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MADRAS RECORD OFFICE

Government of Madras

public works DEPARTMENT

G.O. No. 2805 Press

~~B.P. No.~~ 275 to 278 ~~Mis.~~

Dated 19. 11. 1873 ~~195~~

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department, 19*th November* 1873.

Read the following papers :—

No. 275. Proceedings in the Revenue Department, dated 20th August 1873, No. 875.

No. 276. Do. do. dated 22nd Sept. 1873, No. 1,025.

No. 277. Memorandum from the Revenue Department, dated 8th November 1873, No. 161.

No. 278. ORDER THEREON, 19th November 1873, No. 2,805.

CIVIL WORKS, No. 17.

THE plan for a new Conservatory in the Government Gardens at Ootacamund having, in paragraph 5 of Revenue Department Order, No. 875, of 20th August, been referred for consideration in the Public Works Department, it is remarked that the space proposed by the Superintendent of the Gardens to be covered in is excessive, being no less than five times the space which the existing Conservatory covers. This alone accounts for the insufficiency of the sum allotted for the purpose in the Budget of the current year. It is curious that neither the District Engineer nor the Consulting Architect should have compared the Superintendent's demands with the space in actual use, and ascertained whether they were excessive or not.

2. The Consulting Architect's plan being ill-adapted for growing plants as well as too expensive, an alternative plan submitted by the Chief Engineer is referred to the Revenue Department for decision as to the further steps to be taken in the matter, the prosecution of which would appear to involve some alteration of the arrangements sanctioned in the Order in that Department, No. 1,025, of 22nd September.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

To the Revenue Department.
,, Consulting Architect.
,, District Engineer, Neilgherries.

Exd. E. C. Shunker
Spare Copies

MEMORANDUM.

The Chief Engineer has the honour to submit, for the orders of Government, a plan and elevation of a Conservatory drawn by Captain Montgomerie, R.E., proposed to be built in the Government Gardens at Ootacamund, in lieu of that ordered for consideration in the Public Works Department by paragraph 5 of Revenue Department Order, No. 875, of 20th August.

2. He begs to observe that the space it has been proposed to cover is excessive, being five times that covered by the existing building; and he has ascertained personally from Mr. Jamieson that once and a half, or twice, the existing area will be ample..

3. Premising thus, the question of site has next to be considered; and after careful study of the ground, he has come to the conclusion that the site of the present propagating house halfway up the garden is the best for the purpose. It was selected by the Honourable Mr. Sim, by whose orders he had the accompanying contour survey prepared in October 1872. It shows that a very moderate excavation, amounting to a maximum of less than 12 feet in height at the back, will afford room for a building 90 feet by 45 feet in extreme length and breadth, with a free space all round.

4. The accompanying general survey of the gardens will show how inconveniently the present Conservatory obstructs the vista from the garden gates, and that there is no good site available higher up in the same line. A new Conservatory must therefore stand on one side, and the Chief Engineer is of opinion that the site originally selected is decidedly the best, and that a suitable building placed on it will have a most commanding effect.

5. But inasmuch as this proposal is not consonant with some of the arrangements made in Revenue Department Order, No. 1,025, of 22nd September, which sanctions the re-construction of the propagating house above-mentioned, now in great disrepair and an eyesore to the place, and the patching up of the present Conservatory, he requests that he may be favoured with the orders of Government whether or not to work out his proposition. He is sanguine that a very handsome building can be Constructed at a cost not exceeding Rupees 8,000.

6. He would recommend the immediate dismantling of the centre portion of the present Conservatory to open a vista up the gardens, and so show the effect its entire removal would cause; the glass and other materials being utilized for the fruit-forcing house at the top of the gardens.

(Signed) G. W. WALKER, Colonel, R.E.,
Chief Engineer.

14th October.

Proceedings of the Madras Government, Revenue Department,
20th August 1873.

No. 151. Read the following letter from J. R. COCKERELL, Esq., Commissioner of the Nilgiris, to the Hon. R. A. DALYELL, Acting Secretary to Government, Revenue Department, dated Ootacamund, 15th July 1873, No. 30:—

I HAVE the honour to submit the Annual Report, for the past official year, of the Superintendent of the Botanical Gardens on the Nilgiri Hills.

2. In G. O., No. 379, dated 26th March 1872, Financial Department, the sum of Rs. 1,200 was sanctioned for metalling the approach to the garden at Ootacamund, and providing the entrance with gates and railings. In the statement attached to his report, Mr. Jamieson shows an expenditure of Rs. 175 out of this sum. The money was laid out in improving the approach to the gardens. The metalling of the approach with black metal cost another sum of Rs. 236-5-0. The work was done by the Municipal Manager. Shortly after I took charge of the office of Commissioner in June last year, I found that the gates and railings had been ordered from England. There was no record of the order in the office. £70 had been remitted for the gates and railings. The manufacturer addressed me stating the sum sent was insufficient. I directed him, in reply, to forward the gates and railings as soon as possible. They have now arrived, and will shortly be erected. The cost-price is £105, charges for freight and landing and transmission by rail to Pothanore amounted to Rs. 199 more, paid out of the funds unexpended in the budget-allotment for the past year; and there is the cost of carriage from Pothanore still to be paid, and the cost of putting up. The latter cost will be rather heavy, as the rails are only three feet high, and must be mounted on cut-stone. I shall shortly address to Government a separate communication upon the subject.

