M.R.O. 14—10,000—21-4-22.

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 781-782 Press Mis.-

59-62

Dated 15-5- 1860.

Not to be folded or roughly handled

No. 59. Read the following letter from H. CLEGHORN, Esq., M.D., Conservator of Forests, to J. D. BOURDILLON, Esq., Secretary to Govt., Revenue Department, Fort St. George, dated Madras, 31st December 1859, No. 889.

I have the honor to forward herewith the Report of the Superintendent of the Government Gardens at Utakamand, for the period from 1st January 1858 to 30th April 1859.

2. I have lately carefully inspected the garden on numerous occasions, and I am happy to say that great progress has been made in it. It is exceedingly well laid out, and advantage has been skilfully taken of the picturesque site. A number of very fine plants have been introduced, and, in the course of a few years, the garden, for its extent and standing, will not suffer by comparison with any out of England. It is satisfactory also to find that many valuable plants are being gradually disseminated through the country; but we cannot expect to derive the full benefit of the garden in this respect, until the system of railways and canals is completed. At present the expense, the difficulty, and the risk of transport materially retard the dissemination of plants.

Wellingtonia gigantea.
Dioscorea batatas—Chinese yam.
Cupressus Lawsoniana.
Taesonia longiflora.
Meconopsis simplicifolia.
Edwardsia.

3. I will now proceed to briefly remark on such parts of Mr. McIvor's report as seem to me to need special notice.

4. *Conservatory.*—The present conservatory is certainly an unsightly building, but it was erected under difficult circumstances. I have requested the District Engineer to include the estimate for its external improvement, and for the necessary fittings and repairs in the interior (which will not cost more than about 1,000 rupees) in his next budget; and I would recommend that, under that Officer's general superintendence, the work should be entrusted to Mr. McIvor, who from having been brought up at Kew Gardens is well acquainted with such edifices, and will, I am sure, do the work well.

I hope hereafter to remedy the great loss in transit from Madras, but, in common with other departments, we are very much at the mercy of the cart and transit owners. The completion of the railway will be of the greatest importance inthis respect, and it will be desirable hereafter, as far as the season may permit, to make Beypoor the place of shipment for plants to and from Europe.

Para. 4.

5. *Kunúr Nursery.*—I trust that the inferiority of Kunúr seeds is only owing to the gardens being of recent formation (this is only its second year), and to the difficulty hitherto experienced in procuring good manure. Kunúr has great advantages in position and climate, and when the railways are open I look to it as the nursery for Southern India. I hope that manure will be obtained before long from the rapidly increasing settlement.

6. *Kalhatti Nursery.*—My objections to this nursery are that it is situated in a somewhat inaccessable position, and that being on the road to Mysore, the tract of country under it will be ultimately very fairly supplied from the Bangalore garden. It is obviously undesirable to multiply nurseries and gardens unnecessarily, especially in such a limited tract as the Nílgiri range. They distract the attention of the Superintendent, and involve additional expense. Moreover, there are few plants, likely to be extensively propagated, which *will* grow at Kalhattí, and will *not* grow at Kunúr, and for these few I doubt the expediency of maintaining an additional garden at the former place. For these reasons, I still think the Kalhattí nursery may be given up in two or three years, by which time the Kunúr garden will be in a condition to supersede it. Mr. McIvor is mistaken in supposing that I advocated its *immediate* abolition, as that would involve the sacrifice of the plants in it before others could be supplied from Kunúr.

7. *Utakamand.*—Mr. McIvor's application of moss is most important, and he deserves great credit for it. It will prove a great advantage to Government in economizing space and soil in the nurseries and to purchasers in saving expense of transport. This discovery will render it unnecessary to purchase additional land as proposed last year. As regards the supervision of all the woods and plantations on the Nílgiris, I have already stated my opinion in my report of last year (dated 13th November 1858, para. 33) that such an extensive charge would be beyond the powers of any *one* man. I think Mr. McIvor's energy and zeal are already sufficiently taxed with the charge of the gardens and two distant nurseries, the planting of the Jackatalla road, and his voluntary assistance in laying out the Soldiers' gardens. As regards the

future, we have the prospect of endeavouring to introduce the Cinchona next year, and in fact each year will bring with it similar important duties requiring his skill and experience.

8. *Distribution of Plants.*—Mr. McIvor's tabular statement shows that plants, &c., to the value of about Rupees 200 monthly have been distributed, exclusive of exchange. On looking over his list of applications I find that supplies have been sent to Ahmednuggar, Saugor, Trevandam and other stations.

9. *Progress of the Garden.*—The gardens, in common with other Departmental works, have suffered from the great and sudden rise in the rate of wages at Jackatalla, which has cost us 15 per cent. extra, and indeed, we have retained our laborers only by the expedient of agreeing to employ their wives and boys in the gardens, and to give them some increase of pay themselves. As the Government grant for labor is only 100 rupees per mensem, this is a serious matter to us.

10. *Cinchona.*—The introduction of the Cinchona is a most important subject. A moderate grant will be required to prepare a suitable site for the plants at the upper end of the gardens, the nurseries, and perhaps in other localities. As regards the *manufacture* of drugs, I think this should be left to private enterprise, the gardens merely supplying the plants freely at the cheapest practicable rates. So far as the wants of Government are concerned, supplies of the materials could be sent to the stores for preparation.

