30th November 1885, No. 1329, Revenue.

GOVERNMENT OF MADRAS.

REVENUE DEPARTMENT.

Read—the following Report on the Progress and Condition of the Government Botanical Gardens and Parks, Nílgiris, for the Official Year 1884-85.

I have the honor to forward to you herewith my Annual Report on the progress and condition of the Government Botanical Gardens and Parks on the Nílgiris for the year 1884-85.

CONTENTS.

I. Staff of Officers.
II. Season.
III. General condition of the Gardens and Parks and improvements which have been made in them during the year.

(1.)—Ootacamund.

(a) Government Gardens.
(b) Government House Garden.
(c) Stonehouse Park.
(d) Church Hill Park.
(e) Crewe Hall Estate and adjoining grounds.

(2.)—Coonoor.

(f) Sim's Park.

(3.)—Barliyar.

(g) Experimental Garden.

(4.)—Kalhatti.

(h) Experimental Garden.

IV. Proposed New Gardens at

(i) Gúdalúr.
(k) Calicut.

V. Proposed Museum of Natural History in Ootacamund.
VI. Herbarium.
VII. Library.
VIII. Notes on some of the more interesting plants which have been introduced or grown in the Gardens during the year.
IX. Receipts and expenditure.
X. Miscellaneous information.

I. Staff of Officers.—The staff of officers remains the same as it was in 1883-84. From Mr. Jamieson, the Curator, to the lowest subordinate, all have shown the greatest care and diligence in their work.

With respect to Mr. C. McDonald, the Overseer for general works, and Mr. T. Burrows, the Overseer for the propagating houses and nurseries, I wish to point out that their pay is very inadequate for the responsible duties which they have to perform. Mr. McDonald receives only Rs. 35 per month while Mr. Burrows receives only Rs. 25. The duties they both have to perform require far more skill and intelligence than that required of a Sub-overseer in the Cinchona Plantations, yet the latter get Rs. 50 a month. I would urge the claims of these men.

With respect to the writer in the office, Ramanjulu Naidu, I have the same to urge. His duties are more arduous and his responsibility is greater than what is required of the second clerk in the office of the Cinchona Department, yet he receives Rs. 50 a month, while Ramanjulu Naidu gets only Rs. 30.

II. Season.—The weather during the past year was, with the exception of the months of October and November, unusually dry, and little or no planting could be attempted till the end of the former month. In October no less than 22·84 inches of rain were registered. More than half of this fell in two days, and the wash, which this heavy fall occasioned, was very great. The winter was comparatively mild and little harm was done by frost.

III. General condition of the Gardens and Parks or improvements which have been made in them during the year.—(1.)—Ootacamund—(a) *Government Gardens.—Upkeep.*—During the past year considerable alterations and improvements have been made in these gardens. The ground on either side of the entrance gate, and which for the last few years it would have been unwise to attempt to decorate, owing to the incomplete state of the works which were being carried on immediately about them, has been defined and will shortly be planted with shrubs and trees. The upper part of the gardens, which lies between Government House and Garden Cottage and bounded below by the new road, has been entirely re-made and planted with grass and shrubs. This portion of the gardens had always been in a rough and untidy condition and was last year rendered still more unsightly by the greater part of the turf having been removed for the purpose of grassing the parapet of the new road. The right-hand bank of this road on approaching Government House is so steep that no grass can be grown upon it and it will always remain as an ugly cliff of bare earth, unless something is done to hide it. I would recommend that these portions of the road should be built up with a loose revetment, similar to that which fronts the entrance at Government House. The cost of such a revetment would not be great and it would prevent the possibility of any landslips taking place. Such a revetment, too, could be covered with succulents or creepers. All the lawns in the gardens have now been levelled and the grass upon them is being gradually brought into better order. Last year the grub of the cockchafer did a good deal of mischief to the grass, but this was remedied by top-dressing the injured portions with manure in the early spring. Now that the floor of the garden has been put to rights, I hope next year to re-establish the flower beds and shrubs which, during the time that the alterations were going on, had to be removed. The bund of the tank below the band-stand gave way during the heavy storm which occurred in October last. The destruction of the bund was due partly to the tank having been dredged too deeply and partly to trees having been planted upon it. The depth of the tank has now been lessened and made uniform and the bund has been restored and strengthened. Provision has been made for putting up a fountain next winter in this tank opposite to the band-stand.

I propose next year to commence making improvements which are much wanted in the upper part of the gardens.

Kitchen Garden and Herbaceous Ground.—Owing to the large number of works to be carried out during the past year, I regret to say that I found it quite impossible to do anything in the way of getting up either an experimental kitchen garden, or a garden for the cultivation of local wild herbaceous plants.

Nurseries.—The out-door nurseries have been quite filled with plants raised for the purpose of filling up the old demolished sholahs in the upper part of the gardens, and with plants raised from the seed which had been sent to us by various donors.

Next year I propose adding largely to these old nurseries in order to accomodate our constantly increasing stock of plants.

Forest of Blue-gum trees.—The forest of blue gums lying north of Government House and which formerly belonged to the Forest Department has been annexed to these gardens (*vide* G.O., No. 3002, dated 15th July 1884).

Buildings.—The conservatory on the lawn facing the entrance gates is in a very bad state of repair and will not last many years longer. To repair it thoroughly would cost a large sum of money, while all the plants which it now contains would have to be removed during the time that it was under restoration. I would, therefore, recommend that this house should be allowed to remain as it is until no longer serviceable and that it should then be pulled down and rebuilt on some other part of the gardens. If this building was removed from its present site there would be a continuous stretch of lawn from the entrance to the gardens to the band-stand tank.

The other conservatories and buildings are all of them in a fair state of repair.

(*b*) *Government House Garden.*—All works connected with the buildings of the Government House and adjoining offices having been completed, it was possible last spring to begin gardening operations. The lawns at the back of the house have been improved, while the slopes in front, below the new terraces, have been cleared of scrub and re-grassed. This part of the ground has also been planted with clumps of trees and shrubs; the former with the view of eventually taking the place of those which now exist and which, I am sorry to say, are in such an unhealthy state that they will not last many years longer.

A neat and spacious green house has been built for the purpose of growing decorative plants, with which it will be gradually furnished. The remaining parts of these gardens are being prepared for their adornment during the present year.

(*c*) *Stonehouse Park.*—The grass land immediately about the new building was cleared of weeds and such trees as were either dying or as obstructed views were cut down and others planted in more suitable places. The trees owing to the lateness of last year's season were not planted till October; they were, however, well established in baskets before being put out and afterwards carefully protected during the spring droughts. They are now for the most part doing well; a few of them have been destroyed by cattle, which either strayed or were deliberately sent by the villagers of Old Ooty to graze in the park at night; and until it can be afforded to fence the whole of the land, young trees and shrubs will always be liable to damage from this source. Nothing has yet been done in the way of planting shrubs immediately about the new buildings as the surrounding ground is still in the hands of the Public Works Department. All building operations, however, will shortly be finished, so that this year we may hope to get this portion of the park planted up also.

(*d*) *Church Hill Park.*—During the past year the usual upkeep and nothing more has been carried on.

(*e*) *Crewe Hall Estate and adjoining Grounds.*—Nothing during the past year was done to ornament these grounds owing partly to finding it difficult to provide the necessary labor and partly to the consideration that it would be of little use to do anything in the way of planting until a substantial fence had been placed all round the ground, as these estates have, during the last two years, become a common grazing ground for bullocks, sheep and goats. During the present year, I hope to see it fenced and planted.

2. Coonoor—(*f*) *Sim's Park.*—The upkeep has been satisfactorily maintained. Some damage was done to the roads, paths and bridges during the heavy rains of last autumn, but nothing more than could be repaired by the laborers employed in the park. A bridle road is being made through the new sholah which was last year annexed to the park. This will afford a pleasant ride for such as desire to pass from Coonoor to Wellington. It was first proposed to make this into a carriage instead of into a bridle road; but the cost of the former proposal was found to be too great to be incurred at present and the idea was therefore abandoned. All the more important trees and shrubs have been labelled.

New Nurseries.—These are intended chiefly for raising a stock of sholah trees which grow on the Coonoor ghât and have been made upon the abandoned tennis ground.

3. Barliyar—(*g*) *Experimental Garden.*—This garden was of late years becoming overgrown with worthless coffee, oranges, pomeloes, &c., and which were cramping many of the more valuable trees. I have had all these cleared away, and I have also cleared of secondary jungle, about an acre of ground, which had hitherto been left uncultivated. This will give a sufficiency of room for planting out new introductions for some years to come. Most of the trees are flourishing; they have all been identified, and I have ordered that they shall have a zinc tally, with a number punched on it, attached to each. This, in the hot climate of Barliyár, will be more lasting than the usual painted label, and it will at the same time be much more economical.

4. Kalhatti—(*h*) *Experimental Garden.*—Nothing of any importance has been carried out during the year in this garden. The *Cinchona morada* and *verde* seedlings which were put out last year have done very badly; the dry climate evidently did not suit them. In my last year's report I stated that I doubted if it was worth the while of Government to continue the cultivation of this garden, and I am now still more of the opinion that it is not.

IV. Proposed new Garden at—(*i*) *Gúdalúr.*—In connection with the proposed establishment of a garden at Gúdalúr, I have been in communication with the Karistan of the Raja of Nilambúr, who owns all the land in that neighbourhood, and I find it would be possible to acquire a plot of ground on a lease not exceeding 99 years at the very moderate rate of 8 annas an acre per annum. I would propose that 5 acres of ground be taken up on a lease of not less than 50 years.

(*k*) *Calicut.*—With respect to the establishment of a garden at Calicut, I have written to the Collector of Malabar, Mr. Logan, asking him kindly to ascertain what suitable ground could be acquired, and when I hear from him, I will go to Calicut and select that which seems to me the best site. I think that as in the case of the garden at Gúdalúr, 5 acres of land will be sufficient.

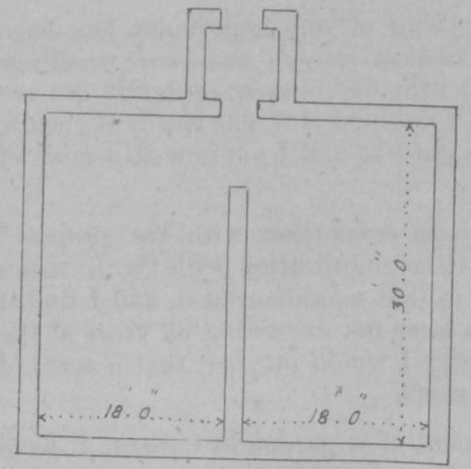
V. Proposed Museum of Natural History in Ootacamund.—In my report of last year, I asked if Government would be inclined to sanction the establishment of a small museum in Ootacamund, which should contain typical collections of objects of interest to those living on the Nílgiri plateau and in the Wynaad, and I further stated that I thought such a museum should take in all the chief branches of Natural Science—Botany, Zoology, Geology, Mineralogy and Ethnology. Government, in paragraph 12 of their G.O., dated 20th October 1884, No. 1155, Revenue, reviewing my report approved of the suggestion and they accordingly requested me to work out the details of the scheme in communication with the Superintendent of the Government Central Museum, Madras, the Conservator of Forests, Northern Circle, and the Collector of the Nílgiris.

Owing to the absence from the Hills of one or other of the above appointed Committee, no meeting was held until the 18th of last month. I then explained what I considered should be the scope of the museum, and I produced a plan of a building which I thought would be sufficiently large to contain all such collections as might be acquired during the first few years of the museum's existence, and I pointed out that the building, which I proposed, would admit of being indefinitely extended. With respect to the scope of the museum, I urged upon my colleagues that it would be desirable that at first the collections should be confined to such objects only as would be of interest to the ordinary well-educated and intelligent resident, European or Native, and that complete collections of everything existing in the district which would be serviceable only to specialists should be allowed to stand over to a future day. These propositions, however, met with their most decided disapproval. They were unanimous in thinking that the scope which I proposed was far too narrow, and that instead of commencing with a small building and adding to it as occasion might require, a large museum should be built at once, which would accommodate a perfect collection of all natural history objects.

Seeing that we were of such very opposite views as to what ought to be done, I asked Doctor Bidie, Mr. Burrows and Mr. Gamble to put upon paper the views which they had advanced in the discussion. This they have kindly done, and I annex a copy of the report which they have drawn up on the subject.

Report by Doctor Bidie, Mr. Burrows and Mr. Gamble.

In accordance with the order of Government conveyed in paragraph 12 of G.O., Revenue Department, No. 1155 of 20th October 1884 (Board's Proceedings, No. $\frac{3903}{\text{Forest 393}}$ of 17th November 1884), we met at Mr. Lawson's office on the 18th August 1885.



Mr. Lawson submitted to us his proposed plan of a museum building, 30 feet × 36 feet, without offices of any kind. We considered that such a small house would not meet the intention of Government, nor suffice for the objects of a provincial museum, as understood by us, viz, that it should contain such a representative collection of local specimens as would make it at once attractive and instructive to the public, for whose benefit it would be started and maintained. We are of opinion that it would be quite insufficient to hold the collections which would adequately represent the Botany, Zoology, Geology, Mineralogy and Ethnology of this interesting district, and that it would be necessary to provide a room of larger size for the exhibits as well as a work room for an Assistant in charge, who might very usefully be a taxidermist such as Dr. Bidie thinks could be found for a comparatively small monthly salary. We are informed that a local museum was once before started in Ootacamund and proved a failure, because it was not established on a scale or managed in a manner to make it interesting and useful to the public.

Mr. Gamble represented that in order to make an interesting show of the woods, fibres, oils, barks, fruits and other vegetable products of botanical or economic interest in the district, considerable space would be wanted, for the district and Wynaad contained such a varied flora ranging in level from that of the sea to over 8,000 feet and in comparative moisture from 23 inches (Coimbatore)* to 112 inches (Calicut).* He would hope that the museum might be made the means of fostering the use of indigenous timbers for building and construction, and of bringing to more general local notice woods and forest products of economic value. Government is always sending specimens to Exhibitions abroad and at the Presidency and it often happens that products while known at a distance are little known in their own home. The collection that would show all that it is right to exhibit would be by no means one of so little amount as Mr. Lawson seems to think. Nor is the zoological field less rich or varied.

Dr. Bidie pointed out that a collection of birds, of which the most common and most interesting should be stuffed and exhibited with their eggs and nests, would take considerable space, more especially as in such a district as this the game birds, always interesting where there is a large European community, are mostly of comparatively large size. So, too, a collection of the mammalia would be incomplete and devoid of interest if the game of the district were not well represented, and even such large animals as the bison and sambur would require to be shown and prove most interesting to visitors, for few people have any idea of their size, especially of that of the former. The reptiles, land shells and fish would also take up a good deal of room and so would the insects, if properly shown. Altogether he considered the space proposed to be quite inadequate to represent the branches of natural science which it is proposed to illustrate, not to mention economical products.

Mr. Burrows, while agreeing in the opinions of Doctor Bidie and Mr. Gamble, considered that in order to make a museum in Ootacamund a useful and successful institution and to ensure its permanency, it should be so arranged and managed as to prove an attraction to the public and a credit to the station. It should be accessible both to mere visitors and to learners and should be one of the public institutions of Ootacamund. In this we were all agreed. Ethnological collections, it was thought, in a district where there are several aboriginal races who might be likely to decrease in numbers rather than increase and to change perhaps their mode of life, would also be of real interest and require some space and some care in arrangement.

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* The nearest place on either side of which he could find record.

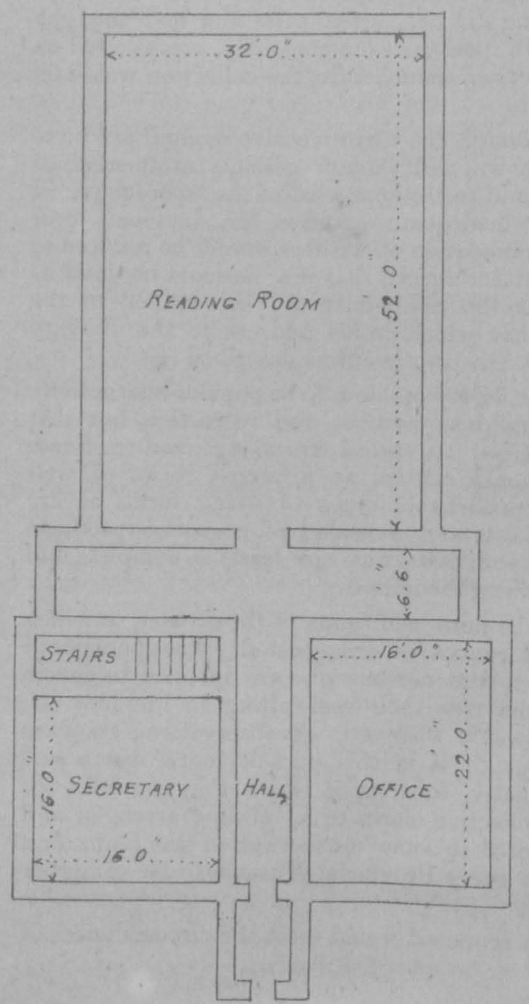
Then there would be a necessity for a series of specimens properly representative of the coffee, tea, cinchona, fibre and other industries of the district and Wynaad, and though Mr. Lawson thought that a small box of a few feet square would properly represent all that was useful to show as regards coffee, the rest of the meeting did not agree with him and thought that unless such subjects were thoroughly and well, perhaps even copiously, represented as regards the soil, growth, varieties, diseases and products of manufacture, the collection would be of but little interest and planters would not care for it.