3. The next item in the accounts submitted by Mr. Jamieson, which requires remark, is the expenditure on the repair of the fern-house. This house was washed down by the heavy rains in November 1871. It has been re-erected in a solid manner with brick in chunam. Previously the structure was of brick in mud. The work was completed by the end of April 1872.

4. The roof of the Superintendent's house was leaky. In the year under report, the roof has been retiled, under Mr. Jamieson's own supervision, at a cost of Rs. 200. The work has been very well and cheaply done. The building is now in a substantial state.

5. The Superintendent reported that the Burliar garden required thinning and weeding. This has been carried out at a cost of Rs. 190. The rare trees were over-shadowed by jack, and the garden was full of coffee. The jack have been cut down, and the coffee-trees removed.

6. The report details the improvements that have been made during the year under report on the rough ground in front of the Ootacamund gardens. This ground was extremely neglected and rugged in appearance. It has been drained and planted up with ornamental trees at a cost of Rs. 300.

7. The herbarium and the seed-house at the Ootacamund gardens wanted furnishing. Mr. Jamieson desired seed-cases of a description which could not be procured on the spot, and I therefore ordered them from the Department Public Works Workshops in Madras at a net cost of Rs. 408. The carriage will be additional. Further, I pnrchased at an auction at Madras, through Messrs. Franck,

three almirahs for the herbarium. The hitherto cost of the furniture in the above houses has been Rupees 618. The houses have yet to be supplied with chairs, book-cases, etc.

8. The Superintendent's report details the improvements that have been effected in the laying out of the gardens in the year under review.

9. Mr. Jamieson refers, at paragraph 28, to the Ipecacuanha plants at Burliar. He recommends that 100 healthy plants should be obtained from Kew or from Bengal, and propagated in the Burliar gardens under a Native of experience. The Ipecacuanha does very well at Burliar, and, if the Government thought proper, a considerable plantation of the creeper could be formed there without difficulty.

10. In G. O., Revenue Department, dated 9th January last, No. 24, Rs. 3,500 are allotted towards the cost of a new conservatory in the Ootacamund gardens. Some time ago Captain Morant, the District Engineer, and I decided that an iron and glass building we selected out of a number in an English pamphlet of specifications of these structures would be suitable; but the cost in England we found to be £1,000, and Captain Morant was of opinion that this sum would be doubled before the conservatory was erected out here. As such an expensive building seemed out of the question, I addressed Mr. Chisholm, the Government Architect, requesting him to furnish a suitable plan for a conservatory. I annex his letter on the subject. I beg I may be instructed whether I am to proceed in the matter, procure a proper estimate from Mr. Chisholm, and have the work carried out by him or by the District Engineer.

ENCLOSURE No. 1.

Report on the Progress and Condition of the Government Botanical Gardens, Ootacamund, for the Year 1872-73.

DURING the past year various alterations and improvements have been made in the gardens, with the view of rendering them as attractive and useful as possible.

2. Of the new works completed during the year, the most important are the reclaiming and planting the piece of waste land to the left of the bridge, near the entrance to the gardens, with ornamental trees and shrubs.

3. The construction of the new seed-house and herbarium at the entrance-gate necessitated the remodelling of the ground and shrubberies immediately around the buildings. The old seed-house and cooly-lines that stood here have been removed, and the ground they occupied cleared of rubbish, levelled, and planted with English grass. Here a winding walk has been formed round a group of rocks and roots of trees, amongst which are planted quick-growing shrubs, hardy flowering, and Alpine plants.

4. The main walk from the gate to the conservatory, which, during the prevalence of the monsoons, was always wet and sloppy, and very disagreeable to pedestrians, has been greatly improved by being thoroughly metalled and covered with broken quartz to the depth of three inches. The walk is now rendered firm and enjoyable in all weathers.

5. As the ground near the gateway is the chief point of vision in the gardens, several trees and shrubs that destroyed the continuity of the vista have been removed. By this means the confined and close appearance of this part of the garden has been removed. There is now a much greater breadth of lawn, and from many points extensive views of the upper garden can now be obtained.

Proceedings of the Madras Government, Revenue Department,
20th August 1873.

6. In remodelling the lower part of the garden, new planting was of necessity resorted to. In this attention has been directed to the due admixture of different varieties of trees, and, as trees differ very much in character and habit, and exhibit a wonderful amount of variation,—certain trees producing foliage of a pale green, others have a dark and sombre appearance,—so that when grown up they may be expected to greatly enhance the beauty of the sloping lawns of the gardens.

7. The rows of flower-beds on each side of the main walk have been filled with a variety of ornamental foliaged plants of a decided colour, which contrast with the green sward, and, to further improve the effect, small specimen shrubs have been planted between each bed.

8. Considerable improvement has been effected in the general appearance of that part of the garden known as the Band-stand terrace by covering the parapet wall, skirting the ornamental pond, with plants of a hardy and free-growing creeper (*Dolichos lignosus*). This creeper has almost entirely covered the white wall, and forms a very beautiful hedge,—much more pleasing to the eye and more in harmony with the rest of the garden than the naked masonry.

9. Much remains to be done to improve the upper garden: many old and decaying trees require to be removed and replaced by healthy ones. The turf of the slopes is also much in need of renovating. I may here remark that the mowing machine, which was purchased last year, has done its work most satisfactorily, and has enabled me to keep the lawns more tidy and neat. By its use the sole of the turf has not only been much improved, but considerable saving in labour has been effected in comparison with the use of grass-knives.