MEDICINAL PLANTS AVAILABLE.
Atropa Belladonna—Belladonna.
Hyosciamus Niger—Henbane.
Leontodon Taraxacum—Dandelion.
Menthapiperita—Peppermint.
Cannabis Indica—Indian Hemp.
Diosma crenata—Bucku.

11. The gardens, it will be seen, in the period under report, cost Government for maintenance only Rupees 100 per mensem. This is exclusive of Mr. McIvor's salary (rupees 200 per mensem), and of the special grant of Rupees 1,000 for laying out a portion of the grounds.

Abstract of the Accounts of the Government Gardens, Utakamand, from 1st January 1858 to 30th April 1859.

Dr.	Rs.	A.	P.	Cr.	Rs.	A.	P.
To charges incurred by Messrs. Arbuthnot & Co. on account of the Garden in 1857	192	12	8	By balance of Cash in hand on 1st January 1858	192	15	2
,, Building and tiling seed house and verandah	375	0	0	,, Government allowance from December 1857 to March 1859	1,600	0	0
,, Do. five houses for Gardeners	100	0	0	,, Do. for Kunúr gardens from December 1857 to 20th June 1858	331	10	8
,, Garden establishment from December 1857 to March 1859	3,485	3	4	,, Do. for laying out the lower gardens	1,000	0	0
,, Garden implements, stationery, transit charges and sundry small expenses	822	10	6	,, Proceeds of plants and seeds sold	2,106	3	10
,, Amount transferred to Messrs. Arbuthnot & Co. in January 1859	52	6	2				
	5,028	0	8				
At credit with Messrs. Arbuthnot & Co., 30th April 1859	74	15	1				
Balance of cash in hand, 30th April 1859	127	13	11				
Total, Rupees	5,230	13	8	Total, Rupees	5,230	13	8

12. The marginal abstract gives, according to Mr. McIvor's accounts (which have been sent to the Board of Revenue), the charges and receipts ; and shows a balance in favor of the Gardens of Rupees 202-13-0, leaving the Superintendent's salary out of consideration.

13. *Collecting Indigenous Plants.*—Within reasonable limits, I have no objection to occasional trips for this purpose. I think, however, that a report of important discoveries should be submitted for the information of Government and the public; and that specimens of every new plant should at once be forwarded to the Royal Gardens at Kew, surplus specimens being sent, at Mr. McIvor's discretion, to such private Nurserymen as will give him plants in exchange.

14. *Apprentices.*—George Burroughs appears to be making good progress; he receives 15 rupees per mensem. It would be a great advantage to the garden and fulfil one of the objects originally contemplated, if we could obtain one or two other good lads, but the funds do not admit of our paying learning boys at this rate of wages, and from the cost of provisions and necessaries on the Nílgiris we are unable to board them for less. I would, therefore, propose that 35 rupees per mensem be granted for the maintenance of Apprentices, which sum might be allotted thus :

1st Apprentice		15 Rupees.
2nd and 3rd at 10 Rupees each		20 ,,
Total		35

15. *Writer.*—The services of a writer have been temporarily engaged, and I trust that Government will sanction the accompanying* application for that object at 20 rupees per mensem. The services of a writer are necessary for the regular despatch of the accounts and the custody of the records.

Vide E. M. C. No. 323, para. 12, dated 15th March 1859

STATEMENT *of Increase to the Establishment of the Government Gardens, Utakamand.*

No.	Date.	Extract from Home Department of Government of India.	Office to which the Proposition refers.	Nature of Charge.	Present Scale. Rs.	Present Scale. A.	Present Scale. P.	Proposed Scale. Rs.	Proposed Scale. A.	Proposed Scale. P.	Charges. Years.	Charges. Ordinary.	Charges. Extraordinary.	Charges. Total.
			Government Gardens, Utakamand.	Superintendent	200	0	0	200	0	0				
				Superintendent Writer				20	0	0				

Proposition.

Temporary.

Increase per month. Period.	Increase per month. Rs.	Increase per month. A.	Increase per month. P.	Decrease per month. Period.	Decrease per month. Rs.	Decrease per month. A.	Decrease per month. P.

Permanent.

Increase per month. Rs.	Increase per month. A.	Increase per month. P.	Decrease per month. Rs.	Decrease per month. A.	Decrease per month. P.
20	0	0			

Casual or Extraordinary.

Grounds of Proposition.	Local Government's Recommendation.	Orders of the Government of India.	Financial Department. Orders.	Home Department. Remarks.	Financial Department. Remarks.

Vide E. M. C., dated 15th March 1859, No. 323, Rev. Dept.

(Signed) H. CLEGHORN,
Conservator of Forests.

MADRAS, OFFICE OF CONSERVATOR OF FORESTS,
31*st December* 1859.

REPORT ON THE PROGRESS AND CONDITION OF THE GOVERNMENT BOTANICAL AND HORTICULTURAL GARDENS, UTAKAMAND, FOR 1858-9.

In submitting this Report, I proceed to notice briefly the principal changes and improvements which have been effected in this establishment during the past year.

2. The walk from the entrance gate to the Conservatory has been completed with the vases and pedestals on each side; this gives a more pleasing appearance to the entrance, which, in all respects would now be complete were it not for the unfinished state of the Conservatory This building when completed, will prove very valuable for the growth of specimen plants. The delay attending its completion has been great. I understand that the District Engineer will shortly inspect the building, when I trust the work will be resumed and finished.

3. In the ornamental portion of the garden several new walks have been formed which afford increased access to the various parts. The flower beds in the lower garden have been nearly doubled in number, and their appearance much improved by being planted with choice and showy flowering plants.

