

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 1328	Press Mis.
A7. 49	
Dated 3 7. 1861	

Not to be folded or roughly handled

*Proceedings of the Madras Government, Revenue Department,
3rd July 1861.*

Read the following letters : —

No. 47. From Captain H. R. MORGAN, Officiating Conservator of Forests, to J. D. SIM, Esq., Secretary to Government, Revenue Department, Fort Saint George, dated Camp Avanashy, 1st June 1861, No. 503.

SIR,

1. I have the honor to forward, for the consideration of Government, a letter from Mr. McIvor, Superintendent of the Government Gardens, Ootacamund.

2. In paragraph 5 of his letter Mr. McIvor writes of new difficulties which may interfere with "this undertaking, as the information therein *volunteered* is not possessed by any man." That Mr. McIvor should thus write of the head of his Department, and direct to Government, only shows how unused he is to control of any kind. Government in their Order of 18th August 1860, No. 1,220, "regretted that the Conservator of Forests could not personally superintend

No. 1,072, of 14th July 1859 :—

"The Conservator of Forests is requested to furnish any observations which he may deem useful *reverting the cultivation* of those plants in India."

"the carrying out of the experiment," and again, in their Order, No. 1,072, called for information regarding the treatment of the plants from the Conservator of Forests. In offering to give every information on the subject possessed by me, I was only fulfilling the wishes of Government. My long acquaintance with these Hills, the spare time and much money I have

devoted to experiments in practical Arboriculture, more especially as applied to Isothermal lines do, I consider, qualify me to give an opinion. Nor is the planting out of the Cinchona so very difficult a matter as Mr. McIvor supposes. Possessing the same elevation, moisture, range of thermometer, better soil, and the same latitude that the plant grows in, there cannot be much difficulty.

3. In paragraph 7 Mr. McIvor writes, that he "would not have become connected with the

* Dr. Cleghorn's letter, paragraph 9, No. 83 of 31st July 1860, recorded in Proceedings of Government, dated 18th August 1860, No. 1,220, Public Department.

His "Indenture" binds him to act as "Gardener."

"undertaking as the carrying out of the 'preliminary* arrangement,' are the most difficult and hazardous." Dr. Cleghorn distinctly writes of his work, as a "preliminary work." If Mr. McIvor is not paid to carry out "preliminary arrangements" I do not know what he is paid for. His special duty is to raise plants from seeds and cuttings, if he fail through

ignorance or want of due attention, it is the Conservator's duty to report the same, and it then rests with Government to obtain a more qualified or careful gardener. Further, if Mr. McIvor is successful it remains with Government to reward his exertions, not for him to dictate to whom the reward should be given. Mr. McIvor writes, "rearing the seeds and establishing the plants is one of the most difficult parts of the undertaking." It will most likely be found that Mr. McIvor is not the only one who has accomplished this most "difficult undertaking," and as his advantages have been great, the difficulty in rearing the seeds on the part of others will be far greater, and they will be more entitled to credit than even Mr. McIvor, who speaks of the plants being "established," as "accomplished," here we see Mr. McIvor pronouncing upon his own work. If he calls plants a few days old and not an inch in height "established," I do not. That there is a fair prospect of success I admit, but until the plants are a foot in height and have been planted out, I cannot allow that they are established, here is a point where supervision is requisite.

4. In paragraphs 8 and 9 Mr. McIvor confounds the legitimate control of the head of his Department with the interference experienced from another in no way connected with the Department and ignorant of Arboriculture.

5. In paragraph 10 Mr. McIvor is quite correct in his manner of dealing with the plants, to have planted them out at Neddivattam, would have been certain death.

6. I have in letter, No. 350 of 31st January 1861, recommended that the plants be kept in the glass-house, and if a large stock of plants is required it will be absolutely necessary to keep them there; a few, say six, being planted out in November at Neddivattam for seed, of these seeds we shall be great gainers, if not, nothing will be risked.

7. If the plants are to be largely increased, I would recommend that the 1,500 Rupees applied for by Mr. McIvor be granted. The surplus plants thus raised, if sold, will more than cover the cost of the house.

