M.R.O. 14—13,000—27-9-24

MADRAS RECORD OFFICE.

Government of Madras.

Revenue **DEPARTMENT.**

G.O. No.	259	Press Mis.
Dated	30 - 1 - 18 68	

528-29

Not to be folded or roughly handled

Read the following papers:—

No. 525. MINUTE BY THE HONORABLE SIR T. PYCROFT, K. C. S. I., dated 24th January 1867.

Woods on the Neilgherries.

1. As far back as 1840, the Honorable Mr. Sullivan, then a Member of Council, in his Minute, dated 7th October 1840, on woods on the Neilgherries, remarked on the extent to which the woods had been cut, and the springs had in consequence dried up.

He wrote:—

"It is just twenty years ago since, as Collector of the district, I first visited "the Neilgherries, and I can testify that more than two-thirds of the wood which "then existed has disappeared, and it is within general experience that what remains "is rapidly wasting away. I can point to spots which were covered with wood, "and on which not a tree is now to be found. I can also shew the sites of former "springs, which are now all but dry."

2. Mr. Sullivan dwelt upon the effect which such denudation of the hill forests must have on the climate of the Neilgherries, on the supply of fuel, on the hill springs, streams, and rivers, and on the irrigation of Coimbatore and other districts under the Cauvery and Bhowani rivers, which rise in the Neilgherries, or are largely fed from the drainage of the hills. He urged the necessity of strict conservancy of the woods, and of re-planting those already felled.

3. Orders, in accordance with Mr. Sullivan's suggestions, were passed by Government in Extract Minutes Consultation, 5th October 1840, Revenue Department, No. 636.

4. In October 1855, when Lord Harris, with myself and the Collector of Coimbatore, Mr. E. B. Thomas, was riding down the Coonoor ghaut, His Lordship was much struck with the extent to which the forest had been felled by Coffee planters and others, and on his return to Madras, in a Minute, under date 6th November 1855, he brought the subject under the notice of his Council.

5. He wrote:—

"This," the Coonoor pass, "is a very beautiful mountain gorge, in which wood, "rock, and water are blended in very fine proportions."

"It will, when the rail-road is completed, be the chief approach to the Neil-"gherri stations from the low country." Lord Harris pointed out that the beauty of this pass was being destroyed by this indiscriminate felling of timber, that the gain to Government from the sale of the land was inconsiderable, and added that even were it greater, he was "strongly of opinion that it would be a duty to "make some sacrifice to the beautiful, and to prevent the destruction of the chief "ornament of this fine gorge."

6. He therefore proposed that the Collector should be prohibited from selling or leasing any more land within the limits of the Coonoor pass.

7. Instructions to this effect were accordingly issued in Extract Minutes Consultation, 8th November 1855, Public Department, No. 1,437.

8. The Court of Directors' Despatch, 6th August 1857, Public Department, No. 51, paragraph 15, approved this order "on the assumption that the quantity of

"reclaimable land within the Coonoor pass was not considerable, and that ground "equally well situated for coffee cultivation might be found in the neighbour- "hood, within easy reach of railway conveyance."

9. In spite, however, of the orders thus issued and approved, the clearances of wood on the Coonoor ghaut are now far in excess of what they were in 1855.

G. O., 7th February 1856, Revenue Department, No. 129.

10. In 1856, the Government on the application of Captain Campbell, Executive Engineer, then employed on the Wellington Barracks, authorized him to form a plantation of Australian Acasias and other quick-growing trees near Jackatalla. Rupees 10,000 was sanctioned for experimental plantation on the Neilgherries, to be divided in such proportions as the Board of Revenue thought fit between Captain Campbell and the Collector of the district, Mr. E. B. Thomas, who had always taken great interest in the subject.

11. Of the sum, Rupees 10,000, sanctioned by Government, Rupees 2,500 was allotted by the Board to Mr. Thomas, and the remaining Rupees 7,500 to Captain Campbell.

12. Under orders of Government, Dr. Cleghorn, Conservator of Forests, reported on Captain Campbell and Mr. Thomas' planting operations in a letter dated 10th April 1858. He stated that Captain Campbell's plantation was three and a half miles from Jackatalla, and

G. O., 3rd June 1858, Revenue Department, No. 748.

spot well chosen. The extent of land which it was intended eventually to plant, and which had been purchased from the Burghers for the purpose, was 600 acres, but up to the date of the report only eight acres had been planted, hedged, and fenced. It was expected that in the course of May 1858, or the month following that in which Dr. Cleghorn's report was written, there would be 100,000 seedlings in the plantation, exclusive of a large number in baskets. Some young Deodars were thriving, and some indigenous Cedrelaceous trees, called Kalunjoo; but the bulk of the plantation was Acasias.

13. Besides this original plantation, it was stated that in working the great Kota shola for the requirements of the barracks, Captain Campbell had planted the cleared portions with many thousands of young trees of sorts most esteemed by the Burghers, and had organized a system calculated to promote re-production to its fullest extent. Dr. Cleghorn recommended the grant to Captain Campbell of a further sum of Rupees 2,500 for his plantations, which the Government, G. O., 3rd June 1858, authorized.

14. Further reports on the Wellington plantations were furnished, under dates 15th December 1859 and 6th September 1862, and the state and progress of these plantations are noticed in the annual Reports of the Conservator of Forests for the year 1859-60 to 1865-66. The result, on the whole, does not seem very satisfactory. It might be well to have a special report on these plantations as well as those in the Kota shola, shewing what number of trees there is in them of various sorts, what quantity of land has been planted, what is the condition of the trees, and what more is wanted for the development of the plantations.

15. In the same letter Dr. Cleghorn noticed with approval Mr. Thomas' plantings, which he said, although more desultory than those of Captain Campbell had been very useful. He also advised that Mr. McIvor should be entrusted with the ornamental planting of 10,000 trees in the neighbourhood of Ootacamund, at an estimate of Rupees 1,350, and this the Government sanctioned.

16. In 1856-57 the attention of Government was called to the use of peat on the hills as a substitute for, or adjunct of, wood fuel, both for private consumption and for the supply of Public Works. On the suggestion of Captain Campbell, application was made to the Court of Directors for two Scotch turf or peat hand-presses. Two presses were accordingly sent out by the Court per the ship "Gloriana" in September 1857, but I do not trace what became of them. Mr. P. Grant, whom I have lately seen, says that he never heard of them.

To Court of Directors, 22nd January 1857, Public Works Department, No. 3.

17. Complaints of the spoliation of the woods of the Neilgherries, and of those around Ootacamund especially, continued to be made, until in 1860 the Governor (Sir. C. Trevelyan) on his visit to the station, "discussed the subject fully "with the Conservator as well as with numerous residents on the Hills." The system which was then resolved on, and which has since* been maintained, is thus described in G. O., 20th March 1860, Revenue Department, No. 425:—

* See G. O., 21st November 1860, Revenue Department, No. 2,093, rehearsing these rules and upholding them after three years' experience of their working.

First.—The whole of the sholas or woods in the neighbourhood† of the station to be absolutely reserved, not only for their beauty, but also from fear of injuring the water springs; their limits to be marked; no private cutters to be allowed inside; old trees to be felled by servants of the department and brought outside, and to be sold there by public auction. Trees to be planted, where required, in vacant spaces.

† Within a circle of three miles radius with its centre on the Jail hill.

Secondly.—Suitable woods at a distance from the station to be selected and marked out in lots of moderate size, and a number of these lots, amply sufficient for a year's supply, to be put up to auction annually. The contractor to be permitted to clear the ground entirely within his lot or lots, with the exception of such trees as may be marked by the Conservancy Department previously to the sale.

Thirdly.—The cleared lots to be planted, as required by the Conservancy Department.

Fourthly.—No private felling of any kind or for any person to be allowed in woods or on land belonging to Government.

The measures thus approved for Ootacamund were to be adopted, as far as necessary, at Coonoor.

18. Thus much for the preservation for the woods in the vicinity of the Hill stations and supply of fuel there.

19. With regard to the restrictions to be placed on the sale of wood-land to applicants for coffee, &c., cultivation, I do not find any specific instructions. I observe that Dr. Cleghorn, in a letter dated 2nd October 1857, suggests that "the high-wooded mountain tops over- hanging the low country, such as Hoolicul, should be preserved with rigid care; the

G. O., 29th October 1857, Revenue Department, No. 1,106.

forest there should not be given over to the axe, lest the supplies of water may be injured, and in order that the course of the rivulets should be overshadowed with trees, he conceived that the hills should be left clothed to the extent of about half their height from the top, leaving half the slope and all the valley below for cultivation.

20. The Government of India (letter 26th September 1862) in reference to the rules for the sale of waste lands, expressed a hope that great caution would be exercised in regard to the disposal of forest lands, and stated that, as a rule, such lands should be reserved until it can be more clearly seen than at present, what may be required from them in the interests of the general public * * * The local Governments should be very careful in regard to the further alienation of the forest lands, which will remain at the disposal of the State.

21. These instructions were approved and enforced by the Secretary of State in his despatches of 9th March and 24th April 1863. In the latter of these he wrote, paragraph 16 :— "The importance of forests, not only as yielding timber "and firewood, but as affecting the rain-fall, the climate, and the soil, and as pro- "tecting in mountainous regions the country of the plains, has been overlooked not "in India alone, but in other countries of the world. But of late years sounder "views on this point have been adopted. Humboldt very broadly stated and the "statement is now very generally accepted) that the more cultivation increases and "the forests diminish, the drier both soil and climate become." Again, paragraph "23 : In forests the wood of which is not now nor likely to be of value, the plan "suggested by the Acting Conservator, of preserving a ridge of 450 feet to attract "the rain-fall, and prevent deterioration of soil and climate, seems very judicious, "but no reason is assigned for, in all instances, limiting that to forests which are "above a certain elevation."

22. In a letter dated 2nd March 1864, Mr. P. Grant, Collector of Coimbatore, stated that it had been represented to him by the ryots of villages a few miles from the foot of the hills, that the rain-fall had decreased of late years in consequence of the forest clearings, and that in the Bolamputty valley the ryots had pointed out to him certain villages to the east to which the south-west monsoon now extends, and those villages which formerly came within its influence. There was a distance of six miles between them.

G. O., 5th April 1864, Revenue Department, No. 576.

23. The Government thereon remarked that the rules recently sanctioned for the sale of waste land give the Collector and Conservator of Forests ample power of reserving forest tracts for public reasons, and that the Government had repeatedly enjoined caution in selling such tracts, and had laid great stress on preserving trees along the margin of springs and streams and the crests of hills above a certain elevation.

