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MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 874 Press -Mis.

Dated 26-8- 1879.

Not to be folded or roughly handled

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

20th February 1878, No. 274.

Read the following paper:—

No. 248. From A. McC. WEBSTER, Esq., Acting Commissioner of the Nilgiris, to C. G. MASTER, Esq., Secretary to Government, Revenue Department, dated Ootacamund, 31st December 1877, No. 171.

I HAVE the honor to forward the Administration Report on the Government Cinchona Plantations for the official year 1876-77.

2. *Season and Rainfall.*—The season of 1876-77 was decidedly unfavorable, and the Cinchona Plantations, in common with other cultivation, suffered from drought. The rainfall at Neddiwuttum was 96·64 inches and exceeded that of the previous year by 16 inches; but, as the greater part of the fall (amounting to 65 inches) occurred during the months of July and August, the plantations did not derive a proportionate benefit. At Dodabetta the fall of the year was 27·70 inches against 45·15 in 1875-76. The long interval of drought towards the end of the year was prejudicial to the crop. The extreme dry weather also retarded the renewal of the bark and prevented its lifting with the usual facility which materially enhanced the cost of collection. In general appearance, however, the plantations do not seem to have suffered much.

3. *Receipts and Expenditure.*—I enclose a statement of the receipts and expenditure of the plantations for eleven months of the year under report. Under expenditure I have taken only eleven months, as the money drawn in April 1876 were included in the general accounts of the year 1875-76. The accounts for the first six months of the year were audited by Mr. Groves, Assistant to the Accountant-General, and for the last six months by Mr. Beeby of the Accountant-General's Office.

4. *Receipts.*—The receipts amounted to Rs. 1,10,457-7-10. This sum consists of the proceeds from sale of plants, seed, &c., and from the sale of the bark crop of the year 1875-76 estimated at the exchange of 1*s.* 9$\frac{3}{4}$*d.* per rupee on the price realized in London, the result of which was only received during the year under report.

5. *Expenditure.*—The expenditure was Rs. 59,630 against Rs. 49,210 in the previous year, and is distributed as follows:—

	Rs.	A.	P.
Permanent establishment	8,064	5	4
Working charges	19,690	1	2
Building	6,715	8	11
Manure	459	3	5
Collection of bark	5,020	8	9
Mossing	7,038	2	10
Carriage	11,353	7	6
Packing	755	5	0
Miscellaneous	533	6	4
Total ...	59,630	1	3

6. I am unable to give the particulars of expenditure on each plantation, as no accounts have been kept on the plantations; all the accounts having in previous years been prepared in Mr. McIvor's office. The Assistant Superintendents of the

plantations used only to send in weekly reports and statements of expenditure incurred by them, and these were collated, and the expenditure incurred by Mr. McIvor on each plantation seems to have been added to the yearly account. On his death this practice was apparently discontinued, and the expenditure on all plantations together entered in the register of contingent charges by the late Manager (who has been dismissed). With the new forms of account introduced this year, the information for the current year will be readily available.

7. The receipts being Rs. 1,10,457-7-10 and the expenditure Rs. 59,630, there has been a net profit in the year of Rs. 50,827.

8. Owing to the late date at which the bark has hitherto been shipped, the account sales of the year's crop are not received in time to be credited in the receipts of the year to which the working charges are debited, so it is not possible to give an accurate balance sheet for any particular year. For instance 884 bales containing 88,708 lbs. of bark of the crop of 1876-77 (the year under report) were sent to England, in February 952 lbs. of bark were supplied to the Bombay Government, and 13,681 lbs. of branch red and crown bark were subsequently sent home, the account sales of which have not yet come to hand, so that the actual price of the bark collected during the year is as follows:—

	RS.
England 88,708 lbs. bark realized £29,362, or allowing for exchange at 1*s.* 9½*d.*	3,27,772
Bombay 952 lbs. bark at 2 Rs. per lb.	1,904
England 13,681 lbs. bark at 1 Rupee per lb. (estimate)	13,681
Total ...	3,43,357

This would give a profit in the year of Rs. 2,83,727 and not of only Rs. 50,827 as shown in the accounts. I have arranged to send the *Crown Bark* crop home at an earlier date than heretofore, and if this practice be continued and the *Succirubra* bark be sent home each year in February, and not sold in England until April, the accounts for each year would be framed on the same basis; and the receipts would show the price realized from the crown bark harvest (the most valuable crop) for the year, and from the Succirubra bark harvest of the previous year. If, however, Government would permit me to show in my Administration Report the full sum realized from the sale of the bark harvested during the year under report without reference to the date when such sums were actually brought to credit in the Government accounts, the annual Administration Reports would give a clearer view of the profits of the plantations than they now do.

9. PERMANENT PLANTATION—*Number of Plants.*—The number of Cinchona plants in the permanent plantation on the 31st March 1876 was 1,190,458. No addition was made to the number during the year under report except in filling up vacancies. The average height of the oldest Succirubra tree at Neddiwuttum was 38½ feet, the circumference of the stem 27 inches. The oldest plants of *Cinchona officinalis* planted at Dodabetta in September 1863 have attained an average height of 27⅔ feet with a circumference above ground of 21 inches. The number of trees in the plantations has been taken from the late Mr. McIvor's figures in his Administration Report for 1874-75. Since then there must have been some failures, and it is very necessary to have an exact enumeration taken. Government in paragraph 5 of their Order of 22nd May 1876, No. 658, directed that the trees should be counted. I am informed that the late Commissioner recommended that the enumeration should be entrusted to a special officer, but the records of the Cinchona Department have been left in such an incomplete state by the late Manager that I am unable to find any record of what has been done in the matter. The enumeration should, I think, be carried out by a special officer or an officer in the Forest Department.

10. PROPAGATION—(*a*) *Propagation.*—Propagation from cuttings was carried on at Dodabetta only, and was confined to the new and valuable varieties of Cinchona Pitayensis and Cinchona Lanceolata; at the close of the year there were 6,468 of the former and 21,540 of the latter in the propagating houses. These are for

experimental cultivation in the Government Plantations, and will be planted out next season. A new propagating house is in course of construction at Neddiwuttum for the propagation of the Cinchona Calisaya and hybrids, the altitude at Dodabetta being unsuitable for the former variety.

(*b*). *Nurseries.*—There was an extraordinary demand for Cinchona plants among the planters of the Nilgiris and in the Wynaad, in consequence of which my predecessor, Mr. Cockerell, recommended the extension of the existing nurseries at Neddiwuttum at a cost of Rs. 1,300. The allotment was sanctioned in G.O., No. 1,290, dated 29th September 1876, but the work was not carried out during the year owing to the failure of water-supply in the shola intended to be felled. The existing nurseries were well stocked and 142,000 plants were sold to the public against 87,700 in the previous year. The quantity of seed distributed was 143 oz. against 55 oz. in the previous year. The only charge made for seed is for the cost of collection and packing which has been taken at 4 Annas per oz. The question of supplying seed gratuitously requires, I think, consideration. For instance I have lately received an order for 20 lbs. of Cinchona seed for Ceylon where seed is selling at 5*s.* an ounce or 40 Rs. per lb. Our charge, including postage, to Ceylon being 5 Rs. per lb., we will be supplying the seed at 700 Rs. below its value in that market. I think that the gratuitous distribution should be limited to 1 oz. packets, and that any quantity in excess of that should be charged for at 1 Rupee per oz.

The expenditure on nurseries during the year was Rs. 1,316-2-2.

11. UP-KEEP—(*a*) *Weeding.*—The plantations were thoroughly weeded and the weeds were buried at the roots of the trees which, besides serving as manure, removes all risk of accident from fire. The supply of labor has not, however, been sufficient to keep the plantations always clean, but during the next monsoon I will try to make arrangements for knife weeding in addition to the usual mamooty weeding. The plantations at Neddiwuttum are full of Marigold and Spanish-Needle which it is almost impossible to keep down.

(*b*). *Mossing.*—No details of the number of trees mossed have been kept, and I am informed that no such account has ever been prepared. The expenditure for mossing was Rs. 7,038-2-10. I am unable, however, to state the number of trees that have been mossed. The Government Order of 10th July 1877 was received at too late a date to admit of an account of trees mossed this year being kept, but arrangements will be made to do so next season.

From inquiries I have made I find that the cost of moss at Dodabetta is 8 Annas per 100 lbs. of wet moss, and that this quantity of moss on a rough average of all trees whether previously mossed or not will suffice for twelve trees. The fibre costs roughly about half a pie per tree. One barker and two coolies will bark and moss twenty-five trees on an average in a day. Their daily wages are 4½ Annas a day for the barkers and 4 Annas for the mossers. So that the total cost of mossing each tree is about 1 Anna 3 Pies. At Neddiwuttum and Pykara, where the rates of labor are higher, the cost at similar calculation is 2 Annas and 3 Pies per tree. The outturn of the bark being 103,341 lbs. and the amount spent on mossing and collection of bark being Rs. 12,058-1-7, the cost of collecting and mossing would be on this calculation 1 Anna 10-4 Pie per lb. of dry bark, and of mossing alone 1 Anna 1-07 Pie per lb.