Then the Gold-mining industry and the various though not very extensive mineral products including the building stones, &c., require to be shown, and though perhaps in themselves they would not take up much room, yet they would add to the sum total of the space required and for this a wall space of 130 feet would be totally inadequate. And in Mr. Lawson's proposed room with three-feet cases, the space for the circulation of visitors would be reduced to merely 12 feet × 6 feet in each room. We were further agreed that if a museum be instituted in Ootacamund—as all were of opinion should be the case—it should be confined to the display of local products, and its aim should be that which in his address to the Biology section of the British Association at Swansea in 1880, Dr. Günther thus described :—

"The principal aim of a Provincial Museum ought, in my opinion, to be popular instruction. I do not mean that it should be merely a place for mild amusement and recreation, but that it should rank equal with all similar institutions destined to spread knowledge and cultivate taste among the people. To attain this aim it should contain an arranged series of well preserved specimens representing as many of the remarkable types of living forms as are obtainable; a series of useful as well as noxious plants and animals; of economic products derived from the animal and vegetable kingdoms; and last (but not least) a complete and accurately named series of the flora and fauna of the neighbourhood.

"The direct benefit of a complete collection of the flora and fauna of the district, in which the Provincial Museum is situated, is obvious and cannot be exaggerated. The pursuit of collecting and studying natural history objects gives to the persons who are inclined to devote their leisure hours to it, a beneficial training for whatever their real calling in life may be; they acquire a sense of order and method; they develop their gift of observation; they are stimulated to healthy exercise. Nothing encourages them in this pursuit more than a well named and easily accessible collection in their own native town upon which they can fall back as a pattern and an aid for their own. This local collection ought to be always arranged and named according to the plan and nomenclature adopted in some monograph of the fauna and flora of the country; and I consider its formation in every Provincial Museum to be of higher importance than a collection of foreign objects."

No such small room as that which Mr. Lawson proposed would meet the circumstances of the case as thus defined.



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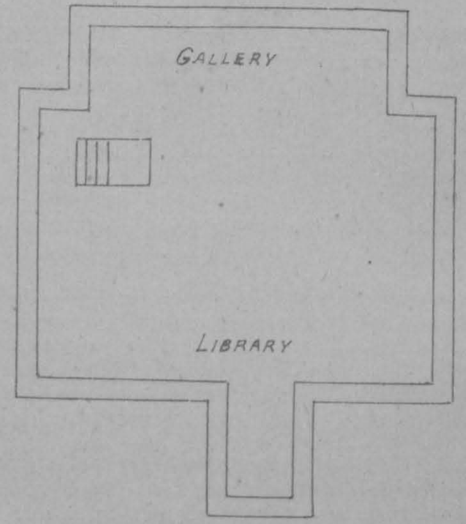


UPPER FLOOR

We are strongly agreed that if a museum is started it should be in a building worthy of it; that it should be constructed at once of sufficient size, but that cabinets might be made by degrees as collections were available. Dr. Bidie gave it as his opinion, in which Messrs. Burrows and Gamble were disposed to agree, that a building of the style of the Nílgiri library would probably prove sufficient if re-arranged as regards the rooms. There should be a work room for the assistant in charge and a store and packing room at any rate. The library was visited in order to see what the size and arrangements were and a rough plan is given opposite. The arrangement seems well suited to a museum, the light is good and there is no reason why the large room should not have the gallery continued round it so as to display cases for insects, &c. Such a building would, of course, cost a great deal more than Mr. Lawson's proposed one, but it is our opinion that if the museum is not a good one, in a suitable building, contributors will not be easily persuaded to assist, its permanency will be doubtful, and it will not be, what it should be, a place of instruction to the public. Mr. Lawson's scheme would practically merely add a small museum to his office. Government has fine sites now for such a building in and about Stonehouse Park and the Government Gardens, quite near to Mr. Lawson's office, and if only the funds can be provided and the building started at once under the auspices of His Excellency the Governor, we feel sure it will be a success. The great interest taken by the native community in such institutions and especially in the fauna of the country is well known from the statistics of the Museums of Calcutta and Madras and of the Calcutta Zoological Gardens, and we feel sure that our Ootacamund Museum (which it may be hoped will prove a model for similar museums in other groups of districts such as were recommended by the Government of India in recent orders) will prove equally attractive.

We would remark that it may possibly be considerably utilized in assisting the work of technical education for which the Director of Public Instruction is, we believe, now preparing a scheme under the orders and approval of Government.

There should be in the museum a small library of works of local interest, and the maps of the district should be exhibited on the walls for easy reference.

The orders of Government desire us to "work out the details of the proposed Museum with Mr. Lawson," but as we differ at the very outset from Mr. Lawson in our conception of what the museum should be, we are forced to submit this note, which we do through Mr. Lawson in order that he may obtain the orders of Government on the first point which has to be considered—the size, arrangement and scope of the proposed museum.

I have said above that I disagree with the views put forward by Dr. Bidie, Mr. Burrows and Mr. Gamble, and I therefore now pass on to point out what I conceive to be some of the more important errors of judgment contained in their report. Mr. Gamble thinks that all woods which grow in the country from Coimbatore to the uttermost parts of the Wynaad would prove of interest and instruction to the public, and that therefore all these should be exhibited; and he says, what is no doubt perfectly accurate, that such a collection would occupy a very considerable space. I dissent to Mr. Gamble's assertion that such a collection would be of great interest to anybody and for the following reason. Of the larger number of trees which grow in the above-mentioned district very little is known about the value of their timber, and to exhibit woods simply because they are woods without giving any information respecting them would be useless. I should prefer that at first a collection should be exhibited of such woods only about which we already possess some knowledge, and that the remainder should be added as Mr. Gamble or others become better acquainted with their properties. Again, with respect to the exhibition of fibres, oils, barks, fruits, &c., which it would be possible to bring together during the next few years, they would, I am persuaded, occupy a much smaller amount of room than is supposed by Mr. Gamble.

Dr. Bidie seems to me to err in wishing to see a Provincial Museum established upon the scale of a Metropolitan Museum. I would leave out for the present at any rate all such large animals as the elephant, the bison and the sambur, not because I think they would be of no interest to the public, but because they would take up room which could be more profitably utilized. I would observe again that all reptiles, with the exception of a very few, when prepared for exhibition pack into a very small compass. With respect to land shells and insects, except in the case of the more noticeable and commonest species, it is a mistake to keep them constantly exposed to the light, as they rapidly fade. They ought to be preserved in shallow glazed cases; and a complete collection of these branches of zoology would probably occupy no more room than what is represented by a couple of ordinary chests of drawers.

Mr. Burrows thinks that to insure the permanency of the museum it should be arranged and managed so as to prove an attraction to the public and a credit to the station, and to this end he would desire, with his colleagues Dr. Bidie and Mr. Gamble, to have a considerable space put at his disposal for the purpose of exhibiting specimens of the different aboriginal races who live upon the Hills, and who they say are likely to decrease in number and to change their mode of life.

I presume by this that they would exhibit specimens of Todas, Kurumbas, Kotas, Irulas and other tribes, together with the ordinary implements which they use in domestic life. Such a collection would no doubt be exceedingly interesting, but yet the interest be out of all proportion to the cost of establishing it. I would therefore let this branch of ethnology stand over to a future day like the elephant and the bison.

With respect to the room which would be required for exhibiting the chief points of interest connected with the coffee and tea industries they were shocked at the smallness of the amount which I proposed to allow. They would have everything copiously represented, while I would limit the quantity of each object to the smallest dimensions, compatible with its being instructive to the sightseer. Instead of a barrel of coffee, I would exhibit a pint of the berry in a bottle; and instead of a chest of tea, I would exhibit a quarter of a pound in a tray.

Next they quote an extract from Doctor Günther's well-known and admirable address on the subject of provincial museums and then say that "no such small room as that which Mr. Lawson proposed would meet the circumstances of the case as thus defined." This is quite true, but as the rooms which I proposed were never intended to hold complete collections, but only such as might be acquired during the first few years of the museum's existence, the observation is beside the mark. And, again, Dr. Günther is writing of what should be done in a country, the natural history of which is fully known, and where monographs of the different branches of natural history have been already drawn up; but this is not the case in India.

With their report Dr. Bidie, Mr. Burrows and Mr. Gamble give a plan for a building such as they think would be suited for the purpose of a provincial museum when finally stocked with its complete collections. To this plan I object, first, that it is unsuited in its construction and that it is wasteful of its space; secondly, that the cost of the building would be excessive; and thirdly, even if the two former propositions could not be proved, I object most strongly to the principle that we, who live now and as yet know most imperfectly all of the branches of the natural history of our district and therefore cannot possibly be fully acquainted as to the amount of room which will be required when our knowledge of them is more perfect, should saddle our successors with a building that may prove eventually to be inconvenient in construction or size.

It seems to me that it would be far better that we should begin with a small building of a construction of such a sort as is acknowledged by all authorities to be free from any radical defect, and which at the same time is capable of indefinite extension, than that we should block up all possibility of escape if our big building should prove faulty.

It was prominently stated at the meeting of the Committee, though this is not alluded to in the report, that one great advantage of expending a large sum of money upon a big building would be that, if hereafter the museum should fall into bad management, it would be more difficult for a hostile Government to abolish it than would be the case if its initial cost was less. To this I have to remark that I do not believe that any Government would be hostile to any well-managed museum, even if it was a small one, and that if it is not well managed, then the more hostile the Government is to it the better. Doctor Bidie, Mr. Burrows and Mr. Gamble say it is their opinion that, "if the museum is not a good one, in a suitable building, contributors will not be easily persuaded to assist, its permanency will be doubtful and it will not be what it should be, a place of instruction to the public. Mr. Lawson's scheme would practically merely add a small museum to his office." I entertain no doubt about being able to get plenty of assistance from contributors, even though they should be informed that their benefactions would be housed in a four-thousand-rupee museum and not in one which would cost forty thousand.

With respect to such a museum as I propose to build being merely an annex to my office, I would observe that it is true that I stated the museum should be in close proximity to the Government Gardens, inasmuch as I would, if Government approved, assume the chief control over its management. It seems to me that the Director of the Government Gardens will be always the person resident in Ootacamund, who is most likely to have had a previous training in the management of museums. But as to its being merely an addition to my office, such a preposterous notion never for a moment entered into my head. Of what possible use could collections of animals, of minerals and of Todas be in the office of the Government Botanist? An office collection of vegetable products brought together for the purpose of enabling the head of the department to identify and name specimens of plants or plant produce must be kept solely for that purpose and be absolutely distinct from all such collections as may be provided for the public entertainment.

This last point is one upon which I must particularly insist, as I find that in this country there are still those who think that the two purposes may be fitly combined. An office collection ought to contain every thing that may be required for thoroughly identifying any vegetable product that may be sent from any part of India, while the provincial museum should contain, as I said in my last year's report, such specimens only as would be illustrative of its particular district. So far then as the botanical part of the provincial museum goes, it would be the overflow of the office collection.

Whether or no a museum of natural history would subserve the purposes of technical education, I am not able to forecast; but I do not see that any relation necessarily exists between such a museum and a school where the principles or the art of manufacturing goods is to be taught, though of course with all their aspirations in the matter of technical education I fully sympathise.

Having now criticised the above report, I pass on to offer a plan for a museum and a scheme for its management, which I think will be found much more suitable than those proposed by Dr. Bidie, Mr. Burrows and Mr. Gamble, and one which I think might serve as a model for all future Provincial Museums in the Presidency.

The objects for which specimens from the different branches of natural history are collected are three, viz:—

(1) Collections made for the instruction of students in schools and colleges.
(2) Collections made for the use of specialists.
(3) Collections made for the instruction of the general public.

The first consists of a comparatively small number of carefully collected specimens, which are intended by the teacher to illustrate his lectures. Each teacher will make his own selection, and any collection, made for him by another person, will be comparatively worthless. With a collection of this sort, neither a Provincial nor a Metropolitan Museum has anything to do.

The second ought to take in every species and variety of all groups of plants, animals, minerals and geological objects which are to be found in the district. They should be so arranged that any specialist, wishing to study them, may have easy access to them. These, however, should not be exhibited to the general public, to whom the great majority of the specimens would be not only of no interest, but by their number would serve only to bewilder them. Complete collections of birds, shells, butterflies, beetles, for instance, should be packed in cabinets and not stuffed and arranged, as too often used to be done, in cases, occupying the greater part of the body of the museum.

The third kind of collection, viz., that which may be profitably exhibited for the instruction of the general public, is a small one when compared with that which is required for the specialist. Only those objects which are met with more or less in every day life should be exhibited—these ought to be carefully chosen, so as to show the chief points of interest about them, and they ought to be accompanied with descriptions clearly describing what these points of interest are.

Any museum then, which is established, should be so arranged as to meet the wants of the specialist and the general public, and certain definite rules have been adopted by all who have had experience of museums in England. These rules are—

(1) The construction of the building ought to be such that there will be, in those rooms which are furnished with glazed cases, no cross lights passing through them.

(2) The construction ought to be such that as much as possible of the wall and floor space of the museum may be available for cases and cabinets.

(3) The building ought to be of an unpretentious character, and free from all useless ornamentation. This, too, in order that money may not be lavished upon what is useless, but be wholly expended upon the, by no means uncostly, furniture and upon the collections.

(4) The building should be so arranged that it may be added to whenever occasion may require.

Now the plan which I offer below is the simplest expression of what a museum can be, which shall fulfil all the conditions enumerated above. Each block forms a perfect museum and consists of two oblong-rooms each lighted by four large windows on one side only. The whole of the remaining walls are available for cases, while in the centre of each room there is space for glazed counters for the exhibition of objects of interest to the general public; again underneath these cases there is room for the drawers and cabinets, which would contain the collections provided for the specialists. Whenever one block of buildings becomes overcrowded, all that is necessary in order to increase the accommodation is to break an opening in the blind end of the block and add a second series of rooms to this end; and this it is evident may be repeated indefinitely. All museums in this country ought to be built facing north and south.