24. By an Order of Government, 18th June 1862, Revenue Department, No. 1,343, the conservancy of the Neilgherry sholas was placed under the Officer in charge of the Segoor and Mudumallai forests, *i. e.*, Major Morgan.

25. In a Minute, under date 12th July 1864, Sir W. Denison proposed that the Collector of Coimbatore and Conservator of Forests should be directed to mark down in a map, which he forwarded, such portions of land or forest which was either already occupied, or which it was proposed to reserve for any special public purpose, all portions not so marked being available to applicants. The map in question was so marked accordingly, but was on so small a scale as to be of no use. A large map is under preparation, but I do not anticipate that it will be of much value. In sending up the small map, Mr. P. Grant shewed that really there were but very few sholas east of the Khoondahs which the Government ought not to reserve to themselves.

26. In the above paragraphs I have given a precis, although in somewhat of a desultory fashion, of the principal correspondence on record touching the woods on the Neilgherries, the measures proper for their conservancy and re-production, for the protection of the hill streams, and for the supply of fuel. I would now offer some suggestions as to the course to be followed for the attainment of these objects in future. *Imprimis*, with respect to the granting of woodland on the plateau of the hills for the Chinchona or other products, I do not see that any fixed rule can be laid down. The present rule, whereby woods within three miles around Ootacamund are to be strictly conserved, should be rigorously maintained, as should that for leaving belts of wood on both sides of springs and streams, as also that of leaving ridges of wood on the summit of the hills; but beyond this I can only propose that each case should be specially reported to Government, and disposed of by them on its particular merits. I would then suggest that on every occasion on which application may be made to the Collector of Coimbatore under the Waste Land Rules for forest land, or land partly forest on the Neilgherries, the Collector, before proceeding to advertise the land in the usual manner for auction sale, shall make a special report to Government, through the Board of Revenue, sending up a plan of the ground and of the surrounding locality, and stating whether, in his opinion, the land should be disposed of. By this means only do I conceive can the reckless felling of forests on the hills be thoroughly checked. Such procedure too will no doubt be satisfactory to the Collector, as it will tend to relieve him from the pressure put upon him by applicants for land, to which it may be feared he now sometimes yields, and to support him in what is now somewhat an invidious duty.

27. So much for woods on the table land of the Neilgherries. Of the ghauts there is but one to which I need allude, viz., the Coonoor ghaut. All who have traversed this beautiful pass must, I think, have shared the regret expressed by Lord Harris in his Minute from which I have quoted, at the havoc made in its scenery, but now much worse than in his day. Since the completion of the railway it is almost the only approach to the Hills, the assumption on which the Court of Directors approved of further sales of land being prohibited has certainly now been verified. The sacrifice of the beautiful spoken of by Lord Harris may now, I think, fairly be made, and the further destruction of the forests clothing this fine gorge be averted. This can only be done effectually by absolutely prohibiting the Collector from receiving any applications for wood-land on either side of the ghaut, or in view from the new or old road, and reserving it wholly to Government. Orders to this effect I would propose to issue at once.

Supra, paragraph 5.

Supra, paragraph 8.

28. With the preservation of those woods which remain should be conjoined the renewal, as far as possible, of those which have been felled. It has always pro-

fessedly been made a condition of wood being cut in the forests on the hills still belonging to Government as in those leased for the supply of firewood to Ootacamund, that the felling should be immediately followed up by planting, but this condition has as yet been very imperfectly performed. I would propose that, for the future, it be rigidly exacted, that a report be at once called for on the state of the clearings above adverted to and on the measures to be taken for their renewal. Beyond these renewals, and such plantations as those made by Captain Campbell near Coonoor, those near the Lawrence Asylum and the like, the care of Government need not extend. All planting besides this may be properly left to private enterprize. Besides planting Acacias and other Australian trees, some attempt might be made to raise trees of the species indigenous to the hills, as also to introduce foreign trees from other countries besides New South Wales. There are already Oak trees in some of the Ootacamund gardens and plantations. I see not why the Beech and Ash and other English trees should not be tried, that is in the re-planting of the felled sholas. In the Government gardens the Walnut, Spanish Chesnut, and other fruit trees might be found to thrive.

Supra, paragraph 17.

Supra, paragraphs 10—12.

29. Closely connected with the question of wood-fuel on the hills is that of peat, which under proper management might so largely take its place. I would suggest that the bogs and swamps yielding peat, which still belong to Government, be put under the same strict conservancy as the hill forests, and that none be sold without the special permission of Government. It may be well to have an early report on these bogs, their situation, extent, and measures proper to be adopted for their due preservation and working. It need hardly be remarked that these swamps are further valuable for their water springs. I believe that there is no doubt that the draining of these swamps near Ootacamund for potatoe cultivation has in no small degree affected the water-supply of the station.

Supra, paragraph 22.

30. As I have above noticed, the conservancy of the Neilgherry sholas has been confided to the Assistant Conservator, Major Morgan. Besides these he has not only charge of the Segoor and Mudumallai forests, but, as Mr. P. Grant informs me, the Collegal Sandal-wood plantations also. This must be too extensive a field of work for any one individual. He should certainly be relieved of the Collegal, if not of the Mudumallai forests, and should be required to exercise a close supervision over the Neilgherry woods, their conservancy and renewal, as well as of the peat bogs, than he has hitherto done. The responsibility for this charge should be laid directly upon him, of course under the general control of the Conservator. Major Morgan, I understand, is an intelligent man and of active habits, and well suited for the duty. It may be objected that Major Morgan has himself extensive plantations near Ootacamund, which render his personal interests somewhat conflicting with the duty here proposed to be assigned him. For this the remedy would be to require him, within a stated time, to divest himself of his lands on the Hills, and, on his failure, to remove him to some other range, and employ for the Neilgherries another totally disinterested officer.

(Signed) T. PYCROFT.

Proceedings of the Madras Government, Revenue Department,
30th January 1868.

No. 526. MINUTE BY HIS EXCELLENCY THE PRESIDENT.

1. The Minute communicated by Sir Thomas Pycroft contains an interesting abstract of the measures embraced by this Government for the preservation of the primitive forests of the Neilgherry mountains, as well as valuable suggestions for the prosecution of this useful design.

2. The remarks offered by Sir Thomas Pycroft may be considered with reference (1) to the preservation of the forest in the Coonoor pass; and (2) to the preservation of the "sholas," or scattered copsewoods, on the Neilgherry plateau.

3. In regard to the Coonoor gorge or pass, I cannot go with my predecessor, Lord Harris, or with my colleague, quite so far as to affirm that the forest with which the mountains are clothed on either side of the romantic glen which ascends from the plain to Coonoor should be preserved merely or chiefly in the interest of "the beautiful." If the Coonoor valley was a fertile and healthy tract, extensively available throughout its area for coffee plantations, and if the denudation of the slopes connected with that culture did not involve any serious danger to the water-supply of the region below, I would not justify the exclusion of the planter and the maintenance of the forest, because the latter offers a charming ornament to a road by which the sanitarium of Southern India is usually attained. The bungalows of planters and their trim and fruitful plantations are not repugnant objects; on the contrary, it seems to me that the Tea and Coffee gardens offer an agreeable prospect, and that there is a sort of moral satisfaction in the spectacle of useful labor and profitable crops which may vie with the attractions of a picturesque landscape. I might also contend that a Government has more to do with the former pleasure than the latter. I would like to see the Coonoor gorge cultivated from one end to the other with coffee, and studded with planters' cottages, if that could be done with benefit to the planters and the native population, and I do not think that Government would be justified in refusing any ground to labor *only* for the sake of beauty. I am, however, prepared to join my colleague in declining any future grants of land on the gorge on the ground that the recent clearings could not be extended without some alteration of the water discharge, which might be prejudicial to the general interests of the adjacent country. The sides of the valley are very precipitous and rocky, the soil appears to be thin and light. If all the trees were felled, the rain would run off the declivity with great rapidity, and carry a quantity of earth to the valley below. The gradual and measured distribution of the rain-fall would be impaired. There would be furious floods of brief duration succeeded by periods of absolute drought. The springs which now trickle through the verdure for the greater part of the year would disappear, nor would there be a commensurate compensation for these pernicious changes in the extension of culture. The gorge is notoriously and fatally unhealthy in its lower parts. The portions above which are comparatively salubrious, are already opened and cultivated. I think that the planter has had a fair share of the Coonoor gorge; he has got as much as he can safely and beneficially use. What remains may be left untouched in the general interest. I therefore concur in the proposal of Sir T. Pycroft, that the Collector of Coimbatore be instructed not to entertain any further applications for grants of land on either side of the Coonoor gorge,

basing the order on the necessity which exists for preserving the forest in the interest of the water-supply.

4. With reference to the preservation of the copsewoods on the plateau of the Neilgherries, I also agree with Sir T. Pycroft that the orders now in force for the preservation of the woods within a certain radius around Ootacamund should be carried into effect, both for the amenity of a place not merely traversed but constantly inhabited by our countrymen, as well as for the shelter of the water sources so necessary for the welfare of the station. Beyond this protected circle, I think that no Government woods should be felled on account of Government without re-planting, and that none should be alienated without special permission and strict provisions for the preservation of woods and morasses adapted to the exigencies of each particular case.

5. Sir Thomas Pycroft has justly stipulated for the preservation of the bogs in the hill tracts. Perhaps the maintenance of these swamps is even more essential than the protection of some of the patches of wood-land on the sides of the hills. The slopes of the hills *on the plateau* are usually gentle and grassy; when denuded of wood the ground still remains clothed with coarse sward and strong shrubs; water does not run off that kind of surface with much violence, nor is evaporation very rapid. We must not forget that trees themselves are powerful consumers of moisture, and that they evaporate largely. There are no doubt some situations in which the destruction of timber might not be prejudicial to the rain-fall or the water-supply at all. The example of Scotland proves that naked mountain ranges attract or intercept the clouds, and that woodless regions received abundant supplies of rain, and let that rain off gently and regularly as long as drainage was not applied; for those tracts were furnished with capacious bogs, which were so many preservers of water and moderators of its discharge. The Scotch have wisely drained their bogs, for their chief object was to get rid of the water as fast as possible, even at the risk of some inconveniences which attend its precipitate flow; but in India the chief object is the retention and deliberate evacuation of the water. To drain the bogs in the mountain ranges here would be a fatal error at least before Government has provided artificial reservoirs for the retention and storage of water. I believe also that the morasses of the Neilgherries are useful to the pastoral tribes for the sustenance of their buffaloes, which are the principal live stock of the region. The bogs belonging to Government, or under its control, should be placed on the same footing as the "sholas." I do not think that we need trouble ourselves about the peat-compressing machines; they have proved elsewhere to be an abortive contrivance.