(*c*). *Manure.*—The expenditure on manuring did not come up to the allotment, and was principally incurred in the Dodabetta Plantation, where 20,000 trees growing on grass land were manured. At Neddiwuttum 6,000 Succirubra trees were manured. The Superintendents of the estates inform me that manuring was attended with very beneficial results. At Neddiwuttum especially the 6,000 trees to which manure was applied were, and had been, at a stand still for three years, looking sickly and the bark refusing to rise. Cattle manure was applied in January 1877 (about 50 lbs. to a tree), and in the present barking season the trees have put on foliage and have given a very good crop of bark. It seems, therefore, that more money should be spent on manuring than has hitherto been devoted to the purpose.

12. CROP—(*a*) *Bark.*—The following statement gives the outturn in detail :—

Neddiwuttum.

	LBS.	LBS.
Natural red bark	9,329	
Mossed do.	11,745	
Renewed do.	8,431	
Natural crown	3,590	
Mossed do	3,941	
Renewed do	110	
Branch calisaya	603	
Do. crown	411	
Do. red	14,801	
		52,961

Pykara.

	LBS.	LBS.
Natural red bark	12,700	
Mossed do.	6,600	
Renewed do.	2,700	
Natural crown bark	600	
Mossed do.	900	
Renewed do.	400	
		23,900

Dodabetta.

Natural crown bark including branch bark ...	13,900	
Mossed do.	10,200	
Renewed do.	2,380	
		26,480
Grand Total ...		103,341

Of this quantity 952 lbs. of mossed red bark were supplied to the Medical Department at Bombay and 88,708 lbs. were consigned to the Secretary of State for sale in the London market. At the close of the year 13,681 lbs. of branch bark were in store, which have since been shipped to England. The prices obtained for the bark at the London market were very high, some renewed crown bark having sold for the unprecedented price of 15*s* 8*d*. per lb.

(*b*). *Tea.*—Only 200 lbs. of green tea leaf were sold during the year, picking having been abandoned as it did not pay. The plantation has been leased to Major Jennings for Rs. 300 per annum.

13. BUILDINGS—(*a*.)—At Neddiwuttum better accomodation for the laborers had to be provided and old huts had to be replaced during the year. Lines consisting of 66 huts were erected ; 36 of these huts are built with brick walls and 30 with mud walls ; 17 of the former were covered with old corrugated iron, and the remainder were thatched. Alterations were made, under the sanction of Government, to the old jail buildings which were formerly used by the Quinologist for the manufacture of quinine, and which were converted into a drying shed in the previous year by the erection of partition walls as a protection from fire. Alterations were also made in the flues and furnaces. The building is however most unsuitable, and an estimate has been submitted for the construction of an entirely new building with hot-water drying apparatus.

(*b*).—At Pykara a bark store and a drying shed were erected ; but the latter has still to be provided with flues and internal fittings.

14. *Experiments.*—(*a*.)—The past year was one of rest with the 1,000 experimental Succirubra trees at Neddiwuttum subjected to the mossing process. The 58 trees of Cinchona Succirubra coppiced on the 14th October 1873 at the recommendation of the Government Quinologist are still thin and weak looking. At Dodabetta the 50 trees coppiced in May 1873 have made better progress ; some of the shoots have advanced sufficiently to bear barking in 1878-79. Seven of the trees however, or 14 per cent., died at the close of the year. As regards coppicing it seems from a comparison of our coppiced trees with those at the " Balmadies " Estate, at an elevation of 4,500 feet, that the elevation of the Government Plantations is too high for successful coppicing, even if that method is otherwise desirable, which I doubt, as by it no "renewed bark" can be obtained.

(*b*).—Government in paragraph 15 of their Order, of 10th July 1877, No. 2,273, desire to know the results of the most recent analysis of *Cinchona augustifolia*. There are only a few mature trees of this variety, and no bark has been taken from them for analysis since Mr. Broughton left the Hills. I have ordered a small quantity of bark to be sent home this year for analysis ; but I shall not be able to distinguish each sample by its former number, as the numbers affixed to the trees originally have decayed, and no one seems to know much about them.

15. *Labor.*—The labor difficulty is still as great, indeed worse than ever, and more especially at Neddiwuttum and Pykara. The only way to improve it is, I think, to build really good lines for the coolies and to provide garden allotment for them on some of the waste grass lands attached to the estates, so as to induce them to settle. Even this will not perhaps have the desired effect, and it may be necessary to increase our rates of wages, for they are, I am informed, now below what is given on the neighboring estates.

16. *General Remarks*—(*a*).—On the 8th June 1876 Mr. McIvor, the late Superintendent of the Plantations, died. This circumstance was reported to Government by my predecessor in his letter No. 3, of 8th idem, and in their Order, No. 1,390, of 29th September, the Government decided that pending further orders the management of each plantation was to continue with its present Superintendent or Overseer, under the control and responsibility of the Commissioner. This has been carried out, and the office of the late Superintendent has been amalgamated with my office.

(*b*.) *Subordinates.*—Mr. Rowson, the Assistant Superintendent, has worked most zealously during the year. He takes an intelligent interest in his work, and the Government have recently increased his salary from Rs. 200 to Rs. 300 per mensem.

T. Narainsawmy Naidoo, the Overseer in charge of the Dodabetta Plantations, has also given me satisfaction. Although not a trained Arboriculturist, he does his best, and has a very responsible charge. I have lately recommended an increase to his pay which is not in proportion to the extent and responsibility of his charge.

Mr. McNair, the Manager of the Cinchona Department in my office, was dismissed in June for general incompetence and continued absence without leave. His successor, Mr. Hillier, is a young man and new to the office, but promises well.

(*c*.) *Future Management.*—I cannot conclude this report without bringing to the notice of Government that the present arrangement for the management of the extensive Government Plantations is hazardous inasmuch as they are not all under one trained Superintendent, and it is possible that serious damage may result from any defective system of culture and harvesting. It is not at all necessary to appoint a successor to the late Mr. McIvor ; but I think Mr. Rowson should be entrusted with the general superintendence of the Dodabetta Plantations in addition to his immediate work at Neddiwuttm and Pykara, and should be designated " Superintendent." It would also, I think, be well if the Conservator of Forests were directed to annually inspect and report upon the health of the trees in the plantations and bring to notice any defects in cultivation he observes.

ENCLOSURE No. 1.

STATEMENT showing the Receipts on account of the Government Cinchona Plantations for the official year 1876-77.

Particulars.	Amount. RS.	A.	P.
Sale proceeds of 63,600 lbs. of bark sold in the London market, £9,603-$\frac{1}{8}$8-4, at 1*s*. 9$\frac{3}{4}$*d*.	1,05,974	4	0
Sale proceeds of plants and seeds	2,071	14	10
952 lbs. of mossed red bark supplied to the Bombay Government at 2 Rs.	1,904	0	0
Miscellaneous.			
Sale proceeds of acid belonging to Quinolagist	260	0	0
Sale of building material	160	0	0
Miscellaneous	87	5	0
Total ...	1,10,457	7	10

STATEMENT showing the Expenditure of the Government Cinchona Plantations for the official year 1876-77.

Particulars.	Expenditure.			Budget Grant.			Remarks.
Establishment.	RS.	A.	P.	RS.	A.	P.	
Superintendent	1,340	5	4	2,000	0	0	
Assistant Superintendent	2,500	0	0	3,275	0	0	
Overseers	2,640	0	0	2,640	0	0	
Office establishment	1,584	0	0	1,584	0	0	
Working Charges.							
Nurseries	1,799	9	5	...			
Roads	419	5	9	...			
Weeding	11,101	8	6	...			
Planting	254	0	6	...			
Pitting	233	2	2	24,026	0	0	
Various	2,140	6	6	...			
Tools	571	6	6	...			
Permanent Gardeners' wages ...	3,170	9	10	...			
Total ...	19,690	1	2	.....			
Buildings.							
New Works Repairs	6,715	8	11	3,500	0	0	Details cannot be given as no accounts seem to have been kept.
Collection of Crop.							
Peons' clothing	80	0	0	100	0	0	
Contingencies	453	6	4	1,000	0	0	
Collection of bark	5,020	8	9				
Mossing	7,038	2	10	12,500	0	0	
Packing	755	5	0	2,500	0	0	
Carriage	11,353	7	6	3,500	0	0	Includes freight from Madras to England which was not estimated for.
Manure	459	3	5	700	0	0	
Total ...	59,630	1	3	57,325	0	0	

OOTACAMUND,
31st December 1877.

(Signed) A. McC. WEBSTER,
Acting Commissioner.

No. 248-A. From A. McC. WEBSTER, Esq., Acting Commissioner of the Nilgiris, to C. G. MASTER, Esq., Secretary to Government, Revenue Department, Fort St. George, dated Ootacamund, 16th January 1878, No. 8.

ABSTRACT.—Submitting a revised Administration Report on the Cinchona Department for the official year 1876-77.

No. 249. ORDER THEREON, 20th February 1878, No. 274.

Miscellaneous.

THIS report shows that for the year 1876-77 the rain-fall at Neddivattum was in excess of that of the previous year, but at Dodabetta the fall was very short. In both localities there was a long drought towards the end of the year which is stated to have enhanced materially the cost of harvesting bark, though to outward appearance the plantations have not been as yet seriously affected by it.