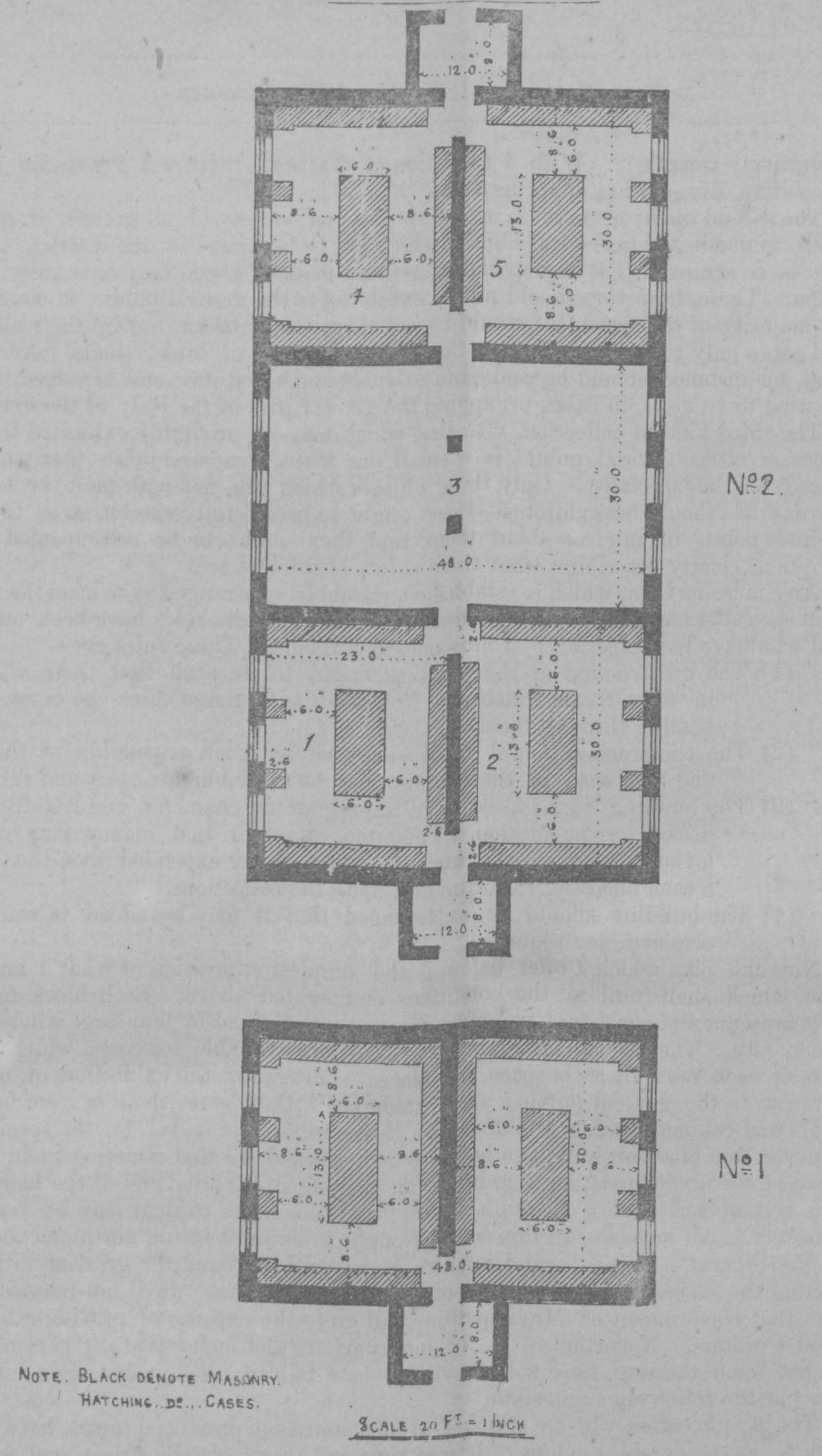
Management.—This is what I venture to say will be found the greatest difficulty attending the successful establishment of provincial museums. It is not reasonable to expect that Government or Municipalities will go to the expense of providing highly-trained Curators. Nevertheless if the museums are not supervised by persons who have had some training, they will inevitably be a failure. To guard against this I throw out the following suggestion.

The Apothecaries, who are attached to dispensaries in provincial towns, have often, I believe, a considerable amount of leisure time and they have all of them had a scientific education. Might not some of these, who have shown a predilection for the study of natural history, receive some special instruction in the management and arrangement of museums under the direction of the Superintendent of Central Museum at Madras, and then, by adding a small increment to their salaries, obtain the services of these gentlemen? This, it appears to me, would be the most economical and not an unsatisfactory way of attempting to dispose of the difficult question of supervision.

All such specimens as require, for their mounting or preparation, the hand of an expert, would be most conveniently obtained from the Central Museum of the Presidency, or from any person in the neighbourhood who may make taxidermy his profession. By this arrangement a permanent taxidermist could be dispensed with.

The provincial museums ought not to be regarded as distributing bodies, though, of course, they should be able to supply things special to their district, when called upon to do so by the Superintendent of the Central Museum at Madras.

PLAN OF PROPOSED MUSEUM



NOTES ON THE PLAN.

In plan No. I is the kind of building which I propose should be put up to begin with. It contains two rooms, each 30 feet × 23 feet, and the walls to the spring of the roof 13 feet. In the plan only three windows are shown, there ought to be four each 4½ × 9 feet.

No. II represents the Museum when fully completed in future years.

The arrangement of the specimens would be as follows:—

In room .. ..
1. Botany.
2. Zoology.
3. Large specimens, *e.g.*, elephant, bison, &c., mounted on stands, and not enclosed in cases.
4. Ethnology.
5. Geology and Mineralogy.

The cost of building No. I would be about Rs. 5,000, and to fit it up properly with cases would cost at least another Rs. 2,000.

Lastly, no institution of this kind can be expected to keep up uniform excellence unless it is from time to time inspected by a superior officer, and I would, therefore, suggest that it might very properly become a part of the duties of the Superintendent of the Central Museum to inspect and report from time to time upon all the provincial museums in the Presidency.

The views which I have expressed above, respecting the structure, arrangement and management of museums are not crude notions. They are the views of all who in England have given to this subject their serious attention, and are the outcome of those numerous meetings and discussions which took place at the British Association and elsewhere during the last decade.

VI. HERBARIUM.—The number of plants contained in the herbarium has been considerably increased during the past year, partly through collections made by myself in different parts of the Presidency and partly by collections sent by others. The thanks of Government are especially due to the following gentlemen for gifts of plants.

(1) *Mr. Gamble, Conservator of Forests. Northern Circle*, has been the chief contributor. The specimens which he has presented to the herbarium rank with the finest I have ever seen, for not only have they been superbly dried, but they always contain just those portions of the plant which are essential for its proper illustration. I am indebted also to Mr. Gamble for much information concerning the plants, which he has sent, in their living state, and I am still further indebted to him for having named certain genera for me with which he was himself specially well acquainted.

(2) *Mr. Talbot, Deputy Conservator of Forests in the Bombay Presidency*, for a very interesting collection of plants which he had made in the Northern Concan. The flora of this region, owing to its contiguity to the Madras Presidency, has a special interest for us. Mr. Talbot's plants have been well preserved and for the most part named.

(3) *Mr. J. Cameron, Curator of the Lal Bagh, Bangalore*, has sent several collections of plants growing in his neighbourhood.

(4) *Mr. Bourdillon*, for a selection of plants made in the neighbourhood of Trivandrum.

(5) *Mr. Hollingsworth, Apothecary and Assistant to the Professor of Chemistry in the Presidency College*, for specimens of named rare and critical species from the neighbourhood of Ootacamund and Madras.

(6) *Mr. Wedderburn, Assistant Collector*, for plants gathered in the neighbourhood of Devála and the Wynaad.

(7) *Captain Quentin Agnew*, for plants collected in the neighbourhood of Madras and also for a few collected about Quetta.

(8) *Sir Joseph D. Hooker, Director of the Royal Gardens, Kew*, for another consignment of named specimens from Dr. Wight's herbarium which was forwarded by him to Madras, and consisting chiefly of orders belonging to Calycifloræ and Corollifloræ. All these have been arranged and interpolated with those received the year before. This collection is now as extensive as it is valuable, and has been of great assistance to me in identifying the plants of the country.

The room, in which the herbarium is at present accommodated, is becoming inconveniently crowded, and I would therefore ask to be allowed to convert the old cinchona laboratory into a new repository for it. This building is dry and roomy, and the alterations which would be requisite would not be costly.

If Government approve of this suggestion, I will send in plans and estimates at once, as the alterations ought to be carried out during the next dry season.

VII. LIBRARY.—Only Rs. 42-15-3 were expended upon books last year, as it was thought that if the proposal to transfer the Madras herbarium to Ootacamund is carried out, a considerable saving might be effected by transferring also such botanical works as relate to purely descriptive botany.

VIII. NOTES ON SOME OF THE MORE INTERESTING PLANTS WHICH HAVE BEEN INTRODUCED OR GROWN IN THE GARDENS DURING THE YEAR.

1. Erythroxylon Coca.—Two big bushes of this plant exist at Barliyár where they grow freely, but fruit sparingly. About 60 young plants have been raised from seed and a large number of cuttings were put down during the winter, but these have not done well. It may be taken as certain that *Erythroxylon coca* will thrive well in many parts of Southern India, and that it may be easily propagated from seed, but that it will be profitable for the European planter to grow it upon a large scale is a matter upon which I entertain much doubt. Vast tracts of country in South America are cultivated with this plant, and an almost unlimited quantity of leaves may be obtained from that country for the purpose of manufacturing the valuable alkaloid *Cocaine.* Last winter this alkaloid is said to have fetched 2*s.* 6*d.* per grain. At this price, could it have been maintained, its cultivation would have been productive of enormous profits, but the price has since declined to 7*d.* per grain, and it is very unlikely that even this sum will be realized much longer. In this opinion Mr. Thiselton Dyer concurs, and he moreover wrote a short time ago to caution me against being too sanguine that the cultivation of Coca would be a commercial success, or advising me at any rate to discount very largely the reports which had been spread abroad about it.

Mr. Hooper has analysed three samples of the leaves taken from the bushes at Barliyár. In his first attempt to isolate the alkaloid in a crystalline state he was unsuccessful; in his second attempt he succeeded in obtaining the alkaloid as crystalline, but with an admixture of some acrid principle which rendered it useless as an anæsthetic; his third attempt ended in complete success, and the alkaloid manufactured by him has been used and approved of by Dr. Brockman in his surgical ophthalmic operations. Surgeon-General Doctor Furnell reports that the simple chewing of the leaves is productive of relief in cases of spasmodic bronchial coughs, and suggests that *Cocaine* should enter into the composition of cough lozenges. Mr. Hooper's analyses show that the leaves of the bushes grown at Barliyár are very rich in the alkaloid, as he extracted from them ½ per cent.

2. *Erythroxylon monogynum.*—The leaves of this plant are said to have been largely eaten during the famine by the natives of several districts where it grew wild in abundance, and it was thought probable that the leaves of this plant might be found to contain an alkaloid with properties similar to that which is obtained from the *Erythroxylon coca*; and Dr. Cornish just before he left India wrote to ask me to have the subject investigated. As the plant does not grow upon these Hills, I applied to Mr. Gamble for his assistance, and he has sent me several small consignments of the leaves, which had been collected and dried by Mr. Higgins, Deputy Conservator of Forests in the Cuddapah District. These consignments I handed over to Mr. Hooper, who, after his analyses of them, reports that they contain no anæsthetic property at all analogous to that which is found in *Erythroxylon coca*; but that they do contain a bitter and a tonic principle which may have mitigated the pangs of starvation.

3. *Taraxacum officinale.*—Sir Joseph D. Hooker in the Flora of British India observes that—"It is remarkable that this common Himalayan plant should not be found in the Khasia or Nílgiri mountains even as a garden escape." This reproach to these Hills is now removed, and the aggressive dandelion may be found advancing in all directions about Ootacamund. It bids fair to cover our lawns with its yellow blossoms as in England, while in the deeply tilled soil of the cinchona estates such an abundance of it with roots 18 inches long could be collected as would supply the wants of all the Medical Departments in India.

4. *Medicinal Rhubarb.*—There are a few plants of this herb in the gardens at Ootacamund and in Sim's Park at Coonoor, but they have not thriven as well as could be wished. I shall try this plant under varying conditions during the next year in the hope of obtaining better results.

5. *Hyoscyamus.*—This valuable medicinal plant, which can be grown very well upon these Hills, has not been raised in any quantities on account of all demand for it having ceased.

6. *Eucalyptus Globulus and other species.*—During the year 20 lb. of the oil of the leaves of the *Eucalyptus globulus* were sent to the Madras Medical Department. The last consignment was sold at the rate of Rs. 3-3-0—5 shillings per pound being the wholesale English quotation.

The processes required for the manufacture of the oil are very simple and inexpensive, and I think it is a pity that those who have large plantations of these trees should not endeavour to utilize them for this purpose as well as for fuel. The way to extract the oil is as follows:—

The young shoots, having perfectly matured but not old leaves, are passed through an ordinary chaff-cutter and cut into chips not exceeding one inch in length; the smaller the chips the more readily is the oil extracted from them. These chips are then macerated in water over night and put the next morning into a still, which is kept boiling, till the greater part of the fluid has past over as vapor. This is then shaken up with a little common salt to cause the complete separation of the oil from the water; the oil is then decanted from the water and passed through a sheet of filtering paper, when it is ready for sale.

Instead of passing the leaves through a chaff-cutter, it would be better to pass them through some crushing machine, as the object is to smash up the hard cells, which surround the cavities into which the oil is passed by the secreting cells. I do not know of such a machine, but I should think that some modification of the old-fashioned mangle would prove effective.

Eucalyptus obliqua, *E. siderophloia*, *E. piperita*, and other sweet-smelling varieties, all of which are said to yield valuable oils, grow freely on these Hills; they are much more beautiful in their general aspect and their timber is greatly superior to that of the *E. globulus.*

7. *Rhus glabra.*—This is a febrifuge yielding plant, the seeds of which were sent from Kew. The seeds have germinated.

8. *Ipecacuanha.*—I regret to have to report that I lost a considerable number of *Ipecacuanha* plants during the last year. This was owing to my having forced the stock too rapidly during the winter. The number of plants, however, is being again increased as fast as possible and special care will be taken to prevent the recurrence of last year's catastrophe. I have been much disappointed with the growth these plants have made at Barliyár during the past year. That the Ipecacuanha will eventually prove a success I entertain no doubt, but I have to confess that I have still a good deal to learn about the best ways of cultivating it.

9. *Joannesia (Anda) Gomesii.*—This is a handsome tree, growing to the height of 50 or 60 feet and belongs to the natural order *Euphorbeacæ.* It is a native of Brazil where the bark is said to be used "as a certain remedy for diarrhœa brought on by cold," while the seeds are reported to possess powerful but safe purgative properties. I received seeds of this tree last autumn from Mr. Cameron, Curator of the Lal Bagh, Bangalore, who writes word that it flourishes well there. The seeds have germinated and young plants raised from them.

10. *Acacia homalophylla.*—This is the tree which produces the Australian violet wood. A small specimen fruited sparingly for the first time last year in the Government Gardens in Ootacamund. The climate here, however, seems to be rather too cold for its full development, but I should think that at elevations ranging from three to four thousand feet it would thrive well and might prove an important addition to our timber trees.

11. *Box.*—This at an elevation from 5,000 to 7,500 grows more vigorously than I have ever seen it do in Europe, and I have planted a small plot of ground near the Jail on the Dodabetta estate with the view of finding out if it may not be profitably grown to supply the wood engraver's trade.

12. *Castilloa elastica.*—The few plants of this rubber yielding tree, which were put out two years ago at Barliyár, are growing grandly.

Last winter I went down at the request of Major Campbell Walker, Conservator of Forests, Southern Circle, to inspect the nursery of Castilloas which had been formed in Mr. Ferguson's garden and to advise how they might be best increased. I found the plants in beautiful condition and growing vigorously and I was able to take from them about 150 excellent cuttings. These I planted myself in pots and plunged them in beds of soil which were also made under my direct supervision, and I gave minute instructions as to how they should be treated. Since that time it has been reported—*vide* G.O., No. 766, dated 25th June 1885, relating to a letter from Major Campbell-Walker—that although my instructions had been followed carefully, not a single cutting took root.

This is odd, for when the same instructions are carried out in the Government Gardens at Ootacamund the failures are less than 5 per cent. of the cuttings planted. The failure at Calicut would appear to have been due to a want of judgment in watering the cuttings in their early stage, before the cut ends had calloused over.

When the side shoots are used as cuttings, difficulty has often been experienced in getting the plants raised from these to form a leader and grow upright; they generally sprawl along the ground. To obviate this it is only necessary to cut the young plants back to about a foot from the ground when side shoots will be formed, any of which will of themselves produce a leader.

13. *Ceara.*—This fruits freely at Barliyár and the seed appears to be eaten by birds and deposited in the neighbouring jungle, for young plants have been found growing where they never had been planted by man. If this is so, we may look forward to the Ceara rubber tree becoming a denizen of our ghât forests.

14. *Mangosteens.*—These fruited very well last year at Barliyár and are again this year promising to yield a large crop. The Mangosteen is an extremely beautiful tree and gives a very dense shade. It ought to be grown all over the Presidency.

15. *Litchi.*—This too fruited freely last year at Barliyár; it grows readily from seed and like the Mangosteen deserves to be better known than it is at present.

16. *Carob tree.*—This thrives well both at Barliyár and at Kalhatti, but in both places the trees bear staminate flowers only.

17. *Acacia decurrens.*—This tanning yielding acacia is being grown successfully at Coonoor by private persons, and, I believe, also by Mr. Gamble. It grows fairly well at Ootacamund, but does not fruit. This is due probably to the wet gloomy weather coming at the time when it begins to flower. I have seen it growing magnificiently on the Palni hills where it flowers and fruits freely.

18. *Mahogany.*—Two casks of mahogany seed which had been received by the Kew authorities from Jamaica have just arrived in excellent order. I have distributed all but a few pounds of it; the greater amount going to the Forest Department and to the Agri-Horticultural Gardens at Madras.

19. *Edible Prickly-pear from Cyprus.*—Living specimens were sent to the Government Gardens at Ootacamund by the Director of Agriculture and Revenue Settlement last winter. The fruit had been highly recommended by Dr. Bonavia, Civil Surgeon, Etawah, North-Western Provinces, who thought it might be advantageously grafted upon the wild worthless prickly-pear of the plains. The plants arrived in fair condition and have been planted out at Kalhatti where they are doing so well that it does not seem at all likely that it will be ever necessary to have recourse to grafting them upon the wild plants.