6. Several minor suggestions in Sir Thomas Pycroft's Minute have my entire concurrence.

(1.) A specific report should be furnished respecting the extent of the Government plantations of forest trees at the Wellington and Kota Sholas, as well as on the condition and prospects of those plantations.

(2.) An accurate account should be given of the clearings made of late years for firewood, with the view of re-planting those places without further delay.

Proceedings of the Madras Government, Revenue Department,
30th January 1868.

(3.) Experiments ought to be made with a view to the introduction of various European timber trees and of the Mahogany tree, which flourishes admirably in the north of India.

(4.) The Assistant Conservator of Forests in the Neilgherries ought to be liberally relieved of those parts of his duty which, in the opinion of Dr. Cleghorn, interfere with the complete and efficient exercise of his functions on the plateau.

(5.) Major Morgan should be instructed to dispose of his farm and woods on the Neilgherries, or be removed to another district where his interests and pursuits will not be in conflict with his official duties. I come to this resolution with a feeling of reluctance, which Sir Thomas Pycroft seems to share, but I do not see how we can justly refrain from imposing on Major Morgan the rule which we apply to others with great severity.

(Signed) NAPIER.

No. 527. MINUTE BY THE HONORABLE H. D. PHILLIPS, dated 26th April 1867.

1. In 1833, I first traversed the Coonoor ghaut several times on horse-back. I also passed through it twice in 1841-42, and twice again in the middle of 1862. On the last occasion I could not but regret the extensive damage done by the planter's axe to the beautifully picturesque scenery of the mountain sides. As an old Revenue Officer, I might have been content to pass this over, had I felt that by freely transferring the wooded slopes to Coffee planters and others, a goodly amount of revenue had been realized for the benefit of the State. But the case is the reverse, as I understand, the revenue return being insignificant; I, therefore, have no difficulty in agreeing to the proposal made in paragraph 27 of Sir T. Pycroft's Minute. I also agree in respect of the arrangements to be adopted (paragraph 26) in regard to the disposal of future applications for woods and swamps, as well as those in respect of procuring information as to the extent to which re-planting has proceeded.

2. It is obvious that this latter measure must be attended with serious difficulties, and that success in the enforcement of a condition to re-plant can be secured only by the most unremitting and zealous discharge of their duties by officers belonging to the Forest Conservancy Department, to whom, and to whom alone, the Government must look for assistance. But at the very best, I doubt whether much will be done by private individuals on land which they have cleared.

3. In regard to Major Morgan's position, there can be little or no doubt that he has a very wide charge and much to do. If that much has been carefully done, or grossly neglected, a reason may perhaps be found in his having had to look after his own personal interests and concerns near Ootty. Applying, then, the general rule which we rigidly enforce in other departments, I am quite of opinion that Major Morgan should be required at once to divest himself of his landed property on the Hills under penalty of removal from the Forest Department.

(Signed) H. D. PHILLIPS.

No. 528. From the Conservator of Forests, to the Secretary to Government, Revenue Department, Fort St. George, dated Madras, 26th October 1867, No. 350.

1. Having received from you, demi-officially, the Minutes of His Excellency the Governor and the Members of Council relating to the future management of the Neilgherry woods, I now submit my views, as requested, on the whole question, with a report on the Australian and other plantations. The Honorable Sir T. Pycroft in his Minute has traced the history of Government legislation regarding these hill forests in the order of time so fully and exactly that any preamble is unnecessary.

AUSTRALIAN PLANTATION.

2. AREA OF LAND PLANTED.—When the plantation was made over by Major Campbell in 1859, only eight acres were planted, in the following three years about 100 acres, or 33 acres a year, in the last five years about 40 acres or eight acres a year. The quantity of land now planted is about 150 acres in all.

3. SPECIES OF TREES PLANTED.—About 3,000 of *Encalyptus globulus* have been planted (of these 500 were laid down eight years ago, and 2,500 within the last two years). The principal species forming the bulk of the plantation are *Acacia dealbata* and *A. Melanoxylon* in about equal proportions. There are a comparatively small number of other Australian trees, *Acacia lophantha, Casuarina quadrivalvis* (she-Oak), *Hakea*, &c., and of Himalayan Conifers as *Cupressus torulosa* and *Pinus longifolia*.

4. SIZE OF TREES.—The size at different ages varies with the soil, some of the *A. Melanoxylon** trees first planted are more than fourteen inches in diameter at four feet from the ground, and the average yield of this portion is about 180 bandy-loads per acre, or 300 Rupees in value. The growth of the trees is generally satisfacory, as shewn by the table of measurements (Appendix A.) made by Mr. E. Hall, formerly of the Forest Department, who had charge of the plantation from the beginning till 25th March 1864. The height of the trees is in good proportion to the girth, and the measurements shew the average dimensions of six of each species divided into three classes respectively. There are many individual trees far exceeding the average given both in height and girth.

* At Kotah Hall there is a row of this tree, of which several are 7 feet in girth at 4 feet from the ground.

5. Since my inspections in 1860 and 1865, the trees generally have made good progress, and afford evidence of future value, though they have had little or no culture or pruning, the Overseer having lived at Wellington, four miles distant, and being charged with other duties.

6. Of the Acaciæ planted in 1857, about one-third have been thinned out, the poles have been sold at sums varying from 1 to 4 Annas each, a few of the largest fetched one rupee. The plantation of 1858-59 was well cleared, pruned, and thinned under my own eye in July last, but it will soon require more thinning. I consider that the whole plantation should be carefully gone over every year, and a portion systematically thinned out, the operation will re-pay the expense and leave a small balance. The boundaries should be carefully examined, and all path-ways of cattle shut up. The amount of damage from trespass and mischief this year has been very considerable. Along the edge of the plantation in one spot, eight of the

largest trees had been barked round, apparently by some adjoining potatoe cultivators, who use the bark to tie up the mouths of their sacks, bundles of wood, or cart-load of produce. The fallen timber and strips of bark are permitted to be removed on payment of 6 pies per head load. A good number of coolies come from Wellington daily for this purpose, the loads are examined on leaving to see if they have stripped any trees for rope. The plantations have been successful in raising a large stock of fuel (*A. dealbata*), and prospective material for house building and furniture (*A. Melanoxylon, E. globulus*); the following are the most important trees.

7. *Tasmanian Blue Gum.—Encalyptus globulus* (3,000). The rapidity of growth is astonishing, the timber is reported by Dr. Mueller, of Melbourne, to be excellent and eligible when a hard heavy wood is needed. Several other Encalypti are growing in the plantation.

Encalyptus obliquus.—"Stringy bark" tree. There are only a few of this species, the wood splits easily, and is useful for fencing purposes and shingles. The bark furnishes material for coarse paper. *E. rostrata* (Schl.), *E. acuminata* (Hook.), A tall tree with pendulous branches, identical with "Yarra or Jarra" of Sir T. Mitchell, and with the Red Gum tree of South Australian Colonists; is well known for its durability, and being capable of receiving a beautiful polish (Dr. Mueller in *Jour. Lin. Soc.* ii, page 144).

Acacia Melanoxylon—Is more slow in growth than the two following species, but in rich soil attains an immense size, sometimes 150 feet in height. Dr. Mueller has sent planks 4 feet broad to the Paris Exhibition. There is reason to believe that this will become a building and furniture wood of great value on the Hills.

Acacia dealbata—Has a tendency everywhere to overtop the *Acacia Melanoxylon*. The two species should not be planted together, or if so planted, the *A. dealbata* should be cut down before it injures its congener. The gum and bark* are useful. It is a tree of very rapid growth, and very hardy for fuel purposes; it is desirable as a *permanent* acquisition, and should be felled as coppice; but in gardens the extraordinary number of suckers is a nuisance. To test the production per acre, one-ninth acre planted in 1859 was felled in July last, and the lots counted = 180 bandy-loads per acre.

* NOTE.—I sent 80 lbs. of fresh bark of *Acacia dealbata* in July to the Tannery at the Horse Artillery line, Bangalore; but sufficient time has not elapsed for a reliable opinion on the qualities of the leather tanned by it.

Acacia lophantha.—An early bearing plant, which in three years yields a full harvest of seeds; it dies in seven or eight years. It is useful as a fence, and is not affected by drought; it is only fit for firewood, but the bark is useful for tanning.—See Mr. Broughton's very interesting and satisfactory Memorandum on the barks of the Australian trees grown on the Neilgherry Hills (Appendix B).

8. COST OF PLANTATION.—The total cost of the plantation from the beginning, including charges for planting and the sum paid to the Badagars for grazing rights, amounts to Rupees 15,179-1-8† up to 31st March 1867, but exclusive of Overseer Hall's salary who had other duties to attend to.

† The discrepancy between the figures of Rupees 15,179 and that of Rupees 10,762, in paragraph 5, is due to the inclusion in the former of the preliminary charges incurred by the Executive Engineer, Wellington Barracks, who had the charge up to 1860-61.

AUSTRALIAN PLANTATIONS.

	Receipts.			Charges.			
	RS.	A.	P.	RS.	A.	P.	
1861-62	...	...	...	1,473	6	0	
1862-63	82	10	0	1,638	10	11	
1863-64	154	4	0	2,258	10	9	
1864-65	779	14	0	1,582	15	5	
1865-66	564	8	0	2,168	5	3	
1866-67	513	12	0	1,640	0	0	Excess of expenditure = 8,667-0-4.
Total ..	2,095	0	0	10,762†	0	4	

9. PROSPECTIVE PLANTING.—It is desirable to continue planting about eight acres a year, for a considerable length of time. If all the ground (400 acres) were planted, the cost would be 32,000 Rupees, or 80 Rupees an acre. On this plantation the future supply of the barracks depends, as well as Coonoor in a measure, whose population is steadily increasing. It seems to me that the Overseer should live on the plantation as formerly, and not at the barracks; the nursery would then be under his eye, and the opportunity of trespass would be diminished. On this account, and because Mr. Hall had all the labor and anxiety of conducting the preliminary operations, I recommend that the charge should be again made over to him. He has expressed himself as ready to undertake the duty on the same salary as before 80 + 15=95 Rupees *per mensem*. In this proposal Major Morgan concurs, and, if approved by Government, I am sure Mr. Hall will faithfully and skilfully discharge his duty. His dwelling house adjoins the plantation, and he has two acres of land, which may be considered mere garden cultivation.

