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Madras Record Office

Revenue Department

G. O. No. 398 Revenue

Dated 4-3-1881

Noted in Index of Standing Orders

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

4th March 1881, No. 398.

READ THE FOLLOWING PAPERS:—

No. 68. From N. A. ROUPELL, Esq., Acting Commissioner of Nílgiris, to the Secretary to Government, Revenue Department, Madras, dated Ootacamund, 25th September 1880, No. 187.

I HAVE the honor to forward the Administration Report on the Government Chinchona Plantations on the Nílgiris for the official year 1879-80.

2. SEASON AND RAINFALL.—The season was favorable to the growth of Chinchona. At Naduvatam and Pykara this year like its predecessor was noticeable for the absence of the usual continuous high winds and heavy rain during the south-west monsoon; on the 12th April 1879, a most violent hail-storm occurred at Pykara doing great damage to Succirubra trees on several plots. The suggestion to uproot these trees was approved in G.O., No. 1,680, dated 11th August 1879. During the latter part of the month of May, the district was visited by a strong gale accompanied by heavy rain which was felt most at Naduvatam where several trees and nearly all the cutcha buildings were blown down. The frost was not so severe as in the previous year and did no damage, although some of the young private plantings within the station of Ootacamund, lying in more exposed sites, suffered to some extent.

The rainfall at Naduvatam amounted to 100 inches against 80 in the previous year; that at Dodabetta to 46 inches against 51 in 1878-79. The appearance of all the plantations at the end of the year was satisfactory.

3. RECEIPTS AND EXPENDITURE.—Statements showing the expenditure in detail on each plantation are enclosed, together with a statement of the receipts for the year.

Receipts.—These amounted to Rs. 3,43,815 against Rs. 4,01,265 in the previous year.

Expenditure.—The total amount expended during the year under report was Rs. 79,724 against Rs. 73,682 in 1878-79, giving a net profit of Rs. 2,64,091.

4. PERMANENT PLANTATIONS.—(*a*) *Number of Trees.*—No addition was made to the number of trees in permanent plantation: 28,259 *Chinchona succirubra* trees on the Hooker Plantation which were injured by the hail-storm, referred to in paragraph 2, were uprooted during the year. *Chinchona officinalis* plants are being planted out in lieu of these Succirubra, as it was found that the former which were intermixed with the latter did not suffer so much by the storm.

The following statement gives the number of trees in permanent plantation:—

Names of Varieties.	Acreage.	Number of Plants.
C. Succirubra	...	232,578
C. Officinalis	...	305,432
C. Calisaya	847·47	552
C. Micrantha	...	1874
Other Species	...	336
Total ...	847·47	540,772

	ACRES.
Naduvatam	10
Hooker	5
Wood	5
Dodabetta	10
Total ...	30

The surviving trees on the abandoned Mailkoondah plantation were uprooted during the year under Orders of Government, No. 794, dated 5th April 1879. Thirty acres of Chinchona as per margin were coppiced, as directed in G.O., No. 795, dated 5th April 1879. The results are given in paragraph 9.

(*b*) *Conservancy.*—The whole of the plantations were as usual thoroughly weeded and the weeds buried near the roots of the trees. Several thousands of renovating pits were dug on the Naduvatam and Pykara estates. At Dodabetta, terracing was done to about 200 acres to prevent further wash from which this plantation has suffered greatly owing to the steep incline. The beneficial results of terracing are already perceptible, and it is therefore contemplated to terrace the entire plantation.

Roads and drains on all plantations received the necessary attention and several bridges at Naduvatam which were destroyed during the rains were rebuilt.

(*c*) *Manure.*—Manure was applied to 7,716 plants on the Pykara estate, 1,000 at Naduvatam, and 6,000 at Dodabetta. Every endeavor is being made to obtain larger quantities of manure this year and with better success than heretofore.

5. NURSERIES.—The issue of plants to the public has greatly fallen off especially at the Naduvatam plantation, owing to private parties having undertaken their propagation and underselling the Government. The demand is not likely to be again large as raising plants from seed appears to be thoroughly understood now. Large nurseries of *C. officinalis* were formed at Pykara for replanting the plots uprooted under G.O., dated 11th August 1879, No. 1,680.

The Calisaya (Ledgeriana) plants referred to in last year's Administration Report have not done well. Of the 1,000 plants at Dodabetta most have, from some unexpected cause, died away. From the second supply of seed of this variety from Java, 7,000 and 4,000 plants were raised at Dodabetta and Naduvatam respectively. These plants are doing well in the heated propagating-houses, but it is feared that they, like others, will die off if put out in the open. Most of the private planters to whom small quantities of this seed were issued have entirely failed in even getting the seed to germinate. The demand for seed from Ceylon is still great.

6. CROP.—One hundred and seventy-nine thousand two hundred and ninety-nine pounds of barks were harvested during the year under report; each plantation giving as follows:—

Dodabetta.

	LB.
Renewed Crown Bark	12,620
Mossed ,, ...	11,420
Natural ,, ...	21,720
Branch ,, ...	2,305
Pubescens	134
Mixed	100
Total ...	48,299

Mailkoondah.

Natural Red Bark	3,905
Branch ,, ...	2,100
Root ,, ...	1,005
Total ...	7,010

Naduvatam.

	LB.
Natural Crown Bark	1,409
Branch ,, ...	104
Renewed Red ,, ...	29,044
Mossed Red ,, ...	10,595
Natural ,, ...	35,087
Branch ,, ...	15,294
Root ,, ...	6,178
Mixed ,, ...	179
Total ...	97,890

Pykara.

