October .	213 ..	.. ..	92 4 2	32 ..	.. ..	.. ..	319 13 11	234 3 5	240 6 6	204 9 2	.. ..	274 4 9	1610 9 11
November .	213 ..	73 8 ..	117 2 5	32 ..	.. ..	191 4 ..	543 ..	645 13 5	21 2 6	166 .. 4	1756 8 ..	551 8 1	3822 1 9
December .	213 ..	.. ..	103 10 10	12 ..	.. ..	.. ..	217 6 6	704 14 5	160	200 1 11	.. ..	234 7 5	1845 9 1
January 1884	243 ..	29 2 ..	101 5 11	44 7 1	.. ..	.. ..	652 9 8	541 8 3	.. ..	204 9 3	.. ..	235 .. 4	2051 10 6
February .	243 ..	.. ..	105 4 1	32 ..	.. ..	.. ..	396 7 ..	253 9 9	27	224	.. ..	593 15 6	1875 4 4
March .	723 ..	.. ..	98 9 11	32 ..	.. ..	152 ..	377 14 1	291 2 6	41 11 6	162 9 7	.. ..	462 7 9	2204 9 4
Total	3126 ..	223 14 ..	1,070 1 8	376 7 1	828 7 3	231 14 ..	4,305 1 9	3063 5 6	1,774 .. 11	2,051 15 3	1767	3,948 14 10	22,767 2 3

Do Continued

Months	Collection of Crops: Barking and Drawing	Collection of Moss and Grass	Drying Bark	Packing Bark	Storage	Carriage of Bark	Various	Building: New	Repair	Firewood & Plantation	Wire fencing	Total	Total
April 1883	146 3 9	15 7 5	92 7 ..	3 15 ..	49 13 6	70 ..	37 3 11	.. ..	209 12 4	19 11 8	.. ..	644 10 7	1960 7 ..
May .	139 15 ..		378 14 6	5 10 ..	40	45 8 ..	40 4 4	.. ..	57 13 4	16 5 3	.. ..	724 6 5	1548 15 ..
June .	68 10 ..		46 11 ..	1 15 6	40	.. ..	323 10 ..	.. ..	118 4 4	15 10 2	.. ..	614 13 ..	2,479 12 4
July .	212 13 9		111 7 ..	10 2 ..	53 1 6	.. ..	63 7 2	.. ..	654 1 5	84 11 2	.. ..	1189 12 ..	2506 5 9
August .	91 7 ..		266 12 5	12 1 6	44 12 6	72 4 ..	492 11 6	.. ..	34 6 7	76 12 11	.. ..	1091 4 9	2,790 4 2
September .	313 7 ..		371 3 6	3 1 6	65 .. 6	80	869 14 ..	.. ..	58 9 2	2 55 13 ..	.. ..	2017 1 6	4,352 15 ..
October .	492 2 3		359 14 5	5 12 ..	45 5 6	25	408 8 6	.. ..	49 1 4	14 12 6	80 7 ..	1480 15 6	3091 9 5
November .	421 15 ..		414 3 6	31 11 ..	41 2 ..	.. ..	1466 12 3	.. ..	766	302 15 3	7 11 9	3452 6 9	7,274 8 6
December .	400 11 3		184 13 ..	12 6 ..	28 2 6	34 10 ..	439 2 11	.. ..	155 9 6	14 9 9	16 1 5	1286 2 4	3,131 11 5
January 1884	327 .. 6		151 4 9	7 5 ..	60 9 6	43 1 ..	235 3 5	.. ..	.. ..	21 2 3	176 11 1	1052 5 6	3104 .. ..
February ..	.. ..		179 14 ..	16 5 ..	56 5 ..	9 9 ..	99 7 ..	.. ..	2	22 8 3	68 1 ..	454 1 3	2,329 5 7
March ..	.. ..		59 1 ..	.. 9 ..	46 3 ..	80 6 ..	117 13 9	.. ..	.. ..	381 13 11	146 10 4	832 9 ..	3037 2 4
Total	2,614 5 6	15 7 5	2,646 10 1	110 13 6	570 7 6	460 6 ..	4,594 3 11	.. ..	2,105 10 ..	1,226 14 1	495 10 7	14,840 8 7	37,607 10 10

Ootacamund
7th July 1884

M. A. Lawson
Director

No. 10

Statement showing the Expenditure in Detail on Government Cinchona Plantations, Wood for the official year 1883-84.

Months		Establishment	Nurseries: Labor	Nurseries: Collection of Seed	Building: New	Building: Repairs	Upkeep: Manure	Upkeep: Working Charges: Roads & Drains	Upkeep: Working Charges: Weeding	Upkeep: Working Charges: Potting & Planting	Upkeep: Working Charges: Various
April	1883	70 ..	28 16	" ..	" ..	18 139	20 8 6	4 3 6	" ..	13 12 .	56 10 6
May	"	70 ..	23 5 9	" ..	" ..	" ..	8 7 .	10 3 6	" ..	27 13 9	53 7 6
June	"	70 ..	22 13 .	" ..	" ..	" ..	9 5 .	4 7 6	6 15 .	2 2 .	44 . 6
July	"	70 ..	14 4 9	" 9 .	" ..	" ..	21 13 .	4 9 .	6 13 .	49 4 6	43 6 6
August	"	70 ..	17 10 6	" ..	" ..	" ..	26 4 6	6 6 6	" ..	138 2 6	91 12 .
September	"	70 ..	16 7 9	" ..	" ..	" 9 .	62 5 .	12 15 3	24 15 6	112 7 9	108 12 10
October	"	70 ..	22 5 .	" 69	" ..	" ..	25 15 .	7 8 6	8 15 9	41 12 6	40 12 .
November	"	70 ..	21 15 9	" ..	" ..	3 1 6	27 . 9	21 4 .	118 8 9	18 2 3	54 1 .
December	"	70 ..	20 4 6	" ..	" ..	31 12 .	64 5 6	24 9 3	114 8 3	4 15 6	120 8 9
January	1884	70 ..	24 3 6	" ..	" ..	" ..	39 ..	11 5 .	108 7 9	4 8 .	389 10 .
February	"	70 ..	21 15 .	" ..	" ..	13 3 6	38 5 .	22 8 6	201 7 3	7 . 6	193 5 5
March	"	70 ..	16 4 6	" ..	" ..	13 8 6	37 3 4	27 10 .	163 3 .	48 9 .	57 6 6
Total		840 ..	250 5 6	" 159	" ..	81 . 3	380 8 7	157 10 6	753 14 3	468 10 3	1,253 13 6

Do Continued

Months		Crop: Collecting Moss and Grass	Crop: Barking	Crop: Drossing	Crop: Drying	Crop: Storage	Crop: Packing	Crop: Various	Carriage	Total
April	1883	.. ..	.. ..	" ..	. 14	" ..	. ..	9 5 6	" ..	222 5 3
May	"	.. ..	1 1 6	" ..	. 15 .	" ..	. ..	1 11 .	" ..	197 1 .
June	"	.. ..	67 15 6	" ..	. 9 2 .	" 8 .	1 2 .	5 ..	" ..	243 6 6
July	"	.. ..	10 13 .	" ..	10 13 .	" ..	.. ..	8 11 .	" ..	241 . 9
August	"	" ..	" 13 6	" ..	" ..	" ..	" ..	" 5 .	" ..	352 10 6
September	"	" ..	2 13 6	" ..	" ..	" ..	" ..	19 .	" ..	411 11 7
October	"	" ..	100 13 3	" ..	11 15 .	1 2 .	1 15 6	41 9 .	" ..	375 2 3
November	"	" ..	71 7 6	" ..	20 7 6	" 46	" 13 6	41 4 .	" ..	468 7 .
December	"	" ..	46 3 6	" ..	19 . 3	" 46	" ..	31 4 .	" ..	547 12 .
January	1884	" ..	4 11 6	" ..	6 5 3	" ..	2 8 6	26 13 .	" ..	687 8 6
February	"	" ..	64 14 6	" ..	10 6 9	" ..	4 1 6	30 2 3	" ..	677 6 2
March	"	" ..	49 3 .	" ..	10 13 .	" ..	3 1 6	30 5 9	" ..	527 14 1
Total		" ..	420 14 3	" ..	100 19	2 3 .	13 10 6	227 15 6	" ..	4,952 5 7

Ootacamund
7th July 1884

M. A. Lawson
Director

No 11

Statement shewing the number of trees barked, Coppiced, Uprooted, Sliced and the quantity of green bark taken during the year 1883/84.