2. *Expenditure.*—The outlay amounted to Rs. 59,630-1-3 against an estimate of Rs. 57,325. The excess seems to have been caused by the omission to provide in the Budget for the freight of bark to be sent to England. The allotment for the upkeep of the plantations was not fully spent, owing apparently to an insufficiency of labor. This it is, in a subsequent part of the report, proposed to remedy by the provision of better house accommodation and the allotment of garden lands to coolies who agree to settle on the estates. The erection of suitable lines is approved and funds have been set apart for this purpose in the Budget, but it will probably be necessary to somewhat raise the labor rates as contemplated by the Acting Commissioner. It is stated that the expenditure now given is for eleven months in the year, but the Government observe that the amount is the same as that returned in the Budget as the actuals of the year according to bills passed by the Accountant-General.

3. *Receipts.*—The revenue of the year was derived mainly from the sale of bark sent to England in the previous year though the Government note that a small amount was realised from red bark supplied on demand to the Government of Bombay, and they hope that local demands for the dry bark will increase. The Acting Commissioner suggests that the value of the bark *harvested* in the year under report should be shown as the year's receipts without reference to the date on which the proceeds were carried to account, but the Government have recently decided that it is more correct to enter only the amount received during the year.

4. In paragraph 10 the Acting Commissioner calls attention to the existence of a brisk local demand for young plants, and reports that there are numerous applications from Ceylon for seed which is stated to there realize Rs. 40 per pound. Mr. Webster is of opinion that the orders at present regulating its gratuitous distribution, at the cost only of collection charges, might be reconsidered, and from the figures quoted it would seem possible that the seed so supplied may be parted with at a profit. The Government, however, view with much satisfaction this proof of the extension of Cinchona cultivation, and so long as applications are impartially met and the cost of collection, &c., of seed is covered, while the process is not allowed to interfere with more important work, His Grace the Governor in Council is not disposed to make any further present change in the existing practice.

5. The subject of the number of trees that have been mossed will engage the attention of Captain C. Walker, who is now engaged upon the duty, with which he has been entrusted, of enumerating the trees and thoroughly inspecting and reporting on the plantations. The Government will also await his report before considering the cost of harvesting the bark by the mossing process or other modes.

6. The results obtained by the use of cattle manure appear very satisfactory, and, as it was demonstrated by the Quinologist* that in the case of the *C. Officinalis*, at all events, it produces a marked improvement in the quality of the bark, its use should be extended.

* *Vide* G.O., 10th April 1872, No. 584.

7. The total bark harvest of the year was 103,346 lb. The prices obtained in England were quite abnormal, some bark, returned in the broker's accounts as "*mossed crown*," having sold at 15*s.* 8*d.* per pound. The next highest prices were for—

See page 4 of G.O., 21st July 1877, No. 2,359.

	s.	*d.*
Branch Crown	15	7
Unmossed do.	13	9
Renewed do.	13	5

For the red bark the best prices were—

	s.	*d.*
Unmossed	11	0
Branch	9	3
Renewed	0	2

Govt. of {1878} Madras.

To

REVENUE.

THE ACTING COMMISSIONER OF NILGIRIS,

&c., &c.

Dated February 20th.

Recd.

Ent.

Cinchona Plantations.—Recording observations on letter from the Acting Commissioner of the Nilgiris submitting the Administration Report of the Government — on the Nilgiris for the official year 1876-77.

FEBRUARY.

Nos. 248-249.

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This would give a profit in the year of Rs. 2,83,546 and not of only Rs. 50,827 as shown in the accounts. I have arranged to send the *Crown Bark* crop home at an earlier date than heretofore, and if this practice be continued and the Succirubra bark be sent home each year in February, and not sold in England until April, the accounts for each year would be framed on the same basis; and the receipts would show the price realized from the crown bark harvest (the most valuable crop) for the year, and from the Succirubra bark harvest of the previous year. If, however, Government would permit me to show in my Administration Report the full sum realized from the sale of the bark harvested during the year under report without reference to the date when such sums were actually brought to credit in the Government accounts, the annual Administration Report would give a clearer view of the profits of the plantations than they now do.

9. PERMANENT PLANTATION—*Number of Plants.*—The number of Cinchona plants in the permanent plantation on the 31st March 1876 was 1,190,458. No addition was made to the number during the year under report except in filling up vacancies. The average height of the oldest Succirubra trees at Neddiwuttum was 38⅓ feet, the circumference of the stem 27 inches. The oldest plants of *Cinchona officinalis* planted at Dodabetta in September 1863 have attained an average height of 27⅔ feet with a circumference above ground of 21 inches. The number of trees in the plantations has been taken from the late Mr. McIvor's figures in his Administration Report for 1874-75. Since then there must have been some failures, and it is very necessary to have an exact enumeration taken. Government in paragraph 5 of their Order of 22nd May 1876, No. 658, directed that the trees should be counted. I am informed that the late Commissioner recommended that the enumeration should be entrusted to a special officer, but the records of the Cinchona Department have been left in such an incomplete state by the late Manager that I am unable to find any record of what has been done in the matter. The enumeration should, I think, be carried out by a special officer or an officer in the Forest Department.

10. PROPAGATION—(*a*) *Propagation.*—Propagation from cuttings was carried on at Dodabetta only, and was confined to the new and valuable varieties of Cinchona Pitayensis and Cinchona Lanceolata; at the close of the year there were 6,468 of the former and 21,540 of the latter in the propagating houses. These are for

experimental cultivation in the Government Plantations, and will be planted out next season. A new propagating house is in course of construction at Neddiwuttum for the propagation of the Cinchona Calisaya and hybrids, the attitude at Dodabetta being unsuitable for the former variety.

(*b*). *Nurseries.*—There was an extraordinary demand for Cinchona plants among the planters on the Nilgiris and in the Wynaad, in consequence of which my predecessor, Mr. Cockerell, recommended the extension of the existing nurseries at Neddiwuttum at a cost of Rs. 1,300. The allotment was sanctioned in G.O., No. 1,290, dated 29th September 1876, but the work was not carried out during the year owing to the failure of the water-supply in the shola intended to be felled. The existing nurseries were well stocked and 142,000 plants were sold to the public against 87,700 in the previous year. The quantity of seed distributed was 143 oz. against 55 oz. in the previous year. The only charge made for seed is for the cost of collection and packing which has been taken at 4 Annas per oz. The question of supplying seed gratuitously requires, I think, consideration. For instance I have lately received an order for 20 lbs. of Cinchona seed for Ceylon where seed is selling at 5*s*. an ounce or 40 Rs. per lb. Our charge, including postage, to Ceylon being 5 Rs. per lb., we will be supplying the seed at 700 Rs. below its value in that market. I think that the gratuitous distribution should be limited to 1 oz. packets, and that any quantity in excess of that should be charged for at 1 Rupee per oz.

The expenditure on nurseries during the year was Rs. 1,316-2-2.

11. UP-KEEP—(*a*) *Weeding.*—The plantations were thoroughly weeded and the weeds were buried at the roots of the trees which, besides serving as manure, removes all risk of accident from fire. The supply of labor has not, however, been sufficient to keep the plantations always clean, but during the next monsoon I will try to make arrangements for knife weeding in addition to the usual mamooty weeding. The plantations at Neddiwuttum are full of Marigold and Spanish-Needle which it is almost impossible to keep down.

(*b*). *Mossing.*—No details of the number of trees mossed have been kept, and I am informed that no such account has ever been prepared. The expenditure for mossing was Rs. 7,038-2-10. I am unable, however, to state the number of trees that have been mossed. The Government Order of 10th July 1877 was received at too late a date to admit of an account of trees mossed this year being kept, but arrangements will be made to do so next season.

From inquiries I have made I find that the cost of moss at Dodabetta is 8 Annas per 100 lbs. of wet moss, and that this quantity of moss on a rough average of all trees whether previously mossed or not will suffice for twelve trees. The fibre costs roughly about half a pie per tree. One barker and two coolies will bark and moss twenty-five trees on an average in a day. Their daily wages are 4½ Annas a day for the barkers and 4 Annas for the mossers. So that the total cost of mossing each tree is about 1 Anna 3 Pies. At Neddiwuttum and Pykara, where the rates of labor are higher, the cost at similar calculation is 2 Annas and 3 Pies per tree. The outturn of the bark being 101,880 lbs. and the amount spent on mossing and collection of bark being Rs. 12,058-11-7, the cost of collecting and mossing would be on this calculation 1 Anna 10½ Pies per lb. of dry bark, and of mossing alone 1 Anna 1⅝ Pie per lb.

(*c*). *Manure.*—The expenditure on manuring did not come up to the allotment, and was principally incurred in the Dodabetta Plantation, where 20,000 trees growing on grass land were manured. At Neddiwuttum 6,000 Succirubra trees were manured. The Superintendents of the estates inform me that manuring was attended with very beneficial results. At Neddiwuttum especially the 6,000 trees to which manure was applied were, and had been, at a stand still for three years, looking sickly and the bark refusing to rise. Cattle manure was applied in January 1877 (about 50 lbs. to a tree), and in the present barking season the trees have put on foliage and have given a very good crop of bark. It seems, therefore, that more money should be spent on manuring than has hitherto been devoted to the purpose.

12. Crop—(*a*) *Bark.*—The following statement gives the outturn in detail :—

Neddiwuttum.

	lbs.	lbs.
Natural red bark	10,900	
Mossed do.	10,700	
Renewed do.	8,500	
Natural crown	3,800	
Mossed do	3,900	
Renewed do	100	
Mossed bark	13,500	
		51,500

Phyara.

	lbs.	lbs.
Natural red bark	12,700	
Mossed do.	6,600	
Renewed do.	2,700	
Natural crown bark	600	
Mossed do.	900	
Renewed do.	400	
		23,900

Dodabetta.