Renewed Red Bark	6,944
Mossed ,, ...	3,935
Natural ,, ...	11,187
Branch ,, ...	2,821
Dust ,, ...	201
Natural Grey ,, ...	308
Branch ,, ...	204
Total ...	26,100
Grand Total ...	179,299
Add balance in store at beginning of year	4,635
Total ...	183,934

which was distributed as follows:—

Shipped to the Home Market	173,539
Supplied to the Madras Medical Stores	2,000
,, to Bombay	2,000
,, to Messrs. Smith and Co.	20
In store on 31st March 1880	6,375
Total ...	183,934

The crop of the year was estimated at 140,000 lb. of dry bark, but owing to coppicing and grubbing operations, by which harvesting was carried on without respect to the weather, it amounted to 179,299 lb. The following statement shows the number of trees operated on and the quantity of green bark taken, the average yield per tree being, respectively, Dodabetta 2 lb., Naduvatam $5\frac{3}{4}$, Wood 5, and Hooker $3\frac{1}{4}$ lb:—

Name of Plantation.	Number of Trees.	Green Bark.
		LB.
Naduvatam	33,573	192,978
Hooker	32,187	103,718
Wood	15,579	77,723
Dodabetta	66,149	114,927
Total ...	147,488	489,346

At Naduvatam grass was substituted for moss during the year under report. The trees have renewed their bark under grass quite as well as when covered with moss.

The "Renewed" Bark from the *grassing* process is not old enough to send home for analysis for comparison with the *moss* "Renewed" Bark.

Ten pounds of Natural Crown Bark were supplied to Messrs. W. G. Smith and Co., Chemists and Druggists, Madras, under Order of Government, No. 1,639, dated 6th August 1879, and 2,000 lb. of Red Bark each to the Madras and Bombay Medical Departments.

7. BUILDINGS.—At Naduvatam a new set of permanent cooly lines was started and will be completed this year; the cutcha lines which were blown down by the storm referred to in paragraph 2 had to be rebuilt, and at Pykara, also, three sets of cooly lines which were accidentally destroyed by fire were rebuilt. A new corrugated iron verandah was erected around the drying shed at the Wood estate in place of the thatched one formerly in existence. Twenty new huts were completed on the Dodabetta plantations and a small cottage for the writer was built in No. 1 field.

8. REPAIRS.—The ordinary annual repairs to the permanent buildings in all the plantations were carried out.

9. EXPERIMENTS.—As stated in paragraph 4, thirty acres of land were treated under the coppicing process; the felling began in May and in two months shoots had sprung up from the stools. The shoots are doing well on all the plantations. The following statement shows the result of the experiment :—

Plantation.	Number of Plots.	Area.	Number of Trees.	Age.	GREEN BARK.			DRY BARK.			Number of Stools sprouted.
					Trunk.	Branch.	Total.	Trunk.	Branch.	Total.	
					LB.	LB.	LB.	LB.	LB.	LB.	
Naduvatam ..	VII	4¾	2,263	14	24,365	4,562	28,927	8,308	1,365	9,673	2,223
Do. ..	VI	¼	56	14	529	138	667	159	45	204	45
Do. ..	XXIII	5	2,628	10	23,042	1,482	24,524	6,307	437	6,744	2,212
Total ..		10	4,947	..	47,936	6,182	54,118	14,774	1,847	16,621	4,480
Hooker	XI	5	2,226	10	13.516	3,897	17,413	4,035	779	4,814	1,195
Wood	VIII	5	2,540	12	13,031	2,502	15,533	3,914	713	4,627	2,123
Total ..		10	4,766	..	26,547	6,399	32,946	7,949	1,492	9,441	3,318
Dodabetta	IX	5	3,356	14	12,660	1,702	13,762	4,800	600	5,400	3,215
	XXVIII	5	2,493	11	4,045	808	4,853	1,400	300	1,700	2,251
Total ..		10	5,849	..	16,105	2,510	18,615	6,200	900	7,100	5,466
Grand Total ..		30	15,562	..	90,588	15,091	105,679	28,923	4,239	33,162	13,264

The stools were pruned of excessive suckers in accordance with Dr. King's instructions. The heights vary from 6 inches to 3 feet. Harvesting under the "*scraping*" system on a small scale is now being carried out and the results will be reported in due course. On some private properties the *mossing* system has been quite abandoned and the Java system of *scraping* introduced. The experiment of using grass instead of moss has proved a success at Naduvatam—*vide* G.O., No. 491, dated 28th April 1880.

10. LABOR.—The supply of labor has improved at Naduvatam; at Dodabetta also labor was plentiful.

11. SUBORDINATES.—The Assistant Superintendent, Naduvatam, Head Overseer, Dodabetta, and Office Manager continue to give satisfaction.

ENCLOSURE No. 1.

STATEMENT showing the Receipts on account of Government Chinchona Plantations for the Official Year 1879-80.

Particulars.	Sanctioned Budget Allotment for 1879-80.	Actuals for 1879-80.	Actuals for 1878-79.
	RS. A. P.	RS. A. P.	RS. A. P.
Sale proceeds of Crop	2,50,000 0 0	3,21,963 2 10	3,79,789 11 5
Value of Bark supplied to the Madras Medical Department	2,000 0 0	3,439 10 0	10,240 6 8
Value of Bark supplied to the Bombay Medical Department ...	...	2,856 4 8	1,770 13 4
Value of Bark supplied to Private Parties	...	93 5 0	416 10 8
Sale proceeds of Plants and Seeds...	4,000 0 0	12,300 6 7	8,136 9 2
Miscellaneous...	...	3,162 5 9	...
Total ...	2,56,000 0 0	3,43,815 2 10	4,00,354 3 3

OOTACAMUND,
25th September 1880.

(Signed) N. A. ROUPELL,
Acting Commissioner.

ENCLOSURE No. 2.

STATEMENT showing the Expenditure on the Government Chinchona Plantations for the Official Year 1879-80.