8. As Government have already written for Mr. Weir to take charge of the Neddivattam plantation, I would recommend that Mr. McIvor's duties be confined to supplying him with plants. I consider Mr. McIvor will have quite enough to do to look after the gardens and the Dodabetta plantation. The raising of many thousand plants from seeds and cuttings will alone require his constant attention. The Assistant Conservator of Forests to inspect the plantation, accounts and work, monthly.

9. I would recommend an addition of salary be granted to Mr. McIvor on the Conservator of Forests reporting that the Dodabetta plantation is progressing favorably, and that a proper supply of healthy plants has been furnished to the Neddivattam plantation. The increase of salary to be retrospective, viz., from the 1st of May 1861.

10. I cannot recommend that Mr. McIvor should be relieved from all control, or that he should be sole judge of his own efforts. It is very necessary that a certain supervision should be exercised over him, but at the same time, there never was any intention on my part of interfering with the executive duties appertaining to his office so long as they were satisfactorily conducted. The Orders of Government, No. 1,264 of 8th September 1857, paragraph 8, place the Ootacamund gardens &c., "unreservedly" under the Conservator of Forests.

From Mr. W. G. McIVOR, Superintendent, Government Gardens, Ootacamund, to J. D. SIM, Esq., Secretary to Government, Revenue Department, Fort Saint George, dated Ootacamund, 9th May 1861, No. 59:—

SIR,

1. With reference to Orders of Government of the 16th April No. 855, and 24th April No. 928, I have the honor to state that it is highly gratifying to me to learn that I still retain the confidence of Government, notwithstanding the endeavors made to depreciate the exertions of every agent connected with this important experiment of the introduction of the quinine yielding Cinchonas to India; and I trust the results I may be able to produce, will prove to Government that their confidence has not been misplaced.

2. It was not my intention to give at this early period any report of the progress of our operations, as half the results to be expected, have not yet developed themselves. But under the circumstances already alluded to, I consider it advisable to place the following facts before Government, in order to afford the means of forming a correct estimate and comparison of what has been done.

3. Mr. Hasskarl started on his expedition on the 4th of December 1852 and Dr. Junghuham in his report, dated the 1st July 1858, gives the following as the results of the first 5½ years' labor of the Dutch in Java:—

Commercial or English names of barks.	Botanical names.	Number of plants.	Value in the London Market per lb. of dry bark.
Calisaya bark.....	Cinchona Calisaya.....	80	s. d. s. d. 2 6 to 5 0
Varieties of the Crown bark of Loxa.....	Lanceolata..... Lanceolata.....	13 3	1 8 to 2 10
(?)	Ovata.....	148	(?)
	"Besides of cuttings already rooted".....	118	
	Total No. of plants.....	362	

These numbers include the plants raised in Europe from Hasskarl's and Weddell's seeds, and imported to Java, also the whole of the plants in the thirteen plantations then in existence on the Island.

4. Mr. Markham started on his expedition in February 1860, and the following are the results obtained here in fifteen months (at this date 9th May 1861):—

Commercial or English names of the bark.	Botanical names.	No. of plants.	Value in the London market per lb. of dry bark.
Red bark.....	Cinchona Succirubia.*.....	507	s. d. s. d. 2 6 to 7 0
Calisaya bark.....	„ Calisaya.....	4	2 10 to 5 0
Genuine Grey bark.....	„ Nitida.....	392	1 8 to 2 9
Crown bark.....	„ Micranatha Provinciana.	211	1 8 to 2 10
Do. do.....	„ Patade Gallinizo.....	14	
	Total number of plants....	1,128	

* Including 463 plants brought by Mr. Cross.

These numbers include only the plants under my care, and alone establishes the fact that Mr. Markham's expedition has produced in less than one-fourth of the time fully three times the results obtained in Java; and if our operations are conducted with ordinary skill, we will possess at the end of 5½ years, at least a thousand for every plant they had in Java at the end of that period. Moreover, it may be expected that a number of plants have been raised from the seeds I have distributed throughout the country, also from the supplies of seeds sent to Kew, Jamaica, Ceylon and Calcutta. I may mention that all the plants here are in a very promising condition. Besides the species above, I have seedlings of two varieties of a Cinchona named "Microphylla" and an unnamed species, the seeds of these I received from Dr. Anderson, but as they must have been originally obtained from some of the agents employed by Mr. Markham, I conclude that they have been incorrectly named.