10. During the past year great attention has been paid to the propagation of new and valuable plants. Our nurseries are well stocked with young fruit-trees, ornamental shrubs, and flowering plants. I report with pleasure that the demand for these plants have much increased. In the course of the year there were sent out from the gardens 3,940 timber-trees, 148 fruit-trees, 6,142 shrubs and flowering plants, and 3,706 packets of vegetable and flower-seeds. I attribute this success, in a measure, to greater attention being now paid to the introduction of novelties and useful plants, and also to our stock of garden-plants having become more widely known in India through the medium of the catalogue published last year, which has been extensively circulated.

11. During the year many valuable additions have been made to the stock of plants in the gardens; the most important I would note as follows:—

12. *Fruit-trees.*—That the Nilgiris possess rare facilities for the cultivation and bringing to perfection most of the fruits to be met with in Europe cannot be denied; for, on the slopes of the Hills, we can command the utmost diversity of climate and soil. With the object of a further development of the products of these Hills, I procured from England this year upwards of sixty varieties of fruit-trees, namely, twenty-four of the best varieties of apples, twenty-four of pears, also several cherries and figs; these have all been grafted, and are now growing freely, so that many of them will be ready for distribution this planting season.

13. *Strawberries.*—I have much pleasure in stating that the introduction of strawberries from Australia has been attended with success. The case of strawberry plants, presented to the gardens by Sir William McArthur, has been extensively propagated. The twenty-six healthy plants which we had in March last year have now been increased to 800, all healthy and growing vigorously. Two of the varieties fruited in January last, namely, Duc de Malakoff and Cockscomb; the fruit was much larger and greatly superior in flavour than any I have hitherto seen on the Hills. If those that have not yet fruited turn out as well as the two named, a very valuable addition will have been made to the fruits of the Nilgiris. As the stock of these plants can now be increased to any extent, the public can be supplied with plants on application. The cultivation of the strawberry like that of many other plants here is capable of very much greater development, and I have no doubt that, if more attention was paid to the cultivation of varieties suited to the climate, the selection of proper soils and the proper season for dividing and planting and to irrigation during dry weather, fruit could be produced throughout the year equal, if not superior, to that grown in England.

14. *Potatoes.*—The following kinds have been introduced this season :—Early Race-horse, Early Goldstream, Prince of Wales' Kidney, and King of the Earlies. These varieties have been proved in England to be excellent croppers and of 1st-class quality. If distributed amongst native cultivators, they will, in the course of time, help to improve the quality of that valuable esculent. The composition of the potato varies considerably according to the soil in which it is grown, and various other circumstances. The native cultivator on the Nilgiris, with indomitable repugnance to any change of method, invariably grow them in the worst possible soils, namely, those which are naturally wet and heavy; ground occupied with the same crop for many years consecutively does not produce tubers of such good quality as when cropped alternately with other vegetables. In cultivating the potato it is also of the greatest importance to have a change of sets grown in a different soil and locality to those in which potatoes have been produced for a number of years.

15. *Spanish Chesnut.*—Of this valuable tree there are now several hundred healthy young plants in the garden nurseries raised from seed which I brought from England in December 1868. They have thriven remarkably well in the garden-soil; many of them have attained a height of 8 feet. Dr. Jameson of the Saharunpore Garden reports that this tree is now grown extensively on the Himalayas, and chesnuts have become a regular article of commerce in the bazaars of Deyrah and Landour, and are sold at from 1 to 2 Rs. per lb. As this tree is not only valuable for its fruit, but is an exceedingly handsome tree for avenues or lawns, it could be employed with advantage in planting in this Station. It succeeds best in deep sandy soils or sandy loams, resting on a dry sub-soil. In the young state they are apt to throw out lateral branches, but a clear stem can be preserved by a regular system of pruning.

16. *Eucalypti.*—Through interchange with other establishments, I have been able to secure a very large number of the different Australian Eucalypti and Acacias for the gardens this season, and it will be interesting to watch their growth and note their adaptability to certain soils and situations. The stringy bark (*Eucalyptus obliqua*) has shown itself here to be one of the most eligible trees yet introduced for avenues on account of its umbrageous habit and rapid growth, and for several months in the year the foliage is very striking, particularly when young, resembling very much the young growth of wild Cinnamon, one of the prettiest of our jungle-trees. A quantity of the seed of this Eucalyptus has been supplied to the Forest Department, also several hundred plants to the Municipality for planting in the Station. Next year I will have a large quantity of seed of this tree for distribution to persons who may want it.

17. *Ficus macrophylla.*—Of this magnificent Australian tree, three dozen plants have been raised from seeds presented to the gardens by H. B. Grigg, Esq. In Australia this tree makes remarkable growth, and attains enormous dimensions; some have been measured with trunks 40 feet in circumference, and its roots form wall-like abutments, extending from the tree over a large area.

18. *Bulbs.*—A splendid assortment of these gay flowering plants have been added to our stock this year, comprising sixty new Gladiolus (the gardens now possess upwards of 100 varieties of this beautiful plant, some of which flowered in the garden this year, and were very much admired), fifty bulbs of Liliums, twelve Dahlias, eight Cyclamens, six Amaryllis, three plants of the white Cape Lily (*Agapanthus umbellatus*), and several others. These plants were purchased from Messrs. Sutton and Sons, and arrived here in excellent condition. They were packed in deal-wood cases amongst charcoal. As bulbous rooted plants associate when planted by themselves, a piece of ground will be devoted to this purpose next year, so as to bring each class of plants as much together as possible.