10. SURVEY SKETCH.—A survey of this plantation has been executed by the Revenue party now on the Hills; the tracing will shew that several grants of land have been made within the triangular area originally assigned for the plantation. As the roads were made entirely from Forest funds, and the Badagars received compensation out of the original grant, this is hardly fair to the Forest Department, and I earnestly trust that no further grants may be made without special sanction of Government. The compactness of the plantation and the facilities for supervision and enclosure are considerably affected by what has been done.

11. NURSERY SOWINGS.—The seeds, as below, were sown in the nursery in July 1867, and I may add that the recent planting is creditable to Mr. Overseer Newman:—

Acacia dealbata.
" Melanoxylon.
" binata.
" salicina.
Encalyptus obliqua *(Stringy bark)*.
" Sturtiana.
" Viminalis.
" Sideroxylon.
" Pycnantha.
Acer *(Himalayan Maple)*.
Rhus *(Himalayan)*.
Abies Webbiana *(Himalayan)*.
Pinus excelsa *(Himalaya)*.
Pittosporum undulatum.
Casuarina quadrivalvis.
" leptoclada.

The following seeds were received through the kindness of the Honorable the Secretary for Public Lands, Queensland:—

Arancaria Bidwillii.
Arancaria Cunninghanii.
Grevillea Robusta.
" MacLeyana.
Macadamia ternifolia.
Ficus Macrophyllus.
Cedrela Australis.
Eleocarpus Grandis.

12. AUSTRALIAN SEEDS DISTRIBUTED FROM THE PLANTATION.—During the past year, packets of the seeds of the introduced *Acaciæ* have been distributed to various places in Southern India, as the Pulneys and the Peermade Garden, Travancore, and likewise to the fuel preserves in the Punjab, the Pachmarree Hills, Central Provinces, and to the Superintendent of the Kumaon Iron Works, Nynee Tal, North-West Provinces.

13. TREES FOR PLANTING.—Some of the trees most worthy of cultivation on the Neilgherries are the following:—

Name.	Native country.	Remarks.
Casuarina quadrivalvis ...	Australia. ...	Yield useful timber.
Cupressus torulosa ...	Himalaya. ...	Thrive well on these hills.
" funebris ...	China. ...	
" Sempervireus ...	Do. ...	
Frenela triquetra ...	... ...	A bush.
Dacryduim cupressinum ...	Australia. ...	
Cryptomeria Japonica ...	Japan. ...	
Platanus Orientalis ...	Kashmir. ...	Would probably prove hardy, and be a useful addition.
Juglaus regia	Himalaya. ...	Grows fairly and fruits well, and promises to be an important introduction.
Castanea vulgaris ..	Spain. ...	Grows fairly.

Major Morgan has raised Elm and Ash, and the Kashmir cherry is growing well at the Government Gardens from seeds sent by me. It may be predicted that such fruit trees as require a long winter will not thrive on the Neilgherries.

14. A few of the trees mentioned above would yield useful timber, and the others would supplement the supply of fuel, and some might be useful for the distillation of tar and other resinous products. The more extensive introduction of Coniferæ would have a pleasing effect, and is a great desideratum. Of the Himalayan Conifers, the *Cupressus torulosa* and the var. *Kashmirina* seeds of which were sent down by me thrive the best. The Deodar and lofty pine *(Pinus exelsa)* do not generally look well; the climate is not sufficiently cold. They grow at the same elevation in the Himalaya, but from the difference of latitude a higher elevation is required in Southern India. Their natural habitat is in the neighbourhood of the snow line.

The Arancarias are fine trees, and well worthy of extensive introduction.

The *Encalyptus globulus and E. Mahagoni* are the most valuable trees from Australia. There is a magnificent specimen of the former at Goton Park measuring 11½ feet in girth at 6 feet from the ground, and there are several fine specimens at the Government Garden and at Coonoor.

15. Coonoor Ghaut.—In the Coonoor ghaut there may be said to be very little forest land remaining suited for coffee cultivation. The clearances are now far in excess of what they were in 1855, and are due, first, to the gradual extension of this industry, and, second, to the formation of the new Coonoor ghaut, in the alignment of which it was found necessary to give compensation by *excambion* to the owners of several estates. It is particularly desirable to preserve the wood above the ghaut, as the risk of land slips is considerable. One heavy mass fell this year near the Dolphin's nose, causing temporary obstruction of the Kalar stream.

16. *Sholas sold and re-planted.*—The following clearings near Ootacamund were made within the last five years for firewood, under this department. In 1862 two sholas, one 40 acres and the other 25 = 65 acres were sold to a contractor. The smaller shola was at once re-planted with *Acacia dealbata*. Major Morgan informs me that it was not considered advisable to re-plant the larger shola on account of the difficulty of access and the distance from Ootacamund.

In 1863 a shola of thirty acres was sold to a contractor, and next year was re-planted with—

Acacia dealbata,
" *Melanoxylon*,
Encalyptus globulus.

In 1864 and 1865 about 150 acres of the Governor's shola were felled for fuel, and ten acres re-planted with *Acacia dealbata*, the remainder is being restored by annual increments of ten or twelve acres up to date.

In 1865-66 a shola of about thirty acres on the road to Malleemund was felled: the whole of the ground has been planted up with *Encalyptus globulus*, to the amount of 30,000 promising trees, close to Ootacamund.

17. It is proposed to complete the planting of the Governor's shola with fast growing firewood trees, but with one Overseer it is not possible to supervise three plantations, to arrange the supply of fuel for the Lawrence Asylum from the remaining portion of Devi shola, and to control the removal of wood from the numerous sholas round Ootacamund.

It therefore seems advisable to have two Overseers at Ootacamund as formerly, one on 80 Rupees and one on 60 Rupees with horse allowance, to exercise a proper control over the Peons, to check clandestine felling, and to pay due attention to planting.

Note.—The receipts and expenditure of the last three years are as follows:—

	Receipts.	Charges.
1864-65...	4,984	3,812
1865-66...	3,901	5,965
1866-67...	4,321	4,500
	13,206	14,277
		13,206
Excess of expenditure over receipts.....		1,071

This arrangement has been provided for in the Budget 1868-69. I propose that Mr. Hall should revert to Wellington plantation and the Coonoor ghaut, and Mr. Newman to be Head Overseer at Ootacamund. Mr. Taylor remains as at present. All three are men of experience. We cannot expect altogether to cover the outlay, but the object to be attained seems to warrant a *small* excess of expenditure.

Proceedings of the Madras Government, Revenue Department,
30th January 1868.

No sholas have been felled under orders from this department for nearly two years, the community having been supplied with fuel either from private plantations or from the clearing of several large sholas given up for Tea and Chinchona planting on Dodabetta and beyond the Lawrence Asylum.

18. The Orders of Government in regard to the supply of firewood at Hill stations, dated 21st November 1863, No. 2,093, and 12th October 1866, No. 2,776, leave little to be desired, and I have no suggestion to offer except to recommend a steady adherence to the principles therein advocated.

19 *Major Morgan.*—The position of Major Morgan in the department, and the remarks of the Members of Government on the subject, have received my careful consideration. I would suggest that he be relieved at once of the charge of the woods on the plateau, and his jurisdiction confined to the valley below, including Sigur, Mudumallay, &c., which is still a very wide range. I may be allowed to remark that he has done excellent service for ten years, and that he possessed the land prior to his entering the Forest Department. The periodical returns and general control might be given, as proposed, to the Special Assistant Collector, who would countersign the monthly abstracts, but in all technical matters, the Conservator would issue special instructions, and be responsible for the progress of planting and conservancy.

20. In conclusion, I may observe that the forests which have passed into private hands will always be managed by the proprietor as suits his pecuniary interest; every settler regards it as his right to do what he pleases with his own, and in almost every case the original forest disappears to be followed by fruit trees or garden cultivation. It is true that the new products, to a certain extent, clothe the surface of the ground, and the terracing and scarping of the hill-side in a measure checks the rapid drainage of rain-water, and gives it time to sink instead of flowing off the ground, but I presume there is no one who will deny that the utility of the primeval forest in conserving water is very much greater.

21. It becomes the duty of the State to reserve absolutely certain tracts not to be alienated. These should be shewn in the Survey Map, now under construction, the completion of this might be expedited, and then the details rigidly adhered to.

22. The rules laid down for grants of coffee land were carefully drawn up, and have been adopted in other Provinces. In the Order of Government, No. 1,086, dated 5th August 1858, the denudation of the higher ridges and slopes of hills was absolutely prohibited (paragraph 22). This was done on my strong recommendation, and it is to be regretted that tacitly sanction has been accorded to a measure of a less comprehensive character and less certain efficacy. The beneficial action of forests is by retaining the rain-water, and regulating the superficial and subterranean drainage, and I fear that sometimes a very narrow belt has been left along the ridges. Some of the species of Chinchona are forest trees it is true, but when cultivated on a large scale for the sake of the bark, they will not be allowed to attain a large size, but be treated more or less as coppice-wood. Be this as it may, the mountain ridges ought not to be denuded under any circumstances. It is fortunate that Coffee grows at a lower elevation, and that Tea and Chinchona grow well on grass land with skilful culture.

A.

AUSTRALIAN PLANTATION.

Return shewing the average growth of trees planted in the years 1857, 1858, and 1859.—First class nearly the largest trees, second medium, and third class nearly the smallest, of the above years planting :—

Year planted.	Name of tree and number of class	No. according to class.	Circumference at four feet from the ground.		Average circumference of six trees of each class.		Approximate height of each tree.	Average height.	Remarks.
			Feet.	Inches.	Feet.	Inches.	Feet.	Feet.	
1857	Acacia Melanoxylon.	1	3	9	3	2	50	47	
		2	3	4			50		
	1st Class.	3	3	3			50		
		4	3	2			47		
		5	2	10			45		
		6	2	10			45		
	2nd Class.	1	2	8	2	7	70	67	
		2	2	8			70		
		3	2	8			70		
		4	2	7			70		
		5	2	7			65		
		6	2	6			70		
	3rd Class.	1	2	0	1	11⅔	65	60	
		2	2	0			65		
		3	2	0			65		
		4	2	0			60		
		5	1	11			55		
		6	1	11			55		
1858	1st Class.	1	2	8	2	3⅓	45	42	
		2	2	8			45		
		3	2	6			45		
		4	2	6			40		
		5	2	5			40		
		6	2	5			35		
	2nd Class.	1	2	5	2	3	40	40	
		2	2	5			40		
		3	2	4			40		
		4	2	3			40		
		5	2	1			40		
		6	2	0			40		
	3rd Class.	1	1	11	1	8⅓	35	35	
		2	1	11			35		
		3	1	9			35		
		4	1	7			35		
		5	1	6			35		
		6	1	6			35		
1859	1st Class.	1	2	9	2	7½	60	57½	
		2	2	9			60		
		3	2	9			60		
		4	2	6			60		
		5	2	6			55		
		6	2	6			55		
	2nd Class.	1	2	4	2	2⅔	55	51⅔	
		2	2	4			55		
		3	2	3			55		
		4	2	3			50		
		5	2	1			50		
		6	2	1			50		
	3rd Class.	1	1	9	1	7⅔	50	40	
		2	1	9			40		
		3	1	8			40		
		4	1	7			40		
		5	1	7			40		
		6	1	6			40		

A.