5. In paragraph 6 of the letter of the Officiating Conservator of Forests to Government, dated 8th April 1861, No. 431, I observe the germ of new difficulties which may interfere with this undertaking, as the information therein volunteered is not possessed by any man, and on reflection Captain Morgan must feel himself quite unqualified to give any correct information, having had no experience of the subjects he undertakes to teach.

6. No instructions which may now be drawn up can have any other tendency than to confuse and mislead, as we have not yet had any experience or one demonstrated fact on which to base any instructions for local cultivation, our knowledge on this subject can only be obtained by careful observance of causes and effects in actual cultivation.

7. Had I viewed the Order of Government of 18th August 1860, No. 1,220, in the light Captain Morgan places it at paragraph 5 of his letter, I would not have become connected with this undertaking, as the carrying out of the "preliminary arrangements" are the most difficult and hazardous, and I could not have accepted this task with the knowledge that if it failed I was to be blamed; if successfully accomplished, another person was to reap the reward and take the credit of my labors. In fact, one of the most difficult parts of the undertaking has already been accomplished, in rearing the seeds and establishing the plants.

8. That no misunderstanding may occur on this subject in future, I most respectfully beg to explain that by the orders of Government above noted, I understand that the experiment on the Neilgherries is placed entirely under my control; that I am left to the free exercise of my own judgment in my endeavors to obtain the results desired by Government, and that

the establishment is to be selected by myself and placed entirely under my orders, otherwise I could not work it to advantage, also that I have the guarantee of Government from interference so long as I produce results unequalled elsewhere.

9. I trust your Honorable Government will excuse my anxiety to have this very important undertaking placed on a basis which will guarantee it in future from such injury as it has recently sustained; inasmuch as failure, although brought about by causes placed beyond my control, will nevertheless irreparably ruin my reputation. Moreover, the reports of Dr. Macpherson Members of Government in a great degree adopted the opinions that gentleman set forth, and not only were these opinions erroneous; but they were of such a dangerous nature, that placed me in the very painful position of being compelled either to oppose the orders of Government, or to carry them out to the injury of this important experiment; and I would not that I again be placed in this position.

10. I most respectfully beg to explain that I did not detain the plants brought out by Mr. Cross here, because the site at Neddivattam was not prepared to receive them; but because of the fact (well known to every one who has received plants in wardian cases) that at once to remove the plants from the cases into the ground, or, in fact, into any place where they are exposed to the action of the air, is certain death. However healthy the plants may appear in the cases, they are there in a damp and unchanging atmosphere, the whole of their pores being open and distended, the consequence is, the action of the air, with sun light, in an ordinary open atmosphere, has exactly the same effect (but slower in its operation) as a flame of fire has on a plant reared in the open air. There are on record many severe losses to individuals and to nations, caused by the want of knowledge of this fact; but perhaps no greater than the following:—“Mr. Hasskarl arrived at Batavia with 20 cases of Quinquina” (Cinchona) plants in good order on the 13th of December 1854, and Dr. Macpherson graphically describes to your Government the lamentable and fatal consequence which followed the planting out of these plants, and I submit it to be a remarkable proceeding in that gentleman to recommend your Government to follow the same fatal course.

11. The plants brought out by Mr. Cross have been transplanted in our glass-houses, and are now favorably progressing in the process technically termed “hardening off,” by this process then be transplanted in the Neddivattam site without the loss of a single plant. I would consider it very unadvisable to put them there, because a few plants put out into an immense forest they may be fenced. Moreover, it is of the utmost importance that all the original plants be retained here, as this would greatly facilitate their propagation, and give us a stock of plants in fourteen or fifteen months, which otherwise could not be had for many years.

12. In fact to such an extent could the increase of these plants be carried on if sufficient means and appliances are placed at my disposal, that by the planting season next year (June and July), I could have from our present stock fifty or sixty thousand plants ready to be put out.

13. The Establishment proposed by Mr. Markham in his report to the Under Secretary of State is all that would be required for the first three or four years, but as the plantations extended, more superintendence would be necessary. The immediate erection in the garden of a propagating house (at a probable cost of 1,500 Rupees) on the most approved principles adopted in Europe, to be devoted exclusively to the propagation of the Cinchona is indispensable, with nursery ground attached, perfectly enclosed and furnished with screens and shades.