Natural crown bark	13,900	
Mossed do.	10,200	
Renewed do.	2,380	
		26,480
Grand Total ...		101,880

Of this quantity 952 lbs. of mossed red bark were supplied to the Medical Department at Bombay and 88,380 lbs. were considered to the Secretary of State for sale in the London market. At the close of the year 13,500 lbs. of branch bark were in store, which have since been shipped to England. The prices obtained for the bark at the London market were very high, some mossed crown bark having sold for the unprecedented price of 15*s* 6*d*. per lb.

(*b*). *Tea.*—Only 200 lbs. of green tea leaf were sold during the year, picking having been abandoned as it did not pay. The plantation has been leased for five years to Major Jennings for Rs. 300 per annum.

13. Buildings—(*a.*)—At Neddiwuttum better accomodation for the laborers had to be provided and old huts had to be replaced during the year. Lines consisting of 66 huts were erected ; 36 of these huts are built with brick walls and 30 with mud walls; 17 of the former were covered with old corrugated iron, and the remainder were thatched. Alterations were made, under the sanction of Government, to the old jail buildings which were formerly used by the Quinologist for the manufacture of quinine, and which were converted into a drying shed in the previous year by the erection of partition walls as a protection against fire. Alterations were also made in the flues and furnaces. The building is however most unsuitable, and an estimate has been submitted for the construction of an entirely new building with hot-water drying apparatus.

(*b*).—At Pykara a bark store and a drying shed were erected ; but the latter has still to be provided with flues and internal fittings.

14. *Experiments.*—The past year was one of rest with the 1,000 experimental Succirubra trees at Neddiwuttum subjected to the mossing process. The 58 trees of Cinchona Succirubra coppiced on the 14th October 1873 at the recommendation of the Government Quinologist are still thin and weak looking. At Dodabetta the 58 trees coppiced in May 1873 have made better progress; some of the shoots have advanced sufficiently to bear barking in 1878-79. Seven of the trees however, or 14 per cent., died at the close of the year. As regards coppicing it seems from a comparison of our coppiced trees with those at the " Balmadies " Estate, at an elevation of 4,500 feet, that the elevation of the Government Plantations is too high for successful coppicing, even if that method is otherwise desirable, which I doubt, as by it no renewed bark can be obtained.

(*b*).—Government in paragraph 15 of their Order, of 18th July 1877, No. 2,273, desire to know the results of the most recent analysis of *Cinchona angustifolia*. There are only a few mature trees of this variety, and no bark has been taken from them for analysis since Mr. Broughton left the Hills. I have ordered a small quantity of bark to be sent home this year for analysis; but I shall not be able to distinguish each sample by its former number, as the numbers affixed to the trees originally have decayed, and no one seems to know much about them.

15. *Labor.*—The labor difficulty is still as great, indeed worse than ever, and more especially at Neddiwuttum and Pykara. The only way to improve it is, I think, to build really good lines for the coolies and to provide garden allotment for them on some of the waste grass lands attached to the estates, so as to induce them to settle. Even this will not perhaps have the desired effect, and it may be necessary to increase our rates of wages, which are, I am informed, now below what is given on the neighboring estates.

16. *General Remarks*—(*a*).—On the 8th June 1876 Mr. McIvor, the late Superintendent of the Plantations, died. This circumstance was reported to Government by my predecessor in his letter No. 3, of 8th idem, and in their Order, No. 1,390, of 29th September, the Government decided that pending further orders the management of each plantation was to continue with its present Superintendent or Overseer, under the control and responsibility of the Commissioner. This has been carried out, and the office of the late Superintendent has been amalgamated with my office.

(*b.*) *Subordinates.*—Mr. Rowson, the Assistant Superintendent, has worked most zealously during the year. He takes an intelligent interest in his work, and the Government have recently increased his salary from Rs. 200 to Rs. 300 per mensem.

T. Narainsawmy Naidoo, the Overseer in charge of the Dodabetta Plantations, has also given me satisfaction. Although not a trained Arboriculturist, he does his best, and has a very responsible charge. I have lately recommended an increase to his pay which is not in proportion to the extent and responsibility of his charge.

Mr. McNair, the Manager of the Cinchona Department in my office, was dismissed in June for general incompetence and continued absence without leave. His successor, Mr. Hillier, is a young man and new to the office, but promises well.

(*c.*) *Future Management.*—I cannot conclude this report without bringing to the notice of Government that the present arrangement for the management of the extensive Government Plantations is hazardous inasmuch as they are not all under one trained Superintendent, and it is possible that serious damage may result from any defective system of culture and harvesting. It is not at all necessary to appoint a successor to the late Mr. McIvor ; but I think Mr. Rowson should be entrusted with the general superintendence of the Dodabetta Plantations in addition to his immediate work at Neddiwuttm and Pykara, and should be designated " Superintendent." It would also, I think, be well if the Conservator of Forests were directed to annually inspect and report upon the health of the trees in the plantations and bring to notice any defects in cultivation he observes.

Enclosure No. 1.

Statement of Receipts on account of the Government Cinchona Plantations for 1876-77.

Particulars.	Amount. Rs.	A.	P.
Sale proceeds of 63,600 lbs. of bark sold in the London market, £9,603-8-4, at 18*s*. 9½*d*.	1,05,974	4	0
Sale proceeds of plants and seeds	2,071	14	10
952 lbs. of mossed red bark supplied to the Bombay Government at 2 Rs.	1,904	0	0
Miscellaneous.			
Sale of acid	260	0	0
Sale of building material	160	0	0
Miscellaneous	87	5	0
Total ...	1,10,457	7	10

ENCLOSURE No. 2.

STATEMENT showing the Expenditure on the Government Cinchona Plantations on the Nilgiris for the year 1876-77.

Particulars.	Expenditure.	Budget Grant.	Remarks.
Establishment.	RS. A. P.	RS. A. P.	
Superintendent	1,340 5 4	2,000 0 0	
Assistant Superintendent	2,500 0 0	3,275 0 0	
Overseers	2,640 0 0	2,640 0 0	
Office establishment	1,584 0 0	1,584 0 0	
Working Charges.			
Nurseries	1,799 9 5	...	
Roads	419 5 9	...	
Weeding	11,101 8 6	...	
Planting	254 0 6	...	
Pitting	233 2 2	24,026 0 0	
Various	2,140 6 6	...	
Tools	571 6 6	...	
Permanent Gardeners' wages ...	3,170 9 10	...	
Total Working Charges ...	19,690 1 2	.....	
Buildings.			
New Works Repairs	6,715 8 11	3,500 0 0	Details cannot be given as no accounts seem to have been kept.
Collection of Crop.			
Collecting bark	5,020 8 9	12,500 0 0	Includes freight from Madras to England which was not estimated for.
Mossing	7,038 2 10		
Packing	755 5 0	2,500 0 0	
Carriage	11,353 7 6	3,500 0 0	
Total ...	24,167 8 1	...	
Various.			
Peons' clothing	80 0 0	100 0 0	
Contingencies	453 6 4	1,000 0 0	
Manure	459 3 5	700 0 0	
Total Expenditure ...	59,630 1 3	57,325 0 0	

OOTACAMUND,
3rd December 1877.

(Signed) A. McC. WEBSTER,
Acting Commissioner.

Exd. F. R. Bantleman.

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Printed Copy
Revenue 1878 Departt

No. 68

From
The Asst Commissioner
Nilgiris

Dated 31st Decr 1877
Received 2nd Jany 1878.
No 171.

S.C. No 274-20 February, 1878

Submitting the Administration Report of the Government Cinchona Plantations on the Nilgiris for the Offl Year 1876-77.

N 248

C. 7 6 62 R. 2 26

Year 1876-77.

Statement showing the Receipts and Expenditure of the Government Plantations for the Official Year 1876.77.

Particulars	Amount			Remarks
Sale proceeds of 63600 lbs of Bark sold in the London Market. £960.18.4 @ 1/9¾	1597	4	-	
Sale proceeds of plants and Seed	207	14	10	
952 lbs of Mossed Red Bark supplied to the Bombay Government @ 2Rs	190	4	-	
Miscellaneous				
Sale proceeds of Acid belonging to Lumsden	26	-	-	
Sale of Building materials	16	-	-	
Miscellaneous	8	7	-	
Total Rupees	1045	7	10	

Particulars	Expenditure			Budget Grant			Remarks
Establishment							
Superintendent	134	5	4	200	-	-	
Asst - Do	250	-	-	327	5	-	
Coorsers	264	-	-	264	-	-	
Office Establishment	158	4	-	158	4	-	
Working Charges							
Nurseries	179	9	5				
Roads	41	5	9				
Weeding	110	8	6				
Forking	25	4	6				
Pitting	233	2	2	2402	6	-	
Pruning	214	6	6				
Tools	57	6	6				
Perml Gardeners wages	317	9	10				
Total Rs	1969	1	2				
Buildings							
New Works	671	8	11	350	-	-	Details cannot be given as no accounts have been kept.
Repairs							
Peons Clothing	8	-	-	10	-	-	
Contingencies	45	6	4	100	-	-	
Collection of Bark	502	8	9				
Drying	703	2	10	1250	-	-	
Packing	75	5	-	250	-	-	
Carriage	1153	7	6	350	-	-	* Includes Freight from Madras to England which was not demanded for.
Manure	45	3	6	70	-	-	
Total Rupees —	5763	1	8	5732	6	-	

Commrs Office
31st Dec 1877

W. W. Thwaites
Asst Commissioner

No 171

Commissioners Office
31st December 1877

23

From

A. Gc. C. Webster Esq
Ag: Commissioner Nilgiris

To

The Secretary to Government
Revenue Department
Fort St. George

Sir

I have the honor to forward the Administration Report on the Government Chinchona Plantations for the Official Year 1876-77.