Particulars.	Sanctioned Budget Allotment for 1879-80.	Actuals for 1879-80.	Actuals for 1878-79.
	RS. A. P.	RS. A. P.	RS. A. P.
Establishment	10,644 0 0	10,092 0 0	9,637 2 8
Nurseries.			
Nurseries	5,140 0 0	4,394 1 9	2,881 4 5
Propagation		529 2 0	254 0 0
Buildings.			
New Works	16,000 0 0	3,370 4 3	5,439 7 0
Repairs		3,067 0 6	1,840 4 4
Roads and Bridges		100 0 0	2,811 2 9
Upkeep.			
Weeding	27,925 0 0	11,193 6 2	14,110 0 11
Roads		859 7 9	527 4 9
Pitting and Planting		3,534 5 1	306 8 6
Tools		2,476 7 0	158 11 0
Various		4,534 3 11	8,428 2 8
Manure.			
Manure	2,500 0 0	2,266 8 8	2,306 4 7

STATEMENT showing the Expenditure on the Government Chinchona Plantations for the Official Year 1879-80.—*(Continued.)*

Particulars.	Sanctioned Budget Allotment for 1879-80.	Actuals for 1879-80.	Actuals for 1878-79.
	RS. A. P.	RS. A. P.	RS. A. P.
Collection of Crop.			
Barking and Mossing		10,346 4 7	5,663 6 6
Collection of Moss and Grass ...		5,042 4 0	7,236 2 11
Do. of Fibre		992 0 0	1,871 12 0
Packing		3,811 11 3	2,421 4 4
Drying	25,000 0 0	1,022 0 10	712 8 6
Storage and Carriage to Store ...		2,175 2 8	1,879 6 5
Carriage to Mettupálaiyam		1,423 0 0	746 3 5
Railway Charges, &c.		2,807 3 4	1,186 12 0
Miscellaneous.			
Contingencies...		852 11 6	859 12 6
Peons' Clothing		81 4 0	61 8 0
Collecting Seed	3,200 0 0	1,850 14 3	170 0 0
Chinchona Enumeration		...	635 8 3
Bells and Clocks		...	326 8 0
Unforeseen Charges.			
Mailkondah Plantation	500 0 0	2,886 7 6	399 0 0
Travelling Allowance and Batta ...	...	16 6 0	812 6 0
Total ...	90,909 0 0	79,724 5 0	73,682 11 5

OOTACAMUND,
25th September 1880.

(Signed) N. A. ROUPELL,
Acting Commissioner.

ENCLOSURE No. 3.

STATEMENT showing the Expenditure in Detail on the Dodabetta Chinchona Plantations for the Official Year 1879-80.

Months.	Establishment.	Nurseries.	Barking and Mossing.	Manure.	Buildings. Repairs.	Buildings. New.	Propagation.	Collection of Moss and Grass.	Collection of Fibre.	Packing.	Drying.	Storage and Carriage to Store.	Carriage to Mettupálaiyam.	Railway Charges, &c.	Contingencies.	Peons' Clothing.	Collecting Seed.	Chinchona Enumeration.	Bells and Clocks.	Mailkondah Plantation.	Travelling Allowance and Batta.	Total.
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	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.	RS. A. P.	RS. A. P.	RS. A. P.
April 1879	215 0 0	28 7 0	.....	246 14 0	15 0 0	...	20 0 0	1,037 7 0	1,042 2 0	1,010 0 0	1,010 4 0	1,012 2 0	1,000 0 0	1,006 6 0	1,005 5 0	1,011 0 0	1,004 4 0	1,003 0 0	1,004 4 0	20 0 0	20 0 0	12,202 0 0
May ,, ...	215 0 0	28 12 0	304 13 6	18 12 0	88 7 0	141 3 0	20 0 0															815 15 6
June ,, ...	215 0 0	30 0 0	228 8 6	23 4 0	112 11 6	694 15 0	10 0 0															1,313 8 6
July ,, ...	215 0 0	31 14 0	627 11 11	20 10 0	28 0 0	...	20 0 0															942 15 11
August ,, ...	215 0 0	42 12 0	547 15 11	22 14 0	...	...	20 0 0															848 1 11
September ,, ...	215 0 0	39 0 0	305 2 0	23 4 0	...	...	20 0 0															602 6 0
October ,, ...	215 0 0	43 6 0	372 8 3	22 8 0	...	11 0 0	20 0 0															684 2 3
November ,, ...	203 0 0	48 15 0	582 12 6	23 4 0	38 6 0	...	20 0 0															940 5 0
December ,, ...	205 0 0	104 11 0	150 5 3	22 8 0	...	82 2 0	20 0 0															584 11 0
January 1880	173 1 0	86 4 0	...	23 4 0	...	58 5 0	20 0 0															360 4 0
February ,, ...	206 15 0	51 13 0	...	20 5 6	...	190 15 0	20 0 0															489 3 0
March ,, ...	215 0 0	41 4 0	...	258 10 6	...	667 15 4	20 0 0															1,202 4 0
Total ...	2,508 0 0	577 2 0	3,119 13 10	726 2 0	282 8 6	1,846 7 4	230 0 0															9,689 14 0

Statement showing the Expenditure in Detail on the Dodabetta Chinchona Plantations for the Official Year 1879-80—(*Continued*).

Months.	Collecting Moss.	Packing Bark.	Fibre or Nar for Mossing.	Drying Bark.	UP-KEEP. Roads.	Weeding.	Pitting and Planting.
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
April 1879	.....	...	...	...	...	690 4 0	27 8 0
May „	245 9 0	...	992 0 0	...	37 8 0	452 5 0	...
June „	637 1 0	...	...	8 4 0	...	36 10 0	...
July „	324 10 11	22 10 6	...	14 2 0	...	78 9 8	...
August „	303 6 3	14 12 0	...	18 6 6	7 2 0	20 15 0	6 4 0
September „	515 7 0	6 6 0	...	18 6 6	10 11 0	...	14 4 0
October „	422 11 3	37 0 0	...	28 5 0	14 1 0	...	25 13 0
November „	193 10 0	...	...	29 10 6	16 14 0	...	...
December „	67 3 6	43 0 0	...	10 15 6	33 14 0	433 15 0	...
January 1880	...	...	...	...	15 3 0	801 6 6	...
February „	80 0 0	...	...	...	14 3 0	646 2 6	...
March „	...	...	...	...	12 12 0	1,259 8 3	114 0 0
Total ...	2,789 10 11	123 12 6	992 0 0	128 2 0	162 4 0	4,419 11 11	187 13 0

Statement showing the Expenditure in Detail on the Dodabetta Chinchona Plantations for the Official Year 1879-80—(*Continued*).