19. *Ferns.*—During the year our extensive collection of these beautiful plants has been largely augmented by the introduction of many new and rare species from different parts of the world, notably a magnificent specimen tree-fern (*Dicsonia Antartica*). This fern is abundant in the humid forests of Tasmania, South-East Australia, and New Zealand, and attains a height of from 30 to 50 feet. For this valuable plant we are indebted to Major Beddome, who presented

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20th August 1873.

it to the gardens on his return from Australia in the month of November last. I have been very successful during the past two years in rearing these graceful plants from spores; and as I think every one of the existing ferns are worthy of cultivation, I hope to raise a number of plants every year of those varieties which are more or less adapted to our climate.

20. *Climbers.*—Two new varieties of Passion-flower,—one Tacsonia and three hybrid Clematisis,—have been established in the gardens during the year. These rapid-growing plants, from their profusion of blossom and their utility in covering disagreeable objects, as well as the assistance they afford in producing a picturesque and natural appearance, are particularly useful when grown on shrubs and trees in prominent places; they occupy little space, and make a nice break in the green when in flower.

21. *Geraniums and Roses.*—Of these popular and showy flowers many new and striking varieties have been added to the garden-collection during the year I have been successful in raising a large number of new Geraniums from seeds received from England and the Continent.

22. *Seeds.*—A large supply of vegetable and flower-seeds was obtained from England this year, purchased from Messrs. Sutton and Sons of Reading, and in most cases have germinated freely, and given general satisfaction to the public. Many old varieties of herbaceous and perennial plants that had in the course of time died out have been renewed in the gardens by means of getting seeds from England.

23. By the introduction and propagation of the many valuable varieties of fruit-trees, shrubs, and flowering plants noticed in this report, the gardens are becoming daily more useful to the public. I think a Botanic Garden need not step beyond introducing and testing useful trees and putting them in the way of the public; private enterprise and capital must do the rest. If the cultivation of fruits on these Hills was taken up by energetic and experienced persons, when the railway comes to the foot of the Hills, the produce of their gardens would find a ready market in the low country.

24. *New Buildings.*—The seed-house and herbarium at the entrance-gate are now completed. The seed-cases which arrived a short time ago from Madras will be fitted up as speedily as possible, and the seeds and office transferred to the new buildings.

25. *Herbarium.*—The furniture in this building is now complete, and when filled with a carefully arranged collection of botanical specimens, will be a source of attraction to those interested in the flora of the Hills. I have not yet received Major Beddome's collection of specimens. I hope he will be able to furnish the herbarium with a small collection of specimens, illustrating the flora of the Nilgiris and the principal economic plants of the Madras Presidency. The time I had to spare during the year was devoted to the collection of Nilgiri ferns; these have been arranged according to "Beddome's Ferns of Southern India," with notes of the locality in which they are found. It would be interesting to have in this room a small collection of gums, resins, fibres, etc., yielded by plants indigenous to the Madras Presidency, they would serve to illustrate more fully the application of vegetable substances. Such a collection would supply a great desideratum, and could not fail to be interesting and attractive to the public.

26. *Library.*—As a library is an almost indispensable adjunct to a Botanic Garden, I hope Government will be pleased to sanction a small sum for the purchase of a few standard Botanical works; they will be valuable for reference and assistance in correctly naming and identifying the plants which are cultivated in the gardens. It is also desirable that we should get a few of the leading horticultural periodicals; they contain a vast amount of valuable information regarding the introduction and cultivation of new plants and horticultural matters generally.

27. BURLIAR GARDEN.—A large number of young plants of the different varieties of tropical fruits and spices cultivated in this garden have been propagated during the year and distributed in different districts in the Presidency. The coffee-bushes and under-growth have been removed, new walks and nurseries formed to provide as much space as possible for the propagation of plants.

28. *Ipecacuanha.*—The plants continue to make satisfactory progress, but our stock-plants are so few in number that their propagation is consequently very slow. I think it very desirable that the cultivation of this plant should be encouraged and fostered in suitable localities in the Presidency. I feel confident that, with care and attention, they could be successfully cultivated at Burliar. I would recommend that 100 healthy plants be obtained from England or Bengal. A temporary propagating house might be erected and an experienced propagator placed in charge, and, with careful cultivation and a regular system of propagation, the experiment would result in success.

29. *Coco (Erythroxylon coco).*—When in Madras I obtained two of these plants from the Superintendent of the Horticultural Gardens. They promise to grow well at Burliar. This remarkable plant is, at the present time, extensively cultivated in Bolivia for the sake of its leaves which are chewed with a minute quantity of an alkaline paste made from the ashes of the Quinoa. The most remarkable feature in the use of this nervous stimulant is the power of long continued endurance it is said to confer upon the human frame; the labourer often working twelve hours without any other sustinence.

30. *Vanilla.*—In the Spring of this year I planted large quantities of Vanilla plants around the stems of trees and on rocks where they are making rapid growth. I have never been so fortunate (when visiting the garden) as to find this plant in flower; but it seems to flower freely. As this plant will not bear fruit, unless the flowers are fertilised by the hand or by insect-agency, a native could be taught to fertilise them at the proper stage. If this were done, I have no doubt but fruit would be obtained in abundance.