2. Season and Rainfall

The Season of 1876-77 was decidedly unfavourable and the Chinchona Plantations in common with other cultivations suffered from drought The rainfall at Seddiventtum was 96.64 inches and exceeded that of the previous year by 16 inches but as the greater part of the fall amounting to 65 inches occurred during the months of July and August the Plantations did not derive a proportionate benefit. At Dodabettah

the

the fall of the year was 27.70 against 25.18 in 1875.76. The long interval of drought towards the end of the year was prejudicial to the crops. The extreme dry weather also retarded the renewal of the Bark and prevented its lifting with the usual facility which materially enhanced the cost of collection. In general appearance however the plantations do not seem to have suffered much.

Receipts and Expenditure

3. I enclose a statement of the Receipts and Expenditure of the Plantations for 11 months of the year under report. Under Expenditure I have taken only 11 months as the money drawn in April 1876 were included in the general accounts of the year 1875-76. The accounts for the first six months of the year were audited by Mr Groves Assistant to the Accountant General and for the last five Months

the by Mr Busby of the Accountant Generals Office

4. Receipts. The receipts amount = ed to Rs 110457-7-10. This item consists of the proceeds from sale of plants seed &c and from the sale of the Bark crop of the year 1875-76 as Annexed at the exchange of 1. 9 3/4 per Rupee on the price realized in London, the result of which was only received during the year under report

5. Expenditure. The expenditure was Rs 59630 against 49210 in the previous year and is distributed as follows

Permanent Establishment	8164. 5. 4
Working charges	19690-1-2
Buildings	6715-8-11
Manures	459. 3. 5
Collection of Bark	5020. 8. 9
Pressing	7038. 2-10
Carriage	11353-7. 6
Packing	755. 5. 0
Miscellaneous	533. 6. 4
	Rs 59630-1-3

6. I am unable to give the particulars of expenditure on each Plantation

Plantation as no accounts have been kept on the Plantations, all the accounts having on Inspection years been forwarded on to Mr Mc Ivor Office. The last Superintendents of the Plantation used only to send in weekly Reports and Statements of Expenditure incurred by them, and these were collated and the Expenditure incurred by Mr. Mc Ivor on each Plantation seems to have been added to the yearly account. On his death this practice was apparently discontinued and the Expenditure on all Plantations together entered on the Register of contingent charges by the late Manager (who has been dismissed) With the new forms of account introduced this year the information for the current year will be readily available

7. The Receipts being Rs 110457-7-10 and the Expenditure Rs 57630 there has been a net profit on the year of Rs

8. Owing to the late date at which the bark has hitherto been shipped the account sales of the years crop are not received in time to be credited in the receipts of the year to which the working charges are debited, so it is not possible to give an accurate balances sheet for any particular year. For instance 884 Bales containing 88708 pounds of Bark of the crop of 1876-77 the year under Report were sent to England on February 952 pounds of Bark were shipped to the Bombay Government and 13681 lbs of Branch Red and Crown Bark were subsequently sent home; the account sales of which have not yet come to hand; so that the actual price of the bark collected during the year is as follows:-

England	88708 lbs Bark realized in allowing for exchange	£2936 2	Rs 1-9/2 - 327772
Bombay	952 lbs Bark @ 2 Rs		1904
England	13681 lbs Bark at Rajpore per the Estimate		13681
			Rs 343357

Mc

this would give a profit on the
year of Rs 283727 and not of only
Rs 50827 as shown in the accounts
I have arranged to send the Crown
Bark crop home at an earlier
date than heretofore and if this
practice be continued and the
Succirubra Bark be sent home
each year in February and not
sold in England until April
the accounts of each year would
be framed on the same basis and
the receipts would show the price
realized from the Crown bark
harvest / the most valuable crop /
for the year and from the
Succirubra Bark harvest of the
previous year. If however Govern
-ment would permit our Admin
-istration Report
to any Administration Report
the full sums realized from the
sale of the Bark harvested during
the year under report without
reference to the date when such
sums were actually brought to
credit in the Government account.

the
Annual Administration
Reports would give a clearer view
of the profits of the Plantations
than they now do.

9. Permanent Plantation

Number of plants. The number of
Chinchona Plants in the
permanent Plantation on the
31st March 1876 was 1190458. No ad-
-dition was made to the number
during the year under report, except
in filling up vacancies. The average
height of the oldest Succirubra tree
at Naddiyattum was 38 feet, the
circumference of the stem 27 inches.
The oldest plants of Chinchona
officinalis planted at Dodabettah
in September 1863 have attained
an average height of 27 2/3 feet
with a circumference above ground
of 21 inches. The number of trees
in the Plantations has been taken
from the late Mr McIvor figures
in his Administration Report for
1874/75. Since then there must

have

have been some failures and it is very necessary to have an exact enumeration taken. Government in Para 5 of their Order of 22nd May 1876 No 650 directed that the trees should be counted. I am informed that the late Commissioner recommended that the enumeration should be entrusted to a special officer, but the records of the Chinchona Department have been kept in such an incomplete state by the late Manager that I am unable to find any record of what has been done in the matter. The Enumeration should I think be carried out by a Special Officer or an Officer in the Forest Department

10. Propagation

1a) Propagation — Propagation from Cuttings was carried on at Doolahetta only and was confined to the old and valuable varieties of Chinchona Pitayensis and Chinchona Lancolata; At the close of the year there were 6468 of the former and 21540 of the latter in the Propagating houses. There are for

for experimental cultivation on the Government Plantations and will be planted out next season. A new propagating house is in course of construction at Haddiwattum for the propagation of the Chinchona Calisaya and Hybrids the altitude at Dadabetta being unsuitable for the former variety

1b) Nurseries. There was an extraordinary demand for Chinchona Plants among the planters of the Nilgiris and in the Wynaad in consequence of which the Wynaad in consequence of which any predecessor or Mr Cockerell recommended the restriction of the existing nurseries at Haddiwattum at a cost of Rs 1300 The allotment was sanctioned in Government Order No 1290 dated 29th September 1876 but the work was not carried out during the year owing to the failure of water supply in the Nholah intended to be tapped. The existing nurseries were well stocked and 142000 plants were sold to the public against 87700 in the previous year. The quantity of seed distributed was 143 oz against 66 oz in the previous

year. The only charges made for seed is for the cost of collection and packing which has been taken at 4 annas per lb. The occasional supplying seed gratuitously required I think considerable. For instance I have lately received an order for 20 lbs of Cinchona seed for Ceylon where seed is selling at 6 shillings an ounce or 40 Rs per lb. Our charge including postages to Ceylon being 8 Rs per lb we will be supplying the seed at 200 Rs below the value in that Market. I think that the gratuitous distribution should be limited to 10 packets and that any quantity in excess of that should be charged for at 1 Rs per 7

The Expenditure on Nurseries during the year was Rs 1316-2-2

II Weeding

a/ Weeding The Plantations were thoroughly weeded and the weeds were buried at the roots of the trees which, besides serving as manure remains all risk of accident from fire. The supply

supply of labour has not however been sufficient to keep the Plantations always clean but during the next monsoon I will try to make arrangements for Kuiri weeding in addition to the usual Mamooty weeding. The Plantations at Doddabettah are full of Marigold and Spanish needle which it is almost impossible to keep down.

b/ Grassing. No details of the number of trees grassed have been kept and I am informed that no such account has ever been prepared. The expenditure for grassing was Rs 7038-2-10. I am unable however to state the number of trees that have been grassed. The Government order of 10 July 1877 was received at too late a date to admit of an account of trees grassed this year being kept but arrangements will be made to do so next season.

From enquiries I have made I find that the cost of Grass at Doddabettah is 8 Annas per 100 lbs of wet grass and that this quantity of Grass on a rough

average

average of all trees whether Jorroonly
mossed or not will suffice for 12 trees
The fibre costs roughly about 3/4 pie per
tree. One barker and 2 coolies will bark
and moss 25 trees on an average in a
day. Their daily wages are 4 1/2 annas
a day for the Barkers and 4 annas for
the Coolies. So that the total cost of
Mossing each tree is about 1 anna 3 pies. At
Neddiwatturra and Bogawa where the rates
of labour are higher, the cost at similar
calculations is 2 annas and 3 pies per
tree. The outturn of Bark being 103341 lbs
and the amount spent on Mossing and
Collection of Bark being Rs 12058.17 the
cost of collecting and Mossing would
be on this calculation 1 anna 10.4 pie per
lb of dry bark and of Mossing alone
1 anna 1.07 pie per lb

(c) Manure. The expenditure on
Manuring did not come up to the
allotment and was principally incurred
in the Dodabettah Plantation where 2000
trees growing on grassland were manured

At

At Neddiwatturra 6000 Succubra trees
were manured. The Superintendent
of the Estate informs me that
manuring was attended with very
beneficial results. At Neddiwatturra
especially the boor tree to which manure
was applied were and had been at
a stand still for 3 years looking
sickly and the barks refusing to grow
Cattle manure was applied in January
1877 about 50 lbs to a tree and in the
present barking season the trees have
put on foliage and have given a
very good crop of bark. It seems therefore
that more money should be spent on
manuring than has hitherto been
devoted to the purpose.