14. While on this subject I would most respectfully solicit the favor of Government being good enough to state the amount of remuneration they may be pleased to allow me for the superintendence of the Cinchona plantations. I have already incurred considerable expense and much anxiety of mind since the commencement of this experiment.

15. With reference to paragraph 4 of the Order of Government, dated 16th April 1861, No. 855, I have the honor to state that all the red-bark seeds have already been distributed. I only received a limited supply of clean seeds, perhaps not more than an ounce, and these have been distributed between twenty-four persons and the remainder sown in the garden, which I am happy to state are coming up plentifully and very strong. These seeds are much superior to those sent by Mr. Pritchett.

16. I may mention that Mr. Cross has inspected the Dodabetta and Neddivattam sites and highly approves of them. The Neddivattam site was selected principally for the cultivation of the red-bark, and Mr. Cross is of opinion that the plant will thrive as well on this site as it does in its native localities on the Andes.

No. 48.

From W. G. McIVOR, Esq., Superintendent Government Gardens, Ootacamund, to J. W. BREEKS, Esq., Private Secretary to His Excellency the Governor, dated Ootacamund, 4th June 1861.

SIR,

1. In reply to your letter of the 30th ultimo, I have the honor to furnish in a brief form for the information of His Excellency the Governor, the following remarks on the subject of your inquiries.

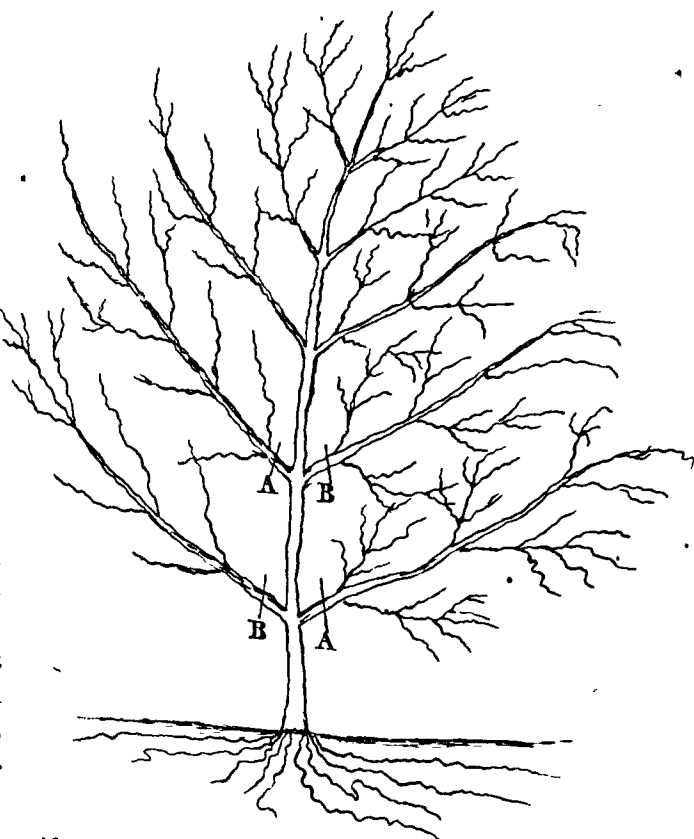
2. The first sowing of Cinchona seeds was made here in January last. In sowing these, I was influenced by the descriptions given of their treatment in Java; and the excessive amount of shade, moisture, and retentive soil, there believed to be necessary for the germination of the seeds, I soon discovered that the seeds began to mould and damp off, and almost despaired of succeeding in rearing any; however of this batch, from 3 to 4 per cent. germinated. The next sowing was made in the early part of March, and the soil used was of a much freer nature, one-half being composed of burned earth, of this sowing from 15 to 25 per cent. germinated. Encouraged by this result the third and last sowing, which was made in the beginning of April, the soil used was composed nearly entirely of burned earth, and of this sowing about 60 per cent. germinated, of one of the varieties (Provinciana) about 90 per cent. These results convince me that the great difficulties said to attend the rearing of the seeds, and the cultivation of the plants, do not so much lie in the nature of the seeds themselves, or of the plant, as in our ignorance of the proper treatment to be adopted.