31. Kulhutty Garden.—This nursery-garden has been entirely over-hauled since last year. A number of jungle and exhausted fruit-trees have been felled, and the nurseries well stocked with young plants. These nurseries now contain several thousands of young plants of the finer varieties of oranges, apples, pears, etc., which can be supplied to the public at much cheaper rates than formerly. This garden is very useful for raising vegetable and flower-seeds. The climate being drier, seeds ripen much better than at Ootacamund. I also propagate here from cuttings large numbers of the more tender varieties of flowering plants which do not succeed in Ootacamund, and which we would otherwise have a difficulty in supplying.

32. *Collecting of new Plants.*—In March last, by the kindness of Government, I was afforded the opportunity of visiting the Flower-show in Madras, whereby I gained much valuable information in the cultivation of European and other plants to meet the peculiar exigencies of the climate, and also secured a number of new plants for our garden. It is desirable that the Superintendent of a Botanic Garden be acquainted with the vegetation of the country, more especially that part in which he is located, whereby he might discover plants for interchange with other gardens, and add to the collections of the one immediately under his care, to see them in their native habitat, to provide for them the various requisites for their successful culture, and to discriminate between the known and the unknown; in fact, a Botanic Garden in this country to be useful should be able to maintain an experienced collector in the field throughout the year. As I have no Assistant who knows plants sufficiently well to distinguish one from the other, I am anxious to make a tour in Wynaad, and also visit the Carcoor and Sisparah ghauts for the purpose of collecting plants and seeds, the autumn of the year being the best season for this purpose. With the permission of Government, I should like very much to visit these districts in the month of November or December next. I feel certain that a number of new and interesting plants would be secured to supply the increasing demand for rare and new plants. They would also be useful for interchange with other establishments in England and the Colonies.

33. In concluding this report, it is satisfactory to state that the various alterations and improvements that have been made in the gardens during the last two years have received the general approval of visitors; this is evident from the increased interest now taken in the gardens. In carrying out improvements my main object has been to avoid all unnecessary alterations, and render them as accessible and attractive as possible, and to increase the facilities for the inspection of plants by the public. A great deal still remains to be done in the gardens to afford instruction to those who are interested in horticulture, especially in the correct labelling of the various collections of trees and shrubs. I am having a number of strong Teak-wood labels prepared which will be fixed to the plants as early as possible.

34. The Overseer, Mr. Stevenson, has carried on the works entrusted to his charge satisfactorily; much of his time is wasted going to and from Ootacamund for his meals. He is compelled to lodge in Ootacamund, as there is no proper residence in the gardens for him. I have received great assistance in the office and seed-house from M. Ramanjulu Naidu in the efficient discharge of his duty. T. Burrows, the Apprentice, also deserves commendation for the aid he has given me in propagating and despatching plants.

35. During the year living plants were sent in wardian cases to Sir William McArthur (Australia), to the Agri-Horticultural Society's Gardens, Madras, to the Royal Botanic Garden, Calcutta, and to several private individuals in Bombay and other parts of the country.

36. Many interesting donations have been made to the gardens during the year. The following are worthy of special notice:—By Colonel C. Denison, a large and very valuable collection of Indian and Australian ferns; Major Beddome, a collection of Australian tree and shrub-seeds; also a splendid specimen tree-fern; Colonel Boddam, an assortment of flower-seeds and bulbs; Colonel Benson, Rangoon orchids and seeds; E. G. C. Brace, Esq., Picotee and Melon-seeds; H. B. Grigg, Esq., two varieties of Ficus and Eucalyptus seeds; Superintendent, Horticultural Gardens, Madras, flower-seeds, plants of Imantophyllum and Clivia nobilis; Dr. King, a large collection of European tree and shrub-seeds; Captain Onslow, several species of orchids; Major Penny, two Burmese creepers; E. B. Thomas, Esq., Hop and fruit-tree seeds.

(Signed) A. JAMIESON,
Superintendent Government Botanical Gardens.

Ootacamund,
3rd June 1873.

Table showing the Distribution of Plants and Seeds from the Government Botanical Gardens, Ootacamund, for the year 1872-73.

Month.	Fruit-trees.	Timber-trees.	Flowers and Shrubs.	Packets of Seeds.	Value.		
					Rs.	A.	P.
April 1872	.....	.....	205	209	112	15	0
May ,, ...	.....	.....	423	383	165	0	0
June ,, ...	.....	136	689	392	289	2	0
July ,, ...	56	721	734	303	381	5	3
August ,, ...	37	1,752	972	398	490	9	0
Sept. ,, ...	8	71	1,573	344	380	7	0
October ,, ...	.....	24	577	441	301	1	8
Nov. ,, ...	.....	24	490	289	190	9	4
Dec. ,, ...	.....	.....	22	116	71	1	0
Jan 1873	.....	1,200	86	258	113	4	0
Feb. ,, ...	47	12	172	173	119	8	0
March ,, ...	.....	.....	199	400	175	4	6
Total...	148	3,910	6,12	3,706	2,790	2	9

Ootacamund,
15th May 1873.

(Signed) A. JAMIESON,
Superintendent Government Botanical Gardens.

STATEMENT of Receipts and Charges of the Government Botanical Gardens on the Nilgiris during the official year 1872-73.