12. Crops.

(a) Bark. The following statement
gives the outturn in detail

Neddiwatturra

Natural Red Bark	9329	
Mossed — "	11745	
Renewed — "	8431	
Natural Crown	3590	
Mossed — "	3941	
Renewed — "	110	lbs
Branch Calisaya	603	
— " — Crown	411	
— " — Red	14801	52961

Pyebara

Natural Red Bark	12700
Crossed — " —	6600
Renewed — " —	2700
Natural Crown Bark	600
Crossed — " —	900
Renewed — " —	400
	23900 lbs

Dodabetta

Natural Crown Bark including Branch Bark	13900
Crossed Crown Bark	10200
Renewed — " —	2380
	26480

Grand Total 103341 lbs

Of this quantity 952 lbs of Crossed Red Bark were supplied to the Medical Department of Bombay and 68708 lbs were consigned to the Secretary of State for Sale in the London Market. At the close of the year 13681 lbs of Branch Bark were in Store which have since been shipped to England. The prices obtained for the Bark at the London Market were very high some renewed Crown Bark having sold for the unprecedented prices of 15/8 per lb.

16/ Tea Only 200 lbs of green tea leaf were sold during the year picking having been abandoned as it did not pay. The plantation has been leased to Arayoo Jemmigo for Rs 300 per Annum.

13. Buildings

1a/ At Naddevattum better accomodation for the labourers had to be provided and old huts had to be replaced during the year. Lines consisting of 66 huts were erected. 36 of these huts were built with brick walls and 30 with mud walls. 17 of the former were covered with old corrugated iron and the remainder were thatched. Alterations were made under the sanction of Government to the old Jail buildings which were formerly used by the Quinologist for the manufacture of quinine and which were converted into a drying shed in the previous year, by the erection of partition walls as a protection from fire. Alterations were also made in the flues and furnaces. The building is however most unsuitable, and an Estimate has been submitted for the construction of an entirely new building with hot water

drier drying apparatus

16/ At Pykara a Bark Store and a drying shed were erected but the latter has still to be provided with flues and internal fittings

14. Experiments

15/ The past year was one of work with the 1000 Experimental Succirubra trees at Naddiouttum subjected to the pressing process. The 88 trees of Chinchona Succirubra coppiced on the 14th October 1873 at the recommendation of the Government Cinnologist are still thin and weak looking At Dodabetta the 50 trees coppiced in May 1873 have made better progress some of the shoots have advanced sufficiently to bear barking in 1878/79 Seven of the trees however, or 14 per cent died at the close of the year As regards coppicing it seems from a comparison of our coppiced trees with those at the "Balmadies Estate" at an Elevation of 4500 feet, that the Elevation of the Government Plantations is too high for successful coppicing, even if that method is otherwise desirable, which I doubt, as by it no "renewed Bark" can be obtained

16/ Government in para 18 of their Order of 18th July 1877 No 2273 desire to know the results of the most recent analysis of "Chinchona Augustifolia" There are only a few mature trees of this variety and no bark has been taken from them for analysis since Mr Broughton left the Hills. I have ordered a small quantity of bark to be sent Home this year for analysis but I shall not be able to distinguish each sample by its former number as the numbers affixed to the trees originally have decayed and no one seems to know much about them

15. Labour

The labour difficulty is still as great, indeed worse than ever, and now especially at Naddiouttum and Pykara. The only way to improve it is I think to build really good lines for the coolies and to provide gardens allotments for them on some of the roads

waste grass lands attached to the Estates so as to induce them to settle. Even this will not perhaps have the desired effect and it may be necessary to increase our rates of wages for they are I am informed now below what is given on the neighbouring Estates.

16. General Remarks

(a) On the 8th June 1870 Mr McIver the late Superintendent of the Plantations died. This circumstance was reported to Government by my predecessor in his letter No 3 of 8th Idem and on their Order No 1390 of 29th September the Government decided that pending further orders the management of each Plantation was to continue with its present Superintendent or Overseer under the control and responsibility of the Commissioner this has been carried out and the office of the late Superintendent has been amalgamated with my office

(b) Subordinates. Mr Dowson the Assistant Superintendent has worked most zealously during the year & has taken an intelligent interest in his work and the Government have recently increased his Salary from Rs 200 to Rs 300 per mensem.

J. Narrainsawmy Naidoo the Overseer in charge of the Dodabetta Plantations has also given one Sales Section. Although not a trained Arboriculturist he does his best and has a very responsible charge. I have lately recommended an increase to his pay which is not in proportion to the extent and responsibility of his charge

Mr. McNair the Manager of the Cinchona Department in my office was dismissed on June for general incompetence and continued absence without leave. His Successor Mr Hillier is a young man and new to the office but promises well

(c) Future Management. I cannot conclude this report without bringing to the notice of Government that the present arrangement for the management of the extensive

Government

Government Plantations is hazardous
inasmuch as they are not all under
one trained Superintendent and it
is possible that serious damage may
result from any defective system
of culture and harvesting. It is not
at all necessary to appoint a successor
to the late Mr Mc Ivor but I think that
Mr Rowson should be entrusted
with the general Superintendence
of the Dodabetta Plantations in
addition to his immediate work at
Neddivattum and Pykara and should
be designated "Superintendent". It
would also I think be well if the Conservator
of Forests were directed to annually inspect
and report upon the health of the trees
on the Plantations and bring to notice
any defects in cultivation he observes

I have the honor to be
Sir
Your Most Obdt Servt

H M Weoare
Asst Commissioner

P.M.

Revenue 1878 Departt

From The H. Commissioner
Algiers
No 68.

To Bros: 20th February 78
The Secy to Govt
Bros: Depot
Fort St. Georges

Dated 31st Dec 1877
Read 24th January
No 171

Subject

Submitting the
Administration Report
of the Govt: Chinchona
Plantations in the
Nilgiris for the 4th
year 1876-77

No 248.

Year 4th 16 inches, Mean ...

Statement showing the Expenditure on the Government Cinchona Plantations in the Nilgiris for the Year 1876-77

Particulars	Expenditure			Budget Grant			Remarks
Establishment							
Superintendent	4380	5	4	2000	-	-	
Asst Superintendent	2500	-	-	3275	-	-	
Overseers	2640	-	-	2640	-	-	
Office Establishment	1584	-	-	1584	-	-	
Working Charges							
Nurseries	1799	3	5				
Roads	419	5	9				
Weeding	1101	8	6				
Planting	254	-	6				
Pitting	233	2	2	24026	-	-	
Various	2140	6	6				
Tools	571	6	6				
Permt. Gardeners wages	3170	9	10				
Total Working Charges	19690	1	2				
Buildings							
New Works	6715	8	11	3500			Details cannot be given as no accounts seem to have been kept
Repairs							
Collection of Bark							
Collecting Barks	5020	8	9	12500	-	-	* Includes Freight from Neilgherries to England which was not estimated for
Weeding	7038	2	10				
Packing	755	5	-	2500	-	-	
Carriage	11353	7	6	3500			
Total Rs	24167	8	1				
Various							
Peons Clothing	80	-	-	100	-	-	
Contingencies	458	6	4	1000	-	-	
Manure	459	3	5	700	-	-	
Total Expenditure Rs	59630	1	3	57325	-	-	

Drawers of Free?

47D

Statement of Receipts on account of the Government Cinchona Plantations for 1876-77

Particulars	Amount			Remarks.
Sale proceeds of 63600 lbs of Bark sold in the London market £9603-8-4 @ 1s 4 3/4 D	10597	4	-	
Sale proceeds of plant & seed - 952 lbs of Mossed Red Bark supplied to the Bombay Govt @ 2 Rs	2071	14	10	
	1904	-	-	
Miscellaneous				
Sale of Acid	260	-	-	
Sale of Building Material	180	8	-	
Miscellaneous	87	6	-	
Total Rupees	110457	7	10	

year by 16 inches, and

497

Commissioner's office
Ootacamund 31 December
1877

No 171

From

The Ag Commissioner
Nilgiris

To

The Secretary
to Government
Revenue Department
Madras

Sir,

I have the honor to forward the Administration Report on the Government Cinchona Plantations for the official year 1876-77-

2 Season and Rainfall. The season of 1876-77 was decidedly unfavourable and the Cinchona Plantations in common with other cultivation suffered from drought - The rainfall at Neddivattum was 96.64 inches and exceeded that of the previous year by 16 inches, but as the greater

part of the fall (amounting to 65 inches) occurred during the months of July and August, the plantations did not derive a proportionate benefit. At Dodabetta the fall of the year was 27.70 inches against 45.15 in 1875-76. The long interval of draught towards the end of the year was prejudicial to the crop. The extreme dry weather also retarded the renewal of the bark and prevented its lifting with the usual facility which materially enhanced the cost of collection. In general appearance however the plantations do not seem to have suffered much.