FRUIT TREES.

Apples.
Kerry pippin.
Cockle do.
Dumelow seedling.
Court Pendu.
Dredge's Fame.
Bradant Bellaflour.
Early Julien.
Manx Codlin.
Pineapple.
Flower of Kent.
Lucombe's seedling.
Pears.
Autumn Colmar.
Winter Nelis.
Frank Real.
Green chisel.
Flemish Beauty.
Emerald.
Broom Park.
Shobden Court.

TREES AND SHRUBS.

Wellingtonia gigantea.
Acacia linifolia.
do. sp.
do. graveolens.
Acmena floribunda.
Aralia sp.
Alphitonia excilsa.
Boronia ledifolia.
Bossia linophylla.
do. Microphylla.
Baloghia lucida.
Banksia pulchella.
do. serratifolia.
do. sp.
Conospermum sp.
do. longifolium.
do taxifolium.
Casuarina palodosa.
Calothrix scabra.
Callistachys ovata.
Cryptocarya glaucescens.
Cassia namaphylla.
Commersonia Favaser.
Corynocorpus lævigatus.
Doryanthus excelsa.
Dracæna nutans.
Dillwynia phylicoides.
do. ericifolia.
Eucalyptus globulus.
do. sp.
do. piparata.
Euphrasia sp.
Elacocarpus cyaneus.
Eriostemon myoporoides.
Ficus macrophylla.
Frenela sp.
do. glauca.
Grevillea robusta.
do. buxifolia.

4. *The Introduction of Plants.*—During this year there has been a large accession of valuable plants; the most important species being named in the margin. These were principally contributed by Mr. Veitch of Exeter, Dr. Janeson of Saharumpore, Dr. Cleghorn, Conservator of Forests, and Dr. Thomson of the Calcutta Botanic Gardens. Among the timber and ornamental trees Wellingtonia gigantea is worthy of special mention; seeds of this valuable tree being kindly supplied by Mr. Veitch, from which a few plants were raised. The beautiful Cupressus Lawsoniana has also been raised in abundance from seeds received from the same source.

The Banksias, Hakeas, Persoonias, Isopogans, Pitlosporums and Metrosederas are a great acquisition, as these plants are particularly well suited to this climate. Of fruit trees, 124 varieties were forwarded by Mr. Veitch for the garden; but owing to the delay of the plants for nearly two months in transit from Madras to Utakamand, they all perished with the exception of the 19 sorts entered in the margin; this failure has shown the necessity of a trustworthy man being sent to receive the plants at Madras and accompany them to Utakamand so as to bring them on with as little delay as possible. This plan will be adopted with the consignment of plants expected this season, and the Conservator of Forests has kindly offered his aid in carrying out the arrangement. The Chinese yam (Dioscorea Batatus) promises to be a valuable introduction as it seems well suited to the climate; but here where the potatoe thrives so well, it is not to be expected that this root will ever be very extensively cultivated, as it requires great care in cultivation to make it productive; and this care is not likely to be bestowed on it by native cultivators generally.

5. *The Nursery Garden at Kunúr* has been much enlarged. Here, however, a great disappointment has been experienced by the discovery that the seeds produced on the new ground are of very inferior quality; the consequence is, that this will necessitate the extension of the cultivation in the Kalahatti branch garden for the present season, so as to produce the quantity of seeds required to meet our demands.

Much difficulty has been experienced in procuring manure for this nursery, and in a great degree to the want of this necessary may be attributed the production of such inferior seeds.

Hakea stricta.
do aricularis.
do. pugioniformis.
do. sp.
Hibbertia sp.
Isopogon trilobus.
do anemonifolius.
Indigofera monophylla.
Lasiospetalum macrophylla.
Leptomeria acida.
Lomatia silacifolia.
Metrosideros tomentosa.
Prostanthra violacia.
do. lasianthos.
Persoonia sp.
do. pinifolia.
do. flexifolia.
do. latifolia.
do. hirsuta.
Pomaderris discolor.
Pittosporum undulatum.
Peinelea sp.
Phormium tenax.
Padocarpus spinulosus.
Patersonia longifolia.
Ponceletia sprengelioides.
Sollya leniaris.
Syncarpea albens.

Acer Varilgata.
Alnus Nepalensis.
Berberis aristata.
do sp.
Cissampelos heterophyllus.
Cotoneaster acuminata.
do. affiens.
Cerasus corunta.
do. sp.
Celtis acuminata.
Castanea tribuloidx.
Cedrela paniculata.
Corunus macrophilla.
Deeringea celosioides.
Desmodium sp.
Glycine Rhoinleoiden.
Grewia oppositifolia.
Ilex Dipyrena.
Lilium giganteum.
Lonicera diversifolia.
Morina Wallichiana.
Myrsine bifaria.
Pavetta tomentosa.
Pyrus corylifolia.
do. luccate.
Pardanthus Chinensis.
Quercus incana.
do. sp.
Rubia cordifolia.
Rhus parviflora.
Rhos vernicifera.
Rhamuns virgatus.
Staphylea emodia.
Spirasa callosa.
Symplocos racemosa.

6. *The Kalahatti Nursery* has only been kept in order during last year, at the monthly cost of 10½ rupees; the Conservator of Forest having recommended its being sold. This nursery contains at present a very large and valuable stock of young fruit trees; it also produces excellent seeds. For many plants, the climate is better suited than that of Kunúr; and, at present, to dispose of this branch garden would be a heavy loss to the institution, as in fact it is, and has been, the main source from which our supply of seed is obtained.