Receipts.	Amount.			Total.		
	RS.	A.	P.	RS.	A.	P.
Cash in hand on the 1st April 1872	.....			633	4	8
Sale of plants and trees	2,545	8	7			
Received from the Commissioner from Rs. 1,200, sanctioned in G. O., No. 379, of 26th March 1872	175	0	0			
Received from Commissioner amount sanctioned in G. O., No. 874, of 5th July 1872... ..	500	0	0			
Received on account of Superintendent and Establishment's salary, etc., (net)	4,215	9	0			
Amount drawn for improvements, etc., in the gardens and repairing Superintendent's house.	500	0	0			
Amount drawn for weeding Burliar gardens. ...	150	0	0			
Do. for purchase of tools	100	0	0			
Lease of Burliar gardens	224	0	0			
Amount received from the Commissioner on account of the gardens for almirah	408	0	0			
Do. do. Wardrobes ...	139	0	0			
Railway charges	48	8	0			
Table	20	0	0			
Cooly-hire of man in charge of the furniture ...	2	8	0			
				9,028	1	7
Total, including the balance...	.....			9,661	6	3

Charges.	Amount.			Total.		
	RS.	A.	P.	R.	A.	P.
Purchase of seeds	407	13	0			
Do. of tools	142	8	0			
Peon's clothing	47	13	0			
Postage on banghies and letters...	24	12	0			
Packing of seeds and plants	116	8	8			
Carriage of do	115	8	6			
Repair of fern-house, etc.	342	5	9			
Do. of Superintendent's bungalow ...	200	0	0			
Do. of tools	30	10	0			
Stationery	52	11	0			
Municipal assessment	24	0	0			
Printing catalogues	42	12	0			
Exchange on cheques, etc.	29	9	10			
Sundries	43	9	8			
Pay of Superintendent and allowance	2,175	9	0			
Pay of Office Establishment	1,032	0	0			
Working charges of Ootacamund gardens ...	3,359	3	8			
Do. of Coonoor do. ...	150	0	0			
Do. of Kulhutty do. ...	202	5	6			
Improvements in Burliar gardens	190	0	0			
Reclaiming and planting waste land near gate and metalling main entrance-walk	300	0	0			
Amount paid for almirah, wardrobes, etc., by the Commissioner	618	0	0			
				9,647	11	7
By Balance...	.....			13	10	8
Total...	.....			9,661	6	3

OOTACAMUND,
3rd June 1873.

(Signed) A. JAMIESON,
Superintendent Government Botanical Gardens.

Proceedings of the Madras Government, Revenue Department, 20th August 1873.

METEOROLOGICAL Observations made on the Government Botanical Gardens, Ootacamund, from 13th November 1872 to 31st March 1873.

Month.	Monthly Mean of dry Bulb.				Monthly Mean of wet Bulb.				Maximum observed during the Month.	Rain-fall.		Days with Rain.	Days without Rain.
	7 A.M.	2 P.M.	5 P.M.	Daily Mean.	7 A.M.	2 P.M.	5 P.M.	Daily Mean.		Inches.	Cents.		
November 1872	52·07	59 03	54·17	54·20	52·11	59·16	56·04	55·14	64·13	6	·04	10	8
December ,, ...	51·03	66·09	59·01	58·20	47·00	62·05	55·21	54·21	70·15	2	·53	7	24
January 1873	51·12	72·15	59·24	61·26	43·07	60·13	50·17	50·30	74·24	.....	.....	.. ...	31
February ,, ...	54·23	68·23	59·16	60·20	48·09	61·14	53·12	54·01	70·17	3	·39	7	21
March ,, ...	56 23	73 06	63·26	67·16	48·20	64·21	55 08	55·28	73·26	.....	·15	1	30
Annual mean	53·53	67·71	58·96	60 20	61·33	61·33	53·92	53 78	70·19	.....	.....	.....	.....
Total....	.....	.....	.....	.....	.....	.....	.....	.....	.....	12	·11	25	114

OOTACAMUND,
15*th May* 1873.

(Signed) A. JAMIESON,
Superintendent Government Botanical Gardens.

ENCLOSURE No. 2.

From E. F. CHISHOLM, Esq., F.R.I.B.A., Consulting Architect to Government, to the Chief Commissioner of the Nilgiri Hills, dated Royapettah, Madras, 30th April 1873, No. 345.

I HAVE the honour to forward you a plan of a conservatory which it is proposed to erect in the Botanical Gardens at Ootacamund.

2. At the Hon. Mr. Sim's request I met Mr. Jamieson on the 4th March last, and ascertained from him all necessary particulars. He thought that, as regards size, a covered space 100'×60' would be sufficient; this would give an area of 6,000 superficial feet. The circular house I propose will give somewhat less than this, but still I think sufficient.

3. I have adopted the circular form partly from economical considerations and partly because the interior will be architecturally effective.

4. The house consists of a dead wall suitably ornamented and decorated for the height of 15 feet; above this the walls and roof consist entirely of light wooden frame-work filled in with glass. The roof will be 80 feet across without intermediate supports.

5. The entrances will be through the walls. The inside of the house will have a small fountain in the centre surrounded by a gravel wall. Above this gradually rising to the outside the flowers will be arranged on either side of circular promenades connected by stone-steps. Inside nothing will be visible but flowers and light frame-work.

6. I estimate the cost of the structure roughly at Rs. 12,000.

No. 152. ORDER THEREON, 20th August 1873, No. 875.

Miscellaneous.

THE Government consider the state of the gardens satisfactory and such as to testify to the superintendence having been careful and intelligent.