Months.	UPKEEP—(*Continued.*) Various.	Contingencies.	Carriage of Bark to Store.	Collecting Seed.	Tools.	Storage of Bark.	Total.
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
April 1879	62 8 0	...	...	4 13 0	...	...	1,310 6 0
May „	73 0 0	6 0 0	...	27 10 6	...	...	2,651 0 0
June „	101 15 0	...	...	12 1 6	...	...	2,110 6 6
July „	70 10 0	6 8 0	...	...	25 4 0	...	1,485 11 0
August „	158 4 7	9 0 0	...	1 12 0	26 0 0	15 0 0	1,429 8 3
September „	87 14 0	8 8 0	39 12 0	166 13 0	...	15 0 0	1,485 7 6
October „	131 12 0	4 0 0	...	122 0 0	...	15 0 0	1,485 0 6
November „	107 11 0	13 4 0	7 8 0	182 9 0	...	15 0 0	1,482 8 0
December „	166 12 0	6 8 0	27 8 0	173 15 0	...	15 0 0	1,563 5 3
January 1880	153 2 0	...	13 12 0	259 11 0	...	15 0 0	1,619 0 6
February „	75 11 0	7 8 0	...	144 4 9	...	15 0 0	1,472 13 9
March „	181 10 0	16 0 0	...	21 5 0	24 0 0	15 0 0	2,847 1 1
Total ...	1,370 13 7	77 4 0	88 8 0	1,116 14 9	75 4 0	120 0 0	20,942 4 4

OOTACAMUND,
25th September 1880.

(Signed) N. A. ROUPELL,
Acting Commissioner.

STATEMENT showing the Expenditure in Detail on the Naduvatam Chinchona Plantations for the Official Year 1879-80.

Months.	Establishment.	Nurseries.				Buildings.	
		Labor, &c.	Propagation House.	Collection of Seed.	Postage and Packing, &c., of Seed.	New.	Repairs.
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
April 1879	401 0 0	187 10 6	35 0 0	...	169 2 0	100 0 0	45 6 0
May „	401 0 0	126 5 8	10 0 0	...	35 0 0	30 0 0	92 2 0
June „	401 0 0	120 1 10	36 4 0	...	93 10 0	28 12 0	508 2 2
July „	401 0 0	95 0 8	10 0 0	...	69 8 0	...	26 0 0
August „	401 0 0	127 0 10	71 0 0	...	30 0 0	...	29 8 0
September „	401 0 0	87 5 0	10 0 0	...	133 3 0	...	83 1 0
October „	401 0 0	104 2 3	10 0 0	9 11 0	29 0 0	...	...
November „	401 0 0	107 14 10	16 6 0	98 7 0	104 8 0	...	...
December „	401 0 0	101 11 6	29 8 0	158 11 0	220 8 0	...	...
January 1880	401 0 0	102 1 6	42 10 0	142 9 0	89 8 0	650 0 0	5 10 0
February „	401 0 0	121 6 6	13 6 0	228 13 6	115 8 0	285 11 2	11 6 7
March „	401 0 0	82 10 3	15 0 0	36 0 0	170 6 0	429 5 9	4 15 2
Total ...	4,812 0 0	1,363 7 4	299 2 0	674 3 6	1,259 13 0	1,523 12 11	806 2 11

Statement showing the Expenditure in Detail on the Naduvatam Chinchona Plantations for the Official Year 1879-80.—(*Continued*).

Months.	Manure.	Collection of Crop.					
		Barking and Mossing.	Collection of Moss and Grass.	Drying Bark.	Packing Bark.	Storage of Bark.	Carriage of Bark.
	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.	RS. A. P.
April 1879	128 12 0	131 9 6	25 15 9	...	4 0 0	7 14 0	40 0 0
May „	27 13 0	12 14 0	...	...	...	12 6 0	...
June „	22 4 6	30 14 6	...	55 10 0	...	56 0 0	73 9 0
July „	21 9 0	442 13 3	30 0 0	43 11 6	...	42 13 0	91 7 6
August „	24 8 6	387 4 6	...	38 8 6	33 2 3	35 3 0	193 2 6
September „	22 12 0	197 8 3	200 8 1	71 10 6	20 5 0	39 9 9	140 12 6
October „	21 9 0	357 12 6	243 6 5	91 0 0	11 3 11	18 13 6	65 0 0
November „	22 4 6	529 1 0	353 8 3	108 14 0	21 6 6	32 6 0	121 14 0
December „	21 9 0	451 10 6	416 14 0	113 0 3	37 11 7	32 10 6	167 0 0
January 1880	17 7 6	...	...	14 13 6	3 12 0	30 10 6	71 14 0
February „	247 3 0	...	...	...	...	36 14 0	...
March „	16 12 6	...	...	...	...	40 4 0	...
Total ...	594 8 6	2,541 8 0	1,270 4 6	537 4 3	131 9 3	385 8 3	964 11 6

Statement showing the Expenditure in Detail on the [illegible]vatam Chinchona Plantations for the Official Year 1879-80.—(*Continued*).