At present I have in the gardens upwards of 2,000 plants in very promising condition. Some of the 463 imported plants are at the present moment in the most luxuriant state of health, and the remainder are now rapidly recovering from the disease and damage contracted in the wardian cases with a vigor which I have only seen equalled in one or two instances in the numerous species of plants I have introduced into these gardens.

3. I possess but little information on this subject, as the cultivation of the plants has hitherto not been attempted except in Java, and this is so recent that valuable data cannot be gathered from what has been done there; their results moreover have as yet been unsatisfactory. It appears to me that much erroneous matter has been published with reference to the cultivation of these plants, and that we have every thing to learn. For example, it is an established opinion by parties entitled to consideration, that the plants should be grown under the partial shade of forest trees. In April last I planted three plants of the red-bark, two under shade and one in an open spot surrounded by brushwood or undergrowth, all these plants are growing luxuriantly, but since the setting in of the monsoon, which happened on the 29th ultimo, the plants under the shade have been injured by their leaves being cut to pieces by the constant drip from the forest trees; while the plant shaded by the brushwood continues in the most luxuriant state of health with its leaves uninjured. This experiment would indicate brushwood to be the proper shade for the plants, but from its limited nature I do not feel myself justified in coming to this conclusion.

until I have made further experiments in the track thus indicated. As I have already remarked, the opinions of the Authors who advocate partial shade are worthy of consideration, they having seen the plants in the various aspects of their natural forests; and, in such localities, they must of necessity in the struggle for life which prevails throughout nature grow in the shade of other plants; but these Authors inform us that the Cinchonas strive to overtop the forest trees to obtain light and air. On this subject I am much perplexed, but am daily gaining knowledge, so that before any extensive planting is undertaken I shall have satisfied myself by actual experiment, which method will be most advantageous. The drip from large forest trees proves injurious to all plants grown under them, and I am of opinion that while we select all that is advantageous in the natural localities of the Cinchonas, we should reject all that we find detrimental; for example, Mr. Bruce informs us that he found wheat growing wild in Upper Egypt, struggling for existence among rushes and other weeds, but no one would adopt this principle in its cultivation; in like manner, too much shade may prove injurious to the Cinchonas.

4. In the forests on the Andes the Cinchona trees are cut down and stripped of their bark, and it is a generally preconceived opinion that this plan should be adopted in cultivation; but although this may be necessary and even advisable in the wild state, it appears a most ruinous system to put into operation in cultivation; not only is it unsuitable to the man of limited means, who requires a quick and uniform return on his capital, but it also necessitates the destruction of the plantation to produce a return at all, and this after waiting ten or twelve years. To obviate these inconveniences it occurred to me that the plants in cultivation should be induced to branch as near the ground as possible, and on the third year, say the two branches at A. A. are cut off from their bark, they would immediately throw out fresh shoots below the line at A. A. From these shoots one or two should be selected to take the place of branches removed. In the fourth year the branches at B. B. would be cut off in like manner, and so on until the sixth year, when the new branches formed at A. A. could again be removed, and so on for any number of years.



5. This treatment would ensure a quick, uniform, and constant supply of bark, and if the pruning (as I may term it) be judiciously carried out, the trees would be benefited rather than injured by the removal annually of a few of their branches.

6. Mr. Markham, to whom I have spoken on this subject, considers it the best plan that can be adopted in the cultivation of the plants. There is however one objection to it, it is that the price of quill bark (bark from branches) is of a little less value than the bark from the trunks. In the London market the trifling difference of 1d to 2d per pound is quoted. Howard, the great Quinine manufacturer, in reply to the queries of Mr. Markham on this subject, states:—

“As to the *Plancha* (trunk) bark, and *Canuto* bark (the bark of smaller branches) the former is preferred, and yields rather the most quinine, but the quill *Canuto* also commands a “good price.”