2. The success which has attended the introduction of the Australian Strawberry and the Spanish Chesnut is very encouraging, and there appears reason to hope that the latter may hereafter prove a useful addition to the food resources of the people.

3. The Superintendent's remarks in last year's report on the successful cultivation of the Ipecacuanha plants in the Burliar gardens were communicated to the Government of India, with a request that a further supply of plants might be sent when available, and their attention will be again requested to the subject.

4. With reference to paragraphs 26 and 32 of the Superintendent's report, the Government remark that Mr. Jamieson should submit, through the Commissioner, in a definite form, any proposals he may desire to make for utilising his own special knowledge, or promoting the success of the gardens.

5. The plan for a new conservatory will be considered in the Public Works Department, and it is observed that these reports are not intended to raise questions on which orders are required.

6. The Government presume that the details of the current expenditure receive from time to time the attention of the Commissioner.

(True Extract.)

J. Sturrock

Jr Acting Secretary to Government.

To the Commissioner of the Nilgiris.
,, the Inspector of Forests
,, the Board of Revenue.
,, the Public Works Department.

Exd. F. R. Bantleman.

Oct 895

Oct 2895. 19 Nov 73

Botanical Gardens on the Nilgiris.—Considering the report on the — for 1872-73 submitted by the Commissioner of the Nilgiris and resolving to request the attention of the Government of India to the application for a further supply of the Ipecacuanha plants. The application for the new conservatory will be considered in the Works Department.

AUGUST.
Nos. 151-152.

Read Paper August 20th.
Read. 18th August 1873.

G. O., 20th August 1873, No. 875.

From
THE COMMISSIONER OF THE NILGIRIS
&c., &c., &c.

To
THE SECRETARY TO GOVT.
REVENUE.

Govt. of India.
Revenue.
Oct 1873.

17

Proceedings of the Madras Government, Revenue Department,
22nd September 1873.

No. 191. Read the following letter from J. R. COCKERELL, Esq., Commissioner of the Nilgiris, to the Hon. R. A. DALYELL, Acting Secretary to Government, Revenue Department, dated Ootacamund, 10th September 1873, No. 41 :—

GOVERNMENT Order, No. 24, dated 9th January 1873, Revenue Department, passing the budget for the Horticultural Gardens on the Nilgiri Hills for 1873-74, granted Rs. 3,500 "towards the cost of a new conservatory."

2. The subject of this conservatory was mooted in a letter, from my predecessor, to Government, printed in G. O., 13th June 1872, Revenue Department, No. 936, in which the late Commissioner described the present conservatory as "a melancholy structure built askew to the main promenade and gate-way, and unsuited to the purpose for which a conservatory is required."

Mr. Breeks intimated that the present conservatory was placed too low down in the gardens which made it cold for plants in the frosty season, and suggested it should be removed, and a new building of a "more modern and useful design" built higher up on the site of the present fernery.

3. With reference to this proposition from Mr. Breeks, I consulted Captain Morant, the District Engineer, and the Superintendent of the Gardens, and we came to the conclusion that to purchase a new building of a suitable size and design in glass and iron in England, and erect it, would involve an outlay of £2,000.

4. I then addressed Mr. Chisholm, the Government Architect, and he was so good as to furnish a design of a new conservatory. This design I enclose. Mr. Chisholm states the cost of the building suggested would be £1,250; but it is questionable whether his rough estimate has taken into consideration the cost of labour and material on the Hills which is higher than in the low country.

5. In my report on the Botanical Gardens for the past official year, I intimated to the Government that the outlay on a new conservatory would be excessive, and requested to be informed whether I was to carry out Mr. Chisholm's or any other design. A reply to this communication has not yet reached me.

6. With reference to the communication, I have now the honour to suggest what, in my opinion, is a more suitable mode of disposing of the £350 granted in the Government Order quoted above than in commencing an expensive building which will take years to complete, and when finished will still leave the Ootacamund Garden without suitable buildings for propagating and forcing.

7. With the exception of the Cinchona-houses at the top of the garden, there are no proper houses for propagating, and there are no fruit-houses at all. There is a propagating house half way up the garden, but it is in bad condition, and unless repaired will probably fall next monsoon.

8. I would solicit permission to spend the £350—

1*stly*,—In putting a glass-roof on this house in lieu of the present roof which is half-tiled and half in glass, in re-modelling the interior, and in converting the present entrance into a wing with glass;

2*ndly*,—In converting a ruined building adjoining the house of the Superintendent into a forcing-house for fruit, by making additions to the walls, putting on a glass-roof and glass-doors; and,

3rdly,—In putting the present conservatory into repair so far as funds will permit.

9. If Government sanction this scheme, the gardens will be provided by next year with the means which are quite insufficient at present of making a show of flowers, and the means of progress in the growing of English fruit,—a branch of gardening which has never yet received any express attention.

No. 192.

ORDER THEREON, 22nd September 1873, No. 1,025.

Miscellaneous.

THE Governor in Council sanctions the diversion of funds proposed by the Commissioner in the foregoing letter.

(True Extract.)

(Signed)

Acting Secretary to Government.

To the Commissioner of the Nilgiris.
,, the Accountant-General.
,, the Public Works Department

Exd. F. R. Bantleman.

P. W. 1873 Depart.
Govt. of 1873 No. 6232.

REVENUE.

To

THE COMMISSIONER
OF THE LIGHTS.

&c. &c. &c.