Dodabetta

Nos of Plots	Crown: Stripping & Inossing — Nos of Trees	Crown: Stripping & Inossing — Bark lbs	Crown: Slicing — Nos of Trees	Crown: Slicing — Bark lbs	Coppicing — Nos of Trees	Coppicing — Bark lbs	Uprooting — Nos of Trees	Uprooting — Bark lbs	Magnifolia or Pubescens: Stripping & Inossing — Nos of Trees	Magnifolia or Pubescens: Stripping & Inossing — Bark lbs	Magnifolia or Pubescens: Slicing — Nos of Trees	Magnifolia or Pubescens: Slicing — Bark lbs	Prunings: Trees	Prunings: Bark lbs	Total: Trees	Total: Bark lbs	Remarks
V			1827	12218	606	3636									2433	15854	
VI			3583	20084	951	4755									4534	24839	
VII			8	25									1800	8	1825		
VIII	9593	24251			186	945			26	55					9805	25,251	
X	2426	4284													2426	4284	
XVII	2152	4535													2152	4535	
XVIII to XX	9662	22290													9662	22290	
XXII	2432	3963													2432	3963.	
XXVII	7659	9526													7659	9526.	
XXVIII	6396	11612													6396	11612.	
1	299	581	457	595							2	2			758	1178	
XXIX	3978	5675													3978	5675.	
Total	44597	86717	457	595	5604	33272	1557	8391	26	55	2	2	1800	52,243	130,832.		

Ootacamund
7th July 1884

M. R. Lawson
Director

No 12

Statement showing the Number of Trees Barked and the quantity of Bark obtained under various Systems of Cropping on the Government Cinchona Plantation "Kaduvatam" during the official year 1883-84.

64 38

	Under Blazing & Mossing Process				Cropping Process						Uprooting Process						Slicing Process		Java Process		For samples of all varieties		Fallen trees		Grand Total		Remarks
	Red		Crown		Red		Crown		Calisaya		Red		Crown		Pubescens		Red		Red								
	Trees	Bark	Trees	Bark	Trees	Bark	Trees	Bark	Trees	Bark	Trees	Bark	Trees	Bark	Trees	Bark	Trees	Bark	Trees	Bark	Trees	Bark	Trees	Bark	Trees	Bark	
I	"	"	"	"	"	171	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	171	
II	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	2,812	77,367	
III	"	"	"	"	2,389	72,408	6	49	"	"	"	"	417	4,910	"	"	"	"	"	"	"	"	"	"	"	"	1701	12,351	
IV	"	"	"	"	"	"	"	"	"	"	1289	9597	387	2,384	25	370	"	"	"	"	"	"	"	"	"	"	4807	39,637	
V	"	"	"	"	"	"	"	"	"	"	3445	27,181	1294	11,467	68	989	"	"	"	"	"	"	"	"	"	"	1412	12,379	
VI	"	"	"	"	"	"	"	"	"	"	687	6162	694	5,743	31	474	"	"	"	"	"	"	"	"	"	"	5	"	
VII	"	"	"	"	"	"	"	"	"	"	5	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	129	2765	
VIII	"	"	"	"	"	2641	"	"	"	"	129	124	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
IX	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
X	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	1959	14,594	
XI	"	"	"	"	"	"	"	"	"	"	995	7547	964	7047	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
XII	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
XIII	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
XIV	"	"	"	"	3823	88417	1	4	"	"	238	7945	164	1703	"	"	"	"	"	"	"	"	"	"	"	"	4226	98069	
XV	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
XVI	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	1282	9922	
XVII	"	"	"	"	"	"	"	"	"	"	724	5452	480	3097	78	1373	"	"	"	"	"	"	"	"	"	"	665	6814	
XVIII	"	"	"	"	665	6814	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
XIX	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
XX	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	321	1048½	
XXI	50	237	"	"	"	"	"	"	"	"	"	"	"	"	"	"	82	319½	189	492	"	"	"	"	"	"	"	"	
XXII	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
XXIII	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	1377	6637	
XXIV	"	"	"	"	366	5670	46	247	"	"	965	720	"	"	"	"	"	"	"	"	"	"	"	"	"	"	1375	11508	
XXV	"	"	"	"	1355	11329	"	"	"	"	20	179	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
XXVI	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
XXVII	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
XXVIII	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	759	4504	
XXIX	"	"	"	"	347	2925	168	438	164	1135	"	"	80	6	"	"	"	"	"	"	"	"	100	"	"	"	"	100	
For Sample	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	1159	"	1159		
Fallen Trees	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	"	
Total	50	237	"	"	8945	190375	221	738	164	1135	8497	64907	4480	36357	202	3206	82	319½	189	492	"	100	"	1159	22830	299625½		

Ootacamund
7th July 1884

M. A. Lawson
Director

7

No 14

Lo 77

Statement Shewing the number of trees Coppiced, Uprooted and the amount of bark taken at Wood Estate during the Official year 1883/84

Number of Plots	Red Bark No of Trees Coppiced	Red Bark No of Trees Uprooted	Red Bark lbs	Crown Bark No of Trees Coppiced	Crown Bark No of Trees Uprooted	Crown Bark lbs	Grand Total No of Trees	Grand Total Bark lbs
I	55	5	274	—	116	—	176	274
II	322	—	1710	—	504	—	826	1710
III	826	—	5620	—	174	—	1000	5620
IV	226	9	1296	—	—	—	235	1296
V	880	221	9575	—	—	—	1101	9575
VI	554	531	5027	—	1	—	1086	5027
VII	605	132	3232	—	—	—	737	3232
VIII	575	92	3136	—	—	—	607	3136
IX	—	279	1309	—	—	—	279	1309
Total	3983	1269	31179	795			6047	31179

Otucamund
7th July 1884

M. A. Lawson
Director

No 15

41

79

Statement showing the quantity of Seed and the number of Plants sold to the Public during the official year 1883-84.

Particulars	Seed lbs	Seed oz	Plants	Seedlings
Dodabetta				
Cinchona Officinalis	85	3	5,000	34,000
" Magnifolia	6	14	"	"
" Ledgeriana	2	11	"	"
Naduvattam				
" Succirubra	174	7½	"	"
" Officinalis	77	12	16,000	"
" Pubescens	135	1	20,000	339,000
Total	485-½		41,000	373,000

Ootacamund
7th July 1884

M. R. Lawson
Director

Statement showing the variation in the prices of bark sold in Madras. No. 16

Samples.	Description of Bark sold	1882-83. January 1882 per 100 lbs. Upset price	January 1882 per 100 lbs. price realized	1882-83. September '82 per 100 lbs. Upset price	September '82 per 100 lbs. price realized	1882-83. February '83 per 100 lbs. Upset price	February '83 per 100 lbs. price realized	1882-83. March '83 per 100 lbs. Upset price	March '83 per 100 lbs. price realized	1883-84. December '83 per 100 lbs. Upset price	December '83 per 100 lbs. price realized	1883-84. January '84 per 100 lbs. Upset price	January '84 per 100 lbs. price realized	1883-84. February '84 per 100 lbs. Upset price	February '84 per 100 lbs. price realized
Dabatetta.	Natural Crown	Rs. 215	Rs. 231	Rs. 231	Rs. 217	Rs. 217	Rs. 189	189	192	192	104	104	95	104	95
	Trunk "	212	221	"	"	"	"	"	"	"	"	"	"	"	"
	Massed "	300	321	321	338	338	254	254	233	233	95	95	84	95	93
	Trunk Massed	265	270	"	"	"	"	"	"	"	"	"	"	"	"
	Renewed "	328	340	"	"	340	265	"	"	265	182	182	136	182	136
	Trunk Renewed	303	318	"	"	"	"	"	"	"	"	"	"	"	"
	Branch "	51	55	55	56	56	54	54	57	57	33	33	21 in	33	25
Kaduvalam.	Natural Crown	232	236	"	"	"	"	"	"	"	"	"	"	"	"
	Branch "	149	150	"	"	"	"	"	"	"	"	"	"	"	"
	Trunk Red	138	144	"	"	"	"	"	"	"	"	"	"	"	"
	Massed "	130	146	146	171	171	171	"	"	"	"	"	"	"	"
	Natural "	104	114	114	122	122	122	122	135	135	85	85	21 in	85	64
	Branch "	71	72	72	73	73	55	"	"	55	30	30	22	30	35
	Renewed "	"	"	"	"	232	174	174	170	170	110	110	90	110	90
	Branch Red	71	72	72	73	73	55	55	54	"	"	"	"	"	"
	Massed "	"	"	146	171	"	"	171	160	"	"	"	"	"	"
	Renewed "	"	"	"	"	"	"	174	165	"	"	"	"	"	"
	Natural "	"	"	"	"	"	"	122	138	"	"	"	"	"	"
	Renewed Crown	"	"	"	"	"	"	265	247	"	"	"	"	"	"
	Massed "	"	"	"	"	"	"	254	221	"	"	"	"	"	"
	Natural "	"	"	"	"	"	"	189	162	"	"	"	"	"	"
	Branch "	"	"	"	"	"	"	54	65	"	"	"	"	"	"

Ootacamund
7th July 1884

M. A. Lawson
Director

No 17

A

Statement showing the Total yield of the Government Chinchona Plantations, Nilgiris, for the ~~month of~~ Official year 1883/84.