20. The following plants mentioned in my last year's report are all doing well:—

Rhus vernicifera or the Japan Lacquer plant.
Rhus succedanea or the Japan wax plant.

Quilaja saponaria.—The latter was put out last year in the Government Gardens at Ootacamund. It was untouched by the winter frosts and is now more than six feet high.

The *Kumera Aracha* and *Cochin-China tuberous rooted vine* have also been planted out and are doing well.

21. *Waras.*—I was asked last year by Mr. Thiselton Dyer to obtain information for him about this dye. This I have done, and from specimens which I sent to Kew *waras* turns out to be the produce of *Flemingia Grahamiana* and *F. congesta.* With respect to the distinctive characters of these two species, I pointed out that after studying the plants in their living condition, I did not think them sufficiently constant to allow of the two species being kept separate, and in this opinion both Mr. Thiselton Dyer and Professor Oliver now concur. The *waras* yields a beautiful dye when applied to animal substances such as silk or wool, but it is inferior as a dye when used for the purpose of coloring vegetable products such as cotton or linen. Mr. Thiselton Dyer has kindly obtained for me a London expert's opinion upon the value of *waras* and I regret to say that it is not such as is likely to lead one to believe that it will ever become an object of commercial interests. I may mention that when I was in Madras last winter, I saw at the Agri-Horticultural Garden's flower-show a specimen of *waras* in a native dyer's collection which was being exhibited, and from which it would appear that *waras* is not unknown as a dye in India.

22. Mr. T. Hanbury has sent some three hundred packets of seeds from his garden in Italy. Most have germinated, and I shall hope to report upon the more interesting species next year.

IX. Receipts and Expenditure.—*Receipts.*—The receipts for the last year amounted to Rs. 2,077-12-1 and were derived from the following sources:—

Sale of plants and seeds for the—	RS.	A.	P.
Government Gardens in Ootacamund	1,792	2	10
Do. in Barliyár	175	14	9
Do. in Kalhatti	14	8	0
Do. in Jalap tubers	7	14	0
Do. in Blue-gum oil	87	4	6
Total ...	2,077	12	1

The budget estimate was Rs. 4,300. There has therefore been a decrease in the receipts of Rs. 2,222-3-11, or less than half of what was expected has been realized. This is due partly to the small demand there was during the year for plants and partly to a large number of plants having been distributed gratis, which in former years would have been paid for.

Expenditure.—The total expenditure for the year has been Rs. 24,574-12-7 and is detailed thus:—

	RS.	A.	P.
Government Gardens, Ootacamund	18,597	9	6
Do. Barliyár	488	5	2
Do. Kalhatti	334	14	0
Medicinal Gardens	315	4	4
Sim's Park	1,820	8	5
Stonehouse Park	962	4	3
Church Hill Park	97	13	0
Upper Norwood	1,958	1	11
Total ...	24,574	12	7

The budget estimate was Rs. 25,450-8-0; a saving therefore has been effected of Rs. 875-11-5

X. Miscellaneous information.—(1) *Catalogue of Plants.*—A list of all the plants, which have been identified in the several Government Gardens, has been made. But no catalogue of them has been printed, but if Government should approve, this might be done next winter.

(2) *Establishment of a stall at weekly markets for the supply and wants of the local planters, gardeners, &c.*—This was proposed two years ago, but it does not now seem necessary to establish such a stall, as everybody, from the European residents to Badaga and Canarese gardeners, apply direct to the office at the Government Gardens for all such seeds and plants as they may require.

(3) *Value of Nilgiri peat as fuel.*—During the past year I have paid some attention to the manner in which peat is formed on these Hills and have experimented upon it, with the view of finding out what its value as a fuel may be. The peat on these Hills is formed entirely from plants belonging to the sub-kingdom *Phanerogamia* such as sedges and other marsh loving plants. There are no mosses which enter into its composition as is commonly the case in the northern and more temperate regions.

The value of the peat as a rule is very inferior to that found in northern countries, and this is apparently due not to any inherent badness of the plants which go to form the peat, but to the great admixture of inorganic substances which are blended with it. The cause of this admixture is due to the amount of soil which every year is carried down from the Hills during floods and spread over the surface of the peat forming swamps. There is, however, some which is very good, notably that which is commonly sold as fuel in Ootacamund by General Baker. This is little if at all inferior to the peat, which is obtained from the bogs of England, Scotland or Ireland. But of this good quality there is, so far as my investigations have gone, a very limited quantity.

(Signed) M. A. LAWSON,
Director.

Return of Seeds, Plants, &c., distributed from the Government Botanical Gardens, Ootacamund, Barliyár and Kalhatti, during the Official Year ending 31st March 1885.

Months.	Fruit Trees.		Timber Trees.		Ornamental Shrubs and Herbaceous Plants.	
	Number of Plants.	Value.	Number of Plants.	Value.	Number of Plants.	Value.
1	2	3	4	5	6	7
		RS. A. P.		RS. A. P.		RS. A. P.
April 1884	..	..	72	18 0 0	285	36 9 0
May ,,	..	..	12	3 0 0	51	12 1 0
June ,,	9	3 4 0	302	53 8 0	680	108 2 0
July ,,	40	10 0 0	191	49 6 0	341	65 12 0
August ,,	8	2 0 0	20	5 4 0	137	34 2 0
September ,,	41	6 8 0	..	..	132	38 11 0
October ,,	30	6 4 0	66	22 8 0	235	57 14 0
November ,,	138	34 8 0	64	16 12 0	670	45 14 0
December ,,	..	..	120	34 8 0	162	18 8 0
January 1885	..	..	..	..	88	20 12 0
February ,,	10	2 8 0	..	..	1,158	77 2 0
March ,,	..	..	149	38 8 0	32	10 14 0
Total ..	276	65 0 0	996	241 6 0	3,971	526 5 0

Months.	Vegetable Flower and other Seeds.		Bouquets and Cut-flowers.			Sundry Receipts.	Total.
	Number of Packets.	Value.	Number of		Value.		
			Bouquets.	Cut-flowers.			
	8	9	10	11	12	13	14
		RS. A. P.			RS. A. P.	RS. A. P.	RS. A. P.
April 1884	204	62 0 6	..	3	3 15 0	9 5 9	129 14 3
May ,,	279	73 5 0	9	17	21 6 0	8 2 0	117 14 0
June ,,	266	53 12 0	4	10	17 15 9	17 14 0	254 7 9
July ,,	205	62 11 9	3	4	8 14 0	48 12 3	245 8 0
August ,,	170	39 4 6	..	3	3 4 0	79 10 6	163 9 0
September ,,	105	22 12 3	2	28	32 10 0	35 4 9	135 14 0
October ,,	257	63 3 9	4	11	16 4 0	67 1 6	233 3 3
November ,,	118	38 15 9	..	6	0 12 0	42 8 0	179 5 9
December ,,	77	17 10 0	3	..	4 8 0	16 12 6	91 14 6
January 1885	22	7 5 0	2	1	4 4 0	17 7 6	49 12 6
February ,,	93	47 9 9	..	..	..	50 11 0	177 14 9
March ,,	183	78 1 6	1	5	14 2 0	69 8 4	211 1 10
Total ..	1,979	566 11 9	28	88	127 14 9	463 2 1	1,990 7 7

Meteorological Observations from April 1884 to March 1885, on the Government Botanical Gardens, Ootacamund.

Months.	Rainfall.	Days with Rain.	Days without Rain.
	Inches.		
April 1884	3·35	7	23
May ,,	5·20	12	19
June ,,	5·14	16	14
July ,,	1·87	12	19
August ,,	6·88	21	10
September ,,	3·03	17	13
October ,,	22·84	25	6
November ,,	10·22	21	9
December ,,	4·89	9	22
January 1885	...	...	31
February ,,	...	...	28
March ,,	·27	4	27
Total ...	63·69	144	221

Ootacamund,
5th September 1885.

(Signed) M. A. LAWSON,
Director.

Statement showing the Receipts of the Government Botanical Gardens and Parks for the Official Year ending 31st March 1885.

——	Actuals, 1883-84.	Budget Estimate, 1884-85.	Actuals, 1884-85.
	RS. A. P.	RS. A. P.	RS. A. P.
Government Gardens, Ootacamund.			
Sale of seeds, plants, &c.	2,185 15 4	3,000 0 0	1,792 2 10
Government Gardens, Barliyár.			
Sale of plants, fruits, &c.	134 14 0	600 0 0	175 14 9
Government Gardens, Kalhatti.			
Sale of plants, &c.	92 4 0	50 0 0	14 8 0
Government Medicinal Gardens, Ootacamund.			
Sale of jalap tubers, &c.	688 13 0	650 0 0	7 14 0
Total ...			1,990 7 7
Add value of drugs supplied to the Indian Medical Department, Madras	...	...	87 4 6
Grand Total ...	3,101 14 4	4,300 0 0	2,077 12 1

Ootacamund,
15th September 1885.

(Signed) M. A. LAWSON,
Director.

Statement of Expenditure on the Government Botanical Gardens and Parks, Nílgiris for the Official Year ending 31st March 1885.

Particulars.	Actuals, 1883-84.	Budget Estimate, 1884-85.	Actuals, 1884-85.
	RS. A. P.	RS. A. P.	RS. A. P.
Pay of Curator	3,600 0 0	3,600 0 0	3,600 0 0
Travelling allowance of Curator	155 0 0	..	..
Pay of Curator's office establishment	552 0 0	552 0 0	550 7 10
Total ..	4,307 0 0	4,152 0 0	4,150 7 10
Government Gardens, Ootacamund.			
Overseer and fixed cooly establishment	1,665 12 6	1,728 0 0	1,693 3 11
Temporary establishment	6,116 6 9	3,000 0 0	2,995 2 4
Acclimatization of foreign plants (G.O., No. 874, dated 5th July 1872).	699 8 10	500 0 0	500 0 0
Labelling of plants	53 2 0	550 0 0	415 14 11
Construction of cooly lines (G.O., 5th May 1884, No. 1848). ..	911 9 2	1,879 0 0	1,831 10 2
Contingencies	2,525 11 9	1,000 0 0	1,447 7 5
New works, Drainage	..	1,477 8 0	1,424 10 7
Horticultural implements	..	700 0 0	712 7 7
Painting of the conservatory green house and repairs to propagating house.	..	600 0 0	593 9 8
Cutting down and uprooting Eucalyptus and Acacia on the northern slope of the garden.	..	520 0 0	519 14 6
Purchase of meteorological instruments	..	200 0 0	108 3 0
Herbarium establishment	..	792 0 0	776 0 0
Purchase of cabinets and materials	..	800 0 0	785 15 4
Library	..	1,200 0 0	42 15 3
Repairs of certain damages done to the Gardens (*vide* G.O., No. 5719, dated 17th December 1884).	..	..	599 15 0
Total ..	11,972 3 0	14,946 8 0	14,447 1 8
Government Gardens, Barliyár.			
Temporary establishment	346 5 8	490 0 0	488 5 2
Government Gardens, Kalhatti.			
Temporary establishment	193 0 0	340 0 0	334 14 0
Government Medicinal Gardens, Ootacamund.			
Temporary establishment	317 1 6	350 0 0	315 4 4

Statement of Expenditure on the Government Botanical Gardens and Parks, Nílgiris, for the Official Year ending 31st March 1885—(*Continued*).

Particulars.	Actuals, 1883-84.			Budget Estimate, 1884-85			Actuals, 1884-85.		
	RS.	A.	P.	RS.	A.	P.	RS.	A.	P.
Sim's Park, Coonoor.									
Temporary establishment and contingencies	1,732	3	5	* 2,072	0	0	1,820	8	5
Stonehouse Park, Ootacamund.									
Temporary establishment	591	7	0	1,000	0	0	962	4	3
Church Hill Park.									
Temporary establishment	72	8	0	100	0	0	97	13	0
Upper Norwood.									
Temporary establishment and contingencies	1,000	4	6	2,000	0	0	1,958	1	11
Total ..	20,532	1	1	25,450	8	0	24,574	12	7

* Including amount sanctioned in G.O., No. 843, dated 14th July 1884.

Ootacamund,
15th September 1885.

(Signed) M. A. LAWSON,
Director.

—

List of those to whom seeds or plants have been distributed during the year 1884-85.

Buck, Mr. E.C., Simla.
Bleehynden, Mr. R., Calcutta.
Bourdillon, Mr. T.F., Trevandrum.
Cherry, Mr. J.W., Salem.
Collector of Malabar, Calicut.
Chaplain of Wellington, Wellington.
Cameron, Mr. J., Bangalore.
Director, Government Cinchona Plantations, Ootacamund.
Director, Department of Agriculture and Commerce, North-Western Provinces and Oudh.
Edmiston, Mr. W.L., Kótagiri.
Fergueson, Mr. T.J., Calicut.
Fisher, Mr. W.R., Dehra Dún.
Gamble, Mr. J.S., Ootacamund.
Groves, Mr. F.A., Coonoor.
Griffith, Mr. T.R., Kótagiri.
Hooker, Sir. J.D., Kew.
Harvey, Messrs. A. and F., Virdupati.
Hamlin, Mr. E.H., Ootacamund.
Hadfield, Mr. G., Nilambúr.
Murray, Mr. G., Hosúr.
Morgan, General, Ootacamund.
Sheldrick, Mr. H., Nellakóta.
Sullivan, Honorable H.E., Ootacamund.
Sinclair, Mr. H.G., Guynd.
Schmid, Mr. T.W., Kótagiri.
Woodrow, Mr. G.M., Poona.

—

List of those who have been benefactors to the Gardens during the year 1884-85.

Abboy Naidu, T., Madras.
Agricultural Reporter to the Government of Madras, Madras.
Bourdillon, Mr. T.F., Trevandrum.
Cameron, Mr. J., Bangalore.
Duff, The Right Honorable Grant, Ootacamund.
Director, Government Cinchona Plantations, Ootacamund.
Fergueson, Mr. T.J., Calicut.
Griffith, Mr. T.R., Kótagiri.
Gamble, Mr. J.S., Ootacamund.
Hanbury, Mr. T., Italy.
Morgan, Mr. R., Calicut.
Superintendent, Agri-Horticultural Gardens, Madras.
Superintendent, Government Botanical Gardens, Calcutta.
Stone, Mr. O., Wellington.
Superintendent, Royal Botanical Gardens, Shibpur.

Order—dated 30th November 1885, No. 1329, Revenue.

Miscellaneous.

The Director submits his report for the year 1884-85 on the progress and condition of the Government Botanical Gardens and Parks on the Nílgiris.

2. *Season.*—The season was not generally favorable to horticultural operations, though the total rainfall was as much as 63·69 inches, the fall of the previous year having been 50·05. The weather was unusually dry up to October, when as much as 22·84 inches were registered in this one month, which caused some injury owing to the amount of wash occasioned. The winter was a mild one, with no severe frost.

3. *Botanical Gardens, Ootacamund.*—Considerable improvements were made during the year in the gardens, the upper part of which, lying between Government House and the Garden cottage, was entirely re-made and planted. The suggestion of the Director that the right-hand bank of the road, leading to Government House, should be built up with a loose revetment is approved. Nothing has yet been done towards the establishment of an experimental kitchen garden. The nurseries have been filled up with plants, raised for the purpose of replanting the demolished sholahs in the upper part of the gardens, and for experimental purposes. It seems the best course to permit the conservatory, facing the entrance gates, to remain standing as long as it is serviceable; when this is no longer the case, it will, as suggested by the Director, be pulled down and rebuilt in some other more convenient spot. The other buildings in the garden are reported to be in a good state of repair. Almost the whole allotment for the construction of cooly lines (Rs. 1,879) was expended. Opportunity was taken, when repairing the bund of the tank below the bandstand, which gave way during the heavy rain in October, to lessen the depth of the tank and strengthen the bund. A fountain will be constructed in the tank during the cold weather.

4. A list of all the plants, which have been identified in the several Government gardens, is reported to have been made. The catalogue should be printed as soon as possible.

5. *Government House Gardens.*—Satisfactory progress was made in clearing the scrub and regrassing the slopes in front of the house, and a green-house was built for the purpose of growing decorative plants.

6. *Stonehouse Park.*—The trees planted in October 1884 are reported to be doing well, though some destruction was caused during the year by cattle. It will not be feasible to enclose the park during the coming year with fencing and such other precautions against cattle, as are possible, should continue to be taken.

7. *Sims' Park.*—The usual necessary repairs were carried out during the year and a new bridle-path is now being made through the sholah, which was added in the previous year to the park. The path will be a great convenience for persons going to and fro between Coonoor and Wellington.

8. *Barliyár.*—Much useful work appears to have been carried out in the experimental garden to which about one acre, which has been cleared of useless overgrowth, has been added. Most of the trees in the garden are reported to be flourishing.