3 Receipts and Expenditure. I enclose a statement of the Receipts and Expenditure of the plantations for 11 months of the year under Report. I have taken

only 11 months as the money drawn in April 1876 was included in the general accounts of the year 1875-76. The accounts for the first six months of the year were audited by Mr. Graves Assistant to the Accountant General and for the last six months by Mr. Keeley of the Accountant Generals office.

4 Receipts. The Receipts amounted to Rs 1104574-10 This sum consists of the proceeds from sale of plants, seed &c and from the sale of the bark crop of the year 1875-76 estimated at the exchange of 1 Sh 9 3/4d per Rupee on the prices realized in London, the result of which was only received during the year under report.

5 Expenditure. The expenditure was Rs 59630 against 49210 in the previous

year and is distributed as follows:—

Permanent Establishment	8164-5-4
Working charges	1690-1-3
Building	6715-8-11
Manure	459-3-5
Collection of Bark	5020-8-9
Mooring	7038-2-10
Carriage	11353-7-6
Packing	755-5-0
Miscellaneous	533-6-4
	59630-1-3

6 I am unable to give the particulars of expenditure on each plantation, as no accounts have been kept on the plantations; all the accounts having in previous years been prepared in Mr. McEuen's office. The Asstt. Superintendents of the plantations used only to send in weekly reports and statements of expenditure incurred by them, and these were collated and

the expenditure incurred by Mr. McEuan on each plantation seems to have been added to the yearly account. On his death this practice was apparently discontinued and the expenditure on all the plantations together entered in the Register of cantingent charges by the late manager (who has been dismissed). With the new forms of account introduced this year, the information for the current year will be readily available.

7 The receipts being Rs 110457 and the expenditure Rs 59630 there has been a net profit in the year of Rs 50827

8 Owing to the late date at which the bark has hitherto been shipped, the account sales of the years crop are not received in time to be credited in

to the receipts of the year to which the working charges are debited, so it is not possible to give an accurate balance sheet for any particular year For instance 88380 lbs of Bark of the crop of 1876-77 (the year under report) were sent to England in February 952 lbs were supplied to the Bombay Government and 1350 lbs of Branch red bark were subsequently sent home, the account sales of which have not yet come to hand so that the actual price of the Bark collected during the year is as follows-

England 88380 lbs Bark realized £ 29362 at allowing for exchange at 1sh 9/2d	327772 Rs
Bombay 952 lbs of Bark at 2 Rs per lb	1904 "
England 1350 lbs branch bark at 1 Rupee per lb (estimate)	1350 "
	331026 "

This would give a profit in the year of Rs 283546 and not of only Rs 50827 as shown in the accounts - I have arranged to send the Crown Bark Crop home at an earlier date than heretofore, and if this practice be continued and the Succirubra bark be sent home each year in February, and not sold in England until April, the accounts for each year would be framed on the same basis, and the receipts would show the price realized from the Crown bark Harvest (the most valuable crop) for the year, and from the Succirubra bark Harvest of the previous year - If however Government would permit me to show in my Administration Report the full sum realized from the sale of the Bark harvested during the year under report

without reference to the date when such sums were actually brought to credit in the Government accounts, the annual Administration Report would give a clearer view of the profits of the Plantations than they now do -

9 Permanent Plantation

Number of Plants The number of Cinchona plants in the Permanent plantation on the 31st March 1876 was 1190458 - No addition was made to the number during the year under report except in filling up vacancies - The average height of the oldest Succirubra trees at Kedduwatte was 38⅓ feet the circumference of the stem 27 inches - The oldest plants of Cinchona Officinalis planted at Dodabetta in September 1863 have attained an average height of 27⅓ feet with a circumference

alone ground of 21 inches - The number of trees in the plantations has been taken from the late Mr. McIvor's figures in his Administration Report for 1874-75 Since then there must have been some failures, and it is very necessary to have an exact enumeration taken - Government in para 5 of their Order of 22nd May 1876 No. 658 directed that the trees should be counted - I am informed that the late Commissioner recommended that the enumeration should be entrusted to a special officer, but the records of the Cinchona department have been left in such an incomplete state by the late manager

/ that I am unable to find any record of what has been done in the matter - The enumeration should I think be carried out by a special officer or an officer in the Forest Department -

10 Propogation

(a) Propogation Propogation from cuttings was carried on at Dodabetta only, and was confined to the new and valuable varieties of Cinchona Pitayensis and Cinchona Lancealata; at the close of the year there were 6468 of the former and 21540 of the latter in the Propogating houses - These are for experimental cultivation in the Government plantations and will be planted out next season.

A new propogating house is in course of construction at Neddiuttum for the propogation of the Cinchona Calisaya and Hybrids, the altitude at Dodabetta being unsuitable for the former variety. 45

(b) Nurseries There was an extraordinary demand for Cinchona plants among the planters on the Nilgiris and in the Wynaad in consequence of which my predecessor Mr. Lockerbie recommended the extention of the existing Nurseries at Neddiuttum at a cost of Rs 1300. The allotment was sanctioned in Government Order No. 1290 dated 29th September 1876 but the work was not carried out during the year owing to the failure of the water supply in the Shola intended to be felled. The existing Nurseries were well stocked and 142000 plants were sold to the public against 87700 in the previous year - The quantity of seed distributed was 1430z against

55 oz in the preceding year. The only charge made for seed is for the cost of collection and packing which has been taken at 4 annas per oz. The question of supplying seed gratuitously requires I think consideration. For instance I have lately received an order for 20 lbs of Cinchona seed for Ceylon where seed is selling at 5 shillings an ounce or 40 Rs per lb. - Our charge including postage to Ceylon being 5 Rs per lb, we will be supplying the seed at 900 Rs below its value in that market - I think that the gratuitous distribution should be limited to 1 oz packets and that any quantity in excess of that should be charged for at 1 Rupee per oz -

The expenditure on Nurseries during the year was Rs 1316 " 2 " 2

Up keep

(a) Weeding The plantations were thoroughly weeded and the weeds were buried at the roots of the trees which besides serving as manure removes all risk of accident from fire - The supply of labour has not however been sufficient to keep the plantations always clean but during the next monsoon I will try to make arrangements for knife weeding in addition to the usual Mamooty weeding - The plantations at Neddiattum are full of Marigold and Spanish Needle which it is almost impossible to keep down -

(b) Mossing Nodetails of the number of trees mossed have been

kept and I am informed that no such account has ever been prepared. The expenditure for massing was Rs 7038 : 2 : 10 - I am unable however to state :- the number of trees that have been massed - The Government order of 10th July 1877 was received at too late a date to admit of an account of trees massed this year being kept, but arrangements will be made to do so next season -

From enquiries I have made I find that the cost of mass at Dodabetta is 8 annas per 100 lbs of wet mass and that this quantity of mass on a rough average of all trees whether previously massed or not, will suf=

=fice for 12 trees - The fibre costs roughly about ½ a pie per tree - One barker and two coolies will bark and mass 25 trees on an average in a day - Their daily wages are 4½ annas a day for the barkers and 4 annas for the massers - So that the total cost of massing each tree is about 1 anna 3 pies - At Ked=

=dieuttum and Pykara where the rates of labour are higher, the cost at similar calculation is 2 annas and 3 pies per tree - The outturn of the bark being 101880 lbs and the amount spent on massing and collection of bark being Rs 1205 : 11 : 7. the cost of collecting and massing would be on this calculation 1 anna 10½ pies per lb of

dry bark, and of massing alone
1 anna 1 2/5 pie per lbs —

(c) Manure The ex=
=penditure on manuring did not
come up to the allotment and
was principally incurred in the
Dodabetta Plantation where
20000 trees growing on grass land
were manured — At Neddiuttum
6000 Succirubra trees were manured
The Superintendents of the Estates inform
me that manuring was attend=
=ed with very beneficial results.
At Neddiuttum especially the
600 trees to which manure

was applied were, and had been,
at a stand still for 3 years —
looking sickly, and the bark
refusing to rise — Cattle manure
was applied in January 1877 (about
50 lbs. to a tree) and in the present
barking season the trees have
put on foliage and have given
a very good crop of bark — It
seems therefore that more money
should be spent on manuring
than has hitherto been devoted
to the purpose —

12 Crop

(a) Bark — The following
statement gives the outturn in
detail —

Neddiumtum

Natural Red Bark	10900	
Mossed — " —	10700	
Renewed — " —	8500	
Natural Crown	3800	
Mossed — " —	3900	
Renewed "	100	
Mossed Bark	13500	
		51,500

Pykara

Natural Red Bark	12700	
Mossed — " —	6600	
Renewed — " —	2700	
Natural Crown Bark	600	
Mossed — " —	900	
Renewed	400	
		23,900

Dodabetta

Natural Crown Bark	13,900	
Mossed — " —	10,200	
Renewed "	2,380	
		26,480

Grand Total 101,880 ths

Of this quantity 952 ths of mossed Red Bark were supplied to the medical Department at Bombay

675

and 88 380 ths were consigned to the Secretary of State for sale in the London Market — At the close of the year 13500 ths of Branch bark were in store which have since been shipped to England — The prices obtained for the bark at the London Market were very high, some mossed Crown bark having sold for the unprecedented price £15 sh 6 d per ths —