7. *The Utakamand Nursery.*—A most important improvement has been effected in rearing and preparing plants for removal, which greatly economizes nursery ground, and prepares the plants in the best possible manner for transplanting. The Hon. the Governor in Council expressed their opinion in the Order of 5th June 1858, that I should "have the general supervision of all woods and plantations on the Nílgiris, with a proper Establishment:" in anticipation of this Order being put into effect, the rearing the large quantity of trees necessary became a subject of anxious consideration; the young plants if reared here, the cost of carriage to the different sites would greatly increase the cost of planting; nurseries in localities near the intended plantations were then suggested by the Conservator of Forests, but this would in great measure have removed the plants from my immediate superintendence when they required the greatest care. At this time, I turned a few young trees out of 3-inch pots, and wrapped them up in moss; at the end of two months I found the moss full of fibres from the roots, and the plants in the best possible condition for moving. The success in this experiment induced me to order 4,000 pots for the gardens and an equal number for the Forest Department. The plants are prepared in this way: The seedling plants are taken out of the seed pots and potted singly into 3-inch pot with good rich soil; they are then placed in the propagating house for about a month, at which time the roots have begun to fill the pot; they are then turned out of the pots, wrapped up in moss and tied with a little bast or nar, and removed to the nursery; before being placed there, the beds are thus prepared for their reception: The earth is taken out to about five inches deep; this is covered with moss to about four inches; on this moss the plants are placed as close as they will stand, and a little earth is then thrown over the bed; the number of plants, when thus prepared, which can be safely removed in a cart is 350, while only 30 plants could be removed when grown in baskets, as previously practised. Not only is this increase saving effected in carriage, but the plants from the number of fibres they form in the moss are in a much better state to bear transplanting, and also to bear carriage to a great distance when packed dry in boxes; and by these means I hope to be able to convey plants to distances not hitherto considered practicable. This method of raising our nursery stock does away with the necessity of purchasing additional land for nursery purposes as proposed by the Conservator of Forests, and referred to in para. 5 of the Minutes of Consultation, No. 323, under date 15th March 1859.

The young stock of plants which can be produced on this plan by our present nursery is almost unlimited; 4,000 young trees prepared on this principle, having been supplied in Spring for public planting.

8. The following table exhibits the number of plants and quantity of seeds distributed from 1st January 1858 to 30th April 1859.

Table of distribution of Plants, Seeds, &c., from the Utakamand Gardens, from January 1858 *to the 30th April* 1859.

	Fruit trees and Shrubs.	Timber trees.	Shrubs and Flowers.	Collections of seeds.	Amount.		
					Rs.	A.	P.
January 1858.	..	..	80	1	50	0	0
February „	9	..	62	17	70	5	0
March „	9	..	133	9	133	14	0
April „	28	..	81	35	185	12	0
May „	57	106	401	22	252	10	0
June „	..	113	305	9	140	0	0
July „	77	14	282	23	233	0	0
August „	3	6	109	10	123	4	0
September „	..	24	2,665	19	190	12	10
October „	..	..	234	15	178	2	0
November „	..	66	59	21	144	1	0
December „	16	3,012	337	16	300	0	0
January 1859.	10	2	22	10	72	12	0
February „	10	..	12	2	22	0	0
March „	..	8	27	15	100	7	0
April „	171	105	324	30	238	3	0
Total..	390	3,456	5,133	254	2,436	1	10

9. *Progress of the Gardens.*—The liberal grant by Government in August 1858, of Rupees 1,000 for the purpose of laying out and stocking the garden, has been almost entirely applied to laying out and stocking the lower portion; the work being in progress at the time the grant was solicited for its completion. This work was finished in the early part of 1858 and other important alterations have since been rapidly proceeded with. The season has been very favorable for the growth of plants, and many of the ornamental trees have rapidly sprung up to observation, giving a definite outline to the plan of the garden sufficient to impress visitors with an idea of the general arrangement, and it is gratifying to find that this is generally approved and appreciated. While this progress has been made in the ornamental portion of the garden, the nursery department has not been neglected, the progress under this head being equally satisfactory. The number of timber and ornamental trees introduced exceeds that of any preceding season, while a great extent has been brought under cultivation for the production of seeds. Considerable difficulty has been experienced in procuring labor owing to the extraordinary and sudden rise of wages at Jackatalla, of about 25 per cent. on the ordinary rates, consequently drawing away the labor from this station. As private individuals here did not raise the wages, I kept to the same rate, considering that Government servants ought always to be able to procure labor as cheap as private individuals. In consequence, although I was able to keep my usual establishment from leaving for Jackatalla, I could not engage new hands to execute heavy work; but to obtain them, I was compelled to raise the wages in July last from $4\frac{1}{2}$ to 5 rupees per mensem, the sum being still 1 rupee less than is paid to the same class of workmen at Jackatalla. Although by this increase I have been successful in procuring labor for immediate work, I must doubtless ultimately increase the wages to the same rates as paid by the Public Works Departments, and this will most seriously affect the finances of the garden when one-fourth more must be paid for labor of all descriptions; labor forming almost the only item of our expenditure. There is not a private individual on these Hills who pays for labor at such high rates as at Jackatalla; and it is a question if they could afford to do so, that is to say, Will the labor produce the value paid? This is a question of course not affecting the Public Works Department, but of vital importance in such undertakings as ours.