Months.	Collection of Crop.—(Contd.) Various.	Contingencies.	Peons' Clothing.	Upkeep. Roads.	Weeding.	Pitting and Planting.	Various.	Total.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
April 1879	29 6 8	156 12 0	...	25 1 0	258 2 3	...	230 10 3	1,976 5 11
May „	2 8 5	4 13 0	...	14 10 0	295 4 0	449 14 8	135 1 2	1,649 11 11
June „	6 11 1	38 4 0	31 8 0	14 1 0	115 6 6	495 6 4	89 15 5	2,220 8 4
July „	89 15 9	100 0 0	...	60 9 6	67 6 0	463 3 10	73 15 5	2,129 1 5
August „	1,332 0 10	2 8 0	...	14 0 0	116 6 9	273 15 3	82 0 11	3,191 5 10
September „	116 6 6	86 15 9	...	54 1 0	81 8 6	292 13 0	363 15 2	2,403 7 0
October „	57 7 6	13 2 0	...	7 5 0	445 0 6	23 0 0	86 15 0	1,995 8 7
November „	60 15 4	3 9 0	...	...	145 1 0	30 0 0	88 0 8	2,245 4 1
December „	57 0 11	10 6 9	...	...	238 0 3	...	128 4 9	2,585 11 9
January 1880	2 14 5	12 5 0	...	...	741 4 0	166 10 0	147 7 10	2,642 9 3
February „	249 3 0	25 4 0	7 8 0	...	816 13 6	...	617 13 8	3,177 14 11
March „	2 0 5	23 3 0	...	26 10 0	775 6 9	...	104 0 5	2,127 10 3
Total ...	2,006 10 10	477 2 6	42 0 0	216 5 6	4,095 12 0	2,194 15 1	2,148 4 8	28,345 2 6

OOTACAMUND,
25th September 1880.

(Signed) N. A. ROUPELL,
Acting Commissioner.

STATEMENT showing the Expenditure in Detail on the Pykarra Chinchona Plantations for the Official Year 1879-80.

Months.	Establishment.	Nurseries. Labor, &c.	Nurseries. Collection of Seed.	Upkeep. Weeding.	Upkeep. Roads.	Upkeep. Pitting and Planting.	Upkeep. Various.	Collection of Crop. Barking and Mossing.	Collection of Crop. Collection of Moss and Grass.
	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 1879	120 0 0	116 1 10	...	401 2 3	103 12 6	...	112 3 9	145 12 0	...
May „	120 0 0	99 0 6	...	97 12 0	81 8 9	...	94 1 4	56 6 0	...
June „	120 0 0	86 6 8	...	105 10 0	58 9 9	...	90 5 2	16 6 3	...
July „	120 0 0	19 2 4	...	22 10 0	11 4 0	...	69 12 3	276 14 6	...
August „	120 0 0	68 4 3	17 0 0	157 8 0	22 11 3	66 12 9	95 5 11	47 12 6	97 10 3
September „	120 0 0	65 14 4	...	39 10 0	26 12 6	60 2 6	65 3 6	288 10 6	138 3 5
October „	120 0 0	104 2 3	10 8 0	104 10 6	25 12 0	149 14 0	65 6 8	360 15 6	170 11 6
November „	120 0 0	114 1 6	28 4 0	206 4 6	25 3 6	110 0 3	58 13 3	459 5 6	114 6 11
December „	120 0 0	68 0 5	...	242 15 9	21 12 0	80 0 5	93 6 3	420 7 6	441 11 9
January 1880	120 0 0	90 2 7	4 0 0	550 8 6	30 12 0	90 0 3	97 11 5	61 14 0	11 1 9
February „	120 0 0	186 6 0	...	487 10 9	30 10 6	235 8 1	99 9 4	1 6 6	8 7 0
March „	120 0 0	176 0 9	...	261 8 0	42 1 6	358 14 2	73 2 10	111 14 3	...
Total ...	1,440 0 0	1,193 11 5	59 12 0	2,677 14 3	480 14 3	1,151 9 0	1,015 1 8	2,247 13 0	982 4 7

Statement showing the Expenditure in Detail on the Pykarra Chinchona Plantations for the Official Year 1879-80—(*Continued*).

Months.	Collection of Crop—(Continued).					Buildings.		Manure.	Total.
	Drying Bark.	Packing Bark.	Storage of Bark.	Carriage of Bark.	Various.	New.	Repairs.		
	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 1879	...	...	...	...	...	...	528 7 9	197 9 0	1,725 1 1
May „	23 11 0	...	...	13 1 0	17 1 0	...	21 0 0	11 10 0	635 3 7
June „	50 14 3	...	...	...	16 11 7	...	12 8 0	29 2 2	586 9 10
July „	19 10 0	...	...	...	39 6 8	...	...	9 10 10	588 6 7
August „	79 7 10	13 0 6	...	8 2 6	28 9 5	...	...	38 12 10	861 2 0
September „	29 2 0	...	...	71 5 0	47 2 8	...	157 6 5	61 3 5	1,170 12 3
October „	39 7 6	3 1 6	...	34 6 0	51 2 3	...	...	57 0 1	1,297 1 9
November „	41 11 0	7 7 6	...	36 14 0	63 0 4	...	...	61 6 5	1,446 14 8
December „	57 9 6	13 13 6	...	86 15 6	68 11 2	...	...	31 8 3	1,747 4 7
January 1880	11 13 0	7 8 6	...	82 10 6	20 13 4	...	...	262 11 10	1,441 11 8
February „	...	...	...	19 4 0	12 1 9	...	43 1 2	133 9 10	1,377 10 11
March „	3 4 6	2 4 0	...	9 4 6	65 10 9	...	440 13 9	51 9 6	1,716 8 6
Total ...	356 10 7	47 3 6	...	361 15 0	430 6 11	...	1,203 5 1	945 14 2	14,594 7 5

OOTACAMUND,
25th September 1880.

(Signed) N. A. ROUPELL,
Acting Commissioner.