(b) Tea Only 200 ths of Green Tea leaf were sold during the year, picking having been abandoned as it did not pay — The plantation has been leased for 5 years to a Major Jennings for Rs 310 per annum —

13 Buildings

(a) At Neddiwattum better ac=
=commo-dation for the labourers had
to be provided and old huts had to be
replaced during the year - Lines con=
=sisting of 66 huts were erected 36 of
these huts are built with brick walls
and 30 with mud walls; 17 of the
former were covered with old cor=
=rugated iron, and the remainder
were thatched - Alterations were
made under the sanction of Govern=
=ment to the old jail buildings which
were formerly used by the Quino=
=logist for the manufacture of qui=
=nine, and which were converted
into a drying shed in the previous year by the erection
of partition walls as a protection against
fire - Alterations were also
made in the flues and furnaces
The building is however most un
suitable, and an estimate has been
submitted for the construction
of an entirely new building

with hot water drying appara=
=tus

69A

(b) At Pykara a bark store
and a drying shed were erected;
but the latter has still to be pro=
=vided with flues and internal
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(h) Government in para 15
of their Order of 18th July 1877 No 2273
desire to know the results of the most
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16 General Remarks

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735

Office of the late Superintendent has been amalgamated with my of= =fice -

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(C) Future management

I can not conclude this report without bringing to the notice of Govern-ment that the present arrangement for the management of the extensive Government Plantations is hazardous in as much as they are not all under one trained superintendent, and it is possible that serious damage may result from any defective system of culture and harvesting — It is not at all necessary to appoint a successor to the late Mr. McIver but I think Mr. Rawson should be entrusted with the general superintendence of the Godaletta Plantations in addition to his immediate work at Neddimu-tum and Pykara and should be designated "Superintendent" — It would also I think be well if the Conservator of Forests were directed to annually inspect and report upon the health of the trees in the plantations, and bring to notice any defects in cultiva-tion he observes —

I have the honor to be
sir,
your most obedient Servant

P. Wm Weber
Ag Commissioner —

Recvd 1878 Departmt
Foreign
No 68
The Agt. Commissioner
Natgeiers.
Prov. 28th Feby 1878.
The Secretary to Govt.
Revd. Dispatch
Fort St. George
Dated 31st Dec. 1877
Recd. 7th January 1878
No 171.

Report

Enclosure

Submitting
his Administration Report
on the Government
Salem Municipality
Natgeiris for the Fasli Year
1287-78.

Recd. 8 Jan 1878

No 268

Neddiewatthenn
18th Jany 1878

Dear Sir.

From the enclosed extract of a letter received from a Ceylon Planter it will be seen that we are selling our seed very much too cheap, indeed some people seem to doubt its being good on account of its low price.

This Mr Stephens has had from me 520 ounces and his brother 100 ounces of seed

778

On account of the short supply of labor this year I find difficulty in meeting the demand for seed. The few coolies we have would be much more profitably employed on Estate work, than in collecting seed.
Mr Ferguson has written to me.

I am
Dear Sir
Yours faithfully
W Rowson

A. McCorkindale Esqr
Gotacummudr.

77 A C

Extract from J. H. Stephens' letter dated 4 Jany 1878.

" I have 13 Chinchona nurseries in different districts to plant up 260 acres with Chin. chona. I advertized some of your seed before I made so many nurseries but found very little demand for it; — people said it could not be good seed as the price was too cheap!!. Ferguson finds a ready sale for his officinalis seed at 6d. an ounce; and has sold £66 worth.

Gampola
Ceylon

Received
Accounts Branch
Received 27 JAN 1904

770

DOC. 19th Jan 4

My dear Mander

I have just received the Enclosed from the Rowson & send it on to you with reference to Jesus 10/6/04 by Customs Administration Report

Believe me
Yours sincerely
H. M. Stanley

The

to outward appearance
Rs
the plantations were
seen as yet
not seriously affected
by it

3. Expenditure

The outlay amounted
to Rs 59,630-1-3 as
against an estimate
of Rs 57,325. The excess
seems to have been
caused by the omission
to make provision
provide
for the budget for
the freight of bark
to be sent to England

The

The allotment for the upkeep of the plantations was not fully spent owing apparently to an insufficiency of labour This it is which later on in a subsequent part of the report it is proposed to remedy in future by the provision of better house accomodation and the allotment of garden Candu Coolies who agree to settle on the Estates

The

No 274 R.D.

Proceedings of the Madras Government.

Read the following letter from the Ag: Commissioner, Nilgiris dated 31st December 1877 No 141, submitting the Administration Report of the Government Cinchona Plantations on the Nilgiris for the Official year 1876-77

The Acting Commissioner of the Nilgiris forwards his Annual report on the Govt Cinchona Plantations for the year 1876/77. It appears that

Ad.

General.

4 Receipts.

The Revenue of the year was derived mainly from the sale of bark sent to England in the previous year though a small amount was realized from redbark supplied on demand to the Govt of Bombay. The Ag. Commissioner suggests that the value of the bark harvested in the year under report should be shown as the year's receipts without reference to the date on which the proceeds were carried to account but the Govt have recently decided that it is more correct to enter only the amount received during the year.

5 In para 10 the Actg. Commr calls attention to the existence of a brisk local demand for young plants and reports that there are numerous applications from Ceylon for seed which

which is stated to there realize 40 Rs per lb. Webster is of opinion that the orders at present received for gratuitous distribution, at the cost only of collection charges, might be reconsidered & from the figures quoted it would seem possible that the seed so supplied may be parted with at a profit. The Govt however view with much satisfaction this proof of the extension of Cinchona cultivation and so long as applications are impartially met & the cost of collection & of seed is covered, while the

7

the process is not allowed to interfere with more important work; this gives the Governor in Council is not disposed to make any further present change in the existing practice.

6. The subject of the number of trees that have been passed will engage the attention of Capt. C. Walker who is now engaged upon the duty with which he has been entrusted of enumerating the trees

trees & thoroughly inspecting & reporting on the plantations. The Govt will also await his report before considering the cost of harvesting the bark by the rossing process or other modes

7. The results obtained by the use of cattle manure appear very satisfactory & as it has demonstrated by the Limnologist* that in the case of the C. Officinalis at all events it produces a marked improvement in the quality of the bark its use should be extended

*Vide G.O. 10 April/92 No. 582.

extended

8. The total bark harvest of the year was 103,461 lbs. The prices obtained in England were quite abnormal. Some bark, returned in the brokers' accounts as "mossed crown" having sold at £15-8 per lb. The next highest prices were for

	s	d
Branch Crown	15	7
Unmossed Crown	13	9
Renewed Crown	13	5

For the Red bark the best prices were

	s	d
Unmossed	11	0
Branch	10	4
Renewed	9	2

The

See page 4 of G.O. 21st July/77 No 2559.

9. The Government notes that the 1000 experimental Succirubra trees were allowed to rest and that it is stated that the bark of certain trees of the same species required to rise. It is believed that these trees had already been barked. Information will hereafter be given on this point and generally as to the intervals at which it is found possible to remove with facility and advantage the renewed bark of the different species.

Returns on these subjects were

"G.O. 11" April 1874 No 464.

were ordered some years ago and should now be regularly and carefully recorded. The Government desire not merely to maintain their own plantations but to make the experience gained thereon available to the public.

10. It is reported that some of the shoots from trees of the Brown bark species coppiced at Dodabetta in 1873 are sufficiently advanced to bear barking next season. Before issuing orders on this point the Government wish to have

full particulars as to the number and average height and girth of the shoots that it is thought could bear barking.

The 58 Red bark trees at Neddivattum the shoots from which are reported not to have done so well were apparently coppiced in May 1873 [30th] and not in October as now stated and it was considered that an unfavorable time of year had been selected for the felling.

See para: 1 of Mr. McIvor's letter in G.O. 11th April 1874 No 434.

11. A small quantity of the bark of the C. Augustifolia is reported to have been taken for

for experimental analyses and Govt. desire that samples of natural massed and renewed bark of all species each to be taken for a similar purpose. With this object special trees of an age to yield bark of commercial value will be selected and reserved and be distinguished by numbers to facilitate future reference.

The samples will be dried in the usual manner and each will be marked with the number of the tree from which it was taken.

Note
When the Quinologist's resignation was accepted it was determined not to appoint a successor it was settled that it would be advantageous to have analyses made in Europe & two independent firms (Jones 9 & Co. 11 Fenchurch St) The Madras office it was thought might for this purpose select samples from the bark sent home but it is submitted that it is most important to have information as to the chemical changes & frequent renewals produce & we might accurately determine the trees from which the samples are taken and their history. For three years the

Lyt. are written information & these points & yet it is absolutely necessary they should have it for future guidance

taken. The whole consignment will when complete be sent to the Govt. Office for despatch to the Secy. of State and will be accompanied by a statement giving full details. In the case of renewed bark care will be taken to state whether it is of a first or later renewal.

12. The acting Commissioners concluding remarks relative to the future management of the plantations have been partly anticipated by the deputation of Captain Walker and will receive further

further consideration in connection with that officer's report.

20-2-78.

7 To the Hy Commissioners of the Navigation Dist Savan
1 " Capt C J Walker S
14 " the Board of Alm S

G.O

Cinchona Administration Report 15/6/11

Proof to be sent

c 6 Feb/58 R. 20 Feb 2458-49