1	2	3 Bark.													4	5 Propagation.		
		a Under-stripping and mossing system.			b Uprooting.			c Coppicing.			d Scraping.			Total quantity of Green Bark collected during the ~~month~~ year	Quantity when dry.	Seed.	a	b	c
Name of Plantation.	Species of Produce.	No. of Plots.	No. of trees decorticated.	Outturn of Green Bark lbs.	No. of Plots.	No. of trees decorticated.	Outturns of Green Bark lbs.	No. of Plots.	No. of trees decorticated.	Outturns of Green Bark lbs.	No. of Plots	No. of trees decorticated.	Outturns of Green Bark lbs.			lbs.	Plants. No.	Seedlings No.	Rooted cuttings. No.
Dodabetta	Crown bark	4	44597	86717	2	1557	8391	2	5604	33272	1	457	595	1,30832	62.650	"	227070	34650	
	—do—	pruning	s	1800															
	Magnifolia bark	1	26	55								2	2						
Nadivattam	Red bark	1	50	237	10	8497	64907	6	8945	190375	1	271	511½	299035½	97.152		483271	324900	
	Crown	fallen trees		1159	8	4480	36357	4	221	738									
	various			100	5	202	3206		164	1135									
Hooker	Red bark				4	669	57350	4	15	165				55282	16.400		192000	"	
	crown —				1	43	740	1	4	27									
Wood	Red bark				6	1269	8000	8	3983	23179				51179	7.563		104500	"	
															183765 2887				
	Add last years balance																		
														Total Cts.	186652				

9 11½ 3 1 1 2 1 1 1 1 1 3 1 4 5 1 1 1 1 1 8

B

Statement showing the disposal of Bark and other produce collected in the Government Chinchona Plantations during the ~~month of~~ Official year 1883/84.

1	2	3								4			5					
		BARK.								SEED.			PROPAGATED PLANTS AND SEEDLINGS.					
Name of Plantation.	Name of Species.	a Sent to Madras for shipment to London.		b Sold in the Country.		c Supplied to the Medical Department &c.		d Total.		a Sold to the Public.	b Used for Nurseries	c Total.	a Plants.		b Seedlings.		c Cutting. Rooted Seedlings	Remarks
		Bales No.	Quantity lb.	Bales No.	Quantity lb.	Bales No.	Quantity lb.	Bales No.	Quantity lb.	lb.	lb.	lb.	Sold to Public.	Permanently put up in the Plantations	Sold to Public.	Transplanted.	Transplanted to Nurseries.	
Dodabetta Nº2	Crown bark	"	"	209	20974	"	"	209	20974	94 3/4	"	94 3/4	5100	134737	34000	"	"	
Naduvatam — " —	Red bark	191	19010	416	41642	10	1000	625	62452	390 1/2	"	390 1/2	35000	100526	39000		"	
	Crown — " —	2	200	"	"	"	"											
	Calisaya — " —	6	600	"	"	"	"											
Nooker — " —	Red bark	105	10500	"	"	"	"	107	10700	"	"	"	1000	191000	"	"	"	
	Crown — " —	2	200	"	"	"	"											
Wood — " —	"	"	"	"	"	"	"	"	"	"	"	"		49566	"	"	"	
	Add balance on 31st March 1884								94126									
									92526									
								Total lbs	186652									

C

Statement showing the Receipts and Expenditure of the Government Chinchona Plantations of Nilgiris for the Official year 1883/84.

Name of Plantation	RECEIPTS.			EXPENDITURE.						GRAND TOTAL OF ALL EXPENDITURE		
				A. Conservancy and Works			B Establishment.					
	Budget Estimate	~~During the Month.~~ Total	Up to the end of the Month.	Budget Estimate	~~Amount~~ During the Month.	Up to the end of the ~~Month.~~ Total	Budget Estimate.	~~During the Month~~ Amount	~~Up to the end of the Month~~ Total	Budget Estimate.	~~During the Month.~~ Total	Up to the end of the Month.
Officiand General					4337 1 5			11777 9 5				
Dodabetta Plantations					15859 9 "			3516 " "				
Naduvatam — " —	102600	80340 7 3		88425	34257 12 10	74097 15 7	20084	3349 14 "	20083 7 5	108509	94151 7 0	
Nooker — " —					7531 2 9			600 " "				
Wood — " —					4112 5 7			840 " "				

Outstanding advance of previous month accounted for in this month.
Value of cheques issued in this month.

DEDUCT.

Cheques issued in this month but not cashed within the month.
Portions remaining unaccounted for out of the advances received in this month.
Amount accounted for out of the advance received.

Accounted
7th July 1884

N. L. Lawton
Director

D

Statement showing the Inspection tour of the Officers in charge of the Government Chincho Nilgiris, for the month of 188 .

Month and Date.	Places Travelled. From	Places Travelled. To	Matches	Halts.	Object of Journe
1					
2					
3					
4					
5					
6					
7					
8					
9					
10					
11					
12					
13					
14					
15					
16					
17					
18					
19					
20					
21					
22					
23					
24					
25					
26					
27					
28					
29					
30					
31					

Station.....

Dated .....188 .

.....

.....

Encl.

87 Director's Office
Octacamund
7th July 1884.

From.

The Director
Govt Cinchona Plantations
Nilgiris

To.

The Secretary to Govt
Revenue Department
Octacamund.

Sir,

I have the honor to forward the Administration Report on the Government Cinchona Plantations on the Nilgiris – Dodabetta, Naduvatum, Hooker and Wood – for the Official year 1883-84. 17 Statements are enclosed giving the usual Statistics.

2. I arrived in India in February 1883 and took charge

charge of the Plantations on the 18th June from Colonel Jago, the Nilgiri Forest Officer. Up to the close of the year I paid 5 visits extending in all over a period of 23 days to the Naduvatam, Hooker and Wood Estates; as re=gards Dodabetta being on the spot my visits were much more frequent.

3. Season and Rainfall.

(a) Rainfall - The rainfall at Dodabetta was 52·30 Inches distributed over 140 days as against 61·35 Inc: in the previous year. The maximum fall occurred in October, when 12·75 Inc: of rain fell. In January only one inch was registered

while

while during the two months of February and March, there was no rain at all.

4. Naduvatam. The rainfall amounted to 102 Inc: spread over 162 wet days as against 178 wet days in 1882-83, when there was a fall of 195 Inches of rain. The maximum fall was in July, when 32½ Inc: fell as against 102 Inches in the same month of the previous year.

5. Hooker. The amount of rain registered was 92 Inc: as against 143 Inches in the previous year. The greater fall occurred during July of both years, but the rain, which fell in July 1882-83 was just double (62 Inches) of the amount, which fell

in

in the corresponding month of 1883-84.

Wood. Here the rainfall a- 6.
-mounted to 93 inches as against 155 Inches in the previous year, the maximum fall, as in the above two Estates, occurred in July, 28 Inches being registered as against 71 Inches in the previous year.

Statments 1 to 4 show the rainfall on all four estates in comparison with last year.

1b) Season. 7.

Dodabetta. The season on the whole was favorable both for the growth of the trees, and for the carrying out the general work of the estate. Many however of the younger plantations especially in exposed situations were

were much injured, first by the severity of the frosts in the early part of the year, and secondly by the prolong-ed drought, which followed. On one particular plot it is estimated that no less than 50 per cent of last year's plantings have been killed. There were also fifty beds of cinchona seedlings in the nursery on Plot VIII, which were entirely destroyed.

8. Naduvatam. The season on this estate for 9 months was exceedingly good for the growth and recuperation of those older plantations, which had suffered so much from the storms and winds of the previous year, also for the growth of the younger plantations, and at the close of the year

the

the greater part of the estate looked very promissing, par-
-ticularly the younger plants in plots 18 & 20 and 21, the growth of which has been most satisfactory.

Hooker. This estate suffered very severely from a hail-
-storm that occurred in April, and which killed almost all the Cinchona Succirubra and injured very many C. Officinalis (most of the former had to be uprooted). 9

The drought at Naduvatam and Hooker, which lasted 107 days continuously, was very unusual, but com-
-paratively not hurtful. The frost did a little damage at Naduvatam and much at Hooker. 10

Private

— Private estates in and around Cotacamund were seriously injured and many almost ruined. Whole plots of 3 and 4 years growth were cut down to the collar, and in some cases to the root —.

11 Wood. The drought on this estate also was very severe and retarded the growth of the young plantings. The frost also caused some injury to this estate.

12 Receipts and Expenditure.

Receipts - Home - These amounted to Rs 18.142-10-2 (£s 1492-19-9 at 1s 7¾d per rupee — vide G O No 623 dated 10th May 1884). These prices, when compared with those

obtained

obtained at former sales are very low; and this is to be accounted for by the recent great decrease in the value of bark generally.