STATEMENT showing in Detail the Expenditure on the Office Establishment and General Expenditure for the Official Year 1879-80.

Months.	Establishment.	Batta and Travelling Allowance.	Printing Charges.	Service Telegram.	Carriage of Bales.	Cost of Gunny Bags.	Carriage of Bags and Tools.	Contingencies.	Tools.
	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 1879	111 0 0	...	...	9 0 0	...	...	...	...	...
May „	111 0 0	...	...	2 0 0	111 7 0	...	...	27 7 0	...
June „	111 0 0	...	126 8 0	...	...	...	...	...	...
July „	111 0 0	...	...	...	...	...	...	...	...
August „	111 0 0	16 6 0	...	...	...	588 4 0	220 11 6	5 2 0	2,401 3 0
September „	111 0 0	...	...	...	...	...	...	...	...
October „	111 0 0	...	...	...	...	2,075 14 0	...	23 3 0	...
November „	111 0 0	...	20 0 0	...	88 6 0	...	...	2 1 0	...
December „	111 0 0	...	...	...	...	...	...	...	...
January 1880	111 0 0	...	...	...	...	...	...	...	...
February „	111 0 0	...	...	...	214 13 4	...	...	...	...
March „	111 0 0	...	...	2 0 0	...	875 0 0	33 12 5	31 0 0	...
Total ...	1,332 0 0	16 6 0	146 8 0	13 0 0	414 10 4	3,509 2 0	254 7 11	88 13 0	2,401 3 0

Statement showing in Detail the Expenditure on the Office Establishment and General Expenditure for the Official Year 1879-80—(*Continued*).

Months.	Railway Charges on Bales.	Peons' Clothing.	Carriage of Bark to Mettupálaiyam.	Repair of Buildings.	Remuneration to Copyist.	Charges on Mailkondah Plantation.	Total.
	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.	Rs. A. P.
April 1879	...	...	...	...	...	...	120 0 0
May „	...	...	...	...	...	...	251 14 0
June „	...	...	...	...	...	...	237 8 0
July „	...	...	...	875 0 0	...	...	986 0 0
August „	...	...	3 0 0	...	50 0 0	200 0 0	3,565 10 6
September „	588 14 0	...	100 0 0	...	...	150 0 0	949 14 0
October „	112 14 0	...	500 0 0	...	...	300 0 0	3,122 15 0
November „	327 12 0	39 4 0	...	...	...	90 0 0	678 7 0
December „	793 2 0	...	...	...	...	900 0 0	1,804 2 0
January 1880	...	...	...	...	...	500 0 0	611 0 0
February „	569 15 0	...	...	...	...	...	895 12 4
March „	...	...	820 0 0	...	...	746 7 6	2,619 3 11
Total ...	2,392 9 0	39 4 0	1,423 0 0	875 0 0	50 0 0	2,886 7 6	15,842 6 9

(Signed) N. A. ROUPELL,
Acting Commissioner.

OOTACAMUND,
25th September 1880.

ENCLOSURE No. 4.

STATEMENT showing the Number of Chinchona Trees barked and the quantity of Bark taken at the Government Chinchona Plantations of Naduvatam, Pykarra, and Dodabetta during the Official Year 1879-80.

NADUVATAM.							HOOKER.						
Plots.	Crown.		Red.		Total.		Plots.	Crown.		Red.		Total.	
	Trees.	Bark.	Trees.	Bark.	Trees.	Bark.		Trees.	Bark.	Trees.	Bark.	Trees.	Bark.
III ..	..	..	339	670	339	670	I ..	..	..	1,524	5,040	1,524	5,040
IV ..	..	..	1,541	3,130	1,541	3,130	II ..	..	..	3,878	15,507	3,878	15,507
V ..	..	..	592	1,320	592	1,320	V ..	..	..	1,784	6,436	1,784	6,436
VI ..	..	..	509	1,537	509	1,537	VI ..	..	..	5,616	11,238	5,616	11,238
VII ..	..	..	2,263	28,927	2,263	28,927	VIII ..	..	..	4,277	15,288	4,277	15,288
VIII ..	..	..	2,485	11,150	2,485	11,150	IX ..	..	..	3,032	2,841	3,032	2,841
IX ..	..	..	2,517	13,350	2,517	13,350	XI ..	..	..	8,270	37,417	8,270	37,417
X ..	..	..	3,107	7,850	3,107	7,850	XII ..	..	..	3,806	9,951	3,806	9,951
XIV ..	..	..	7,409	50,550	7,409	50,550							
XV ..	..	..	6,672	37,080	6,672	37,080							
XVII ..	..	..	2,559	10,500	2,559	10,500							
XXIII ..	..	..	2,628	24,524	2,628	24,524							
XXVI ..	..	..	952	2,390	952	2,390							
Total ..	..	..	33,573	1,92,978	33,573	192,978		..	..	32,187	103,718	32,187	103,718

WOOD.							DODABETTA.			Grand Total.	
Plots.	Crown.		Red.		Total.		Plots.	Crown.			
	Trees.	Bark.	Trees.	Bark.	Trees.	Bark.		Trees	Bark.	Trees.	Bark.
I ..	..	..	359	1,575	359	1,575	XXVII ..	1,170	1,558	3,392	8,843
II ..	..	..	4,068	18,457	4,068	18,457	XXVIII ..	2,493	4,853	11,980	41,947
III ..	..	..	..	2,120	..	2,120	XII ..	4,240	6,475	6,616	16,351
IV ..	..	..	407	4,145	407	4,145	IX ..	3,356	13,762	9,888	30,682
V ..	..	..	2,105	9,035	2,105	9,035	XI ..	4,474	7,134	13,119	60,384
VII ..	..	..	2,592	11,003	2,592	11,003	XIII ..	2,000	2,729	10,109	27,723
VIII ..	..	..	5,879	30,588	5,879	30,588	XIV ..	990	1,139	17,656	82,494
IX ..	..	..	169	800	169	800	XV ..	2,000	3,000	9,082	21,601
							XXII ..	2,500	3,000	9,909	53,550
							XXIII ..	1,990	2,600	8,662	39,680
							VII ..	6,000	16,013	8,559	26,513
							XXX ..	2,600	4,010	5,228	28,534
							XVI ..	3,040	7,074	3,992	9,464
							XXXI ..	3,309	4,372	3,309	4,372
							XXXII ..	2,129	2,398	2,129	2,398
							XXXIII ..	3,050	4,041	3,050	4,041
							XXXV ..	2,397	3,200	2,397	3,200
							VIII ..	10,159	16,000	10,159	16,000
							IX ..	8,252	11,569	8,252	11,569
	..	..	15,579	77,723	15,579	77,723		66,149	114,927	147,458	489,346

OOTACAMUND,
25th September 1880.