Dated Secretariat Office, November 22nd.

Rec'd 15th Nov. 73.

Funds allotted for a new Conservatory in the Cotacamund Gardens.—Sanctioning the expenditure of the sum of — towards the improvement of the Botanical Gardens, Ootacamund, by the construction of a range of conservatories, comprising a central building, with wings to the Southward, a plant house, a forcing-house for fruit, and the repair of the present conservatories.

No. 276

A°. 2805-19th Nov/73

No. 161.

Revenue Department.

Official Memo:

In forwarding the G.O. of this Department dated 20 August 1873, N: 875 the Undersigned begs to draw the attention of the Secretary, Public Works Department, to the pencil note of the Honble Mr. Sim recorded on the plan of the proposed new Conservatory.

/ By Order /

Ootacamund
8 September 1873

A Halyell
Ag: Secretary to Govt

To
The Secretary to Govt.
P. W. Dept.

The Plan for a New Convent
for the Govt. Gaol
at Utakamund
in lieu of Rev. Dept's Order
No. 875 of 20. Aug. 24.
forwarded for consideration in
the Pub. Works Dept. with the
remarks that the space
proposed to be covered in the
Gaol was too extensive, being as less than
five times the space which
the existing Convent covers.
This alone account for the in-
sufficiency of the sum allot-
ted for the purpose in the
Budget of the current year -
It is evident that neither the
District Engineer nor the Con-
sulting Architect should
have confined the Supt's
demands with the space
in actual use, & ascertained
whether they were excessive
or not -
The Consulting Architect's Plan
being ill adapted for provi-
ding plants in well ventilated &
spacious, & suitable in every
Plan submitted by the
Chief Engineer & forwarded

No 2805 P.W.D.

Rec. of the Madras Govt.

Read the following

Rec. in the Rev Dept (W.L. No. 875 of 20 Aug/73)

Do —— (—— 1025 of 22 Sep/73)

Memo from the Rev Dept —— (1819 of 8 Nov/73)

P. W. 1873 Depart.
Rec'd 15th Nov. No. 6253.

Memo

From.

Sy. Secretary to Govt.
Revenue Dept.

Dated 8th
Rec'd 15th } Nov/73.

No 161.

Drawing attention to the pencil Note by the Hon'ble J. D. Sim on the plan of the proposed Conservatory at the Ootacamund Gardens—

No. 2805-19th Nov/73.

No 277

to the Revenue Department
for decision as to the fur-
ther steps to be taken in
the matter, the prosecution
of which would appear to
involve issue alteration of
the arrangements made
in the Order in that Dept.
No. 1025 of 22d ~~December~~ September

G.M.W.
15.10.73.

To the Rev. Dept.
to the Architect.
to the Engineer Neilgherries.
Signed by [illegible]. Copies sent to all 24/11/73
x Lines made over to the Rev. Dept at Ooty

No. 280

The Chief Engineer has the honour to submit for the orders of Govt. the Plans and Elevation of Ootacamund Treasury drawn by Capt. [illegible] proposed to be built at Ootacamund. Govt. [illegible] in [illegible] that desired for consideration of the P.W. Dept. by para 5 of Rev. Dept. Order No. 825 of 20th Aug.

He begs to observe that the space it has been proposed to cover being five times that covered by the existing building, he has ascertained personally from Mr. [illegible] that accommodation about half of the space of the existing area will be ample.

Preliminary to this the question of site has next to be considered, and after careful inspection of the ground, the conclusion has come to that the site of the present [illegible] house, [illegible] the [illegible], is the best for the purpose.
It was selected by the [illegible]

Mr. Smith, I have ordered he
that the accompanying
Contour Survey prepared,
in October 1872. It shows
that a very inconsiderable
quantity, amounting
to the removal of less
than 12 feet in height at
the back will be found
sufficient for the Site
of the Conservatory, and
by 45 ft. in extreme
length, with
a span all round.
The accompanying Survey
of the Gardens will shew
conveniently the present
Conservatory, & the
vista from the Garden Seats
&c. that there is no land
suitable, higher up
in the same line of the new
Conservatory, than the
present, and the Chief Engineer
is of opinion that the Site
carefully selected & decidedly the best, and that
a suitable building placed
as it will have a most
commanding effect -

Kew Gardens
Royal & act consequent
upon the arrangements
made in Lord Dept. Order
No. 1025 of 22d Sept., which
sanctions the reconstruction
of the ~~present~~ propagating
house above mentioned, and
in great disrepair and
expense to the place, and the
interfering use of the present
Conservatory, he requests to
he may be favoured with
the orders of Govt. whether
not, to work out his proposal
tion - He is sanguine
that a very handsome but
ing can be constructed with
a cost not exceeding £ 8000

He would recommend the
immediate dismantling of
the centre portion of the pres-
ent Conservatory to open a
vista up the Gardens, and
thus the effect its entire
removal would cause; the
Slate and other materials
being utilized for the Propa-
gating house at the top of
the Gardens -

W. H. Fowler Lieut. R.E.
Chief Engineer

14th October.

Nos 6231, 6232 & 6233

Govt. of {1873} Madras.

PUBLIC WORKS.

To The Revenue Dept.

Dated

Rcvd. Encl.

G. O. 19th Novr. No. 2805.

Nos. 275 & 278

New Conservatory in the Govt. Gardens at Ootacamund. Passing orders on the subject of the construction of a new Conservatory.

h - 275-78.