AUSTRALIAN PLANTATION.—*(Continued.)*

Year planted.	Name of tree and number of class.	No. according to class.	Circumference at four feet from the ground.		Average circumference of six trees of each class.		Approximate height of each tree.	Average height.	Remarks.
			Feet.	Inches.	Feet.	Inches.	Feet.	Feet.	
1859&1860	Encalyptus globulus 1st Class.	1	5	1	4	1⅔	40	41½	
		2	4	6			40		
		3	4	2			45		
		4	3	9			40		
		5	3	8			43		
		6	3	8			41		
	2nd Class.	1	2	4	3	2⅔	50	50⅚	
		2	2	4			55		
		3	2	3			50		
		4	2	3			50		
		5	2	1			50		
		6	2	1			50		
	3rd Class.	1	2	8	2	4⅔	50	50	
		2	2	8			50		
		3	2	6			50		
		4	2	6			50		
		5	2	0			50		
		6	2	0			50		
1858	Pinus Longifolia, only one class.*	1	1	9	1	5½	24	17⅔	* There are 20 pines, and I only measured 6.
		2	1	9			24		
		3	1	8			20		
		4	1	7			14		
		5	1	4			14		
		6	0	10			10		

WELLINGTON AUSTRALIAN PLANTATION,
2nd August 1867.

B.

MEMORANDUM ON THE BARK OF THE AUSTRALIAN TREES GROWN ON THE NEILGHERRY HILLS.

1. The following chemical examination of the barks of the Australian Acaciæ, with reference to their use as tanning agents, was made at the instance of Dr. Cleghorn.

2. The aqueous infusions of the barks of *A. lophantha*, *A. dealbata*, and *A. Melanoxylon* agree in possessing a sweetish astringent taste, produce a greyish-black precipitate with solution of a per salt of iron, and a bulky precipitate with a solution of gelatin. The alkaline infusion rapidly absorbs oxygen from the air, and becomes colored dark brown. These are re-actions which characterize the presence of the tanning principle.

3. Determinations of the amount of tannin present gave the following results, expressing per-centages of that substance in dry bark :—

Acacia lophantha	15·7
,, *dealbata*	14·8
,, *Melanoxylon*	10·0

4. The per-centage of weight which the fresh barks lost on drying were—

In *A. lophantha*	53·0 per cent.
,, *A. dealbata*	52·9 ,,
,, *A. Melanoxylon*	49·1 ,,

5. For the purpose of forming a comparative estimate of the value of these barks, based on the amo unt of tannin they contain, the per-centage of that substance yielded by the ordinary tanning m aterials may be conveniently adduced :—

Name of material.	Tannin per cent.
Oak bark	6·0
Do. inner layers	16·0
Spanish Chestnut bark	4·4
Elm bark	2·7
Sumach...	16·2
Gambir	36·0
Bombay Catechu	54·5
Bengal do.	48·5

It therefore appears that the barks of our Neilgherry grown Acaciæ at least equal the barks employed by European tanners in the amount of astringent principle which they contain. I feel therefore justified in anticipating that their employment in this country for the manufacture of leather would be attended with success. The tannin of these barks greatly resembles that of Catechu prepared from the *Acacia Catechu* ; indeed, some dried extract of the bark which I prepared, presented considerable resemblance to the latter substance in appearance and properties. Whether such a dried extract could substitute Catechu for medicinal purposes, and for use in calico printing, I am not prepared to say. By the use of an infusion of the bark of *A. Mollissima*, I have been able to tan some strips of thin skin in the course of a few days. The tannin of the Acaciæ is unfit for the preparation of pyrogallic acid.

6. Since tannin is soluble in water, it is obvious that, like Oak, Acacia trees should only be barked in dry weather. The inner layers being the richest in tannin it might be found convenient to detach the outer bark in order to diminish cost of carriage.

7. For many years past Australian Acacia bark has been imported into England in considerable quantities. Of this a large part has been the produce of *A. Mollissima* and *Mesoxylon*. The price is, I believe, from £ 8-10-0 to £ 9-10-0 per ton.

8. Acacia bark, like Catechu, produces leather of a reddish color, a circumstance which is considered an objection, since it differs from the color obtained when Oak bark is employed.

9. The *Encalyptus globulus* produces a gum-resin in considerable quantities, which greatly resembles Kino in its properties. I found it to yield no less than forty-three per cent. of tannin. The Kino from *Pterocarpus marsupium* yields seventy-five per cent., and is worth 40 to 60 Rupees per cwt. in Malabar, and sells for 5*s*. 6*d*. per lb. in England. It is used in medicine as an astringent. It is mentioned by Pereira that the Australian Kino obtained from *Encalyptus resinifera* has been employed in medicine. It therefore appears probable that the very similar product of *E. globulus* would also be found of medicinal value.

10. I am indebted to the kindness of Mr. Batcock, Acting Superintendent of the Government Botanical Gardens, Ootacamund, for suitable samples of the barks and gum of which I have spoken.

(Signed) J. BROUGHTON,

No. 529. ORDER THEREON, 30th January 1868, No. 259.

Forests, No. 19.

1. The Government gather from Dr. Cleghorn's report that the extent of land planted with Australian trees near Wellington is now 150 acres in all ; that the total cost from first to last, including compensation for grazing right, has amounted to Rupees 15,179 ; and that the progress of the trees has been very satisfactory although they have not received all the attention that could be desired.

2. The Memorandum by Mr. Broughton on the tanning properties of the Acacias assigns a considerable value to the barks, and many of the species are likely to prove of value for building and furniture timber, as well as for fuel.

3. These results must be accepted as satisfactory, and the Government approve Dr. Cleghorn's proposal to extend the plantation, at the rate of some eight acres a year, for some time to come, and desire that the Collector will understand that any further grants to private individuals within the triangular area originally allotted for the plantation, without the special sanction of Government in each case, are absolutely prohibited.

4. The Government desire that the Acting Conservator will give his best attention to the recommendations made by Dr. Cleghorn for the extended introduction of the more valuable classes of trees which have succeeded on the Hills, and especially of the Conifers and Arancarias.

5. The Government are glad to learn that for nearly two years past it has not been necessary for the Forest Department to fell any sholas to meet the local demand for fuel. They attach great importance to the speedy re-planting of those which have been already or may hereafter be felled, and they desire that no effort be spared to expedite the completion of this work in the former case, in which considerable progress seems to have been already made, and that constant attention be given to this point in the case of future clearings.

6. The Collector of Coimbatore will understand that in every case in which application is made to him for forest land or land partly forest on the Nilgiris, he is to make a special report to Government, through the Board of Revenue, sending a sketch of the ground and of the neighbouring locality, and stating whether, in his opinion, the land may without objection be made over to the applicant, and await orders on the report before taking any steps for the disposal of the land. The Collector is absolutely prohibited from entertaining any further applications for wood lands on either side of the Coonoor ghaut, or in view from the new or old road. The whole is to be reserved to Government.

7. The existing rules for the strict conservancy of all Government woods within a radius of three miles round Ootacamund, for preserving belts of wood on both sides of springs and streams, and for leaving ridges of wood on all hill tops, when the sides are cleared, are to be rigorously maintained.

8. The Government also desire that all bogs and swamps yielding peat on the Nilgiris, which still belong to Government, shall be strictly conserved, and that in no case shall any portion of them be sold without the special permission of Government.

9. The Collector will furnish an early report on the subject of these bogs, shewing their situation and extent, their present condition, and the measures proper to be adopted for their due preservation and working.

10. It remains to consider the agency by which the Forest Conservancy and planting operations on the Hills shall be conducted.

11. The Government understand that hitherto there have been two Overseers working under Major Morgan's orders, viz., Mr. Newman on Rupees 75, in charge of the Australian plantation, and Mr. Taylor on Rupees 50, in charge of the Nilgiri Sholas.

fw: 259 of 30.1.68

Proceedings of the Madras Government, Revenue Department,
30th January 1868.

12. Dr. Cleghorn now proposes apparently, that Mr. Hall, now unemployed, but who had all the labor and anxiety of conducting the preliminary operations at the plantations, should be again placed in charge of them and of the Coonoor ghaut forests on Rupees 95 (Rupees 80 pay and Rupees 15 horse allowance), which he is willing to accept; that Mr. Newman should be Head Overseer at Ootacamund on the same allowances (Rupees 80+15); and that Mr. Taylor should retain charge of the sholas on Rupees 60, with the same horse allowance as the others; also that Major Morgan should be relieved from the charge of the operations on the plateau of the Hills, his duties being confined to Sigur, Mudumullay, Collegal, &c., below the Hills. The Government have also lately suggested, for consideration, whether the general control of the Overseer to be placed in charge of the Wynaad forests might not with advantage be entrusted to Major Morgan.

13. As part of this arrangement Dr. Cleghorn adopts a suggestion made, that the Special Assistant Collector on the Nilgiris might receive the periodical returns and exercise general control over the Overseers on the Hills, and counter-sign the monthly abstracts; the Conservator issuing special instructions in all technical matters, and being responsible for the progress of planting and conservancy. Provision for the Overseers has been made in the Budget for 1868-69.

14. The Government approve of these proposals so far as regards relieving Major Morgan of the charge. They are glad of this opportunity to record their sense of the good service rendered by Major Morgan, but they consider that the extent of the proposed charge below the Hills is ample to employ all his time and energies, and his retention of the charge on the Hills, where he is possessed of considerable landed property, is not compatible with the rules on the subject. In the arrangement now adopted, the Government have desired to shew the utmost consideration to Major Morgan's personal interest consistent with the public service.

15. As regards the other details of the arrangement, the Government wish to receive any remarks that Captain Beddome, the Acting Conservator, may desire to offer.

(True Extract.)

(Signed) W. HUDLESTON,
Secretary to Government.

Ex'd. S. T. Augustin.

Woods on the Neilgherries.