Local Credit is taken in Statement 5 for the sum of Rs 1740-- for 1000 lbs of Mossed Red bark as supplied to the Bombay medical Department at Rs 1-9-0 per pound, this being the average price realized at the Madras auction sales during 1882-83. 13.

Rs 55896-10-5 were realized by the sale of 62,616 pounds of cinchona bark sold by public auction in Madras. These prices compare favorably with those at Home and when consideration is made of the risk and trouble of shipment and of the many incidental charges attendant upon sending bark to England, there is no doubt but that the suggestion made in the latter portion of para 4 of the Right Honorable the Secretary of State's Despatch recorded in GO No 623 dated 10 May 1884 - to the effect that further sales of bark should be held in this country - will result in a material saving, if carried out. 14.

× Dodabetta 20.974
Nuddavatam 41.642
62.616

15. The proceeds realized by the sale of cinchona plants and seed amounted to Rs 4352/- as against the Budget Estimate of Rs 5000/- the difference is due to the fact, that nearly all the older private planters have filled up their estates, and that the present low rates obtained for bark have deterred others from opening out new ones. Rs 208-12-0 were realized by the sale of old tools &c. Statement 5 gives the details of receipts.

16. Expenditure. The charges amounted to Rs 94181-7-0 ⊗ as per margin for which detailed Statements for each each

⊗ Office and General Establishment — Rs 21114-10-10
Dodabetta P.C.'s — " 22325-2-0
Nedivattam — " 23607-10-10
Hooker — " 5131-2-8
Travel — " 1952-8-0
Total Rs 94181-7-0

estate and for the Office and General (Nos 6 to 10) are enclosed.

17. From these Statements it will be seen that the actual expenditure has been less than the estimated expenditure by 14.328 rupees, while the actual receipts have fallen short of what was estimated by 22.260 rupees. This deficiency is due to the heavy fall in the value of the bark which was sold at the last sales.

18. As regards the permanent advance a sum of Rs 1711-15-2 was outstanding on the 31st March last:—

Name of Plantation	Amount Outstanding	
Dodabetta	550	--
Vadavatam	1161	15 2
Total Rs	1711	15 2

This amount has since been refunded.

Cinchona Villa

19. Cinchona Villa was purchased during the year for the use of the Director, but the expenditure entailed on this property is not included in the charges shown above.

20. Permanent Plantations. The following statement shows the number of trees as calculated from Office records, in the permanent plantations at the close of the year.

Name of Plantation	No. of plants in Permanent plantations on 31st March 1883.	No. of trees uprooted	No. of trees Supplied	No. of plants planted out Permanently	Balance
Dodabetta	372749	1558	5605	123717	489303
Vadavatam	236580	1379	9330	84539	298610
Hooker	255482	6872	19	86260	334851
Wood	102984	2064	3983	95743	192680
Total	967795	23673	18937	390259	1315444

21. It will thus be seen that 1315444 trees existed on the Government

Government Cinchona
estates on 31st March
1884 as against 967.795
in the previous year, but
it must be recollected
that quite half of this
number, if not more, con-
-sist of young plants,
which will take some years
to come to maturity.
The reason why so many
more plants are to be
found now than existed
formerly upon the same
extent of ground is that
the trees are planted out
4 feet x 4 feet instead
of 6 feet x 6 feet.

22. Dodabetta. The
trees on a considerable portion
of this plantation at
the close of the year
looked in fine condition,
but on some of the
older and more exposed
sites, there were so many

Signs

signs of the trees having pa
their prime that I have dir
that they should be coppic

23. The cinchona "Carthage
plants, which were put o
last year, have made but
little progress, and I do no
think that this species wo
thrive at this high (700
elevation.

24. The cinchona "Santa
was proving a complete
failure when I put t
single surviving plant
into the hands of Mr
Jamieson, the Curator
the Government Gardens
and Parks. Since tha
time the plant has st
improved and Mr. Jam
has been able to raise fi
it seven healthy cutting

25. The seed of Cinchon

Ver

Verde and Morada, which was bought last year from Mr Christie, was also raised by Mr Jamieson in the Garden propagating houses, and when ready will be planted out in the nurseries at the Wood plantation.

26. To prevent damage from the trespass of cattle I have put a wood and wire fence round about three fourths of the whole estate.

27. Naduvatam. The trees on a large portion of this estate present as at Dodabetta a fine appearance, but as on that Estate, so here there are many plots on which the trees show unmistakably that they have passed their prime. I have therefore issued directions that all such plots shall be coppiced. But in order that there may not be too great a felling take place at one time, I have ordered that the coppicing should be spread over several years.

28. I purpose taking advantage of the opportunity which this change in management will afford, of confining to particular plots, particular varities of cinchona. At present all the different kinds are intermixed, and the result of this is that some kinds grow more quickly than others, those which are of slow growth have a tendency to get smothered. The harvesting of a crop of a mixed plantation is attended also with more expen

expense than is that of an unmixed one. Perhaps a still more important reason for keeping the different varieties seperate is, that, while at present the statements which are made of the number of any given kind of Cinchona on an estate are little more than guesses, in the future I shall be able to inform Government very exactly.

29. C. Carthagena cuttings were planted out below the new store house, and are doing well.

30. 84,539 plants were planted out, besides 15,987 as renewals. The young plantings of 1882-83 did extremely well and the plots are really in a very fine condition. I regret, however, to have to report that the planting in Denison et. II proved almost an entire failure owing to the depradation of Sambur. I have now erected a wire fence around this block, and therefore hope that the current years renewed planting will prove as successful as were those of the previous year in the other plots.

31 I may remark in passing that the Cinchona Succirubra in the year under report blossomed to a very small extent in comparison with previous years.

32 Hooker. This estate, which in past years has been sadly neglected, presented so deplorable a condition that, I proposed that it should be abandoned. As, however, it was thought that this proposal might have been made upon conclusions arrived at too hastily, it was decided that it should be retained, and I

I have, in accordance with this resolution, commenced the renovation of the plantation. Owing to a severe hailstorm in April 1883 which stripped them of all their leaves nearly the whole of the C. "Succubra" were so injured that they had to be uprooted at once in order that the bark upon them might not be lost. The land upon which these plants stood has been pitted and I propose replanting it with C. "Robusta" - a variety which has proved itself to be more tolerant of cold and wind than C. "Succubra".

33. 191.000 plants of C. Officinalis were planted out during the year, of these 104,740 were renewals. But as the trees amongst which they are planted are so few in number and so meager; these may very fittingly be regarded as new plantings also.

34. Speaking generally this estate is greatly exposed to wind from the South West to mitigate the evil effects of this I propose to protect the worst parts with thick shelter belts of "Populus deltoidea".

35. Wood. This estate, like the last, has been sadly neglected. It has also greatly suffered from the ravages of Sambur. I proposed that, on this account, it should be abandoned, but as this suggestion was not approved I have commenced its renovation, and I hope that in two or three years to make it a valuable estate. Its position with respect to the winds of the South

South-West monsoon is more favorable than that of Hooker, and the soil in many parts of the estate is deep and rich.

36. I have placed a rough fence round the whole of the plantation, and this, with the occasional help of a shikari will, I hope, be sufficient to keep the Sambur away.

37. At the present time there are very few old trees on the estate, and those which do exist are in so unhealthy a condition that the yield of bark from these will be extremely small.

38. I purpose disregarding altogether the trees which are at present standing and intend planting in broad stretches the following varieties viz:- C. officinalis in the higher parts of the estate C. Magnifolia and

and C. Robusta in the more exposed and less rich soils, while on the best and more sheltered and lower parts of the estate I propose filling up with C. Ledgeriana C. Morada and C. Verde.

39. 99,566 plants were put out on the estate during the last year. Of these 95,743 were first plantings - i.e. - they were planted upon those portions of the estate, where the original Cinchona trees had been uprooted. The remaining 3,823 were renewals.

40. Up-Keep.

(a) Conservancy. Dodabetta. The usual weeding was carried on throughout the estate.

41. In those steeper parts of the estate and especially on slopes, where the trees have been

been coppiced, and where therefore the loose earth is more exposed to the action of rain, stone revetments have been built to prevent the soil from being washed away. The ordinary re=pairs have been carried out in the case of all roads and drains.

Naduvátam In addition 42.
to the usual works connected with "up-keep", and which have been carried out efficiently, a wire fencing has been placed all round those parts of the estate, which were infested by samber or exposed to the trespass of cattle.

Hooker and Wood. The 43.
main roads and drains have been put into repair on both these estates. But owing to the very neglected condition of these

these estates (of which I have made mention above) I have only attempted to put portions of them in order so far as the weeding and other works go. I propose, in order that the work may be done thoroughly and not involve to great an outlay of money in any one year, to spread the renovation of these two estates over the next three years.