(Signed) N. A. ROUPELL,
Acting Commissioner.

ENCLOSURE No. 5.

STATEMENT of Rainfall at Naduvatam for the Official Year 1879-80.

Months.	Rainfall.	Number of Wet Days.	Remarks.
	IN. CTS.		
April 1879	1 70	4	
May "	24 28	17	
June "	12 81	30	
July "	21 69	29	
August "	17 44	31	
September "	13 37	18	
October "	5 30	16	
November "	2 65	9	
December "	1 31	3	
January 1880	0 30	1	
February "	0 15	1	
March "	0 19	1	
Total ...	100 92	160	

OOTACAMUND,
25th September 1880.

(Signed) N. A. ROUPELL,
Acting Commissioner.

ENCLOSURE No. 6.

STATEMENT of Rainfall at Dodabetta for the Official Year 1879-80.

Months.	Rainfall.	Number of Wet Days.	Remarks.
	IN. CTS.		
April 1879	1 80	8	
May "	10 26	19	
June "	2 59	17	
July "	10 79	24	
August "	2 64	14	
September "	4 34	18	
October "	8 65	23	
November "	3 68	10	
December "	1 36	5	
January 1880	0 15	1	
February "	...	...	
March "	0 14	1	
Total ...	46 40	140	

OOTACAMUND,
25th September 1880.

(Signed) N. A. ROUPELL,
Acting Commissioner.

No. 69. From N. A. ROUPELL, Esq., Acting Commissioner of the Nilgiris, to the Secretary to Government, Revenue Department, Madras, dated Ootacamund, 3rd December 1880, No. 245.

WITH reference to your Under Secretary's Memoranda, Nos. 280 and 315, dated 1st October and 5th November 1880, respectively, I have the honor to enclose

a statement of the Revenue and Capital Account of the Government Chinchona Plantations on the Nilgiris as required by the Secretary of State. This statement has been prepared in this office, as the Accountant-General informs me that his office "is not in a position to prepare the same."

2. The results of the enterprise as shown by the statement are highly satisfactory. If interest were struck out from both sides of the statement the financial result is as follows:—

	RS.
Expenditure	12,00,372
Receipts	13,25,610
Excess Revenue over Capital	1,25,238

To this must be added the present value of the plantations which, giving a net annual income of at least three lakhs of rupees, can be estimated to be worth, at 6 per cent., £500,000 sterling.

ENCLOSURE.

AN Abstract Statement showing the Capital and Revenue Account of the Government Chinchona Plantations from the commencement up to the Official year 1879-80.

Years	Receipts.	Charges.	Balance.	Interest on Balance.	Total of Columns 4 and 5.	Capital at the end of each year.
1	2	3	4	5	6	7
	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	— 4,821 15 0
1861-62 ..	..	22,914 15 4	— 22,914 15 4	— 216 15 10	— 23,131 15 2	— 27,953 14 2
1862-63 ..	..	48,390 0 0	— 48,390 0 0	— 1,257 14 9	— 49,647 14 9	— 77,601 12 11
1863-64 .	..	65,900 7 9	— 65,900 7 9	— 3,492 1 4	— 69,392 9 1	— 1,46,994 6 0
1864-65 ..	..	84,111 4 11	— 84,111 4 11	— 6,614 11 11	— 90,726 0 10	— 2,37,720 6 10
1865-66 ..	..	88,037 3 0	— 88,037 3 0	— 10,697 6 8	— 98,734 9 8	— 3,36,455 0 6
1866-67 ..	2,450 0 0	1,28,127 4 6	—1,25,677 4 6	— 15,140 7 7	—1,40,817 12 1	— 4,77,272 12 7
1867-68 ..	287 8 0	1,20,649 12 1	—1,20,362 4 1	— 21,477 4 4	—1,41,839 8 5	— 6,19,112 5 0
1868-69 ..	1,680 0 0	1,07,004 3 6	—1,05,324 3 6	— 27,860 0 9	—1,33,184 4 3	— 7,52,296 9 3
1869-70 ..	1,512 6 4	46,596 5 4	— 45,083 15 0	— 33,853 5 5	— 78,937 4 5	— 8,31,233 13 8
1870-71 ..	4,688 12 8	30,173 5 4	— 25,484 8 8	— 37,405 8 3	— 62,890 0 11	— 8,94,123 14 7
1871-72 ..	13,022 0 2	31,167 10 1	— 18,145 9 11	— 40,235 9 1	— 58,381 3 0	— 9,52,505 1 7
1872-73 ..	21,422 3 1	29,715 0 0	— 8,292 12 11	— 42,862 11 7	— 51,155 8 6	—10,03,660 10 1
1873-74 ..	57,854 6 3	28,223 14 0	29,630 8 3	— 45,164 11 7	— 15,534 3 4	—10,19,194 13 5
1874-75 ..	8,849 4 0	35,523 8 0	— 26,674 4 0	— 45,863 12 2	— 72,538 0 2	—10,91,732 13 7
1875-76 ..	62,404 7 11	46,207 0 0	16,197 7 11	— 49,127 15 6	— 32,930 7 7	—11,24,663 5 2
1876-77 ..	1,10,457 7 10	59,630 1 3	50,827 6 7	— 50,609 13 6	217 9 1	—11,24,445 12 1
1877-78 ..	3,57,215 0 8	69,771 13 3	2,87,443 3 5	— 50,600 0 10	2,36,843 2 7	— 8,87,602 9 6
1878-79 ..	4,00,354 3 3	73,682 11 5	3,26,671 7 10	— 39,942 1 9	2,86,729 6 1	— 6,00,873 3 5
1879-80 ..	4,39,786 9 0	79,724 5 0	3,60,062 4 0	— 27,039 4 7	3,33,022 15 5	— 2,67,850 4 0
Total ..	14,81,984 5 2	12,00,372 11 9	2,81,611 9 5	— 5,49,461 13 5	—2,67,850 4 0	..