10. *Medicinal Plants.*—The proposed introduction of the Cinchona as an object of much importance, much depends for its success on a careful selection of sites in the first instance, as any failure in the first attempt will prove seriously discouraging in the cultivation of this important product. The selection of a suitable site is the greatest difficulty, and all information which can be obtained from Mr. Mackham would be of the utmost importance to those entrusted with this duty. I think from the nature of the plant that a good locality might be had immediately adjoining the upper portion of the gardens, extending up a well-watered nála towards Dodabetta. This locality would probably suit the Cinchona lancifolia, C. condaminia, and C. cordifolia; these are considered the most valuable varieties. Next in quality is the Cinchona oblongifolia; this grows at lower elevations, and might be more successfully cultivated in the Coffee districts.

Henbane, Peppermint, Taraxacum and Digitalis grow freely, spreading and propagating themselves by seeds and suckers spontaneously. To grow and prepare these for the Medical Department in large quantities, would require a separate establishment. In the first place, their cultivation for any thing more than experiment would require more land than we can possibly allow in the gardens; the preparation of some of the sorts being attended with considerable difficulty, could not well be done in this establishment. The leaves of the Digitalis form an exception, and with these the Medical Stores are annually supplied.

11. *Finances.*—The following table [*not received*] exhibits the receipts and disbursements of the institution from the 1st January 1858 to the 30th April 1859.

A writer has been attached to this establishment since 18th June 1859, on a monthly salary of 20 rupees, which at present is charged to the Garden funds. Government, in para. 12 of the Order No. 323, March 5, 1859 express themselves "prepared to consider favorably a more definite application from Dr. Cleghorn for that object." I would, therefore, respectfully solicit that his salary be granted, as it is very heavy on the funds of the garden, especially at the increased rate of pay for labor. The Government allowance for the support of this institution is Rupees 100 per mensem, or £10. With this small sum and the produce of the gardens, we have to support an extensive garden at Utakamand—the ornamental or unproductive portion being about 40 acres, one nursery garden at Kalhattí and another at Kunúr; thus the quantity of work to be done is altogether disproportionate to the sum allowed, and such as is not expected from any other Government institution. For instance, the Bangalore gardens established in 1857—

the Government grants for its support.....	Rupees	3,600 per annum.
Salary of the Superintendent.....	„	2,400 „
Average of contingent grant.....	„	2,000* „
Rupees.....		8,000

This is an error, Rupees 300 per mensem is allowed for the garden, including Superintendent's salary, 150; garden expenses, 150.

* Rupees 2,000 was a special grant for the Superintendent's house.

(Signed) H. C.

The amount granted for the support of the Utakamand Gardens is—

Superintendent's salary at increased rate.....	Rupees	1,200 per annum.
Average of contingent grants.....	„	2,400 „
	„	190 „
Rupees		3,790

I would most respectfully draw the attention of Government to this great difference of support extended by them to similar institutions, and earnestly pray that the same amount as granted to the Bangalore Garden may be allowed for these gardens for at least two years. This grant would here produce results which I venture to say could not elsewhere be attained; and be the means of placing the garden in a position to be of the utmost advantage to the country, by placing at our disposal means sufficient to introduce almost every known plant of value.

12. *General and concluding Remarks.*—The grass lawns in the lower part of the garden suffer severely from the ravages of the grub of the cockchafer, which lives under ground and feeds on the roots, and so completely do they sever the turf from the soil, that it can be rolled up in large sheets; in like manner, they destroy the roots of shrubs and even trees, so that in a few days they look as if they were scorched, and shortly die off. Many persons, who are not aware of the cause of evil at the roots, consider this a blight affecting the leaves of the plants, and apply remedies accordingly. When once the ground is infected with these grubs, the only means of getting rid of them is by hand-picking, and this is necessarily expensive and tedious. The perfect beetle flies in the twilight with a heavy droning noise, like the wheels of a distant carriage. It begins to fly in Spring after the first showers, and is very short-lived; the females as soon as secundated, make holes in the ground about four inches deep, where she lays about fifty eggs; the grubs are soon produced, and live twelve months. The perfect insect is easily destroyed by bright fires being kept up in the evenings in localities where they are most plentiful. The light seems to attract them, and they fly into the flame in countless myriads.

13. *Collecting Indigenous Plants.*—The means of exchanging with the gardens of Europe is an object of great importance, which hitherto has not been taken advantage of to the extent practicable, owing to the officers under whom I have been placed, having invariably viewed with disapprobation my necessary absence from the garden on these occasions.

The benefit from the exchange of plants with European Nursery-men has already been very great, as by these means almost every plant of value in the garden has been obtained. The extension of the system, so as to establish a regular interchange of plants with the Botanical and Public gardens at Home, would be the means of procuring a valuable botanical collection of plants, and would at the same time confer a great benefit on British gardens, by furnishing them with our numerous and beautiful indigenous plants.

In concluding this Report, I beg to tender my thanks to Dr. Cleghorn, Conservator of Forests, for numerous valuable contributions and for his ready co-operation and support, to Dr. Janeson of Saharampore, Mr. James Veitch of Exeter, and Dr. Thomson of the Calcutta Gardens, for many valuable plants and seeds.

(Signed) W. G. McIVOR,
Superintendent.

GOVERNMENT GARDENS, UTAKAMAND,
25th October 1859.

No. 60. MINUTE BY THE HONORABLE THE PRESIDENT.