7. The sites selected near the gardens and at Neddivattam are, I consider, well suited, and perhaps better than any other sites which could be found on the Neilgherries, from their being so conveniently accessi-

ble, but doubtless hundreds of other sites as well suited in soil and climate could be selected. The Dodabetta or site near the garden has been selected entirely for an experimental plantation, *i. e.*, a plantation in which to test what amount of exposure, or shade, and description of shade, of soils and subsoils, are best suited to the growth of Cinchonas; and the development of their alkaloids. This site contains a great variety of exposures and also a great variety of soils, and thus offers for this special purpose, advantages which it would be difficult to meet elsewhere. The Neddivattam site is a large forest of perhaps 400 acres of as fine land as is to be had on the Neilgherries, well sheltered, and in every respect so far as I am aware well suited to the growth of all the varieties of the Cinchona, and here will be the principal Government plantation; but it is most important that we should have a higher site, for experiments, in order to prove whether the Cinchonas will or will not grow over the whole extent of the plateau of the Neilgherries, and this could not be established by any amount of success which we might obtain at Neddivattam. If it proves that the Cinchonas can be cultivated over the whole plateau of the Neilgherries it will establish a fact, the importance of which cannot at present be estimated, because it will open an immense field for European enterprise and energy, and in combination with this profitable employment of capital it will place Europeans in a healthy and invigorating climate.

8. I would propose to retain all the plants here (with the exception of a few which will be required for experiments) till June or July next year, which is the best planting season of the year. By that time if sufficient means are placed at my disposal, I trust to have from 50,000 to 80,000 plants ready to put out into the Neddivattam site. My object in detaining the plants here, are two, the first is to facilitate the propagation, and the second is while we are thus accomplishing an important object in increasing our plants, we are (during the same time which will extend over a year), by planting a few plants out under various circumstances and in different positions, ascertaining by actual experiment which is the safest method to be adopted in making our extensive plantations.

9. As I have already remarked, the plants have taken to the climate in a manner which has only been equalled by one or two of the numerous species of plants I have successfully introduced, and I am convinced that if our operations are conducted with skill we may obtain a success altogether unprecedented.

10. To ensure success it appears to me indispensable that the officer in charge of the experiment should be left to the free exercise of his own judgment, and not required to follow any prescribed method of cultivation, which cannot lead to other than bad results. I am convinced of this, because I have gained more correct information from my short observation of the plants under cultivation than from all that has been written and said upon the subject. If sufficient caution is exercised in conducting this experiment, and the officer in charge possesses ability to trace the effects produced on the plants under cultivation to their true causes, there exists little danger of any serious error being committed. The Government will be expected to afford efficient means, and to allow an Establishment sufficient to carry out the operations to the greatest extent practicable, and it would be detrimental for the Government in future to issue orders stopping operations without reference to the executive officer or the benefit of his opinion on the subjects the Government may be recommended to adopt. I express myself more freely in this private communication on this subject than I did in my official correspondence, as great injury has been done to the experiment by the Order of Government of 9th March 1861, No. 552. His Excellency being anxious to obtain correct information will, I trust, excuse me for bringing this to his notice. Although what has been done here has been attempted to be deprecated to Government, I am aware from the care and skill which I have devoted to the rearing of these seeds and plants that when reports from other quarters of their results are received and compared, that it will be established that our success is quite unequalled. From the commencement of the cultivation of these plants (and this is the most critical period) I have had to do every thing with my own hands, as I have not a man in my establishment who

possesses sufficient knowledge of the nature of the plants to be entrusted, even to water them. One over-watering might cause the death of the whole of the seedlings, by causing them to damp off, it is therefore of the utmost importance that a well educated European gardener be sent out from England as soon as possible, and as the experiment progresses two more well educated gardeners will be required.

11. This is merely a brief outline, more founded upon supposition than any fact which I have had to guide me with reference to their cultivation, and it may prove that some alterations in these plans may have to be adopted during the progress of these experiments.

P. S.—A few leaves, showing the injurious effects of the drip, are forwarded for the information of His Excellency. The drip passes through the newly developed leaves like a shot, and shatters and breaks the older ones.

No. 49.

ORDER THEREON, 3rd July 1861, No. 1,328.

1. The Governor in Council is gratified to receive so promising a report of the experiment as far as it has yet progressed, of introducing the Cinchona plant on the Neilgherries.