44. Manure.
Dodabetta. 31500 Cinch trees were manured with stable manure and 19500 with poudrette obtained from the Ootacamund Municipality. The previous years application of poudrette to the trees has resulted in their vigorous growth.

Nadavatan

Nadiwatane. Plots 18 to 21 were manured with cattle dung. The above plots were all young plantings and the growth of the plants on them since the application of this manure is very noticeable. The effects of the patent manure, ordered in G.O. no 962 dated 21st June 1881, and referred in para 17. of the last years Administration Report, recorded in G.O. No 1427 dated 19th November 1883, are still invisible, but samples of bark have been collected from the trees so manured and are being retained for analysis by the Government Chemologist who is shortly expected.

The result of the analysis will be reported in due course. The manure collected from the newly erected Chatham and other places is now ample for all the requirements of the estate

46. Hooker. Plots 2 and 3 were treated with farm yard manure, the result being that the young plants have made good growth.

47. Wood. No manuring operations were carried on, but large quantities of manure were collected by the herding of Toda buffaloes in the estate kraals. This, however, I have put a stop to, as the rent paid to the Todas for stalling their cattle was too high, and the distance from the estate at which the cattle were stalled

stalled rendered the carriage of the manure very expensive. I have instead ordered the purchase of 25 head of cattle at Rs 20 per head for the sole purpose of making manure for the teas on the plantation.

48. Nurseries.

Dodabetta. 39 000 plants and seedlings as per margin were sold to the public and 650 plants were sent for experimental purposes to Malabar and Mudamalai. 9 3/4 lbs of C. seed were sold to the public. A large quantity remained on hand at the close of the year under report. All of this I had destroyed, as towards the end of the monsoon I found that it was being attacked by weevils and mould.

5000 plants
34 000 seedlings
39.000

Nadwatam

49. Nadwatam. 36.000 plants and 339.000 seedlings were sold to the public. Besides the above the following plants were supplied to the Forest Department for experimental purposes at Calicut and Mudumalai.

810 C. Pubescens
750 C. Succirubra
530 C. Calisaya var Ledgeriana
10 C. Carthagena

390 lbs and 4½ oz of Cinchona seed were sold to the public. The great demand of the past year was for seed of C. Magnifolia and Pubescens.

50. Hooker and Wood. The nurseries on these estates were well stocked with plants and seedlings which will be used for replanting up the decayed portions of the plantations

plantations.

51- Crop. The total crop of all 4 estates amounted to 186,652 lbs of dry bark including 2887 lbs of bark, the balance on 31st March 1883.

Nadumatam

Natural Red	28.600 lbs
Mossed — " —	5.600 "
Renewed — " —	30.200 "
Branch — —	13.500 "
Root — " —	4.300 "
Sheid — —	410 "
Crown bark — —	30 —
Calisaya — —	600 —
Pubescens — —	900 —
Samples	42 —
Total	97.152 —

Dodabetta

Renewed Crown	19.600 lbs
Mossed — —	11.500 —
Natural — —	23.400 —
Branch — —	8.050 —
Root — — —	500 —
Magnifolia bark	20 —
Total	63.100

Hooker

Hooker

Natural Red	4.900 lbs
Mossed — " —	700 — "
Renewed — " —	5.600 — "
Branch — " —	2.600 — "
Root — " —	2.300 — "
Crown bark	300 — "
Total	16.400 — "

Wood

Natural Red	2.200 lbs
Mossed — " —	500 — "
Renewed — " —	4.200 — "
Root — " —	400 — "
Branch — " —	600 — "
Dust	920 — "
Crown bark	1.180 — "
Total	10.000 — "

Grand Total 186.652 lbs

52. Dodabetta. The crop for the year under report was the largest harvested since the beginning of the enterprise. The cause of this great increase is due to the fact that I coppiced 2 blocks

blocks (№ 5 and 6). I did this because I found that the trees on these tracts were very sickly, and it appeared to me certain that they would shortly die.

52. 243 trees were operated on as follows:-

Stripped	44.623
Shaved	459
Coppiced	5.604
Uprooted	1.557

53. The difficulty of obtaining moss in sufficient quantities is yearly increasing and, considering that in a few years more very many private estates will come into bearing, I have turned my attention to the shaving system, and which I hope will prove successful.

54. Nadukatam. The crop for the year amounted to 113.552. This was collected from 22.830 trees, which were treated as below:-

Stripping System	50
Coppicing —	9.330
Uprooting —	13.179
Shaving —	271

55. Hooker and Wood. The chief system of harvesting was by coppicing and uprooting.

56. In the former estate 6872 trees were uprooted owing to the injury caused to them by the severe hailstorm, which occurred in April as stated in paras 9 and 32.

57. The bark was disposed of as follows:-

Shipped to the Home market	30.510 lbs	
Supplied to Bombay Medical Dept.	1.000 —	
— Local sales	62.616 —	
	94.126	
Balance on 31st March 1882	92.526	
Total Crop	186.652	

There

58. There were three sales by public auction at Madras during the year, namely in December January and February, when 6266 tbs were sold. The prices realized on each occasion were very much lower than at any of the former sales - e.g. the upset price in the December's sale of renewed crown bark was 265 Rs, the reduced price Rs 199 and even then the bark was bought in. In the January sale the upset price was 182 Rs, the realized price 136 Rs as against Rs 265/- realized in the first sale. In every discription and variety of bark the fall in prices was very great, and

and I feared that the sale of bark in Madras would have to be discontinued on account of failure. Since then I have learnt that the low prices which were obtained, were due entirely to the great fall which had taken place in the value of bark at home, and that when compared with the prices realized in England, those obtained in Madras were satisfactory

59. I enclose a statement showing the variation in the prices of bark from which it will be seen that the fluctuations of the past 7 sales have been (Appendix 16).

60. It would appear that there were several causes operating which resulted in the fall in the value of bark.

/ 4

1st The enormous amount of cinchona, which is now grown in all suitable parts of the world, has brought about the natural result of making bark cheaper.

2nd For advantages, supposed or real, to be gainrd, the manufacturers of the cinchona drugs have of late (as will be seen from a letter from Messrs Oakes & Co quoted below*) been preferring to buy South American rather than Indian barks.

3rd The manufacturers being few in number have been able to restrain the market.

The

* Messrs Oakes & co's letter dated 27th February last. "After Monday's sale we undertook to wire to you the

61. The first cause of the depreciation of the value of bark cannot but be a source of congratulation to Government; while the two last

the offers received for the unsold lots, but at the same time expressed our opinion that the seriously reduced prices of bark as represented by the offers would probably be unacceptable to the Government and in any case would prove a discouragement to the holding of further auction sales, which had hitherto proved greatly to the convenience of manufacturers agents here and profitable to the Government, as compared with the result of the shipping the produce to England. Our opinion appears to have been telegraphed to Europe

last might to a large extent be obviated in the future by the establishment of a manufactory for the extraction of cinchona alkaloids in this country, and by using every possible means for the extension of the market for a cheap febrifuge in those parts of the Indian Empire, which are most afflicted with malarious ailments.

A.C.

---

to Europe and a reply has been received to-day resulting in the enhanced offers accepted by us. We are convinced that the prices are considerably above the parity of prices of cinchona bark in Europe, and are naturally gratified at the results.

62. All, even the poorer classes of natives, are becoming acquainted with the efficacy of Quinine as a febrifuge, and seek for it greedily; but the present price of the alkaloid is far beyond the reach of any but the rich and, therefore, before cinchona can be brought to the doors of the many-buying poor, some method must be discovered, by which the medicinal virtues of the bark may be extracted in a manner that shall render the sale of it cheap, and at the same time be profitable to the grower... Pending the discovery of such a method, I would suggest for the consideration of the Government Medical experts whether it might not be of advantage to supply the local dispensaries with crude bark to be used, as it was in old times.

J

63. I regret to report that the packing presses which were bought from Wm. Groves & Co are not giving as much satisfaction as might be desired. The bark is packed more quickly with less expense and in better form by the old system of wooden boxes and rammers.

64. Building

1a New. Dodabetta. Two sets of cooly lines (five huts in each line) were erected during the year — one near the old tea garden and the other in Number I Plantation. Owing to the want of sufficient accommodation for the storage of bark I have arranged that a cattle shed situated on the jail premises should be converted into an additional store-room.

Naduvatam

65. Nadvatam. The new drying shed and store houses which were sanctioned in February 1881. have at last been handed over by the Public Works Department.

66. The drying shed is of inferior construction and the flues, which were first put in split up throughout half their length shortly after the fires were first lighted. These flues have now been repaired and the furnace lined with a better sort of brick.

67. The store-houses and packing sheds are of very superior construction when compared with the drying shed and I have no doubt but that they will be lasting.

68. These works have cost about Rs 40.000.

Repairs

69. (b) Repairs.

Dodabetta and Wood.

The usual annual repairs to all the permanent buildings were carried out.