9. *Kalhatti.*—The Director states that the year's experience in this garden has confirmed his opinion that it is not worth the while of Government to continue operations here. In a recent order, the Government have called upon the Director to report upon various localities suggested as suitable for the establishment of Botanical Gardens, and upon receipt of his reply, final orders will be passed regarding the further maintenance of the Kalhatti garden. A garden should, no doubt, be established at Gúdalúr and also at Calicut. It is noted that the Director intends visiting the latter place for the purpose of choosing a suitable site.

10. The subject of the proposed museum for Ootacamund, dealt with at considerable length by the Director, should have furnished matter for a separate communication. The report now under review should have been confined to recording the salient features of progress during the year. The Government agree with the Director in considering that the cost of the building proposed as a museum by Dr. Bidie, Mr. Burrows, and

Mr. Gamble would be excessive, and for this reason, if for no other, their proposal must be negatived. The Director should obtain and submit plans and an estimate for the building suggested by him, when final orders upon the subject will be passed. A definite site for the building should be selected, which need not, necessarily, be in immediate proximity to the Government Gardens. The essential point in the building should be its ready adaptation for extension. The Government are much indebted to the Collector, Dr. Bidie and Mr. Gamble for the trouble they have taken in discussing the question which was submitted to them. Financial considerations, however, prevent the Government from sanctioning the erection, at present, of such a spacious building as that suggested by them.

11. The number of plants in the Herbarium, owing to the kindness of various contributors, considerably increased during the year. The Government are much indebted to the various gentlemen who kindly forwarded specimens to Mr. Lawson. Sanction is accorded to the suggested alteration of the old cinchona laboratory and its use, in the future, as a building for the accommodation of the Herbarium. Plans and estimates should be submitted as soon as possible.

12. *Special Products.*—It seems clearly established that the *Erythroxylon coca* will thrive very well and can be easily propagated from seed in many parts of Southern India. The price of the alkaloid manufactured from this plant has however declined from 2*s.* 6*d.* to 7*d.* per grain during the year, and it seems very doubtful whether its cultivation here could ever be a commercial success. The alkaloid has been successfully manufactured from the plant by the Government Quinologist and used and approved of by Surgeon-Major Drake-Brockman in his ophthalmic operations. The analyses made show that the trees grown in Barliyár are particularly rich in the alkaloid. Specimens of the *Erythroxylon monogynum* which is common in many districts of the Presidency and which has been used, at times of scarcity, as an article of food, were analysed and found to contain no anæsthetic property analogous to that met with in *Erythroxylon coca* but to possess a bitter and a tonic principle, which would mitigate the pangs of hunger.

13. In the review on the report for the previous year, it was noticed that no information was afforded regarding *Taraxacum*, medicinal rhubarb, and *Hyoscyamus*. The Director now reports that the *Taraxacum officinale* is advancing in all directions about Ootacamund. It is unnecessary to pay any further attention to its special cultivation. The plants of the herb producing the medicinal rhubarb have not thriven as well as could be wished. Mr. Lawson promises to make further experiments regarding them. The *Hyoscyamus* can be grown easily on the Hills, but the demand for the plant has ceased.

14. The report contains very interesting information on the processes required for the manufacture of oil from the various varieties of Eucalyptus. The consignment of oil from the leaves of *Eucalyptus globulus*, which was sent to the Madras Medical Department, was sold at the rate of Rs. 3-3-0 per lb., 5 shillings per lb. being the wholesale English quotation. The medicinal use of the oil, made from the various varieties of the Eucalyptus, is, it is believed, rapidly spreading. A paper on the uses and virtues of the oil extracted from the Eucalyptus was recently widely circulated by the Director of Agriculture.

15. The experiments made in the growth of Ipecacuanha during the year were not successful. The number of plants is, however, being increased, and, with further experience, the Director has no doubt that the cultivation of the plant will prove a success.

16. Seeds of the *Joannesia* (*Anda*) *Gomesii* received from the Curator of the Lâl Bagh, Bangalore, were planted during the year and young plants raised; the bark of the tree is said to contain useful medicinal properties. A valuable timber tree, the *Acacia homalophylla*, which produces the Australian violet wood, fruited for the first time during the year. It would probably thrive well at elevations between three and four thousand feet. The *Castilloa elastica* continues to grow very well at Barliyár. The Ceara plants fruit freely and young plants are now found growing where they must have been sown by birds, and it may from this be hoped that the tree will become a free grower in the ghât forests.

17. The mangosteen, *Garcinia Mangostana*, and litchi, *Nephelium litchi*, fruited freely in Barliyár: both these trees, which are so valuable for their fruits, should be widely cultivated. There is no doubt they would succeed admirably in many parts of the Presidency. A good report is given of the following:—*Rhus vernicifera*, *Rhus succedanea*, *Quillaja saponaria*, *Kumera aracha* and the Cochin China tuberous-rooted vine. The report contains some useful notes on *waras*. The dye was not very favorably reported on when tried in England by Mr. Thomas Wardle (G.O., 25th September 1885, No. 1096).

18. The receipts for the year amounted to Rs. 2,077-12-1, compared with Rs. 4,300, the estimate in the budget for the year. The decrease is accounted for by the gratis distribution of plants which, had the practice of former years been followed, would have been sold. The expenditure amounted to Rs. 24,574-12-7, or Rs. 875-11-5 below the estimate. The saving occurred, principally, in the allotment made for the purchase of cabinets and materials; on the whole, the budget allotments were closely followed.

19. *Miscellaneous.*—There seems to be no object, at present, to be gained by the establishment of a seed stall for seeds in the market at Ootacamund. It is well known that seeds are offered for sale at the Government gardens. The remarks of the Director regarding Nílgiri peat have been noted with interest.

20. His Excellency in Council has much pleasure in again congratulating the Director on the progress made during the year, and notes the remarks he has made in appreciation of the services of the subordinates employed.

(True Extract.)

(Signed) J. F. PRICE,
Ag. Secretary to Government.

To the Director of Government Cinchona Plantations, &c.
,, the Director of Revenue Settlement and Agriculture.
,, the Board of Revenue.
,, the Accountant-General.
,, the Superintendent, Government Central Museum.
,, the Surgeon-General with the Government of Madras.
,, the Public Works Department.
,, the Financial Department.
,, the Honorary Secretary, Agri-Horticultural Society, Madras.
,, Deputy Surgeon-General G. Bidie, M.B., C.I.E.
,, the Honorary Secretary, Wynaad Planters' Association.
,, the ,, Nílgiri ,,
,, the ,, Yercaud ,,

Exd. W. H. French.

200 Copies.

No. 111 W dated 14th January 1886

Communicated to the Superintending Engineer IV Circle -

(Signed) J.S.S.

S. E. IV Circle

P. W. D.

Govt. of (1885) Madras.

REVENUE.

Issued

Recd. Encl.

G.O., 30th November 1885, No. 1329.

No. 111 W dated 14th January 1886

NOVEMBER.

Government Botanical Gardens and Parks.

Reviewing annual report of — for 1884-85.

With order

1886.

P. W. DEPARTMENT.

Current No. 11,23

From The Financial Deptt

Enclos.—3

No. 347C

Dated 22-2-86.

Received 23-2-86.

SUBJECT.

Transferring for disposal Govt from the Rev: Deptt No 1083 15.2.86. ~~trans~~ submitting for sanction with approval, plan & estimate for transforming the ~~Ct~~ Cinchona Laboratory into an Herbarium at Nilgiris

DISPOSAL.

No. 832C Dated 1st March/86

Referred to the S.E. IV Circle who is requested to submit the estimate in the proper form. Vide para 1067 of the P.W. Code

(Sd) D.W.C.

D.W.

To the S.E. IV Circle (Sd) J.S.S.

Desp. 1-3-86

B

Comd. to the S. E. IV. C. for Early attention -

2. The shed or sheds should be ready for storing fuel during the coming cold season.

C.S.
7. 8. 85

9. 8. 85

S. E. IV. Circle

Incl 6929

[6]

Govt. of {188 } Madras.

To

The P.W. Dept

Recd 6/8/85

Proceedings, dated 30 July 1885.
No. 718 Mis

Subject.

Regarding supply of ~~dry~~ firewood to Govt offices during the Monsoon season & that the question of the provision of sheds for storing the wood will be considered in the P.W. Dept

D.W./15

Public Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following

Letter from the District Forest Officer, Nilgiris, dd 22d July 1885, No. 336.

In reply to your Nos. 1224 & 268 dated 2d and 10th instants respectively, I have the honor to inform you that it is really impossible to ensure dry firewood being sent to the Government Offices during the monsoon season. I would beg to strongly urge that a large amount of firewood should be laid in annually during the Cold season on the Stone House property. A long shed with doors at each end could be, I imagine, easily erected to store the wood in. The Eucalyptus Globulous that is sent naturally will not burn brightly when lately cut, but with proper treatment it is undoubtedly most excellent fuel. Orders have been

Incl 6929

[6]

Govt. of {188 } Madras

No. 436 Ed/ August 11. 1885

C No. 6929.

Proceedings, Public dept.,
No. 1786 Mis d/ 30-7-85
stating that the question
of provision of funds for
storing wood for the
use of the Govt. offices
on Stonehouse hill will be
considered by the P.W.D.

Referred to the S.E.
IV Circle, for report, after
communication with the
Forest officer, on the dimension
and cost of the necessary
sheds.

(Sd) J.S.
E.W.

S.E. IV Circle √ desp. 11/8/85

...o Department.

...VERNMENT.

READ the following

Lr

...l'ium, Nilgiris,

...ur nos. 1224/268

respectively, I have

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...ent Offices

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Cold season or

A long shed

could be, I

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...ily cut, but

it is undoubted

ty

... Orders have

been issued to send the driest firewood that can be obtained.

Order:- 30th July 1885, No. 1786 (Mis.)

The proposals of the District Forest Officer are approved. Arrangements will be made accordingly for laying in a stock of wood during the dry season. The question of the provision of sheds for storing the wood will be considered in the Public Works department.

(True Extract)

Chief Secretary

To The District Forest Officer, Nilgiris.
" Public Works Deptt.

2
X^u S.D

Ootacamund, Augt 11th/1885

No 436 E.

Incl 7447/B
8558

SUPG: ENGINEER'S OFFICE
No. 713 W
12 AUG. 85
P.W.D.
FOURTH CIRCLE

Referred to the Superintending Engineer IV Circle, for report, after communication with the Forest Officer, on the dimensions and cost of the necessary sheds.

J. Man Stewart
Colonel R.E.
11-8-85
Ch Engr P.W. Dept

No 514/R.I. of 16-8-85

Referred

Engineer's Office IV circle

723 E 7-10-85 No 8558/B

Enclosure to a letter No 390 of 28th September 1885 from the Superintending Engineer 4th Circle to the Chief Engr P.W.D.

12th October/85

No

Oo

Inch 7447/85

Referred

No. 390
E.W.

Supg: Engineer's office IV Circle
Camp Ooty, 28th Septemr/85

From,
The Offg. Superintending Engineer
IV Circle

To,
The Chief Engineer
P.W.D.

Sir,

1 Plan.
1 Estimate
1 report
3

+ at Ooty - 1-10-85

With reference to your endorsement No. 436 E dated 11th Ultimo on G.O. No. 1786 (Mis) of 30th July/85, I have the honor to forward a sketch Plan and estimate amounting to Rs 1,080 for constructing a yard for storing firewood for use of the Secretariat Office, Stone house Ootacamund, together with a Report and specification, and to report that the District Forest Officer has been consulted with regard to the dimension and regulated the space of the yard 50×31 ft. to hold 400 bandy loads of fuel.

No

2. No cover to the yard has been provided as it is thought that the green Eucalyptus globulous would season well in the open air, and there is at present a covered store quite large enough for a "present use" godown.

I have the honor to be
Sir
Your most obt servt
Wm Thompson. Colonel RE
Offg: Supg: Engineer
IV Circle

Report and Specification to accompany the Estimate for constructing a yard to contain one years supply of firewood for the Secretariat Offices at Stone House Ootacamund.

It has been found necessary to construct a place for Storing firewood with a view to having the same seasoned.

The Estimate provides for an enclosure in continuation of the Stables on the West side 31' x 50' inside measurement. A wall will be built in continuation of the West end of the Stables as shewn in the accompanying Sketch of the Site. The wall will be of brick in mud 8 feet high pointed with Chunam having a coping of brick in chunam which will be plastered. This it is calculated will hold 400 bandy loads of firewood.

Al Smith Major R.E
Executive Engineer

21-5-85

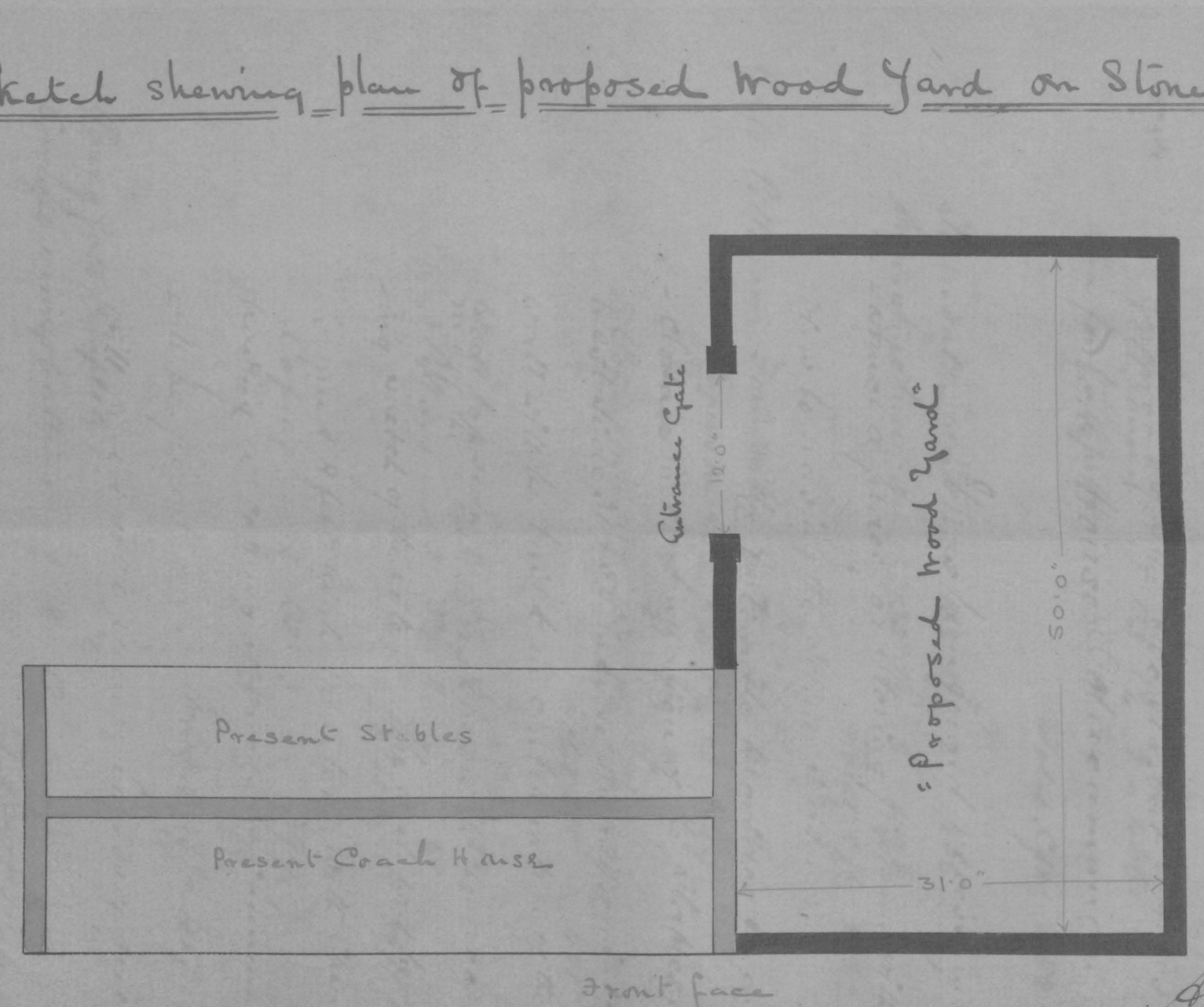
Enclo: 3/390/85
E.B.II

782 R.E.

23 SEP. 85

Sn 3

Sketch shewing plan of proposed Wood Yard on Stone House Hill.



R.W. Thompson Colonel R.E.
Offg Supg Engineer 4th Circle

Aldcuth Major R.E.
[illegible] Engineer

No.

C. Clo: n/1390/85

SUPERINTENDING ENGINEER'S OFFICE
23 SEP. 85
P.W.D.
FOURTH CIRCLE

782 Kd.

m-2

ESTIMATE FORM.—Detail Measurements.