Balance of Capital due .. .. Rs. 2,67,850 4 0

No. 70. ORDER THEREON, 4th March 1881, No. 398.

Miscellaneous.

IN the year 1879-80 the number of trees in the Government Chinchona Plantations decreased by 28,259, being the number of certain trees of the Red bark species which on a portion of the Hooker Estate at Pykara had never thriven and were so injured by a hail storm that it was considered desirable to uproot them. Their place will be taken by trees of *Chinchona officinalis*, which have been found to be better suited to the locality.

2. The total number of trees now in the plantations is returned by the Commissioner as 540,772, being that found on Major C. Walker's enumeration less the number uprooted. But many young trees have, it is believed, been planted out

during the last two years in the Dodabetta plantation at all events, and care must be taken to keep an accurate record* of these "supplies" and to note their state from year to year. Dying and sickly trees should be uprooted so as to secure their bark while there is still life in the trees and the returns corrected as this is done. Moreover from the present report, paragraph 9, it would appear that a certain number of casualties occurred under the coppicing experiments.

* *Vide* G.O., 23rd July 1880, No. 858, paragraph 2.

3. The Government note with regret that but little manuring was done at Naduvatam. The importance of thus nourishing the trees has often been urged, and the Commissioner, in submitting last year's report, intimated his intention to address Government specially on the subject. No proposals regarding it appear to have been received, and the matter will engage the early attention of the Conservator of Forests under whom the plantations have now been placed.

4. The Acting Commissioner states that the issue of plants to the public has fallen off, but no figures are given in support of the statement, nor is it shown whether the decreased demand holds good for both Red and Crown barks. Seed is apparently largely bought and the weight sold should have been given for each kind. Every care must be taken of the young *Calisaya ledgeriana* plants, and advantage should be taken of Mr. Cross's presence on the Hills to obtain his advice in regard to their treatment if this has not already been done.

5. The yield of the year was 179,299 lbs. of dry bark against 114,320 in 1878-79. Of the total weight, 33,162 lbs. were derived from the 30 acres experimentally coppiced, and 7,010 from the grubbing operations on the abandoned Mèlkunda Plantation. The weight of bark taken from the uprooted Red bark trees on the Hooker Estate is not given, and in the statement showing the number of trees barked on each plantation the results of the coppicing and uprooting operations are not distinguished, so no useful comparison can be made with last year in regard to the average yield per tree which was then arrived at with reference to the ordinary method of harvesting by stripping and mossing.

6. The coppicing experiments have demonstrated that this method of harvesting the bark can be followed without permanent injury to plantation whether of Red or Crown barks.

The number of trees which have since sprouted are shown below:—

Plantations.	Number of *Trees* cut (1)	Number that have sprouted (2)	Percentage of (2) to (1)
Naduvatam	4,947	4,480	90·56
Pykara {Hooker	2,226	1,195	53·68
Pykara {Wood	2,540	2,123	83·58
Dodabetta	5,849	5,466	93·45

7. The Government will await with interest future report as to the results of the experimental substitution of grass for moss as a covering for the trees after they are stripped, and also of the Java method of harvesting. The bark so taken off should be kept separate and the price realized for it carefully noted as well as the effect of the process on the trees and the frequency with which they can be subjected to it.

8. When submitting this report the Acting Commissioner omitted to furnish the financial† statement required by the Secretary of State as directed. This omission has now been supplied, but in the statement sent, credit is not taken for the value of the bark supplied to the Quinologist as in that formerly prepared by the Accountant-General and accepted in G.O., 24th June 1879, No. 1,339.

† G.O., 4th March 1880, No. 278.

* G.O., 21st July 1877, No. 2,359.
„ 28th Jan. 1878, „ 145.
„ 15th Nov. „ „ 1,828, page 6, Statement 2.

† G.O., 28th April 1879, No. 933.
„ 10th June „ „ 1,259.
„ 8th July „ „ 1,438.
„ 3rd Jan. 1880, „ 1.
„ 20th Feb. „ „ 227.
„ 4th Mar. 1881, „ 398.

Moreover the receipts for the years 1877-78* and 1879-80† as recorded in the orders noted in the margin are incorrectly given. These and other minor errors have now been rectified, and an abstract of the corrected statement is appended to this order.

9. The financial results are as follows:—

	Rs.
Outlay	12,00,372
Interest thereon	5,49,462
Total ...	17,49,834
Receipts ...	14,81,984

and show a debit of Rs. 2,67,850 at the close of 1879-80. The receipts from so much of the crop of that year as was sold after its close, and will therefore appear to the credit of the current year, have already extinguished the debt and established the success of the enterprise. Its whole cost with interest has now been recouped.

(True Extract.)

(Signed) C. G. MASTER,
Secretary to Government.

To the Commissioner of Nilgiris.
„ the Conservator of Forests.
„ the Accountant-General.
„ the Board of Revenue.
„ the Superintendent of Government Central Museum.

Exd. W. H. French.

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