70. Naduvatam and Hooker. At Naduvatam the Chatram the roof of which had been injured by the high winds of the South-West monsoon, was put into a state of repair.

71. The walls of all the permanent buildings were covered with grass tatties to protect them from the driving rain of the monsoon.

72. The roof of the new drying shed as also that of the new store rooms has been covered with a thick thatch in order to prevent the drip, which was occasioned by the condensation of moisture whenever the fires were lighted.

73. As the new drying shed was not completed in time to allow of my using it during the time that the crop was being harvested it was necessary to temporarily repair at the cost of Rs 500, the old shed. These repairs consisted mainly in covering the decayed zinc sheets of the roof with tar and sand, and in protecting the roof with a further covering of mats and grass thatch, in repairs to the walls, especially to the partition wall, which was said to be in a dangerous condition. The furnaces had also to be rebuilt.

74. (c) Experiments.

Dodabetta and Wood.

In

In plot 28 of Dodabetta 457 trees were treated under the Java method of slicing. The result will be reported in due course. The following statement shows the present condition of those plantations which were coppiced in 1879 - on both estates.

Plantation	Plot	Acreage	Number of trees coppiced	Number of trees sprouted	Number of failures	In 1882-83 maximum height	In 1882-83 maximum girth	In 1883-84 maximum height	In 1883-84 maximum girth
Dodabetta	XI	5·00	3356	3201	155	8¾'	6¾"	9¼'	7"
	XXVIII	5·00	2493	2096	397	8'	6"	8¼'	6¼"
Total		10·00	5849	5297	552	...	...	...	...
Wood	VIII	5·00	2540	1302	1238	15'	11½"	15'	12"

75. Nadurvatam. Some small portions of the plantation which had been coppiced in 1879 were re-coppiced in the spring of 1881 - The result was most satisfactory in so far as most of the trees sent up young shoots; many of these, however, I regret to say were afterwards destroyed by Sambur: I propose filling up the vacant places with plants, which have been established in baskets.

76. The coppices of 1879 especially that on plot No VII is as I have said above very promising, the accompanying statement will show how few in number the failures have been if we exclude plot XXIII ⊛.

⊛ The number of failures in this plot was due in part to the proximity of the coffee land to the forest commenced clearing by Sambur and cattle.

Name of Plantation	No of Sub-Division	Acreage	No of trees coppiced	No of Stools with shoots	No of failures	maximum height	maximum girth
Nadurvatam	I	0·65	200	140	60	11'-5"	0'-7"
	VI	0·25	56	50	5	20'-0"	1'-3"
	VII	0·75	2263	2081	182	19'-6"	1'-4"
	XXIII	5·00	2628	1586	1042	16'-9"	1'-1"
Total		10·65	5147	3857	1290	...	...

77. Several experiments under the various systems of cropping were carried out, the results of which are

are being noticed and re=
=corded. Samples of bark
from each tree under
each system are being
retained at the Office for
analysis by the Zymologist
who is expected shortly.
The results will be reported
to Government in due
course.

78. Labor.

Labourers were plentiful
on all the plantations, but
a large number of the more
experienced Canarese coolies
were enticed away by the
high wages, which were paid
at the Gold mines of the
Wynaad.

79. General remarks.

Subordinate Officers.

The subordinate officers have,
without exception, performed
their duties efficiently and
heartily.

80. Fuel supply. The
different sholahs upon which
the

the estates have been hither
-to dependent for fuel are
now nearly exhausted, and
in another two years at
the furthest I shall have
to buy. I aim therefore
, replanting the sholas with
Eucalyptus and acacia
melanoxylon, with the
view of making the
estates again self-suppor
-ing in this respect as
soon as possible.

81. Seed. I received
at the beginning of the
year many complaints
from purchasers that the
seed which they had bought
during the previous year,
was bad and that a very
small portion of it germi-
-nated. The cause of the
badness of the seed was
probably due to its being
carelessly picked off the
trees, and to its being dried
at too high a temperature
in the drying shed. I
have no doubt but that
the

the excessive severity of the monsoon during the harvesting season in that year was a great difficulty and not properly allowed for. To prevent a repetition of this evil, I have laid down special rules for gathering and drying the seed, and there will for the future be no difference in the quality of the seed which is sold to the public and that which is used for the purposes of the estates.

82. Plantation Books

I have to report that I have made no progress in the compilation of Plantation books. The various transactions on the estates are now carefully recorded, and with the sanction of Govetamsnt I propose not altering the present system intil the changes, which I am making in the arrangemsnt of the trees on the different plats of the several estates are completed.

Doctor

Papers 135 D
Blank sheet

133 1/12/

83. Doctor Trimens visit.

In May last Dr. Trimen, Director of the Royal Gardens, Peradeniya, Ceylon, was invited by the Madras Government to visit Ootacamund, in order that I might confer with him on certain vexed questions relating to the names of some of the varieties, which are grown on these hills. We went over all the estates in company with Dr. Bidie and Mr. Gass and examined very carefully all the trees about which doubt existed. The result of our inspection was that we were able to settle most of the questions, and this has already been made known to you in Dr. Trimens Report dated 30th June 1880.

84. Amsterdam Exhibition

I have to record that the authorities acting on behalf of the

the Amsterdam exhibition awarded the Gold medal to the Madras Government for the best collection of specimens of Cinchona, or rather that they thought that the Collection deserved a gold medal, but that if the Madras Government desired to have the medal, they must pay for it the sum of £20.

85. The medal was presented by Government to Mr. Gass whose past careful attention to every thing connected with the Cinchona estates rendered him well worthy of the honor.

I have the honor to be

Sir

your most obt. servant

M. A. Lawson.

Director

1884.

Revenue Department

No 4437.

197

From

The Director.
Govt. Cinchona Plantations
Gardens & Parks
Nilgiris

To

The Secretary to Government
Revenue Department
Ootacamund

Dated
Despd
Recd } July 1884

Encl: 17.

Subject

Forwarding Administration Report on the Govt. Cinchona Plantations, Nilgiris for the Official year 1883-84.

Statement shewing the expenditure incurred on buildings &c on account of the Government Cinchona Plantations on the Nilgiris during the year 1883-84.

Item No.	Division.	Name of Work	Estimate.	Outlay during 1883-84
1	Nilgiri	Purchase of the Cinchona Villa Property, repairs and other & incidental expenses, Ootacamund	17,000	16,986 13
2	— Do —	Constructing Cinchona building Nadavattam.	38,220	13,393 6 1
		Total		30379 7 4

Madras
14th August 84.

D. D. Cunningham
Exam: P. W. Accounts.
Madras.

Mad
14-8.

MBL
14-8-84

141

REVENUE DEPARTMENT.

No. 334

OFFICIAL MEMORANDUM.

The undersigned is directed to request that this Department may be furnished with a list shewing the expenditure incurred from the Provincial Public Works Budget in 1883-84 for buildings &c on account of the Government Cinchona Plantations on the Nilgiris.

Ootacamund
9th August 1884

H Cleghorn
Secretary to Govt

To
The Public Works Dept.

Rev. 53 5/84

No 349 of 14th Augt/84.

To W. Encl: 1.

Herewith a Statement giving the information you require.

DC

No 485 E. 1a

Ootacamund, Augt 15th 1884.

Transferred to the Secretary to Govt. Revenue Department

15.8.84. Mard Lamont Col R.S. Asst. Secy. to Govt. S.I.S.D.

Rec'd 16-8-84

No 455 E.

Ootacamund, August 11th 1884.

To C

R. No 325 13.8.84.

Please furnish the required information, as soon as possible.

Ill. 11-8-84

W

Transferred

F.W. Defarteid

8 AUG 1884 W. ACCOUNTS

11 AUG 84 SECRETARIAT

REVENUE (188/p) DEPARTMENT.

No. 553

Enc. 2

From Asst. Sec. to G. Dehra Dun

Dated 15 August 1884

Recd. 15 August 1884

No. 1855

SUBJECT.

Forwarding a statement showing the receipts and charges on account of the Government Plantations on the Nilgiris during the year 1883-84

Mrs. K.C.

Lodged.

No. II

147 / 2

Statement showing the Receipts and Charges on account of the Government Chinchona Plantations, Nilgiris for 1883-84, calculated in accordance with orders of the Secretary of State – Vide G.O. No. 1163 dated 23rd October 1883.

Dr.

	Rs.	as.	p.
To value of stock at 31 March 1883 of 2887 lbs @ 10 as. 3·3½/5 per lb.	1,855	2	·
To Establishment & working	911	1	·
† Profit on the year's working	52781	10	2
	~~55,547~~	~~9~~	~~0~~
Total	148818 / ~~148,054~~	3	2

Cr.