2. There seems to have been some misapprehension as to the degree of power which Government intended to vest in the Superintendent of the Horticultural Gardens at Ootacamund in respect to this experiment. In paragraph 5 of their Order, dated 16th April last, No. 855, they stated that the operations at the garden ravine and Neddivattam should be "entrusted to Mr. McIvor." The Government are satisfied that this is the most judicious course. Very little professional knowledge and experience, and constant care. In Mr. McIvor's zeal and ability the Government have great confidence, and they resolve, therefore, to entrust this important experiment to him, giving him full and entire control over the operations, and holding him answerable for his conduct of them.

3. The Conservator of Forests will periodically inspect and report on Mr. McIvor's operations, but he will not interfere with them, except by order of Government.

4. The great object at present is to propagate a large number of plants; the establishment of plantations in different localities will follow as a matter of course, but should not be attempted until a sufficiency of plants has been raised to place the experiment beyond risk of failure. For the same reason, seeds and plants should not be gratuitously issued or sold till the experiment is safe; then the Government will gladly afford every facility to persons desirous of cultivating the Cinchona. Mr. McIvor will therefore understand that the establishment of the plant is the great aim at present. In matters of detail the Government leave him free to exercise his discretion, and they feel confident that his best exertions will not be wanting to bring this important experiment to a satisfactory termination.

5. The Government sanction the immediate construction of a propagating house at a cost of about Rupees 1,500, to be paid out of the reserve fund provided in the Public Works Budget of 1861-62, though the charge will be eventually debited to the Cinchona experiment. Mr. McIvor will furnish further particulars of the proposed building, but the success of the experiment is not to be risked by delay on this account.

6. The Government have written to the Secretary of State to engage Mr. Weir; if further skilled assistance is necessary the Government will readily endeavor to procure it. Mr. McIvor should, as soon as he can, furnish a statement of the probable monthly expense of his operations for fixed establishment, occasional labor, and contingencies.

7. The Governor in Council is aware that these operations will give Mr. McIvor much additional trouble and add greatly to his responsibility. He does not think it fair that his remuneration should be deferred until the work is accomplished, and he resolves to apply to the Secretary of State for permission to raise his allowances from Rupees 200 to 300 per mensem.

(Signed) J. D. SIM,
Secretary to Government.

This is a very satisfactory letter from Mr. McIvor and I think we cannot do better than hand over to him the full and entire control at present of the experiment, holding him responsible for the conduct of it. We might also have sent him for one of the gardeners mentioned by him as necessary, and we might direct him to state what expenses it would be necessary to incur in preparing the ground for the plantations alluded to. Shelter might be given by leaving tall trees - shade is a certain intent. However all these are details which had better be left to Mr. McIvor. I have sent one gardener at present but another might be sent for at the end of the year if the experiment is successful.

Copy in a Letter to England
of 6th July 1861 No 89

Recd 1861 Sept 11th
Pres of Gt B for Duty
No 1474

From,

M^r Macdon

Sup^t for

Sec^y

Date 4th June

Recd 25th 1861

Ref^y

Reporting on the suc
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Cinchona at Cota
= Canund.

No 48.

No 1328. 3 July

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Revenue 1861 Oct 11

Pro. of the State of New York

No 1328

Pro. of the State of New York

Dated 30 Aug 1861

Page 2

Letter from the
Society of the Friends of the
State of New York
to the State of New York
from the N. Y. State
on the subject of
of the State of New York
with other documents

Feb 7 1861

Pub. Pro: 8 Septem^r 57 No 60.

— 14th July 59 — — 47.

— 18 August 59 — — 164-165

Rev. 12th July 59 — — 155-156

— 16 April 59 — — 265-271

24 April 59 — — 412-413.

Copyina letter to England
7th July 1861 No 89

Reve = 1861 July.
Pro: of Govt No 1321.

The Off: Conservator of Forests
The Secretary to Government
Revenue Department
Fort St. George.

Dated 1st June 1861
Recd: 10.

No 503.

Conserv: One.

No 1328 3 July 1

Forwards a letter from
Mr. McIvor, Supt. Govt. Gardens
at Ootacamund, and recommends
the manner in which he should
be employed agreeable to his
indenture and recommends
that he should receive
an increase of pay on the con-
servator of forests reporting that
the Dodabetta plantation is in
good order & a proper supply of
healthy plants has been furnished
to the Adinimum Lincione plant-
ation.

1047.

10 June

No 1328

Proceedings of the Madras Government.

Under date the 2nd June 1861.