Detail of Work.	Number.	Measurements in Feet. Length.	Breadth.	Depth.	Area or Contents.	Total Quantity of each description of Work.
Earthwork.						
All round	1	133	1¾	2	466 ✓	
Extra for gate pillars	2	2	2	2	16. ✓	
				Total Cft		482 ✓
Brick in mud.						
Foundation wall—	1	133	1¾	2	466 ✓	
Superstructure Do	1	133	1½	8	1596 ✓	
				Total Cft.		2062. ✓
Brick in Chunam.						
Gate Pillars— Foundation	2	2	2	2	16 ✓	
Superstructure	2	1¾	1¾	8	49 ✓	
Caps	2	2½	2½	¾	9 ✓	
Coping for wall	1	133	1¾	1¾	407 ✓	
				Total Cft—		481. ✓
Pointing with Chunam						
Wall both sides	2	133	8	"	2128 ✓	
Pillars—	2	5½	8	"	88 ✓	
				Total Sqr. ft.		2216 ✓
Plastering with Chunam						
Coping—	1	133	3	"	399 ✓	
Cap—	2	3	3	"	18 ✓	
				Total Sqr ft.		417
Gate						
Pair of gate complete.						
Corrugated iron & battens.	1	8	12	.	96. ✓	
				Total Sqr ft.		96. ✓
Metalling with Laterite:						
Do	1	50	31	½	775	
				Total Cft		775
Clearing site						

ESTIMATE FORM.—Detail Measurements.

Detail of Work.	Number.	Measurements in Feet.			Area or Contents.	Total Quantity of each description of Work.
		Length.	Breadth.	Depth.		

ESTIMATE FORM.—Abstract.

Quantity.	Description of Work.	Rate.	Per	Amount.	Total.
		Rs.		Rs.	Rs.
482	Cft of Earthwork	10-„-„	1000 Cft	5	✓
2062	„ of Brick in mud	25-„-„	100 Cft	576	✓
481	„ of Do in chunam	35-„-„	100 Cft	168	✓
2216	Sqft of Pointing with — Do —	6-„-„	100 Sqft	133	✓
407	„ of Plastering with — Do —	6-„-„	100 Do	25	✓
96	„ of Corrugated iron Gate —	„-8-„	Sqft	48	✓
775	Cft of metalling with Laterite.	10-„-„	100 Cft	78	✓
	Clearing site. ——	Lump		15	
	Contingencies ——			46	
	Petty Supervision ——			46	

Grand Total of Estimate .. 1080 ✓

Station Ootacamund

Dated 18th September /85 Cofd No / 1879

A L Smith Major
Executive Engineer.

Rowd Thompson Col: R.E.
Offg Supdg Engineer 4th Circle

Reference to Madras P. W. D. Code.

Paras. 1074, 1075, 1086, 1087, 1091 to 1094, 1108, 1111 to 1114, 1130 and 1145 to 1147.

SUPG. ENGINEER'S O.
23 SEP. 85
P. W. D.
FOURTH CIRCLE

P. W. D. Form.
No. M 207.

Circle— Fourth

Division— Nilgiri

ESTIMATE FORM.—Abstract.

(To accompany the Detailed Estimate No. 109 of 1885-86 for * Constructing a yard to Contain one years supply of firewood for the Secretariat Offices at Stone House Ootacamund.

* Here enter the name and description of work in full.

5.

Estimate No. 109 NI of 1885-86

~~Financial~~ Fund Head— Provincial

~~Budget~~ Service Head— Civil Buildings

Departmental Head— Original work

Main Head— Administration

Sub-Head—

Project of which the work forms part—

Section—

Name of Work— Constructing a yard to Contain one years Supply of firewood for the Secretariat Offices at Stone House Ootacamund

Amount of Estimate— 1080 - -

To be carried out by— P. W. Depart

REFERENCES.

Reference to Madras P. W. D. Code.
Paras. 1074 to 1076.

Enclo: 1 | 390/85 / S. o. IV

ENGINEER'S OFFICE
No. 782 N.I.
23 SEP. 85
P. W. D.
FOURTH CIRCLE

P. W. D. Form.
No. M 203.

En. 1.

Fourth Circle.

Division— Nilgiri

Taluk—

ESTIMATE FORM—Wrapper or Outer-sheet.

Estimate for* Constructing a yard to Contain one year's supply of fire wood for the Secretariat offices at Stone House Ootacamund

Amount of Estimate, Rs. 1080-..-..

Detailed Estimate, No. 109 of 1885-86.

---

* Here enter name and description of work in full.

Arch 8558

From

The Offg. Supg. Engineer
Fourth Circle

(12)

No 436 E d/11.8.85

Dated 28th }
Despd 30th } September 1885.
Rd 1/10/85

No 390/E.W.

Enclosures. 3. (1 plan)

Yard for Storing fire wood for use of the Secretariat Office Stone house. Ootacamund.

Forwards a Sketch Plan and Estimate amounting to Rs 1080 for constructing a — & reports that the District Forest Officer has been consulted with regard to the dimension &ca of the —

BH
2/10/85

A.S. 22/10.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the

READ the following

From the Suptg. Engineer IV Circle - H. E. No: 390/E.W d/28th September 1885.

The estimate amounting to Rs. 1,080, for constructing a fuel shed ~~for storing fire wood~~ for the ~~use of the~~ Government ~~Secretariat~~ Offices ~~on the Stone house Hill,~~ at Ootacamund, is sanctioned for execution when funds are available.

2. This sanction has been registered as Provincial No: W of 1885-86, and classified as Civil Buildings, Original Works.

7.10.85

Cu
6.10.85

To The Suptg. Engr. IV Circle with 2 enclos.
" Examiner P. W. Accts with the estimate for note & return to S. E. IV
" ~~Public Department~~
" ~~Military Department~~
" ~~Revenue Department.~~

3/10

W

The S. E. has not returned the papers referred to him with No. 436 E d/ 11.8.85.

Cn
6.10.85

Call for return of papers

7/10

No. 723 E d/ October 7th 1885.-

Memorandum.

Letter from the Offg S.E. IV Circle No. 390 E.W. d/ Septr. 28. 1885.

The Supdg Engineer IV Circle is requested to return the papers referred to him with endorsement No. 436 E d/ 4th August 1885.

7.10.85
E.W.

S.E. IV Circle despd 7/10/85

Cn

No. 723 E d/ Octr 7. 1885

d/ 10-5-86 Rwd

To W

The estimate for the fuel yard at Stonehouse was kept over pending receipt of the enclos: called for in Memo. No 723 E d/ 7.10.85.

The Memo. was issued shortly before the Office broke up here last season.

The required enclos. appear to have been sent to the Madras Office, under a wrapper memo from the S.E's office d/ 12.10.85.

On receipt of the Ooty records at Madras, the record branch there appear to have merely stitched the wrapper & enclos. to the memo. & to have returned the file into the bundle, instead of sending it up for final disposal.

The mistake was a very stupid one &

the result has been that the estimate has remained unsanctioned up to date.

The pencil entry made at Madras in the O. I. statement, against item 3, is not correct, & it has been revised.

Cr
7.5.86

The careless way in which the draft G.O. which I initialled on 7-10-85 was lost sight of does not reflect credit on the Record Branch.

I have now initialled the draft Memo.

8.5.86

No. 1741 dd/ 10-5-86 Pbd.

C/

Memo.

With reference to letter from the S.E. IV Circle No 390 S.W. d/ 28th September 1885, submitting an estimate amounting to Rs 1080, for constructing a fuel shed for the Govt. offices at Ootacamund, the undersigned has the honor to state that no direct reply having been received to this office No 7238 d/ 7th Oct 1885, the estimate was laid aside by accident. As the work has been completed, it is now too late to sanction the estimate, the S.E. is requested to submit, for sanction a bill in the form of a completion report.

It is understood that the cost of the work was met from the lump sum grant to the division under Provincial minor works.

8-5-86

No. 436 E d/ 11-8-1885
- 723 E - 7-10-1885

Cu Ay.S. 25/5. D 14/5

No. 1741 C d/ 10-5-86

S.E. IV Circle.

Despd 10/5/86

1886.

P. W. DEPARTMENT.

Current No. 3482

From The Suptg: Engr: IV Circ

Enclos.— 2

No. 135 E.W.
Dated 7th May 1886
Received 10th — —

SUBJECT.

Converting the Chinchona Laby into Herbarium — Requesting instructions for the payment of Rs 1422-13-8 as per bill from Mr Lawson for —

DISPOSAL.

No. 1748 C Dated 10th May 1886

To C.

For favor of very early remarks.

(Sd) D. Mc. C.
10.5.86.
D.W.

D.W. 10/5

Despd 10/5/86

The Ex: Engineer Nilgiri Division was called on to submit an estimate for converting the Chinchona Laboratory into an Herbarium. Before doing so he asked the Director for some information and in reply that officer states that the work is almost complete and he asks for a cheque for Rs 1422-13-8 for work done and says there is more due and that he will submit a supplemental bill.

Unless the Director was acting under orders, his conduct seems to have been irregular.

It is now too late to submit an estimate, and sanction may be given to a completion report as suggested by the Examiner P.W. Accounts, in his Note No. 121 d/ 10th May 1886 and as was done in the case of the fuel shed at Ooty - see No. 1741 C d/ 10th May 1886, I think the work should be examined by the Ex: Engineer who if satisfied can pay the money due -

The Director should, as soon as possible submit the Supplemental bill and a Completion report can then be made out and Sanctioned.

15/5/86

C. 15-5-86

G/

Note by DW

W

REVENUE DEPARTMENT.

E MADRAS GOVERNMENT.

to carry out the work in anticipation of sanction to estimate, and allotment of funds.

(Sigd.) J.S.

W

No. 111 W d/ 14.1.86.
" 1748 C d/ 10.5.86.
" 832 C d/ 1.3.86.
" 1741 C d/ 10.5.86

Despd. 18/5/86

from the
tations Par
1886, No 423

1886.

P. W. DEPARTMENT.

Current No. 3482.

From S. E. IV Circle

Enclos.— 4

No. 135/Ew.
Dated May 7th } 1886.
Received " 10th

Subject.

Converting the Cinchona Laboratory into the Cinchon Dept. office and Herbarium

Requests instructions for the payment of Rs 1422-13-8 as per bill from Mr Lawson for —

Disposal.

Office note from C No. 121 d/ 13.5.86 C.No.3

No. 151 D. Dated May 18. 1886

Referred to the Revenue dept., with advertence to endt. in that dept. No. 1083 d/15th Feby 1886, for favour of information whether the Director was author

(7)

Note by DW

Revenue Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

EXECUTIVE ENGINEER'S OFFICE
GEN'L NO. 1/3208
13 MAR 1886
P.W.D.
NILGIRIS.

Read the following letter from the Director of Government Cinchona Plantations Park and Gardens, Nilgiris, dated 23rd January 1886, No. 423

+ not consd —

In accordance with the instructions contained in para 11 of G.O. No. 1829 dated 30th Novembe 1885, I have the honor to send a plan and estimat of the cost of transforming the Cinchona Laborator into an Herbarium.

Only an Aprox Est

2. Mr Bragg the Sub Engineer of the P.W. Dept. has been good enough to draw up the estimate, which amounts to Rs 1,660, but he thinks that owing to a great deal of the material, which w be needed being obtainable in the Gardens or from the Cinchona Plantations and to its bein possible to carry out the works with Garden labour, the actual cost will be much less than tha which he has named. Mr Bragg is not howeve able to say how great a reduction on his estima ought to be made. I therefore request that Rs 1,400 may be placed at my disposal.

Order thereon, 15th February 1886, No. 1083.

The plan and estimate are approved, and will be transferred to the

Financial Department for sanction.

(True Extract)

Fred McWhite
Ag: Secy: to Govt:-

SUPG: ENGINEER'S OFFICE
NO. 170W
2- MAR. 86
P. W. D.
FOURTH CIRCLE

Enc: 1

SUPG: ENGINEER'S OFFICE
NO.
17 MAY. 86
P. W. D.
FOURTH CIRCLE

To
The Financial Department,
with 2 enclosures. S
" Director, Govt: Cin: Plantations &c.

04/Gen 2
~~1443~~/18
433

CR

No 15/86 Lodged
9-1/86

23 FEB 86
DEPARTMENT

No 347 C of 22 Feby/86

Transferred to the Public Works Department for disposal.

W. Wilson
Ag: Chief Secretary

EXECUTIVE ENGINEER'S OFFICE
GEN'L NO. 1/3978
13 MAR 1886
P.W.D.
NILGIRIS.

No 832 C
Chepauk
1st March/86

Referred to the Superintending Engineer IV Circle who is requested to submit the estimate in the proper form Vide para 1067 of the P W Code

J. Mc. Campbell
Major R.E.
Under Secretary to Govt, P.W.D.

To
The P.W. Dept.

R.S. To The S.E. IV Circle
25.2.86

CURRENT NO. 227

Govt. of {188~~6~~} Madras.

REVENUE.

Encl. 1423
4353/85

To The Financial Department.

SUPG: ENGINEER'S OFFICE
NO.
17 MAY. 86
P.W.D.
FOURTH CIRCLE

SUPG: ENGINEER'S OFFICE
NO. 170 W
2- MAR. 86
P.W.D.
FOURTH CIRCLE

Dated } 18th Feb/86
Recd. }

Encl. 2 3 (1 plan)

Recd 23/2/86

Mis. G. O., 15th Feby 1886, No. 1083.

SUBJECT.

Transferring for sanction, with approval, plan and estimate for transforming the Cinchona Laboratory into an Herbarium Nilgiris.

Disposal herewith

BH
24/2/86

Transferred

No: 98.

Nilgiri Directors' Office,
Ootacamund 28th May 1886.

From
The Government Botanist and
Director of Cinchona Plantation
Nilgiris.

To
The Executive Engineer
P. W. Department,
Nilgiris.

Sir,

In continuation of my letter No 42, dated 22nd April 1886, I have the honor to request that you will be good enough to place Rs:(1000) one thousand only, at my disposal as an advance, on account of charges connected with the conversion of the old laboratory into a Herbarium and Chinchona Office to enable me to pay certain charges which ~~has~~ have been already incurred.

Vide your Endorsement No: 402 dated 12th May 1886 on Sub Engineer Mr: Bragg's letter No: 20 of 8th May/86.

2. A Bill including all charges will be sent in, in due course from

which this advance will be deducted.

I have, &ca,
(signed) M. A. Lawson
Govt: Botanist and
Director.

No. 572.

True copy — Communicated to the Superintending Engineer 4th circle for information in continuation of this Office letter No: 286 of 3rd May 1886. Please state whether the sum of Rs: 1,000 asked for by the Director may be advanced to him. The work is satisfactorily completed.

(signed) A. C. Smith Major, R.E.,
Executive Engineer

Ootacamund
31st May 1886 }

No. 196 / E.W.

Copy submitted to the Chief Engineer in continuation of this Office letter No. 135 of 7th ultimo with, a request that he will be good enough to obtain the sanction of Government for the disbursement of Rs: 1,000, pending sanction of the Bill of Cost for converting the Chinchona Laboratory into a Herbarium.

Enclosures 3

2. The Executive Engineer has been called upon to submit the Bill of Cost in the form of a completion Report as soon as possible.

3. The Chief Engineer's Endorsement No. 832 C of 1st March 1886 and its enclosures, are herewith returned.

Camp Udumalpettai
5th June 1886 }

J. Beatty Colonel R.E.
Supg. Engineer, 4th circle

No 15/86 Lodged

F. 10. 227

No 157 D of 18. 5. 86.

PW No 4355

From

The Supg: Engineer
4th Circle

(12)

To,

The Chief Engineer
P.W. Department.

Dated: 5th } June 1886
Received: 8 }

No 196
E.W.

Enclosures. 3 4 (1 plan)

Cinchona Laboratory:—

Requests to obtain sanction of Government to advance of Rs: 1000 for converting the — into a Herbarium

0/8/6. Ackd 50/C.

Reminded 12-6-86 R. 21-6-86

REVENUE DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

with C. No 4140 sent to Madras 4-6-86—

Read Endorsement of the P.W. Depart. of 18th May/86, No. 157 D, requesting to be informed if the Director, Govt. Cinchona Plantations, was authorised to carry out the work of converting the Cinchona Laboratory into Herbarium in anticipation of sanction to estimate and allotment of funds.

Order thereon, 2nd June 1886, No. 3236

The Government Botanist and Director of Cinchona Plantations was not authorised to carry out the work in anticipation of sanction to estimate and allotment of funds, and he will now be called upon to explain his action in so doing.

(True Extract)

Fredrick Price

Ag Secy. to Govt.