I have visited the Garden and entirely agree with Dr. Cleghorn, that Mr. McIvor deserves great credit for the manner in which he has laid it out. The garden is both a beautiful pleasure ground and a valuable public institution for the improvement of indigenous, and the naturalization of foreign plants; and it has been formed from the commencement by Mr. McIvor, with great industry and artistic skill, out of a rude ravine. The facilities for utilizing the varied resources of this beautiful climate will be greatly increased after the opening of the Railway from Madras to Beypúr.

The sum required for the completion of the Conservatory is 1,000 rupees; and as it is desirable that the substantial portion of the work should be executed before the rains, I authorized this to be done out of funds at the disposal of the District Engineer, at an estimated cost of 500 rupees.

The assignment of 35 rupees a month for apprentices and of 20 rupees a month for a writer should be approved, as recommended by Dr. Cleghorn. The advantage of Mr. McIvor's science and experience will be in a great degree lost, if means are not taken to train up under him persons who can profit by his teaching, and if he is not relieved from mere clerical work. The removal of the Military Male Orphan Asylum to the Hills will provide an abundant supply of intelligent, trustworthy, subordinate agency of this description.

I agree with Dr. Cleghorn on the other points adverted to in his letter.

(Signed) C. E. TREVELYAN.

UTAKAMAND,
24th February 1860.

No. 61. ORDER THEREON, 15th May 1860, No. 781.

1. With theletter above recorded, the Conservator of Forests submits the Report of the Superintendent of the Government Garden at Ootakamand for the sixteen months ending 30th April 1859.

2. The Government have perused the Report with interest and consider the praise bestowed on Mr. McIvor by Dr. Cleghorn to be well deserved. It is confirmed also by the Honorable the President, in his Minute above recorded, after personal inspection of the Garden. The Government now proceed to notice those parts of the papers which call for remark.

3. The improvement and completion of the Conservatory should not be delayed longer than absolutely necessary. The Government confirm the
Conservator's letter, paragraph 4. Orders issued by their President for the immediate execution of the substantial portion of the building at an estimated cost of Rupees 500, and approve the Conservator's recommendation that the work shoud be entrusted to the Superintendent under the general supervision of the District Engineer.

4. The Seeds from the Kunúr nursery are unfavorably reported on. The Government hope to learn from the next Report that the Conservator's expectation of
Paragraph 5. improvement has been realized. The eventual abolition of the Kalahatti nursery was approved in paragraph 6 of the Order of 15th March 1859 No. 323; and the Government see no reason to modify the Order.

5. They concur with Dr. Cleghorn that the Superintendent deserves great credit for his important application of Moss, whereby, at once, young Plants intended
Paragraph 7. for transplanting are better prepared than formerly for removal, and can be transported at less than one-tenth of the usual cost, while the Garden space is also economized.

6. It is observed that the average monthly value of the plants, &c. distributed during the sixteen months embraced in the Report, was about Rupees 150, not
Paragraph 8. Rupees 200 as stated by the Conservator. In this respect also the Superintendent's operations have been satisfactory. District stations have applied to and received supplies from the Ootakamand Garden.

7. The Cash Receipts of the Garden from all sources during the period under notice have exceeded the expenditure exclusive of the Superintendent's salary, by Rupees 203 nearly. The Conservator states that the Accounts have been sent to the Board of Revenue. A difference of Rupees 329 is found between the sum stated in paragraph 8 of the Report to have been realized on Plants, &c. sold and that credited under that head in the Abstract of Account given in the margin of paragraph 12 of the Conservator's letter. The discrepancy ought to have been explained, and Dr. Cleghorn will supply the omission on receipt of this Order.

	Rs.	A.	P.
	2,435	3	10
	2,106	3	10
Difference Rs.	329	0	0

8. Application will be made to the Government of India for sanction for an additional monthly expenditure of Rupees 55 per mensem on account of the Garden Establishment, viz. Rupees 20 for a Writer and Rupees 35 for three Apprentices.

9. On the other points noticed by Dr. Cleghorn, the Government agree with him.

10. Mr. McIvor's Report though referring to the year ending April 30th 1859, is dated so late as October 25th 1859, and it was not laid before Government by Dr. Cleghorn till the 31st December. It is hoped that future Reports will be submitted much earlier, as the interest and value of such papers are much diminished by delay.

11. Ordered that 200 copies of the Conservator's letter and the Report be printed, with the President's Minute and the foregoing remarks appended, and that the usual number be forwarded to the Right Honorable the Secretary of State for India.

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

Ordered in consequence the following letter be despatched.

No. 62. From J. D. BOURDILLON, Esq., Secretary to the Government of Fort Saint George, to the Secretary to the Government of India, dated 15th May 1860, No. 782.

I am directed to forward for the favorable consideration of the Government of India, an application, in the prescribed form, for a Writer on Rupees 20 and three Apprentices, one on Rupees 15 and two on Rupees 10 each per mensem, to be attached to the Government Gardens at Utakamand.

2. The services of a Writer are necessary to keep the Accounts of the Garden and to copy the correspondence. Prior to the 18th June 1859, these duties devolved on the Superintendent; but they interfered with his other and more proper work. An improved system of accounts having been lately introduced and the legitimate engagements of the Superintendent not admitting of his keeping those accounts, a Writer on the salary now asked for has been employed from the date above specified and paid from the Garden funds.