As far back as 1840 the Hon'ble Mr Sullivan, then a member of Council, in his Minute dated 7th October 1840 on Woods on the Neilgherries remarked on the extent to which the woods had been cut and the springs had in consequence dried up. He wrote:-

"It is just 20 years ago since as Collector of the district I first visited the Neilgherries and I can testify that more than two-thirds of the wood which then existed has disappeared, and it is within general experience that what remains is rapidly wasting away. I can point to spots which were covered with wood and on which not a tree is now to be found. I can also show the sites

of

of former springs which are now all but dry."

2. Mr Sullivan dwelt upon the effect which such denudation of the Hill forests must have on the climate of the Neilgherries, on the supply of fuel, on the Hill springs, streams, and rivers, and on the irrigation of Coimbatore and other districts under the Caveri and Bhowani rivers, which rise on the Neilgherries, or are largely fed from the drainage of the Hills. He urged the necessity of strict conservancy of the woods and of replanting those already felled.

3 Orders in accordance with Mr Sullivan's suggestions were passed by Govt. in E. Dpt. 5th October 1840 Revenue Dept No 696.

4. In October 1855 when Lord Harris with myself and the Collector of Coimbatore Mr E. B Thomas, was riding

riding down the Coonoor ghaut, his Lordship was much struck with the extent to which the forest had been felled by Coffee planters and others, and on his return to Madras in a minute under date 6th November 1855 he brought the subject under the notice of his Council.

5. He wrote - "This" the Coonoor pass - "is a very beautiful mountain gorge in which wood, rock and water are blended in very fine proportions."

"It will, when the railroad is completed be the chief approach to the Neilgherrie stations from the low country." Lord Harris pointed out that the beauty of this pass was being destroyed by this indiscriminate felling of timber - that the gain to Government from the

Sale

sale of the land was in-
-considerable, and added
that even were it greater
he was "strongly of opinion
that it would be a duty
to make some sacrifice
to the beautiful, and to
prevent the destruction
of the chief ornament of
this fine gorge."

6 He therefore proposed
that the Collector should
be prohibited from selling
or leasing any more land
within the limits of the
Coonoor Pass

7. Instructions to this
effect were accordingly is-
-sued in G. M. C. 8 Nov.
1855 Public Depatch No. 437.

8 The Court of Directors
Despatch 6th August 1857
Public Dept No 51. para 15.
approved this order "on the
assumption that the quantity
of reclaimable land within
the Coonoor Pass was not
considerable, and that

ground-

G. O. 7th February 1856.
Rev. Dept No 129.

ground equally well
situated for Coffee cultiva-
-tion might be found in the
neighbourhood, within easy
reach of railway conveyance

9 In spite however of
the orders thus issued and
approved, the clearances of
wood on the Coonoor Ghaut
are now far in excess of
what they were in 1855.

10. In 1856 the Govt.
on the application of
Captain Campbell Executive
Engineer then employed on
the Wellington Barracks
authorized him to form a
plantation of Australian
Acacias and other quick
growing trees near Jacka-
-talla - Rs 10,000 was sanc-
-tioned for experimental
plantation on the Neilgherries
to be divided in such pro-
portions as the Board of
Revenue thought fit between
Captain Campbell and the
Collector of the District

Mr.

Mr. E B Thomas, who had always taken great interest in the subject.

11. Of the sum, Rs 10.000, sanctioned by Govt. Rs 2.500 was allotted by the Board to Mr Thomas and the remaining Rs 7.500 to Capt.n Campbell.

12. Under Orders of Govt Dr. Cleghorn, Conservator of Forests reported on Capt.n Campbell and Mr. Thomas planting operations in a letter dated 10th April 1858. He stated that Captain Campbell's plantation was 3½ miles from Jackatalla and in a spot well chosen. The extent of land which it was intended eventually to plant and which had been purchased from the Burghers for the purpose was 600 Acres, but up to the date of the report only 8 Acres had been planted, hedged and fenced

GC 3rd June 1858.
Rev. Dept No 748.

fenced. It was expected that in the course of May 1858 or the month following that in which Dr Cleghorn's report was written, there would be 100.000 seedlings in the plantation exclusive of a large number in baskets. Some young deodars were thriving and some indigenous cedrelaceous trees called Kalunjoo; but the bulk of the plantation was Acacias.

13. Besides this original plantation, it was stated that in working the great Kota shola for the requirements of the barracks Capt.n Campbell had planted the cleared portions with many thousands of young trees of sorts most esteemed by the Burghers, and had organized a system calculated to promote reproduction to its fullest extent. Dr Cleghorn recommended

recommended the grant to Captain Campbell of a further sum of Rs 2500 for his plantations which the Government by G.O. 3rd June 1858 authorized.

11. Further reports on the Wellington Plantations were furnished under dates 15th Decr 1859 and 6th Sept 1862. and the state and progress of these plantations are noticed in the Annual reports of the Conservator of Forests for the year 1859/60 to 1865/6. The result on the whole does not seem very satisfactory. It might be well to have a special report on these Plantations as well as those in the Kota shola. Showing what number of trees there is in them of various sorts - in what quantity of land has been planted, what is the condition of the trees and what more is wanted for

for the development of the plantations.

15 In the same letter Dr Cleghorn noticed with approval Mr Thomas' plantings which he said although more desultory than those of Captain Campbell had been very useful. He also advised that Mr McIvor should be entrusted with the ornamental planting of 10,000 trees in the neighbourhood of Ootacamund at an estimate of Rs 1350 and this the Govt sanctioned.

16. In 1856 the attention of Govt was called to the use of peat on the Hills as a substitute for or adjunct of wood fuel both for private consumption and for the supply of public works. On the suggestion of Captain Campbell application was made to the Court of Directors for

two

To Court of Dirs 22nd Jany 1867.
P.W.D. No 3.

two Scotch Turf or Peat hand presses. Two presses were accordingly sent out by the Court per the ship Gloriana in Sept 1857, but I do not trace what became of them. Mr P. Grant whom I have lately seen says that he never heard of them.

17. Complaints of the spoliation of the woods of the Neilgherries and of those around Ootacamund especially, continued to be made, until in 1860 the Governor (Sir C. Trevelyan) on his visit to the station "discussed the subject fully with the Conservator as well as with numerous residents on the Hills". The system, which was then resolved on and which has since been maintained, is thus described in G.O. 20th March 1860 Rev. Dept No 425.

"First. The whole of the Sholas or woods in the neighbourhood+ of the station to be absolutely reserved, not only for their beauty, but also from fear of injuring the water springs; their limits to be marked; no private cutters to be allowed inside; old trees to be felled by servants of the department and brought outside, and to be sold there by public auction. Trees to be planted where required in vacant spaces.

Secondly. Suitable woods at a distance from the station to be selected and marked out in lots of moderate size; and a number of these lots ample sufficient for a years supply to be put up to auction annually. The Contractor to be permitted to clear the ground entirely within his lot or lots, with the exception of such trees as may be marked by the Conservancy Dept.

+ within a circle of three miles radius with its centre on the Jail Hill.

1863

See G.O. 21 Nov. 1862 R.D. No 2093 rescinding these rules and upholding them after three years experience of their working.

Department previously to the sale.

Thirdly. The cleared lots to be planted as required by the Conservancy Depart.

Fourthly. No private felling of any kind or for any person to be allowed in woods or on land belonging to Government.

The measures thus approved for Cotacamund were to be adopted as far as necessary at Coonoor

18. Thus much for the preservation of the woods in the vicinity of the Hill Stations and supply of fuel there.

19. With regard to the restrictions to be placed on the sale of wood land to applicants for Coffee cultivation, I do not find any specific instructions. I observe that Dr. Cleghorn in a letter dated 2d Oct 1857 suggests that the high wooded mountain tops overhanging the low country

G.C. 29 Oct. 1857
Rev. Dep. No 1106.

such as Hoolicul should be preserved with rigid care, the forest there should not be given over to the axe, lest the supplies of water may be injured - and in order that the courses of the rivulets should be over shadowed with trees, he conceived that the hills should be left clothed to the extent of about ½ their height from the top, leaving ½ the slope and all the valley below for cultivation.

20. The Govt. of India (Letter 26th Sept. 1862) in reference to the rules for the sale of waste lands expressed a hope that great caution would be exercised in regard to the disposal of Forest lands, and stated that as a rule such lands should be reserved until it can be more clearly seen than at present

present, what may be required from them in the interests of the general public × × ×. The local Govts should be very carefulin regard to the further alienation of the forest lands which will remain at the disposal of the State.

21. These instructions were approved and enforced by the Secretary of State in his Despatches of 9th March and 24th April 1863. In the latter of these he wrote para 16. "The importance of Forests, not only as yielding timber and firewood but as affecting the rainfall, the climate and the soil and as protecting in mountainous regions the country of the plains, has been overlooked not in India alone, but in other countries of the world. But of late years sounder views on this point have been adopted. Humboldt very broadly stated (and the statement is now very generally accepted) that the more cultivation increases and the forests diminish, the dews both soil and climate become." Again para 23 "In forests the wood of which is not now nor likely to be of value, the plan suggested by the Acting Conservator of preserving a ridge of 1500 feet to attract the rainfall and prevent deterioration of soil and climate, seems very judicious, but no reason is assigned for in all instances, limiting that to forests which are above a certain elevation."

22. In a letter dated 2d March 1864, Mr P Grant, Collector of Coimbatore stated that it had been represented

represented to him by the ryots of villages a few miles from the foot of the Hills that the rain fall had decreased of late years in consequence of the Forest clearings and that in the Bolampatty valley the ryots had pointed out to him certain villages to the East to which the South west monsoon now extends, and those villages which formerly came within its influence. There was a distance of six miles between them.

23. The Govt. thereon remarked that the rules recently sanctioned for the sale of waste land give the Collector and Conservator of Forests ample power of reserving forest tracts for public reasons, and that the Govt. had repeatedly enjoined caution in selling such tracts.

and

G.O. 5th April 1864
R.D. No 576

and had laid great stress on preserving trees along the margin of springs and streams and the crests of Hills above a certain elevation.

24. By an order of Govt. 18 June 1862 R.D. No 1343 the conservancy of the Neilgherry Sholas was placed under the officer in charge of the Segoor and Mudumellan Forests. i.e. Major Morgan.