	Rs.	as.	p.
× By value of stock at 31 March 1884 of 92,526 lbs @ 8 as. 2·402 per lb	47,420	8	1
By value of 5,900 lbs of bark at cost price, freight & charges & manufacture of product	4,555	2	7
By value of ~~34,681~~ 25,681 lbs of bark at cost price awaiting disposal at home	16502	4	9
	~~20,995~~	~~2~~	~~2~~
By value of 30,510 lbs of bark sold at home	18,142	10	2
By value of 1000 lbs of bark supplied to the Bombay Govt.	1740	·	·
By value of 62,616 lbs of bark sold locally	55896	10	5
By sale proceeds of seeds & plants	4,352	6	8
By Miscellaneous receipts	208	12	·
Total	148818 / ~~148,054~~	3	2

× In 1883-84 the cost price of 1 lb of bark is 8 Annas 2·402 pie i.e. Rs. 94181-7-· expenditure ÷ 183765 lbs of bark, crop of the year.

† If the produce had been taken credit for at its market value an additional sum of Rs 3528-13-7 would have been realised & the whole profit for the year would be Rs 52781-10-2 + 3528-13-7 = 56,310-7-9

NOTE FOR Coal Office.

F.D. No. 1050——

The pencil & alterations in the Cinchona Report have most of them been followed. But as I have doubts (where I have marked queries) I have submitted a proof to the F.O. for approval. Can Cur. No. 5353 stand as it is printed now, or Encl. No. III after the order? It is invariably necessary that all Cust. Nos. should be read before the order & in this case, is the order passed on this Current No. too?

BR 25/9/54

Rev: Dept:

Draft G.O. No. 1050 of 17. 9. 84.

Read the following despatch

Administration Re-
port of the Govt. Cinchona
Plantations, Nilgiris, for the
year 1883-84, dated 7th July
1884.

Govt. No. 4437.

Govt. No. 5353.

Send Govt. & Rev. Dept. for any statements of the expenditure incurred on buildings on account of Govt. Cinchona Plantations on the Nilgiris 1883-84.

The Director of Govt.
Cinchona Plantations,
Parks and Gardens, Nilgiris,
took up the duties of his
appointment ~~on the~~ on the
18th June 1883, prior to which
date the plantations remain-
ed under the care of the De-
puty Conservator of Forests.
The Govt. note with satisfac-
tion the punctuality with
which

which Mr. Lawson's first annual administration report has been submitted.

2. State of the season.

The season was on the whole fairly favorable, though many of the younger plantings, especially on the Dodabetta Estate, suffered severely from the frost and the drought which followed. On the Horner estate much damage was also done by a hail-storm, which killed nearly the whole of the C. Succirubra besides injuring much of the C. officinalis. It is satisfactory to note, on the other hand, that the older plantations did exceedingly well, and especially that the Kadu-vatam plantation, which had suffered so much from the storms and winds of 1882-83, looked very promising at the close of the year under report.

3. Condition of the plantations.

Both at Kaduvatam and on the Dodabetta Estates the trees presented generally a fine appearance, but on some of the older plots there were signs that the trees had passed their prime, and it was therefore decided to coppice them. This was done at once over two of the Dodabetta blocks, while at Kaduvatam it was resolved to carry out the operation gradually during a series of years. In replanting vacant plots advantage will be taken of the opportunity to combine particular varieties to particular plots, as it is found that the intermixture of different kinds leads to the unthriftiness of three of slower growth, and as the harvesting of

* In the Culcutta Estate a large number of trees were uprooted

of a mixed is more costly than that of an unmixed plantation. Under the proposed system cross-fertilization will be avoided and it will also be possible, as it is not at present, to ascertain the number of plants of each description with ease and accuracy.

The proposed reduction of the present system of book-keeping pending the complete carrying out of this scheme is approved.

4. It is observed that C. Carthajena and C. Santa Fé do not thrive at Dodabetta, the elevation being too great, but that the former variety is doing well at Kadavatam. The sole surviving plant of C. Santa Fé has been removed to the Govt. Gardens, Ootacamund, and has since shown steady improvement.

In

5. In consequence of past neglect and of their exposed situation, the condition of the Hooker and Wood plantations leaves so much to be desired that their entire removation by means of more hardy varieties has been resolved on. It is hoped that in the course of two or three years these estates will become really valuable once more.

6. The new drying shed and store houses at Kadavatam were completed during the year and two sets of cooly lines erected at Dodabetta. Wire fences have been placed round a considerable portion of the Kadavatam and Dodabetta Estates in order to prevent the ravages of Sambur and Cattle, and

with

with the same object a rough fence has been erected round the whole of the Wood plantation. It is observed that the packing grasses bought in the previous year failed to give satisfaction and that their use has been abandoned.

7. The total number of trees at the end of the year was 13,15,446 against 7,67,795 on the 31st March 1883, but of these it would appear that fully half are comparatively young plants. The number of new plants permanently planted out during the year was 3,90,259, exclusive of renewals. The new trees have been planted 4 feet × 4 feet apart, instead of 6 feet × 6 feet as hitherto.

8. Use of Manures. - At Nadunatam the trees on four plots were manured with cattle-dung, the beneficial results of which are reported to have been very noticeable. The effects of the artificial manures (crushed bones, poonac, &c.) applied in April 1883 are still imperceptible, but samples of bark have been collected from the trees so treated and will be analysed in due course. Stable and farm yard manure was also used on the Dodabetta and Kothur plantations with good results, and the application of manure to a number of trees on the former plantations in 1882-83 is stated to have resulted in their vigorous growth.

9. Sale of plants and seedlings. - A large number of plants and seedlings were raised during the year, and 41,000 plants,

373,000

373,000 seedlings, and 2,185 lbs of seed were distributed to the public, realizing Rs 4,352. The chief demand was for seed of the hybrid varieties C. Magnifolia and pubescens.

10. Crop. The crop of the year was 183,765 lbs of dry bark against 1,29,712 3/4 lbs in 1882-83, the increase being due to the large amount of coppicing and uprooting that was found necessary. Excluding the balance on the 31st March 1883 the available quantity was 186,652 lbs, of which 94,126 lbs were disposed of as shown in the margin, the balance remaining in stock.

	lbs
Shipped to the Home market per S.S. Lucca	30,570.
Despatched to Bombay Medical department	1000.
Locally sold	62,616
	94,126.

11. The home shipment was sold in London in January 1884, the gross proceeds averaging 1s. 1½d per lb and the net price obtained, after deducting expenses in England, amounting only to one shilling per lb, or little more than the cost of production in India. Under these circumstances it was suggested by the Right Honourable the Secretary of State that it would be better to sell the bark in this country and thus save the cost of freight and insurance, which amounted in the case of the particular shipment referred to to 13·8 per cent on the gross proceeds. The prices obtained in Madras, although lower than in former years, compared favorably with those of the home market, and it was therefore resolved

to

to accept the Secretary of State's recommendations and to adhere for the present to the policy of local sales. It is observed that some 25,681 lbs of bark shipped home by the S.S. "Teheran" and "Peshawar" in February and April 1883 are still awaiting disposal.

12. Receipts and Expenditure. The receipts, as reported by the Director, amounted to Rs 80,340-7-3 under the marginally noted heads. To the first of these, however, must be added the sum of Rs 7320-1-0, being the estimated net value of 393 pounds of febrifuge into which the shipment per S.S. "Ravenna" in 1882-83 was converted. (vide the Secy. of State's despatch read in Govt. 4th June 1884, No 705-Revenue). The total receipts of the year were thus Rupees 87,660-8-3, against a budget estimate of Rs 4,10,000* and a revised estimate of Rupees 1,02,600.† The difference is due partly to the injury sustained by the plantations during the previous season and partly to the great fall in prices.

	Rs.
Proceeds of home sales	4,01,000.
Supplied to Bombay Medical Department	1,500.
Sale of plants &c	7,500.
	4,10,000.

	Rs.
Proceeds of local sales	97,600
Sale of plants &c	5,000
	1,02,600.

	Rs. a. p.
Proceeds of home sale (£1492-19-9 at 1s 7 3/4d per rupee)	18,142-10-2
Proceeds of local sales	55,896-10-5
Value of bark supplied to Bombay Medical Depts	1,740-0-0
Sale of plants &c	4,352-6-8
Miscellaneous	208-12-0
	80340-7-3.

† This is calculated on following value of a pound of febrifuge (Sanjeelung) in rupees at par is given in the Commissariat Annual Accounts, to which is added 21.0 per cent to cover loss by exchange, and from this value three annas per are deducted the costs of manufacturing &c by the Bengal Medical Department, leaving the net value of Rupees 18 per pound.

The blanks will be filled up on receipt of the information from the Board. It has already been called for. The Director will be consulted by the Govt. of India when drafting the Resolution on Cinchona Vide.