Forwards a letter from Mr. McIvor, and recommends how
he should be employed agreeable to
his indenture and recommends
further that he should receive
an increase of pay on a favorable
report from the Conservator of Forests
on the Dodabetta plantation.

From Mr. McIvor Supt of Govt
Gardens at Ootacamund.
(Here enter 4 June 61)

The prof is gratified
to receive so promising
a report of the ex-
periment - as far as
it has yet progressed
of introducing the
cinchona plants
on the Peily berries -

There seems to have
been some misapprehension
as to the degree of
power which pertains
to the Supt of the Govt
Gardens at Ootacamund
in respect of this
experiment - see from
5 of them order of 16 April
last No 855 they state
that the returns at
the garden various

MA

hll

He disinterestedly
be "entrusted to Mr.
McLure". The fact are
satisfied that ^{the} is the
most judicious course.
Very little is yet
known of the culture
of the plant - and
the experiment is
manifestly one which
needs technical pro-
fessional knowledge
& experience - I can
thank you. ~~For~~ Mr.
McLure's zeal &
ability the fact have
great confidence &
they believe there-
fore to be most to this
important experi-
ment to him - giving
him full & entire
control over the opera-
tions and holding

him accountable for
his conduct of them.

3. The Chief Com-
missioner of Forests
will periodically
inspect & report
on Mr. McLure's
operations, but he will
not interfere with
them, except by order
of Govt.

4. The first object
at present is to
propagate a large
number of plants -
then establish nurseries
of plantations in
different localities
which follows as a
matter of course.
but should not be
attempted until
a sufficiency of

plants have been
raised & placed
the experiment be-
-gins with a risk of failure.
For the same reason
seeds & plants sh^d
not be put out
issued or sold till
the experiment is
safe - then the govt
will gladly afford
every facility to
send out orders of
cultivating the Cin-
-chona - Mr Mc Lorr
will therefore under-
stand that the
establishment of
the plant is the
next aim at present.
In matters of detail
the govt leaves him
free to exercise his
discretion and

to be paid out of the reserve
fund provided in the Public
Works Budget of 1861/62, the
charge will be eventually
debited to the Cinchona
experiment

7 they feel confident
that the his last ex-
-periments will not be
harmful & being this
important experiment
to a satisfactory
termination.

5 The govt sanction
the immediate con-
struction of a habi-
tation house at a
cost of about Rs 1500/-
Mr Mc Lorr will pay
his 2 for then has to
costs of the habi-
tation, but the suc-
cess of the experiment
is not to be risked
by delay on
this account.

6 The govt have
written to the Secy
of State & Mr
Went - if further

Skilled assistance is necessary
 the Govt will readily
 endeavor to procure
 it - Mr Mc Lvor shall
 as soon as he can pro-
 vide a statement of
 the past the monthly
 expenses of the
 his operations for fixed
 Est at this time - oc-
 casional labor - &
 contingencies -

The Govt is
 aware that these
 operations will pro-
 duce Mr Mc Lvor much
 additional work
 & add greatly to his
 responsibility - He does
 not think it fair
 that his remuneration
 should be deferred

until the work is ac-
 -complished - and he
 wishes to apply to
 the Sec of State for
 permission to raise
 his allowances for
 Rs 200 & Rs
 per month.

J. D. S.

- 4 Copies. Conservation of Forests. P. 6
- 1th " Board of Revenue. & 3
- 2 " Secy General - Ind. Dep't.
- 2 " Inspector General of Hospitals &
- 8 " Chief Engineer.
- 2 " Secy. Local.
- 2 " Civil Paymaster.
- 1 " Mr. Mc Lvor

To Mr Mc Lvor letter to
 the Secy of State for
 printed & signed
 in record.

Copy in a Letter to England
of 6th July 1861 N: 89.

Cinchona Linn.

Revenue Dept
Pro: of Govt. for July

No 1328.

No: of the Madras Govt
Df 3rd July 1861.

From the Cr: 2241/61.

From the Cr: 2241/61.

Cr: 2915 (Submits Estimate for construction
Chin: one pushing a line from a Museum)

Letter from the Officiating
Conservator of Forests enclosing
and from Mr. McGe. H. Esq. on the
success of cultivation of Cinchona
in India - with orders thereon

N: 9 at 49.