To The Govt. Botanist & Dir: Cin: Plants.,
" P.W. Department

No 15/86 Lodged

No 1576 C. 18.5.86
" 1748 C. 1[illegible].5.86
" 832 C. 1.3.86
No 1114 W 14.1.86
" 1447 W 8.6.86
No 1741 C. 10.5.86

P.W. Cn No 4512 ✓

Recd 12.6.86.

10 JU. 6
DEPARTMENT

Ip. G.O. 461/

Resubmitted W.C. 12.6.86 R. 21.6.86

3W.

PUBLIC WORKS DEPARTMENT

Sir,

I am now unable to say anything regarding available funds from the Provincial Reserve - for I am now busy with the Impl & Local portions after finishing them today. I shall obtain Prov results on Monday - Please let me know

No 15/86 Lodged

if I can detain the file till then. Speaking generally I can only say now that the demands are far above the available balance under reserve as shown below:

Demand - 4,16,868

Balance of reserve } 1,52,595

Excess demand 2,64,273

JW
12/6

[illegible] Rev Resolution [illegible] 12.6 [illegible]

P.W.C. No. 4512 √

Recd 12. 6. 86.

10 JU[illegible]
DEPARTMENT MADRAS

W.

PUBLIC WORKS DEPARTMENT

C.A.W.

I will not detain the file for further notes by B— as I fancy it will take him some little time to go through the various demands carefully. It seems im~~possible~~-probable that the 1000/- will be available

F.B.
12/6

Revenue Secy has not seen orig. papers.

No. 1563 W.

B/

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 21st June 1886

READ the following

Proceedings Rev: dept (R.C. No. 1083 d/ Feby: 15: 1886)
Endt. in the Finl. dept (" " 347 C d/ " 22. ")
Letter from the S. E. IV Circle (" " 135 Ew d/ May 7. ")
Office note from the [illegible] " " 12 d/ " 13 "
Letter from the S. E. IV Circle " " 196 Ew d/ 5 June 1886.
Proceedings Rev dept (" " 3236 d/ June 2 ")

The Supdg. Engineer IV Circle is authorised to disburse the sum of Rs. 1000 on account of charges incurred in converting the cinchona laboratory at Ootacamund into an herbarium.

A

2. A bill of cost from the Supdg Engineer, and the Explanation called for in G.O. dated 2nd June 1886 No. 3236 Rev, are awaited.

19.6.86

1423
4355
3632
3482
4512

Soon

B. No. 1563 W. d/21 June 1886

Desd
21/6/86

21.6.86

B W
21/6

S.E. IV Circle ✓
Ex P.W. Accts ✓
Rev dept ✓

Despd
22/6/86

23/6

24/6

R. 21.6.86

Nilgiri Division Office.
Ootacamund 3rd May 1886.

No. 286.

From
The Executive Engineer.
Nilgiri Division.

To,
The Superintending Engineer
4th Circle.

Sir,

I have the honor to inform you that before preparing and submitting the plan and estimate called for in your endorsement No. 157 d/. 20th March 1886, for converting the 1st Cinchona Laboratory into Herbarium &c., I requested the Director of Cinchona Plantations to let me know the amount of old materials used on the work to enable this office to have the same deducted from the total amount of the estimate to be submitted for the purpose. In reply to this he has sent me a bill for Rs. 1422-13-8. with vouchers and has asked me to remit him the amount thereof as early as possible. A copy of his No. 42 of 22nd April 1886 on the subject is sent herewith for your information. I have in reply stated that no payment can be made without the estimate being first sanctioned and funds allotted. Your early instructions in the matter are accordingly solicited.

2. The bill in question will in the meanwhile be checked with the work done.

I have &c

Signed/ A. C. Smith Major R.E.
Executive Engineer

(True Copy)

J Beally Colonel R.E.
Superintending Engineer
4th Circle.

ENCLOSURE
11 MAY 86
EXAMINER, P.W. ACCOUNTS

Pr. 4434
3452/86
~~3632~~
5792/86

1
Aev. 4654/86

3.
Aev. 3889/86

Directors Office
Ootacamund 22nd April 1886.

No. 42.

From

The Govt. Botanist & Director of
Cinchona Plantations
Nilgiris.

To,

The Executive Engineer,
P. W. Department,
Nilgiris.

Sir,

In enclosing a Bill duly sup- ley vouchers for Rs 1422„ 13„ 8 being the charg- incurred in Converting the old Laboratory into the Cinchona Department Office and Herbarium, I have the honor to request that, as the work is all but completed, you will be good enough to send me a cheque for the amount at an early date.

2. Besides the above, there are some other charges connected with the work for whi I will submit a supplemental Bill

when I get the vouchers.

I have &c. &c.

(Sd) M. A. Lawson

Govt. Botanist and Director

(True Copy)

ENCLOSURE
11 MAY 86
EXAMINER, P.W. ACCOUNTS

No. $\frac{\text{Encl. } 3}{3482/86}$
~~3452~~
5192/86

J. Beatty Colonel R.E.
Supg: Engineer 4th Circle

2 / Rev: 4634/86

2. / Rev: 3889/86.

No. 135 / E.W.

Superintending Engineer's office 4th circle
Camp Wellington. 7th May 1886.

From

The Superintending Engineer
4th Circle.

To,

The Chief Engineer.
P. W. Department.

Enclosures. 2.
1. Letter of Exe: Engr. Nilgiris No. 286 of 3/5/86.
1. Letter of Govt. Botst. and Director of Cinchona Plantations No. 42 of 22/4/86.

Sir,

To enable him to prepare the plan and estimate called for in your Memo No. 832 C of 1st March 1886, the Executive Engineer Nilgiris asked the Director of Cinchona Plantations for certain information. This has not been furnished; but Mr. Lawson has submitted a bill for Rs: 1422-13-8; and says he will send a supplimental bill later on.

2. I presume that these bills cannot be paid by this Department until an estimate has been submitted and sanctioned, and funds allotted;

but I have the honor to request your instructions.

3. The Executive Engineer informs me that the Herbarium has been very nearly completed, and probably will be quite finished before an estimate could be prepared. Possibly, under these circumstances, an estimate may be dispensed with. Para 1114 of the Code states that a revised estimate should not be sent in when it is too late for it to be sanctioned before the work is finished; and this rule may also apply to original estimates.

I have the honor to be
Sir,
Your most Obedt. Servant.

L. Beatty Colonel R.E.
Superintending Engineer
4th Circle.

MD. Rit - 102
10/11 . 5 . 86

Enc 2

AMINER
No.
11 MAY 1886
ENCLOSURES
P. W. ACCOUNTS.

Enc 2
3458
~~3652/86~~
5192/86

No. 1748 C of 10th May 1886

To C/

For favor of very early remarks.

10/5/186

From,

The Superintending Engr.
4th Circle.

Dated 7th
Recd 10 } May 1886.

Enclo: 2.

No. 135/E.W.

Converting the Chinchona Laboratory into Herborium

Requests instructions for the payment of Rs: 1422-13-8 as per bill from Mr. Lawson for.

Rev: 3889/86
3
Rev: 4637/86

P.W. Code para 1655

1886.

Examiner P. W. Accounts

Madras 13 May 1886.

Office Note No. 121

To.

W.

Encs: 3

Your Office Note No. 1748 C. dated 10th May 1886.

This Office knows nothing of the work referred to, and it is not clear on what point exactly remarks are required, but if the outlay is to appear in the P. W. Accounts sanction to Completion Report may be given

2. I would beg however to point out that the practice of carrying out works without Estimates and Grants is altogether opposed to code rules.

C.

11/5.
13/5.

B. No 1114 W 14. 1. 86
No 1748 C. 10. 5. 86.
" 832 C 1. 3. 86
" 1741 C. 10. 5. 86.

GOVERNMENT OF MADRAS
18 MAY 86
REVENUE DEPARTMENT

Ootacamund, May 18. 1886.

No 151 D.

[illegible] 15

Referred to the Revenue Dept., with advertence to endorsement in that dept. No 1083 d/ 15th February 1886, for favor of information whether the Director was authorised to carry out the work in anticipation of sanction to Estimate, and allotment of funds.

18-5-86

Colonel R.E.,
Secretary to Govt P.W.D.

G. 15-5-86

P.W.C. No ~~3032~~ 5192-86
Encl 1

Recd: 14/5/86

Encs: 3

Encl

Received from P.W.D.

H / Rev. 4682/86

Referred

Revenue Department.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ the following letter

from the Government Botanist and Director of Cinchona Plantations, Nilgiris, dated 12th June 1886, No 131.

I have the honor to acknowledge the receipt of G.O.* No 3236 of 2nd June 1886, Revenue, in which I am called upon to explain my action in carrying out works in connection with the transformation of the Cinchona Laboratory into an Herbarium, in anticipation of sanction to estimate and allotment of funds, my never having received any authorization to do so.

*Enclosures to which are herewith returned.

My explanation is as follows:-

1. In part 6, para: 8 of my report on the Botanical Gardens, for the year 1884/85, I asked that I might be allowed to convert the old Cinchona Laboratory into a new repository for the Herbarium, and that if Government approved of this suggestion, I would send in plans and estimates at once, as the alterations ought to be carried out during

the forthcoming dry season.

2. In para 11 of G.O. No 1329 of 30th November 1885, Revenue, (but not received till the 9th January 1886), reviewing my report, sanction was accorded to the suggested alterations, and plans and estimates were ordered to be submitted as soon as possible.

3. In accordance with the instructions conveyed in the above quoted G.O., I forwarded on the 23rd of January 1886 the plan and estimates asked for.

4. In the beginning of February, I had an interview with Mr Wilson, who was acting as Chief Secretary, and who informed me that Govt. had sanctioned my plans and estimate; upon which I told Mr Wilson that I proposed commencing the alterations at once, without waiting for written orders, as, if the alterations were to be made during the current year, their immediate commencement was imperative; and Mr Wilson approved of my proposition.

5. The formal sanction of the Financial Department has never been received by me, though the Govt. general order thereon, dated the 15th February 1886, No 1083, has been received, but, as I learnt from the Public Works Department, that, that Department had been ordered to provide the necessary funds, though, to leave the construction of the works, for the sake of convenience, in my hands; I entertained no doubt, but that all necessary sanction had been given.

6. With reference to letter No 286 of the 3rd May 1886, from the Executive Engineer, Nilgiris, to the Superintending Engineer, in which it is stated, that I replied to a request which he made to me, that I would give information respecting old material &c., by sending in a bill for Rs 1422-13-8, must be due to some misapprehension, on his or on my part, which I am not able fully to explain; but, it is in the face of the matter, improbable, that the Bill which I sent in was ever intended as an answer to enquiries asking for information on such a totally different subject as that described. If my recollection serves me right, the Bill was sent in on account of a suggestion made to that effect, either by Major A. C. Smith, or by his subordinate officer, Mr Bragg, to both of whom I am much indebted for their constant assistance and advice, during

P.W.C. No. 5/192

during the construction of the Building.

7. With reference to para: 2 of office note from the Examiner Public Works Accounts, No. 121 of 13th May 1886, pointing out "that the practice of "carrying out works without estimates and grants "is altogether opposed to Code Rules," enunciates a principle, so reasonable, that, I have never intentionally violated it, although I was not aware before of its having been definitely formulated in any Code.

Enclos. 4

Recd. 5.7.86

2 JUL 86
DEPARTMENT MADRAS

Order thereon, 28th June 1886, No. 3784.

Mr. Lawson's explanation is accepted under the circumstances mentioned and will be transferred to the Public Works Department with the request that the bill submitted by him may be sanctioned.

B. No 1563 W. 21-6-86
" 1447 W. 8-6-86
No 156 D. 18-5-86
" 1748 C. 10-5-86
" 1741 C. 10-5-86
" 832 C. 1-3-86
B. No 111 W. 14-1-86.

(True Extract)

Frederick Price

Ag. Secy: to Govt.

To
The Public Works Department,
with Enclosures returned. S
" Government Botanist.

Resubmitted to C. 5-7-86
[illegible]

C.A.W.
5.7.86

Revenue Department

PROCEEDINGS OF THE MADRAS GOVERNMENT.

READ Proceedings of the Public Works Department, dated 21st June 1886, No. 1563 W., authorizing the Superintending Engineer IV Circle to disburse the sum of Rs 1010 on account of charges incurred in converting the Cinchona Laboratory at Ootacamund into an herbarium.

Order thereon, 2nd July 1886, No. 3904.

Communicated to the Government Botanist and Director of Cinchona Plantations.

2. The explanation called for in para: 2 was transferred to the Public Works Department with Rev. Mis: G.O. No. 3784 dated 28th June 1886.

Sent copies to Madras 7.7.86

(True Extract)

Frederick Price

Ag. Secy: to Govt.

To
The Government Botanist
" Public Works Department. S

72

P.W.C. No. 5343.

7 JUL 86
DEPARTMENT MA

Recd: 9.7.86

B. No. 1754 W. d/12" July 1886.

Ayl. 2617.

No. 1754 W.

PUBLIC WORKS DEPARTMENT.

B/

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 12" July 1886.

READ the following

Proceedings Revenue dept. (Rl. No. 3784 d/ June 28. 1886)
Do ——— do (Rl. No 3904 d/ July 2 - 1886)

Recorded, with reference to G.O. No. 1563 W dated 21st June 1886.

2. A bill in the form of a completion report is awaited.

7.7.86

S. E. IV Circle
with Mr. Lawson's approximate estimate & plan.

Dl 13/7

[illegible] Engineer, 4 Circle.

12/7/86

B. No. 1754 W. d/12th July 1886

14/7

19/7

Entd in RR 20/7

Ayk. 26/7.

No: 334
E.W.

Supg: Engineer's office, 4th Circle.
Coimbatore 4th September 1886

From,

The Superintending Engineer,
Fourth Circle.

To,

The Chief Engineer,
Public Works Department.

Sir,

Enclo: 4
1 Plan.
1 Descr: abstract
1 Estimate
1 Bill of cost.

With reference to your endorsement No. 832 C, dated 1st May last on the Revenue G. O. No. 1083 dated 15th February 1886, I have the honor to forward for sanction a plan and estimate, amounting to Rs 2570, for converting the Cinchona Laboratory into a Herbarium at Ootacamund together with a Completion Report.

2. The work was entirely executed by the Director of Cinchona Parks and Gardens in a fair and workmanlike manner.

I have the honor to be,
Sir,
Your most obedient Servant

E. Beatty. Col. R.E.
Supg: Engineer, 4 Circle.

1754 W 12.7.86.
1563 W 21.6.86.
832 C. 1.3.86.
1447 W 8.6.86
1541 D. 18.5.86.
1748 C 10.5.86.
1741 C 10.5.86
111 W 14.1.86.

From

Mcl. 6001

The Supg. Engineer,
Fourth circle.

Dated 4th Sept: /86.
Rec'd 6

No: 334
E.W.

B.H.
7/9/86

Enc: 4 (1 plan)

Converting Cinchona Laboratory into a Herbarium:—

Forwards for sanction, plan and estimate &c. of Rs: 2,570 for —.

Mys: 2617.

No. 2406 W

PUBLIC WORKS DEPARTMENT.

B/

PROCEEDINGS OF THE MADRAS GOVERNMENT.

21st Septr /86.

READ the following

From the Suptg. Engineer IV Circle. W. E. No: 334 E. W. d/ 4th September 1886.

The completion report submitted by the Suptg. Engr. IV Circle for the work of converting the chinchona laboratory at Ootacamund into an herbarium is sanctioned.

2. A sum of Rs. 1,000 having already been ~~ordered to be paid~~ sanctioned, vide G. O. No: 1563 W dated 21st June 1886, the Suptg. Engr. is authorised to disburse the balance Rs. 731 to the Director of Chinchona Parks and Gardens.

3. The plans and estimate submitted ~~for the work~~ will be returned to the Suptg. Engineer as it is ~~considered~~ unnecessary to sanction them after completion of the work.

4. The cost of the work will be debited against the lump sum grant to the Nilgiri Division under Provincial Minor Works, Civil Buildings.

J.C.W.
17/9/86

C.B.
13/9/86

18/9/86.

To
The Suptg. Engr. IV Circle with 3 enclos.
" Examiner of P. W. Accts with the Completion Report
" Revenue Department.

W 1319

B. W. 2406 W d/21-9-86.

W 11/9

D 25/9 Ch 23/9

No. 439
E. W.

Superintending Engrs. Office 4th Cir
Coimbatore, 17th November, 1886.

From

The Superintending Engineer,
IV Circle.

To,

The Chief Engineer,
P. W. Department.

Sir,

Adverting to para 2 of G.O. ~~[illegible]~~ No. 2406 of 21st September last, I have the honor to state that a sum of Rs. 731 only was applied for in the statement of Savings and Demands submitted with my letter No. 396 of 16th October/86 for the work converting the Cinchona Laboratory into a Herbarium which was accordingly granted in G.O. No. 2920 W. of 5th Instant.