25. In a minute under date 12th July 1864 Sir W. Denison proposed that the Collector of Coimbatore and Conservator of Forests should be directed to mark down in a map which he forwarded such portions of land or forest which was either already occupied or which it was proposed to reserve for any special public purpose, all portions not so marked being

available

available to applicants.
the map in question.
was so marked accord-
-ingly but was on so small
a scale as to be of no use.
A large map is under
preparation, but I do not
anticipate that it will
be of much value. In
sending up the small
map Mr. P. Grant showed
that really there were
but very few Sholas
east of the Khondahs
which the Govt. ought
not to reserve to themselves.
26 In the above paras
I have given a precis,
although somewhat in
a desultory fashion, of
the principal correspondence
on record touching the
woods on the hill ranges,
the measures proper for
their conservancy and
reproduction, for the pro-
-tection of the hill streams

and

and for the supply of fuel.
I would now offer some
suggestions as to the course
to be followed for the
attainment of these objects
in future. In prima facie
respect to the granting of
wood land on the pla-
-teau of the Hills for the
Chinchona or other products,
I do not see that any
fixed rule can be laid
down. The present rule
whereby woods within three
miles around Cotacca-
-mund are to be strictly
conserved should be
rigorously maintained,
as should that for leaving
belts of wood on both
sides of springs and
streams, as also that of
leaving ridges of wood
on the summits of the
hills; but beyond this
I can only propose
that each case should

be

be specially reported to Govt. and disposed of by them on its particular merits. I would then suggest that on every occasion on which application may be made to the Collector of Coimbatore under the waste land rules for forest land, or land partly forest on the Neilgherries, the Collector, before proceeding to advertise the land in the usual manner for auction sale, shall make a special report to Govt. through the Board of Revenue, sending up a plan of the ground and of its surrounding locality and stating whether in his opinion the land should be disposed of. By this means only do I conceive can the reckless felling of forests

on the hills be thoroughly checked. Such procedure too will no doubt be satisfactory to the Collector as it will tend to relieve him from the pressure put upon him by applicants for land to which it may be feared he now sometimes yields, and to support him in what is now somewhat an invidious duty.

27. So much for woods on the table land of the Neilgherries. Of the Ghauts there is but one to which I need allude viz the Coonoor Ghaut. All who have traversed this beautiful pass must I think have shared the regret expressed by Lord Harris in his Minute from which I have quoted, at the havoc made in its scenery - but now much worse

Supra para 5.

worse than in his day
Since the completion of
the railway it is almost
the only approach to the
Hills the assumption on
which the Court of Directors
approved of further sales
of land being prohibited
has certainly now been
verified [illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible]
[illegible] - The
sacrifice to the beautiful
spoken of by Lord
Harris may now I think
fairly be made and
the further destruction
of the forests clothing
this fine gorge be averted.
[illegible]

Supra para 8

Supra para 19

The

This can only be
done effectually by
absolutely prohibiting the Collector
from receiving any
wood applications for land
on either side of the
ghaut or in view from
the new or old road
and reserving it
wholly to Govt. Orders
to this effect I would
propose to issue
at once

[illegible]

28 With the preservation of those woods which
remain should be conjoined the renewal as far
as possible of those which
have been felled. It has
always professedly been
made a condition of
wood being cut in the
forests on the Hills still
belonging to Govt. as in
those leased for the supply of
firewood to Ootacamund -
that the felling should
be immediately followed
up by planting, but this
condition

Supra para 17.

condition has as yet been very imperfectly performed. I would propose that for the future it be rigidly exacted that a report be at once called for on the state of the clearings above adverted to and on the measures to be taken for their renewal. Beyond these renewals and such plantations as those made by Captain Campbell near Coonoor - those near the Lawrence Asylum and the like, the care of Government need not extend. All planting besides this may be properly left to private Enterprize. Besides planting Acacias and other Australian trees some attempt might be made to raise trees of the

Supra para 10- 12.

the species indigenous to the Hills, as also to introduce foreign trees from other countries besides new South Wales. There are already oak trees in some of the Cotacamund Gardens and plantations. I see not why the beech and ash and other English trees should not be tried. that is in the replanting of the felled Sholas. In the Govt. Gardens the walnut, Spanish chesnut and other fruit trees might be found to thrive.

29. Closely connected with the question of wood fuel on the Hills is that of peat which under proper management might so largely take its place. I would suggest that the bogs and swamps

swamps yielding peat which still belong to Government be put under the same strict conservancy as the Hill forests and that none be sold without the special permission of Govt. It may be well to have an early report on these bogs, their situation, extent and measures proper to be adopted for their due preservation and working. It need hardly be remarked that these swamps are further valuable for their water springs. I believe that there is no doubt that the draining of these swamps near Coitacamund for potatoe cultivation has in no small degree affected the water supply of the Station.

and the potatoe grown there is after all very inferior. The climate remains the same

As

para 22

30. As I have above noticed the conservancy of the Neilgherry Sholas has been confided to the Assistant Conservator Major Morgan. Besides these he has not only charge of the Segoor and Mudumallai Forests, but as Mr. B. Grant informs me the Collegal Sandal wood plantations also. This must be too extensive a field of work for any one individual. He should certainly be relieved of the Collegal if not of the Mudumallai forests and should be required to exercise a close supervision over the Neilgherry woods, their conservancy and renewal as well as of the peat bogs than he has hitherto done. The responsibility for this

change

charge should be laid directly upon him of course under the General control of the Conservator. Major Morgan I understand is an intelligent man and of active habits and well suited for the duty.

Yours

January 24. 1867

Reported to England
D/12th May No 1 of 1868 Mis: Forests

21/10/94
29/8/90

Order

Revenue 1867. Vol.
Pro: of Gaulty for Jany/68
2930/67

No. 3515

Minute by the Hon:
J. Pyeroft

Dated 21st Day/67
Received

S. Ref. 259. 30 Jany/68

Recording his views on Forests and Peat swamps on the Neilgherries.—

No. 525

15 26

Minute by His Excellency The President.

1. The Minute communicated by Sir Thomas Pycroft contains an interesting abstract of the measures embraced by this Government for the preservation of the Primitive forests of the Neilgherry mountains as well as valuable suggestions for the prosecution of this useful design.

2. The remarks offered by Sir Thomas Pycroft may be considered with reference /1./ to the preservation of the forest in the Coonoor pass; and /2./ to the preservation of the "Sholas" or scattered copse woods on the Neilgherry Plateau.

3. In regard to the Coonoor gorge or pass I cannot go with my predecessor Lord Harris or with my colleague quite so far as to afforest the forest with which the

mountains are clothed on either side of the coonoor glen which as seen from the plain to Coonoor should be preserved merely or chiefly in the interest of "the beautiful". If the Coonoor valley was a fertile and healthy tract extensively available throughout it's area for coffee plantations and the denudation of the slopes connected with that culture did not involve any serious danger to the water supply of the region below I would not justify the exclusion of the planter and the maintenance of the forest because the latter offers a charming ornament to a road by which the Sanitarium of Southern India is usually attained. The Bungalows of planters and their trim and tasteful plantations are not repugnant objects; on the contrary it seems to me that the tea and coffee gardens often an agreeable

27

prospect and that there is a sort of moral satisfaction in the spectacle of useful labour and profitable crops, which may vie with the attractions of a picturesque landscape. I might also contend that a government has more to do with the former pleasure than the latter. I would like to see the Coonoor gorge cultivated from one end to the other with coffee and studded with planters' cottages if that could be done with benefit to the planters and the native population, and I don't think that Government would be justified in refusing any ground to labour only for the sake of beauty. I am, however, prepared to join any colleague in declining any future grants of land on the gorge on the ground that the recent clearings could be extended without some alteration of the water discharge which might be prejudicial to the general interests

of the adjacent country. The sides of the valley are very precipitous and rocky, the soil appears to be thin and light. If all the trees were felled the rain would run off the declivity with great rapidity and carry a quantity of earth to the valley below. The gradual and measured distribution of the rain fall would be destroyed. There would be furious floods of brief duration succeeded by periods of absolute drought. The springs which now trickle through the verdure for the greater part of the year would disappear. Nor would there be a commensurate compensation for these pernicious changes in the extension of culture. The gorge is notoriously and fatally unhealthy in it's lower parts. The portions above which are comparatively salubrious are already opened and cultivated. I think that the Planter has had a fair share of the Coonoor gorge. He has got as much as he can safely and beneficially

2/

use. What remains may be left untouched in the general interest. I therefore concur in the proposal of Mr. J. Pycroft that the Collector of Coimbatore be instructed not to entertain any further applications for grants of land on either side of the Coonoor gorge basing the order on the necessity which exists for preserving the forest in the interest of the water supply.

4. With reference to the preservation of the copse woods on the plateau of the neighbourhood I also agree with Mr J. Pycroft that the orders now in force for the preservation of woods within a certain radius of around stations should be carried into effect not for the amenity of a place not merely preserved but constantly inhabited by our countrymen as well as for the shelter of the water sources so necessary for the welfare of the station

Beyond this protected circle I think that no Government woods should be felled on account of Government without replanting and that none should be alienated without special permission and that provision for the preservation of woods and coppices adapted to the exigencies of each particular case.

5. Sir Thomas Pycroft has justly stipulated for the preservation of the bogs in the hill tracts. Perhaps the maintenance of these swamps is even more essential than the protection of some of the patches of woodland on the sides of the hills. The slopes of the hills on the plateau are usually gentle and grassy, when denuded of wood the ground still remains clothed with coarse sward and strong shrubs, water does not run off that kind of surface with much violence ~~especially~~ so as to cause evaporation very rapid. We must not forget that trees themselves are powerful conservers of moisture and that they evaporate largely. There are no doubt some situations in which the destruction of timber might not be prejudicial to the rain fall or the water supply at all. The case of Scotland proves that naked mountain ranges attract or intercept the clouds and that wooded regions received abundant supplies of rain and let that rain off gently and regularly as long as drainage was not afflicted for those tracts were furnished with copious bogs which were so many Reservoirs of water and moderators of its discharge. The Scotch have wisely drained their bogs for the object was to get rid of the water as fast as possible even at the risk of some inconveniences which attend its precipitate flow but in India

the chief point is the retention and deliberate evacuation of the water. To drain the bogs in the mountain ranges here would be a fatal error at least before Government has provided artificial reservoirs for the retention and storage of water. I think also that the manures of the Veligherries are useful to the pastoral tribes for the Easterners of their buffaloes which are the principle live stock of the region. The bogs belonging to Government or under its control should be placed on the same footing as the "Sholas". I do not think that we need trouble ourselves about the peat composing machines; they can hardly claim to be an effective contrivance.

6. Several minor suggestions in Sir Thomas Pycroft's Memo have my entire concurrence.

(1) a specific report should be furnished respecting the extent of the Government plantations of forest trees at the Wellington and Kota Sholas as well as on the condition and prospects of those plantations.