3. One Apprentice is also maintained, and his stipend of 15 Rupees is likewise paid from the Garden funds. The Conservator of Forests now recommends that the number of Apprentices should be increased to three on the united stipends of 35 Rupees, viz. one on 15 Rupees and two on 10 Rupees each; and the Government consider the proposal to be judicious. The advantage of Mr. McIvor's science and experience will be, in great measure, lost if means are not taken to train up under him persons who can profit by his teaching.

4. A Tabular Statement in the usual form is enclosed, comprising the application for both the Writer and the Apprentices. I am desired also to explain that the Government contribution to the Garden, besides the Superintendent's salary, consists at present of only 100 Rupees a month.

5. A printed copy of Dr. Cleghorn's last Report on the Garden and its enclosure, as well as of a Minute by the President and the Proceedings of this Government, are herewith forwarded for the information of the Supreme Government.

REVENUE DEPARTMENT.—*Statement of Increase to Establishment*

Year.	Charges. Ordy.	Extrody.	Total.
.....	.....	.....	.....

Extract from Home Dept. of Govt. of India. No.	Date.	Office to which the proposition refers.	Nature of charge. Present Scale.	R.	A.	P.	Proposed Scale.	R.	A.	P.	Permanent. Increase per month. R.	A.	P.	Decrease per month. R.	A.	P.
		Government Gardens, Utakamand.	1 Superintendent..	200	0	0	1 Superintendent.....	200	0	0	0	0	0			
							1 Writer.....	20	0	0	20	0	0			
							1 Apprentice.....	15	0	0	15	0	0			
							2 Apprentices, at 10 Rs. each.....	20	0	0	20	0	0			
			Total...	200	0	0	Total...	255	0	0	55	0	0			

Fort St. George, 15*th May* 1860.

in this Department recommended for the sanction of the Government of India.

Proposition. Temporary. Increase per month. Period	R.	A.	P.	Decrease per month. Period	R.	A.	P.	Casual or Extraordinary.	Grounds of Proposition.	Local Government's recommendation.	Orders of the Government of India. Home Dept. Remarks.	Financial Dept. Remarks.	Financial Dept. Orders.
									Vide letter to the Secretary to the Government of India, dated 15th May 1860, No. 782.	Favorable.			

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

Rev. Dept.

No. 781.

Proceedings of the Madras Government.

Under date the 15th March 1860.

Read the following papers

From the Conservator of Forests.

Submitting Mr. Mc Ivor's annual Report of the Govt. Garden at Ootacamund for 1858/59 with remarks thereon. (Here enter 31st Dec. 1859 No. 889)

Minute by the Honorable the President

Agrees with Dr. Cleghorn in his remarks on the report of the Govt. Garden at Ootacamund for 1858/59; authorizes the execution of the substantial portion of the conservatory work at a cost of Rupees 500 & observes that the assignment of 35 Rs a month for apprentices & of 20 Rs a month for a writer should be approved. (Here enter 24 July 1860)

With the letter above recorded, the Conservator of Forests submits the report of the Superintendent of the Government Garden at Ootacamund for the sixteen months ending 30th April 1859.

2. The Government have perused the report with interest and consider the praise bestowed on Mr. McIvor by Dr. Cleghorn to be well deserved. It is confirmed also by the Honorable

Con. 15 March 59. No. 03-04

Rec'd 18th May 1860. Dept. No. 781

Forty in a Letter to Dept. dated 27th May 1860 No. 4537.

To

The Secretary to Government

Madras

By the Conservator of Forests.

Dated Ootacamund 31st December 1859.

Rec'd 5th January 1860. No. 889.

Enclosures 2.

Gardens in the Nilgiris. Mc Ivor's Report on the Govt. Garden at Ootacamund for 1858-59. Recommends the execution of the substantial portion of the conservatory work at a cost of Rupees 500 and observes that the assignment of 35 Rs a month for apprentices and of 20 Rs a month for a writer should be approved.

(Forwarded for the Orders of Government)

Read 24th February 1860.

Ordered by the Madras Government.

To

The Secretary to Government

Revenue Department

Fort St. George.

I have written the Garden and entirely agree with Dr. Cleghorn that Mr. McIvor deserves great credit for the manner in which he has laid it out. The Garden is both a beautiful Pleasure Ground and a valuable Public Institution for the improvement of indigenous and the naturalization of foreign Plants; and it has been formed from the commencement by Mr. McIvor with great judgment and artistic skill, out of a rude Jungle. The facilities for attaining this end are considerable. The beautiful climate will be greatly increased after the opening of the Madras from Mettupalayam.

The sum required for the completion of the conservatory is 1000 rupees; and as it is desirable that the substantial portion of the work should be executed before the rains, I authorized this to be done out of funds at the disposal of the District Engineer at an estimated cost of 500 Rs.

The appointments of 35 Rs a month for an Apprentice and of 20 Rs a month for a Writer should be approved on the recommendation of Dr. Cleghorn. The advantages of this system are experienced with the Public Works Department, where the Apprentices are not taken to train up the under him Persons who can perform in his Training and if he is not relieved from mere clerical work. The removal of the Male Military Orphan Asylum to the Hills will provide an abundant supply of intelligent Europeans, and enable him to give to this description of Apprentices.

I agree with Dr. Cleghorn on the other points adverted to in his letter Ootacamund 24th July 1860.

C12 Read 6 Oct 1860.

