Proceedings of the Madras Government, Revenue Department.
5th September 1872.

No. 17. Read the following letter from Lieutenant-Colonel H. R. MORGAN, Officiating Conservator of Forests, to the Secretary to Government, Revenue Department, Fort St. George, dated Ootacamund, 12th August 1872, No. 1,415 :—

WITH reference to Captain Campbell Walker's report on English and Scotch Forests I have the honour to forward a Memorandum on the subject as certain suggestions regarding Reserves are made which, in my opinion, might with advantage be carried out.

—

ENCLOSURE No. 1.

Memorandum on Captain Campbell Walker's Report.

RESERVES.—The most important part of the report relates to the fresh light thrown upon the communal rights of those living in the new forests and the action of Government regarding those rights. It will probably be found that some similar action on the part of Government in this country would work well. For instance, where it is desired to improve a rich part of a forest, this part, to the extent of one or even ten square miles, might be fenced in and planted up, and at the end of twenty years, when the trees were well grown, might be thrown open. In this manner considerable areas of forests might be successively taken up without at all interfering with grazing or other rights.

2. PLANTATIONS.—At page 10 it is admitted by one authority that pits are better than mere "slits" even in England, and I am very sure that pits are far superior to mere "slits" for India. The cost of pitting seems much the same in both countries; but everything depends on the soil—the richer and looser the soil the smaller the pit, the harder and poorer the soil the larger the pit. There is a third reason why deep pits are desirable in this country, viz., that the roots may rapidly bury themselves in the moist sub-soil below the influence of the sun's rays. Our pits in dry places are often two feet deep.

At page 17 Captain Campbell Walker in the last paragraph suggests the English mode of treating nurseries. From my experience I may say that it would not do. Did we grow firs and other trees which at five years of age are only six feet in height it might be practicable; but the trees we principally plant, viz., teak, eucalypti, and casuarina grow six feet in a year and must be put out when young. As for the cutting of the tap roots I may say, as a rule, they are always shortened, and I do not understand how the mistake arose on Captain Walker's part. No two trees are treated exactly alike; but I may, to prevent future errors on this head, explain the system.

At Nellumboor the seed is sown in beds in April. These beds are raised six inches and have an inner edge of three inches which retains the water for some time, when it slowly percolates through the bed. The seed is literally soaked in these beds for fifteen days; when it sprouts the supply of water is decreased. By the end of June the plants are six inches high. They are taken up, and have the appearance of a bundle of radishes. A man shortens the tap roots to four inches; if left longer the coolies turn up the end of the root, and the plant is sure to be sickly. At Mudumallai, which is much colder, our plants by July are only two inches high with tap roots only three inches long; these are never cut, but carefully preserved. So it is with sandal-wood plants: we lift them when only three inches high, and never cut the tap root unless it exceeds six inches. With eucalypti the plan is to lift the plants when six inches high, cut the tap roots, and put them back into beds six inches apart: when two to three feet high they are taken up, their roots bound up with moss, and re-placed in beds. When the roots show through the moss the plants are put out in the pits. The failures from this mode of treatment are never three per cent.

I may mention that the tamarind and mango, when their tops are but three inches in height, have tap roots more than a yard long; it is best to plant these seeds in situ.

In a moist damp climate like England or Scotland planting out can be carried on for nine months in the year; in this country we can rarely plant out for more than two months. In fact, the general conditions of forestry are so dissimilar that what does well at home is very unlikely to succeed in India.

3. WORKING OF FORESTS.—At page 19 the stamping of trees is dwelt upon. This is practised on the Annamallies, where the trees contain from fifty to two hundred cubic feet. It will be found difficult to carry it out in all our forests; for instance Wynaad, which has had seven officers in ten years. This perpetual change renders forestry in this country very difficult; in fact, what with fever, impenetrable grass, constant change of subordinates, etc., we cannot afford more than the roughest kind of supervision; anything else will infallibly break down. In England they have no such grass, no fever, no impediments of any kind, and forestry, instead of being a life of great risk and exposure, is the healthiest life a man can live.

4. FENCING, as proposed at page 21, would cost double in India or 10 Annas a yard, and creosoting would hardly be effective against white ants. A ditch and thorn hedge in out-of-the-way places would be found cheaper in the long run; but a small area might, as an experiment, be tried on the plan recommended.

5. ADMIRALTY TIMBER.—As we very probably shall no longer supply the Bombay dockyards, the suggestion of supplying the English dockyards direct is a good one.

6. SAW MILLS.—What we require is a portable machine that can be carried to a depôt in the forest and worked by elephants or bullock-power, a single vertical saw. To saw teak and saw deal are very different things. I gave the idea of what was required to Mr. Smith, the Mechanical Engineer at Wellington. He promised on going home to see if he could work it out, but I have not heard from him. Many of our logs are so large that they require to be divided before they can be carted away. I have always experienced great difficulty in obtaining sawyers for this work. What with jungle fever and the fear of wild elephants, my sawyers soon dwindled away, leaving the work unfinished.

Turbines when there is a fall are very effective, but circular saws are constantly buckling, and cannot be repaired except at Madras.