13. The expenditure amounted to Rs 94,181-7-11 against a budget estimate of Rs 1,00,500 and a revised estimate of Rs 1,05,800. To this figure must, however, be added the sum of Rs 30,379-7-4 expended by the Public Works Department in the construction of the new buildings at Naduvattam and the purchase and repair of Cinchona Villa as a residence for the Director. The total charges incurred during the year in connection with the plantations amounted thus to Rs 1,24,560-14-4.

14. Seventeen tabular statements accompany the Director's report.

report. It appears to the Govt. that the number of these might easily be reduced without any sacrifice of information. The four rainfall statements might be compiled into one on a single page of foolscap paper without omitting any of the details now given. Similarly statements 7 to 10 might be superseded by a single statement showing the annual totals under each item of expenditure, the heading "acres" in column 1 being altered into "name of plantation." So again in statements 11 to 14 the particulars of trees barked, coppiced &c. on each plot are not required and these statements should, if possible, be amalgamated, the heading "number of plot" being altered into "name of plantation."

Blanks pending information from P. Wds.

15. The statement of Capital and Revenue account appended to this review shows the financial results of the Cinchona enterprise from its commencement to the close of 1883-84. The net result is a surplus of Rs 6,31,489-12-7 ~~9,17,128-8-6~~ In this statement credit has been taken for the values of products manufactured in England at market rates as ascertained from the Examiner of Medical Accounts, less cost of freight, manufacture &c., as advised by the Secretary of State. The reasons for the adoption of this course were given in the order reviewing the report for 1882-83.

No credit has been taken in this statement for interest in receipts, as was erroneously done in former years, while on the charges simple interest only has been allowed for, in lieu of compound interest as hitherto. ~~This mode of~~ This mode of calculation is in accordance with the practice followed in the Public Works Dept. in regard to remunerative public works, and is perhaps somewhat more accurate than the method hitherto in vogue.

16. Statement No. II shows the receipts and expenditure of

of the year calculated in the manner directed in the Secretary of States despatch No. 31 dated 14th September 1882.

17. The suggestion at the close of para 62 of the report will be referred to the Surveyor General for remarks.

G.V.N. 15/8.

For the Director Govt Cinchona Plantations Parks & Gardens, and Lyons
16 " Board of Revenue
25 " Director of Rev. Salt & Abkari
3 " Supdt Govt Central Museum
6 " Asst Secretary
21 " P. W. Dept "
6 " Surveyor General to the Govt of Madras
5 " Honorary Secretaries Agri-Horticultural Society
5 " Financial Dept

Nos 10. 11. 12.

15
12

No I

Statement shewing the Capital and Revenue Account of the Govt Cinchona Plantations, Nilgiris, from the commencement upto the Official year 1883-84.

Year.	Charges. Establishment including Superintendents salary	Building and plant	Working charges departmental labour	Working charges convict labour	Total	Total outlay to end of year	Simple interest at 4½ per cent on outlay to end of previous year plus half outlay during the year.	Total of cols 6 & 8	Receipts. Value of bark supplied to Zoological	Value of bark sent to Govt land & supplied to other Government or departments.	Sale of plants seeds &c.	Total.	Net Revenue (difference between cols 9 & 13) Surplus	Deficit.
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15.
1860-61	"	"	"	"	4,821 15 0	4.821 15 0	108 7 11	4930 6 11	"	"	"	"		4.930 6 11
1861-62	"	"	"	"	22,914 15 4	27,736 14 4	732 9 2	23,647 8 6	"	"	"	"		23.647 8 6
1862-63	"	"	"	"	48,390 0 0	76,126 14 4	2.336 15 0	50.726 15 0	"	"	"	"		50.726 15 0
1863-64	12,726 14 7	"	"	"	53,173 9 2	1,42,027 6 1	4.908 7 7	70,808 15 4	"	"	"	"		70.808 15 4
1864-65	24,444 8 11	"	"	"	59,666 12 0	2,26,138 11 0	8.283 11 9	92.395 0 8	"	"	"	"		92.395 0 8
1865-66	25,449 14 0	3,700 0 0	58,887 5 0	"	88,037 3 0	3,14,175 14 0	12,157 1 4	1.00.194 4 4	"	"	"	"		1.00.194 4 4
1866-67	23,803 9 10	3,025 0 6	52,632 0 0	48,666 10 8	1,25,127 4 6	4,42,303 2 6	17,020 12 6	1,45,148 1 0	"	"	2,450 0 0	2,450 0 0		1.42,698 1 0
1867-68	26,057 3 1	2,600 0 0	43,295 14 4	48,666 10 8	1.20,649 12 1	5,62,952 14 7	22,618 3 6	1,43,267 15 7	"	287 8 0	"	287 8 0		1.42980 7 7
1868-69	25,671 7 10	2,030 0 0	30,636 1 0	48,666 10 8	1.07,004 3 6	6,69,957 2 1	27,740 7 8	1.34,744 11 2	"	"	1,680 0 0	1,680 0 0		1.33,064 11 2
1869-70	25,783 5 4	5,334 5 8	19,163 0 0	"	50,280 11 0	7,20,237 13 1	31,279 6 2	81,560 1 2	1512 6 4	"	"	1,512 6 4		80.047 10 10
1870-71	23,730 5 4	300 0 0	6,143 0 0	"	30,173 5 4	7,50,411 2 5	33,089 9 8	63,262 15 0	4,364 14 8	"	323 14 0	4,188 12 8		58,574 2 4
1871-72	17,157 5 4	3,250 0 0	13,160 4 9	"	33,567 10 1	7,83,978 12 6	34,523 12 5	68,091 6 6	9,542 12 8	3,479 3 6	"	13,022 0 2		55,069 6 4
1872-73	12,724 0 0	550 0 0	16,441 0 0	"	29,715 0 0	8,13,693 12 6	35,947 10 2	65,662 10 2	16,806 15 8	4,388 2 1	227 1 4	21,422 3 1		44,240 7 1
1873-74	12,574 0 0	2,758 0 0	15,091 14 0	"	30,423 14 0	8,44,117 10 6	37,300 12 2	67,724 10 2	21,136 7 0	36,417 6 3	300 9 0	57,854 6 3		9,870 3 11
1874-75	16,406 8 0	1,700 0 0	17,417 0 0	"	35,523 8 0	8,79,641 2 6	38,784 9 2	74,308 1 2	8,576 0 0	"	273 4 0	8,849 4 0		65,458 13 2
1875-76	17,234 0 0	1,550 0 0	27,423 0 0	"	46,207 0 0	9,25,848 2 6	40,623 8 3	86,830 8 3	"	60,404 7 11	2,000 0 0	62,404 7 11		24,426 0 4
1876-77	8,064 5 4	6,715 8 11	44,850 3 0	"	59,630 1 3	9,85,478 3 9	43,004 13 6	1,02,634 14 9	"	1,07,878 4 0	2,579 3 10	1,10,457 7 10	7,822 9 1	
1877-78	8,061 5 4	5,468 13 8	56,241 10 3	"	69,771 13 3	10,55,250 1 0	45,916 6 3	1,15,688 3 6	"	3,51,746 0 6	5,469 0 2	3,57,215 0 8	241,526 13 2	
1878-79	9,637 2 8	10,090 14 1	53,954 10 8	"	73,082 11 5	11,28,932 12 5	49,144 1 10	1,22,826 13 3	"	3,92,217 10 1	8,136 9 2	4,003543	3,277,527 6 0	
1879-80	10,092 0 0	6,537 4 9	63,095 0 3	"	79,724 5 0	12,08,657 1 5	52,595 12 4	1,32,320 1 4	"	4,24,323 12 8	15,462 12 4	4,39,786 9 0	3,07,466 7 8	
1880-81	11,879 1 0	11,367 0 4	72,858 15 3	"	96,105 0 7	13,04,762 2 0	56,551 14 11	1,52,656 15 6	"	3,33,295 1 3	13,175 4 8	3,46,470 5 11	1,93,813 6 5	
1881-82	16,375 14 6	6,278 4 9	90,921 2 1	"	1,13,575 5 4	14,18,337 7 4	61,269 11 11	1,74,845 1 3	"	5,64,236 3 11	7,653 2 9	5,71,889 6 8	3,97,044 5 5	
1882-83	15,094 14 1	32,247 11 5	50,649 11 5	"	1,06,392 4 11	15,24,729 12 3	66,219 0 3	1,72,611 5 2	"	5,82,003 10 1	4,345 7 10	5,86,349 1 11	4,13,737 12 9	
1883-84	20,083 7 5	35,348 14 5	69,128 8 6	"	1,24,560 14 4	16,49,290 10 7	71,415 7 4	1,95,976 5 8		83,099 5 7	4,561 2 8	87,660 8 3		1,08,315 13 5
Total.	3,63,081 4 7	140,851 14 0	9,99,357 8 0	146,000 0 0	16,49,290 10 7		7,93,573 4 9	24,42,863 15 4	61,939 8 4	29,43,776 11 10	68,637 7 9	30,74,353 11 11	6,31,489 12 7	

17