2. The Examiner now points out that G.O. No. 1563 W. of 21st June 1886 does not sanction an additional grant of Rs. 1000 on account of Nilgiri

Division, in as much as the amount was not transferred from the Provincial Reserve with Government, or from any other source outside the Divisional grants"; and I therefore request you will be good enough to allot Rs 1000 for the work in addition to the sum of Rupees 731 mentioned above.

I have the honor to be,
Sir,
Your most Obt. St.,

L. Beatty - Colonel, R.E.
Supg: Engineer, 4th Cir.

2920 w 5.11.86.
1447 w 8.6.86.
2406 w 21.9.86

WS. 2017.

No 3088 W. of 22-11-86

B

A sum of Rs 1000 is allotted from the Provincial reserve with the Government, in addition to the grant of Rs 730 made in G. O. No 2920 W. of 5th November 1886, for converting the Cinchona laboratory at Ootacamund into an herbarium.

2. In his endorsement No 196 E.W. dated 5th June 1886, the Supdg Engr. asked for authority to disburse the sum of Rs 1000 expended on the work by the Director, but as he did not ask for an appropriation of funds, it was concluded that the money would be provided from funds at his disposal under minor works, and no appropriation was therefore made in G. O No 1563 W of 21st June 1886

S. E. IV Circle for 19/11/86

19.11.86

Ex.. P.W. Accts

Despd 22-11-86

P.W.C. No 9036

From,

The Supg Engineer,
IV. Circle.

Dated 17th } November /86.
Recd }

No 439/E.W.

Enclo:—

Converting the Cinchona Laboratory into a Herbarium

Informs that only Rs 731 was applied for in the statement of savings and demands for — and requests to allot an additional sum of Rupees 1,000.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

No. 54.

Read—the following paper:—

No. 96.

Report to accompany the Revised Estimate of Rs. 38,220 for erecting the Bark Drying Shed, Bark Store and Water Supply for the Chinchona Plantation at Naduvatam, in Nilgiri Division.

1 Detailed Estimate with Abstract.
1 Abstract Estimate.
1 Comparative Statement.
2 Plans.
1 Report.

The estimate on which the work is now being carried on is Rs. 31,074, which was sanctioned in G.O., No. 2975 W., dated 29th November 1881; the principal items of the excess (Rs. 7,146) are as follow:—

		RS.
(1.)	Rough-stone in chunam	213
(2.)	Brick-work	1,731
(3.)	Six iron trusses	1,560
(4.)	Other iron and wood work	1,111
(5.)	Earthwork for foundations and levelling ground	511
(6.)	Four stand-pipes or hydrants	210
(7.)	Blasting and removing rocks	168
(8.)	Temporory shed for stores	300
(9.)	Other petty items	167
(10.)	Losses in brick-making	330
(11.)	Contingencies and superintendence	845
	Total Excess ...	7,146

2. The excess on item No. 1 is due to the extra foundation found necessary in carrying out the work. The excess on item No. 2 is due to the substitution of brick in chunam for brick in mud for all exposed portions of the work, the general collapse of brick-in-mud buildings at Naduvatam in last monsoon having shown this to be absolutely necessary. The excess on item 3 is the actual extra cost of getting the iron trusses, which were obtained from the Public Works Workshops; they had been greatly under-estimated.

3. The excess on item No. 4, other wood and iron work, is simply due to the insufficiency of the rates previously estimated as suitable for such work at Naduvatam.

4. Items 5 to 10 have been found necessary to cover extra works not provided for in the original estimate.

5. The excess shown on item 11 may, to a large extent, be found unnecessary, but as the work is of an exceptional character in a peculiar locality, it is thought best to provide some margin against possible contingencies.

6. The following statement shows the proportion of the excess appertaining to each of the works :—

—	Original Estimate.	Revised Estimate.	Increase.
	RS.	RS.	RS.
(1.) Bark Drying Shed	17,400	21,719	4,319
(2.) Bark Store	11,390	13,779	2,389
(3.) Providing a cistern and cast-iron piping for water-supply	2,284	2,722	438
Total ...	31,074	38,220	7,146

7. With the above explanation the revised estimate of Rs. 38,220 is recommended for sanction. The Executive Engineer reports that the works are making good progress.

Erode,
27th February 1883.

(Signed) J. BEATTY, Colonel, R.E.,
Superintending Engineer, Fourth Circle.

To the Chief Engineer, Public Works Department.

No. 55.

Order—dated 8th March 1883, No. 749 W., Public Works.

The revised estimate, amounting to Rs. 38,220, for constructing Chinchona buildings at Naduvatam, in the Nílgiri Division, is sanctioned.

2. The excess of Rs. 7,146 over the estimate for Rs. 31,074, sanctioned in G.O., No. 2975 W., dated 29th November 1881, is explained in the Superintending Engineer's report above recorded.

3. The expenditure to the end of 1881-82 amounted to Rs. 4,971, and the grant for the current official year stands at Rs. 18,374. Early application should be submitted next official year for the balance required to complete the work.

4. This sanction has been registered as Provincial No. 263 W. of 1882-83 and classified as Civil Buildings, Original Works. Provincial No. 102 W. of 1881-82 is cancelled.

(True Extract.)

(Signed) R. H. SANKEY, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineer, Fourth Circle, with six Enclosures.
" Examiner, Public Works Accounts, with duplicate Abstract Estimate.
" Revenue Department.

Exd. A. F. Goodall.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1883) Madras.

PUBLIC WORKS.

Dated March, 8th.

Recd. *Encl.*

G.O., 8th March 1883, No. 749 W.

MARCH.
Nos. 54-55.

Chinchona Buildings

A revised estimate for constructing — at Naduvatam, in the Nílgiri Division, sanctioned.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

Read—the following papers :—

From the Examiner, Public Works Accounts, dated 20th November 1883, No. 882.

From Colonel J. BEATTY, R.E., Superintending Engineer, IV Circle, to the Chief Engineer, Public Works Department, dated Coimbatore, 13th December 1883, No. 566.

2 estimates.
1 duplicate abstract estimate.

With reference to your memorandum, No. 2019 C., of 22nd October 1883, I have the honor to submit two estimates for Cinchona Villa: the first, amounting to Rs. 16,400, provides for the purchase money, legal expenses, and repairs found to be necessary on a more thorough examination than was at first practicable; the second comes to Rs. 2,200, and includes repairs and improvements not yet undertaken, but which are considered necessary or desirable.

2. With regard to the item* of Rs. 1,401 provided in the estimate of improvements, I have to state that, though not indispensable, the Executive Engineer considers that the roof of the bungalow will not be thoroughly satisfactory without it; Mr. Lawson proposed the construction of a path to connect Cinchona Villa with Lower Norwood; and the items for improving the road of approach to the villa appear reasonable, but the work has not been put in hand pending sanction and provision of funds.

* In the estimate of Rs. 2,200—

Improving the roof	...	Rs. 1,401.
Path to Lower Norwood	...	„ 158.
Repairs to road of approach	...	„ 641.

3. If the estimates are sanctioned immediately, funds may be found by transfer from South Canara where some surrenders appear necessary.

Order—dated 19th January 1884, No. 161 W., Public Works.

The estimates submitted with the foregoing letter are sanctioned as follows :—

	RS.
Purchase and repairs of Cinchona Villa, Ootacamund	16,400
Improving and gravelling the road	600
Total ...	17,000

2. The proposed expensive alteration of the roof of the building does not appear necessary, and will be postponed for the present.

3. An appropriation of Rs. 16,000 was made in G.O., No. 2657 W., dated 21st September 1883, for the purchase of the property, and a further allotment of Rs. 2,600

was granted in G.O., No. 91, dated 12th January 1884. The excess appropriation of Rs. 1,600 is now resumed.

4. The Superintending Engineer, IV Circle, will furnish the Examiner, Public Works Accounts, with an abstract estimate working up to the present sanction.

5. This sanction has been registered as Provincial No. 204 W. of 1883-84, and classified as Civil Buildings, Original Works.

(True Extract.)

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineer, IV Circle, with four enclosures.
" Examiner, Public Works Accounts.
" Revenue Department.

Exd. J. Moses.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of {1884} Madras.

PUBLIC WORKS.

Dated January, 19th.

Recd. *Encl.*

G.O., 19th Jan. 1884, No. 161 W.

JANUARY.

Cinchona Villa, Ootacamund

Estimates, amounting to Rs. 17,000, for purchasing and improving —, sanctioned, with remarks.

29th January 1885, No. 238 W., Public Works.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Buildings and Roads.
Civil Works.

Read—the following letter from Colonel J. BEATTY, R.E., Superintending Engineer, IV Circle, to the Chief Engineer, Public Works Department, dated Coimbatore, 16th January 1885, No. 14 E.W. :—

I have the honor to submit, herewith, for sanction and allotment of funds, an estimate for taking off the roof of Chinchona Villa and re-roofing with new wood-works and corrugated iron under the present tiles. The roof has leaked a good deal, and the Executive Engineer finds that the wood-work is, in some parts, rotten and is also very slight throughout. This demolition and reconstruction will cost Rs. 2,250.

2 Plans.
3 Estimates.
1 General abstract.
1 Report.

2. The estimate also provides for building a latrine at a cost of Rs. 200, also a stable of four stalls and four horsekeeper godowns, which is estimated at Rs. 1,790 and is to take the place of the existing stable which is in a dilapidated state.

3. As it is understood you have approved the re-roofing of the main building, the Executive Engineer has, in anticipation of sanction to the estimate, commenced the collection of materials.

Order—dated 29th January 1885, No. 238 W., Public Works.

The estimate, amounting to Rs 4,240, for additions and improvements to Chinchona Villa at Ootacamund, is sanctioned for immediate execution.

2. The Superintending Engineer, IV Circle, will report the amount which can be spent on the work during the current official year.

3. This sanction has been registered as Provincial No. 237 W. of 1884-85, and classified as Civil Buildings, Original Works.

(True Extract.)

(Signed) J. SHAW-STEWART, Colonel, R.E.,
Secretary to Govt., P.W.D.

To the Superintending Engineer, IV Circle, with six enclosures.
" Examiner, Public Works Accounts, with general abstract estimate.
" Revenue Department.

Exd. A. F. Aaron.
Spare Copies

BUILDINGS AND ROADS.
CIVIL WORKS.

Govt. of (1885) Madras.
PUBLIC WORKS.

Dated January, 29th.

Recd. *Encl.*

G.O., 29th Jan. 1885, No. 238 W.

JANUARY.

Chinchona Villa at Ootacamund

Estimate for additions and improvements to —, sanctioned.

No. 1982.

N.B.—Please quote the number and date of this letter in future communication on this subject.

P. W. D.
Nilgiri Division Office,
Station Ootacamund 11 August 1888.

Enclosures. 2
2 Estimates

From
W. B. de Winton Esqre
Executive Engineer, Nilgiri Division,
Ootacamund,

To
The SUPERINTENDING ENGINEER,
Fourth Circle,
Coimbatore.

Sir,

1 Repairs to Cin-
-chona Villa
Rs 440/-

2. Improving the
Outhouses of Do —
Rs 740
1180

I have the honor to forward herewith two estimates as per margin for repairing & improving the Cinchona Villa at Ootacamund now occupied by the Govt. Botanist and Director of Cinchona Plantations for your early Sanction.

2 The repair estimate amounting to Rs 440 is a periodical one and it provides for the annual white and color washing of the walls throughout, renewing cloth ceiling with teak battens, repairs to boarded floors, doors and windows, plastering & pointing

here and there where necessary and with petty repairs to guttering, fall pipes &c.

3 The improvement estimate amounting to Rs 740 is for renewing the roof of the out houses with corrugated iron & new timbering; as at present the existing roof leaks very much, being made of pan tiles on rafters, bamboo reepers &c, the floors of the kitchen & verandah which are now of mud, I propose to take up and relay with 6" of concrete plastered with portland cement.

4 The estimates have been framed at the request of the Govt. Botanist who has countersigned them in token of his approval. The book value of this property is Rs 17,000.

I have the honor to be
Sir
Your most obdt. Sert.
(By order)
T K Ragavendra Row
for Exe: Engr. Nilgiri Dn.

No. 345
P.W.

Enclo: 2
2 Estimates.

Forwarded to the Chief Engineer P. W. D. for favor of sanction to the Estimate amounting to Rs. 740 for improving the out houses of the Cinchona villa. The repair estimate of Rs 440 has been sanctioned by the undersigned.

Camp Coonoor
15th August/88

R. H. Drake-Brockman Lt. Col: R.E.
Superintending Engineer, IV Circle.

547/8 A 9

SUPG: ENGINEER'S OFFICE
13 AUG 88
P. W. D.
FOURTH CIRCLE

From

THE EXECUTIVE ENGINEER,
NILGIRI DIVISION,

To

THE SUPERINTENDING ENGINEER,
4TH CIRCLE.

Dated 11
Despatched 11 } August 1888.
Received

No. 1982

Enclosures. 2 Estimates

Subject.

Cinchona Villa Ooty

Submits 2 Estimates for certain repairs etc to - for sanction.

Within

P.W.C. No 8178

G.O. 238 W. 29.1.85
" 161 W 19.1.84
" 749 W. 8.3.83
B. No 3088 W. 22.11.86
" 2406 W. 21.9.86
" 1754 W. 12.7.86
" 1563 W. 21.6.86
No 157 D. 18.5.86
" 1748 C. 10.5.86
" 1741 C. 10.5.86
" 832 C. 1.3.86
B. No 111 W. 14.1.86

From (14)

The Supdg. Engineer
Fourth circle.

Dated 15th
Recd: 18th } Augt 1888

No: 345
W.

Enclo: 2.

Chinchona Villa
Ootacamund:—

Submitting for sanction 2 estimates for certain repairs to the —.

O.S. 123/8/88 | Recd. Secy: 27.8.88 | Rtd. 27/8/88 | HM 27/8/88

6-22.8.88

P.W.C. 8178

(14)

W

A very considerable amount of money has been spent upon Cinchona Buildings on the Nilgiris during the last few years.

Cinchona Buildings at Nedavattam
GO 8th March/83 No 749 W
Rs 38,220

Cinchona Villa Ootacamund
GO 19th Jan/84 No 161 W
Rs 17000

Cinchona Villa Ootacamund additions & improvements
GO 29th Jan/85 No 238 W
Rs 4240

Converting Cinchona laboratory into a herbarium
Rs 1731
GO 3088 W of 22nd Nov/86

Estimates amounting to Rs 1180 are now submitted for repairs &c to Cinchona Villa, upon which building at least 21,240 Rs have already been expended

22.8.88

Public Works Department.

Current No. 8178 (14)
Letter No. 345 W.
Dated 15th August 1888
From the Supdg: Engr: IV Circle

NOTE OF REMARKS.

The two Estimates under review amounting to Rs 440 and Rs 740 provide for repairing and improving Cinchona Villa the residence of the Govt: Botanist & Director of Cinchona plantations at Ootacamund.

The Estimate of Rs 440 is for periodical repairs and provides for White and Color washing the walls throughout, renewing the ceiling, repairing the floors, doors, & windows, plastering & pointing where necessary and petty repairs to gutters and fall pipes.

This Estimate has apparently been sanctioned by S.E. IV vide his letter

Endorsement No 345 E.W. d/ 15th August /88, and should have been returned to the Ex: Engr for Execution

The other Estimate for Rs 740 provides for dismantling the tiled roof of the Subsidiary buildings and for reconstructing it with Corrugated iron and new roof timbers.

The present condition of the roof is stated to be leaky —

The floors which are of mud are to be relaid with Concrete 6" thick and coated with Cement.

The Estimate ~~is~~ requires Sanction, it has been countersigned by the Govt Botanist in token of approval

20/8/88

The rates are fair. Contingencies & petty Supervision are charged for at 2½ per cent each

20/8

No. 2228 W

PUBLIC WORKS DEPARTMENT.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

UNDER date the 3rd Sept 1888

READ the following

Letter from the Ex: Engr. Nilgiri Dn. No. 1982 d/ 11th August 1888.

Endorsement from the Suptg: Engineer IV Circle } No. 345/E.W. d/ 15th August 1888.

PPH 28 Aug

The estimate amounting to Rs 740 for improving the out-houses of Cinchona Villa, Ootacamund, is sanctioned.

This sanction has been registered as Provincial No 817 1888-89, and classified as Original Works, Civil Buildings.

D 24/9 ✓

To
The Suptg: Engr: IV Circle ✓ with 4 Enclosures
" Examiner P. W. Accts:
" Revenue Deptt: ✓

Copy to The Secty Revenue Deptt: for

24/8/88

27/8

W

Ro 27/8 | 9 a/ 3d Sept 1888

AS 23/8/88 | [illegible] 27.8.88 | HM 27.8.88

28/8

11/9