7. GRAZING.—The remarks on grazing at page 23 are to the point and command attention.

8. CREOSOTING.—This was tried on the Madras line, but was not proof against white ants, I believe.

9. In conclusion, I would remark that if an intelligent officer like Captain Campbell Walker had had opportunities of visiting Nellumboor, the Annamallies, Wynaad, etc., he would not have fallen into the errors regarding planting that he has done, nor would he have recommended (page 32) wire fences for places where elephants and bison, to say nothing of white ants, would soon destroy them, nor (page 33) steam engines for forests were jungle fever would quickly prostrate the Engineer. I would only too gladly recommend Captain Campbell Walker's scheme if I thought it would succeed; but on the Annamallies and in Wynaad I fear nothing but the simplest sawing machine such as I desire, but cannot obtain, would be of service. It is admitted at page 32 that the sawing difficulties are "very great." The mode of felling adopted in Tinnevelly, cited as an example of "what now goes on," is an exceptional case, and hardly an example of what is done in the Department. Captain Campbell Walker deserves credit for ventilating these matters; but it seems to me that if we had a Manual showing the correct mode of sowing, planting, felling, dragging, carting, and general mode of working the different forests, much misconception would be avoided and good results follow. Our present Manual is rather old, and was drawn up by various officers, some quite new to their duties. I would propose, if the Government consider it advisable, that a Manual for Forest Officers be drawn up by the Head of the Department; of course, in consultation with Forest Officers. The Manual might contain the rules of the Department, the

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mode of working different forests, the mode of planting pursued to be exemplified by rough sketches, the cost of carting, felling, dragging, etc.

OOTACAMUND,
12*th August* 1872.

(Signed) H. R. MORGAN, Lieutenant-Colonel,
Officiating Conservator of Forests.

No. 18. ORDER THEREON, 5th September 1872, No. 1,280.

Forests, No. 1.

ORDERED to be communicated to the Board of Revenue for circulation to Collectors and their Forest subordinates.

2. The question of employing sawing machinery in the larger forests is one to which the Conservator should give his attention in communication with the Superintendent of the Government Workshops.

3. The Government fully approve the suggested compilation of a revised Manual, and request Colonel Morgan to draw Major Beddome's attention to the subject on his return from leave.. Colonel Morgan is thanked for his Memorandum.

(True Extract.)

(Signed) W. HUDLESTON,
Secretary to Government.

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

Exd. A. S. Rodgers.

B

Memorandum on Captain Campbell Walker's Report.

Reserves.— 1.— The most important part of the Report relates to the fresh light thrown upon the communal rights of those living in the New Forests, and the action of Government regarding those rights.— It will probably be found that some similar action on the part of Government in this country would work well.— For instance where it is desired to improve a rich part of a Forest,— this part to the extent of one or even

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ten square miles might be fenced in and planted up, and at the end of 20 years when the trees were well grown might be thrown open. In this manner considerable areas of forests might be successively taken up without at all interfering with grazing or other rights.—

2.— At page 10 it is admitted by one authority that pits are better than mere slits "even in England, and I am very sure that pits are far superior to mere slits" for India. The cost of pitting seems much the same in both countries, but every-

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-thing depends on the soil, the richer and looser the soil, the smaller the pit, the harder and poorer the soil, the larger the pit. There is a third reason why deep pits are desirable in this country viz that the roots may rapidly bury themselves in the moist sub-soil below the influence of the sun's rays. Our pits in dry places are often two feet deep.—

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5. As we very probably shall no longer supply the Bombay dockyard, the suggestion of supplying the English dockyards direct is a good one. — *Admiralty Timber.*

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&c.

Office of Conservator of Forests.
Cotacamund 12th August 1872.

J. W. Ryves Lt. Colonel
Offg. Conservator of Forests.

No 1415

Office of Conservator of Forests

Cotacamund 12th August 1872.

From

Lt. Colonel A. R Morgan

Offg. Conservator of Forests

To,

The Honorable W. Hudleston

Secretary to Government

R. D.

Sir,

With reference to Captain Campbell Walker's Report on English and Scotch Forests I have the honor to forward a Memorandum on the subject, as certain suggestions regarding Reserves are made which in my opinion might with

No 1415 - 18

Enclosure

In a Letter No 1415 of 12th August 1872 from the Offg Conservr to the Secretary to Govt

R. D.

Rec. 26/7/72

with advantage be carried out.-

I have the honor to be,
Sir,
Your Most Obed.t Serv.t

J. W. Anglin Lt. Colonel
Off.g Conservator of Forests.

Rev. 1872-73. Dept.
No. 2672
Forest Department

From

The Offg. Conservr. of Forests.

To,

The Secretary to Govt.
R. D.

Dated 12th August 1872.
Received 13th August 1872.

No. 1415.

Enclosure No. 1.
Subject

Submits a Memorandum on Captain Walker's report on English & Scotch forests.

No. 1280-5 dated 12 Aug. 1872

14 Brandis Rev. dated 12 Aug. 1872
21 Rec. 13 Aug. dated 10 Sept.
13 Dept. 2 Sept. dated 12 Sept.

I should like to see Capt. Walker's report. H.L. 19/8

Brandis Esq. C.I.E. Offg. Conservator of Forests.

Sir,

I have the honor to forward herewith a Memorandum on Captain Walker's report on the Forests of England and Scotland, which I have drawn up in accordance with the instructions contained in your letter No. 1280-5 dated 12th August 1872.

I have the honor to be,
Sir,
Your most obedient servant,
D. Brandis
Offg. Conservator of Forests.

Dehra Dun
The 5th Sept. 1872.