(2) An accurate account should be given of the clearings made of late years for fire wood with the view of replanting those places without further delay.

13) Experiments ought to be made with a view to the introduction of various European timber trees and of the Mahogany Tree which flourishes admirably in the north of India.

14) The Assistant Conservator of Forests in the Veligherries ought to be liberally relieved of those parts of his duty which in the opinion of Dr

Ceylon interfere with the complete
and efficient exercise of his functions
on the Plateau.

15/ Major Morgan should be instructed
to dispose of his farm and works
on the Neilgherries or be removed
to another district where his interests
and pursuits will not be in conflict
with his official duties. I come to
this conclusion with a feeling of reluctance,
which Sir Thomas Pycroft Reeves
to share, but I do not see how we
can justly refrain from imposing on
Major Morgan the rule which
we apply to others with great
severity.

Napier

a melanocaylon 49.1

Reported to England
D/ 12th May No. 1 of 1868 Miss. Forests

Revenue 1868. Dispatch
Pro: of Govt in Jan Jany/68
Rec: 29/9/68

W. 3514.

Minute by the Hons
the President

Dated
Received

Secy 25 - 30 Jany/68

Recording his views
on measures for preserving
the Forests &c in the Neilgherry
Hills. -

W. 526

Enclosure
29/10/88
29/8/90

In 1833, I first traversed the Coonoor
Pass several times on horseback. I
also passed through it twice in 1841/42,
and twice again in the middle of
1852. On the last occasion I could
not but regret the extensive damage
done by the planters axe to the
beautiful picturesque scenery of the
mountain sides. As an old revenue
officer, I might have been content to
pass this over, had I felt that by
freely transferring the wooded slopes
to coffee planters to this, a sadly
wanted amount of revenue had been rea-
lised for the benefit of the State. But
in the case of the revenue, as I understand,
the revenue return being insignificant.
therefore, have no difficulty in agreeing
to the proposal made in para 27 of
Sir D. Cayley's minute. I also agree in
respect of the arrangements to be adopted
(para 26) in regard to the disposal of future
applications for wood & swamps, as
well as those in respect of boundary ques-
tion as to the extent to which the

20

replanting of has proceeded.

It is obvious that this latter measure must be attended with serious difficulties and that success in the enforcement of a condition of replant can be secured only by the most unremitting vigilance discharge of these duties by officers belonging to the Forest Conservancy Department. To whom, & to whom alone, the Govt must look for performance. But at the very least I doubt whether much can be done by private individuals on land which they have cleared.

In regard to major disposal of timber there can be little or no doubt that here a very wide charge is much to do. If that much has been carelessly done, or even improperly permitted, a reason may be found in the fact that many had to look after their own personal interests & can pay near to no attention, the general rule of the civil service in other departments, I am sure of opinion that major disposals should be supervised at once by direct

...cil of this Council respecting on this
...der under penalty of removal from
... Forest department

Dec...

...April 1867

Reported to England
D/ 12th May No 21 of 1868 Mis. Rec

29/10/88
29/3/90

Rec'd 1867 - Oct 1st.
Rep. of Govt for Jany/68
No. 3516.
Minute by the Hon:
W. O. Phillips -

Dated 26th. Apl. /67.
Received

B

Sheet 259. 30 Jany/68
Recording his
views on the Forests &c &c of
the Neilgherry Hills. —

No 27

Sarah Pierce B. 34 31

Memorandum on the bark of the Australian trees grown on the Neilgherry Hills

The following chemical examination of the barks of the Australian Acacia with reference to their use as tanning agents was made at the instance of Dr. Cleghorn.

2. The aqueous infusions of the barks of A. lophantha, A. ~~mollissima~~ dealbata, and A. melanoxylon agree in possessing a sweetish astringent taste, produce a greyish-black precipitate with solution of a per-salt of iron and a bulky precipitate with a solution of gelatine. The alkaline infusion rapidly absorbs oxygen from the air and becomes coloured a dark brown. These are reactions which characterize the presence of the tanning principle

3. Determinations of the amount of tannin present, gave the following results expressing percentages of that substance in dry bark:—

Acacia lophantha	15.4
" ~~mollissima~~ dealbata	14.8
" melanoxylon	10.0

4. The percentage of weight which the fresh barks lost on drying were:—

In A. lophantha	53.0 per cent.
" A. ~~mollissima~~ dealbata	52.9 "
" A. melanoxylon	49.1 "

Revenue Depart.

No. 259.

Proceedings of the Madras Govt.
under date the 30th Jany. 1866.

Read the following papers -

Minute by Sir T. Pycroft - (Here enter 24th Jany. 1867)
Do do Hl. the Govr. - (Here enter .....
Do do Hon: Wm. Phillips - (Here enter 26th April 1867)
Letter from Dr. Cleghorn, Conservr. of Forests - (Here enter 26th Oct. 1867 No 350)

The Govt. gather from Dr. Cleghorn's report that the extent of land planted with Australian trees near Wellington is now 150 acres in all - that the total cost from first to last including compensation for grazing right has amounted to Rupees 15,179 - and that the progress of the trees has been very ~~satisfactory~~ although

although they have
not elicited all the
attention that could be
desired.

The memoran-
-dum by Mr. Broughton
on the forming profes-
-sils of the acacias
assigns a consi-
-derable value to the
barks - and many of
the species are likely
to prove of value for
building and furni-
-ture timber - as well
as for fuel -

these results
must be accepted
as satisfactory -
and the Govern-
-ment approve Dr.
Oldham's proposal
- to extend the planta-
-tion at the ex-
-pense of some 8
acres a year -
for some time to
come - and de-
-sire that the Ob-
-ject will in the mean
that

that any further
grants to private
individuals within
the triangular area
originally allotted for the
plantation, without
the special
sanction of Govern-
ment in each case,
are absolutely pro-
hibited.

The Govt desire
that the Ag. Conservator will

give best attention to
the recommendations
made by Dr. Cleghorn
for the extended in-
troduction of the more
valuable classes of trees
which have succeeded
on the Hills, and
especially of the Coni-
fers and Araucarias.

The Govern-
ment are glad to learn
that for nearly two
years past it has not
been necessary for the
Forest Department to
fell any sholas to
meet the local demand
for fuel. They at-
tach great importance

to the speedy replacing of those which have been already or may hereafter be felled and they desire that no effort be spared to expedite the completion of this work in the former case in which considerable progress seems to have been already made, and that constant attention be given to this point in the case of future clearings.

The Collector of Coimbatore will understand

understand that in every case in which application is made to him for forest land or land partly forest or the Nilgiris, he is to make a special report to Government thro' the Board of Revenue sending a sketch of the ground and of the neighbouring locality and stating whether in his opinion the land may without objection be made over to the applicant

and

and await orders on
the report before
taking any steps for
the disposal of the
land. The Collector
is absolutely prohibited
from entertaining
further applications
for wood lands on
either side of the
Coonoor Ghat road
in

view from the new
or old road. The whole
is to be reserved to Go:
vernment.

The existing rules
for the strict conservancy
of all Government woods
within a radius of 3
miles round Ootacamund,
for preserving belts of wood
on both sides of springs
and streams - and for
leaving ridges of
wood on all hill tops
when the sides are
cleared are to be ri:
gorously maintained.

The

The Government also desire that all bogs and swamps yielding peat on the Nilgiris which still belong to Government shall be strictly conserved - and that in no case shall any portion of them be sold without the special permission of Government.

The Collector will furnish

an early report on the subject of these bogs - showing their situation and extent - their present condition and the measures proper to be adopted for their due preservation and working.

It remains to consider the agency by which the

the Forest Conser-
vancy and planting
operations on the
Hills shall be
conducted.

The Govern-
ment understand
that hitherto there
have been two overseers
working under Major
Morgans orders
viz: Mr. Newman
on

on Rupees 75 pr.
charge of the Aus-
tralian Plantation,
and Mr. Taylor on
Rupees 50 pr. charge
of the Nilgiri Scholas.
Dr. Cleghorn
now proposes ap-
parently that Mr.
Hale now employ-
ed but who
had all the labor
and anxiety of con-
ducting the prelim-
inary operations at
the Plantations should
be again placed in
charge

charge of them & of the
Coonoor Ghat forests
on Rupees 95 / Rupees
80 pay and Rupees 15
horse allowance,)
which he is willing
to accept: that
Mr Newman should
be Head overseer
at Coot acamund on
the same allowances
(Rupees 80 + 15)
and that Mr Taylor
should retain charge
of the Sholas on
Rupees 60 with the
same horse allow-
ance as the others -

Also that Major Morgan
should be relieved
from the charge
of the operations on
the plateau of the
Hills, his duties being
confined to Ligus
Mudumullay Col-
legal, &c., below
the hills. The Go-
vernment however
also lately sug-
gested for consi-
deration whether

the general control
of the Overseer
to be placed in
charge of the Wynad
forests might not
without outrage be
entrusted to Major Morgan.

As part of this
arrangement Dr
Cleghorn adopts
a suggestion made
that the Special
Assistant Collector on
the Nilgiris might receive

the periodical returns
exercise general control
over the overseers on the
Bills, and countersign the
monthly abstracts - the C
Conservator issuing speci
instructions in all techni
cal matters and being
responsible for the progress
of planting and conser
vancy - Provision for
the Overseers has been
made in the Budget for
1868/69 -

The Government
approve of these proposals
so far as regards retaining
Major Morgan of the charge
They are glad of this
opportunity to record t

(over)

use of the good service rendered by Major Morgan- ent they consider that the extent of the proposed charge below the Bills is ample to employ all his time and energies- and his retention of the charge on the Hills where he is possessed of considerable landed property is not compatible with the rules on the subject. In the arrangement now adopted, the Government have desired to show the [illegible] consideration

Major Morgan's personal interest consistent with the public service.-

As regards the other details of the arrangement- the Government wish to [illegible] any remarks that Captain Beddome the Asst Conservator may desire to offer.-

J.B.

13 Copies Letter Offg Conservr Forests Dated 31st
14 Copies to the Bds
1 —— Col. Sherbrooke R.E.
6 Copies — Head Genl

Reported to England
per 12th Inst. No 1 of 1868 Mr. Forbes

29/3/90
1-6-91-5
27/2/91
4/2/88

No 269.

Proc. of the Mahomedan
Government
30th January 68

From the Commr. Kaira in
No. 30 Dated
the 1st 1868

Gir

Gen. No. 9-11
5/B/58
" 264-66
21/11/63
" 328-29
12/10/66

No 525 to 529.