Honorable the President, in his Minute above recorded, after personal inspection of the Garden. The Government now proceed to notice those parts of the papers which call for remark-

3. The improvement and completion of the conservatory should not be delayed longer than absolutely necessary- The Government confirm the orders issued by their President for the immediate execution of the substantial portion of the building at an estimated cost of Rupees 500, and approve the Conservator's recommendation that the work should be entrusted to the Superintendent under the general supervision of the District Engineer.

Conservator's letter para 4

4 The seeds from the Kunur nursery are unfavorably reported on- The Govt hope to learn from the next report

Para 5

Para 7

report that the Conservator's expectation of improvement has been realized- The eventual abolition of the Kalahatte nursery was approved in para 6 of the order of 15th March 1859 (No. 323); and the Government see no reason to modify the order-

5 They concur with Dr Cleghorn that the Superintendent deserves great credit for his important application of moss, whereby at once young plants — intended for transplanting are better prepared than formerly for removal, and can be transported at less than one tenth of the usual cost, while the Garden space is also economized.

6 It is observed that the average monthly value of the plants &c distributed during the sixteen months embraced in the report was about Rupees 150, not Rs 2000 as stated

Para 8

stated by the Conservator. In this respect also the superintendents operations have been satisfactory. District stations have applied to and received supplies from the Utakamand garden-

7. The Cash receipts of the garden from all sources during the period under notice have exceeded the expenditure exclusive of the superintendents salary by Rs 203 nearly. The Conservator states that the accounts have been sent to the Board of Revenue. A difference of Rupees 329 - - found between the sum stated in para 8 of the report to have been realized on plants &c sold and that credited under that head in the abstract of account given in the margin of para 12 of the Conservators letter. The discrepancy

Rs 2,435 - 3 - 10
2,106 - 3 - 10
Difference Rs 329 - - -

...sted by the Conservator. In

...ught

Con 15th March 59 No 63-64.
Copy in a Letter England
21 May 1860 No 50

325/1861

Public Dept. No 59 at 61

c12 Journal R&

Revenue 1860 Deptt
Pro: of Govt. 20: May
No 781.

Rec'd

Pro: of the Madras Govt:
Dt 15th May 1860.

- from Cleghorn Esqr Dt 31 May /60
- 1172 - in Pro for Journ No 1554/186
- from the Govt of India Dt 27th
June /60 Ct No 1396 in Pro 24 July
No 1232
- with Pro of Jun 12 July /60 Ct No 1743 - in Pro
12 Augt No 1814
Of Government Gardens Ootacamund Report for 1859/60.

Passing orders on the
report of the Superintendent of the
Government Gardens at Ootaca-
mund for the 16 months ending
30th April 1859

ought to have been explain-
ed, and Dr Cleghorn will
supply the omission on re-
ceipt of this order.

8- Application will be
made to the Government
of India for sanction for
an additional monthly
expenditure of Rupees 55
per mensem on account of
the Garden establish-
ment - viz Rs 20 for a
writer and Rs 35 for three
apprentices -

9. On the other points
noticed by Dr Cleghorn,
the Government agree with
him -

10. Mr McIvor's report
though referring to the
year ending April 30/59,
is dated so late as October
25/59 and it was not laid
before Government by
Dr Cleghorn till the
31st December - It is hoped
that future reports will
be submitted much earlier,
as

as the interest and value of such papers are much diminished by delay.

11. Ordered that 300 copies of the Conservator's letter and the report be printed, with the President's Minute and the foregoing remarks appended, and that the usual number be forwarded to the Right Honorable the Secretary of State for India.

4 Copies
7 The Conservator of Forests with Report 4/ Cirs. 2/6
10 " Chief Engineer —"— —"— 4 "
11 " Board of Revenue. —"— 4 "
Copy to Govt. of India —"— 6 "

ought to have been explain-

Ilai Sept.

No 782.

To Capt Grant
Dep. Gen. Steam Dept
21st.

The Secretary to the
Government of India.

Sir,

I am directed to
forward for the favour-
able consideration of the
Government of India, an
application, in the pres-
cribed form, for a Writer
on Rupees twenty and
three apprentices - one
on Rupees fifteen and
two on Rupees ten each
per mensem, to be at-
-tached to the Govern-
-ment Gardens at Co-
-cannod.

2 The services of
a writer are necessary
to keep the accounts of
the garden and to copy

the

the correspondence. Prior to the 18 June 1869, three duties devolved on the Superintendent, viz. but they interfered with his other and more proper work. An improved system of accounts having been lately introduced and the legitimate engagements of the Superintendent not admitting those accounts of his Keepings a writer on the salary now asked for has been employed from the date above specified and paid from the garden funds.

3. One apprentice is also maintained, and his stipend of 15 Rupees is likewise paid from the garden funds. The Conservator of Forests now recommends that the

the number of apprentices should be increased to three, on the united stipends of 35 Rupees, viz one on 15 Rupees and two on 10 Rupees each, and the Government consider the proposal to be judicious. The advantage of Mr. McIvor's science and experience will be, in a great measure, lost if means are not taken to train up under him persons who can profit by his teaching.

4. A tabular statement in the usual form is enclosed, comprising the application for both the writer and the apprentices. I am desired also to explain that

that the Government contribution to the garden, besides the Superintendent's salary, consists at present of only one hundred rupees a month.

5 A printed copy of Dr. Cleghorn's last report on the garden and its enclosure, as well as of a Minute by the President and the proceedings of this Govt. are herewith forwarded for the information of the Supreme Govt.

Fort St. Geo. 15th May 1860.