Read the following papers :—

No. 45. From Major R. H. BEDDOME, Inspector of Forests, Ootacamund, to the Hon. R. A. DALYELL, Acting Secretary to Government, Revenue Deprrtment, dated Ootacamund, 11th August 1873, No. 1,861.

With reference to the G. O., No. 766, of the 22nd July 1873, I have the honour to inform you that the Para Caoutchouc (different species of Hevea) appear to grow in tropical America from about 5 N. to 5 S. latitude at or near the sea-level in a humid climate, with a mean temperature of 78° or 80,° with the extremes at 70° and 90,° and an annual rainfall of 60 to 90 inches. All these conditions can be obtained in Ceylon and along the Travancore ghauts at 1,500 to 2,000 feet elevation; but the farther north we go, the longer becomes the season of drought. At Nellumbore the seasons differ considerably: some years the north-east monsoon quite fails, and the March and April showers are also sometimes a failure; in such years there may be a drought of five or nearly six months; there is always some three months of exceedingly dry weather. The failure of the north-east monsoon is, however, unusual at Nellumbore; but as this monsoon seldom extends to Coorg and South Canara, the longer season of drought is usual in these more northern districts.

2. The Hevea is closely allied to the *Aleurites* (often called the Belgam Walnut)—a tree originally introduced into this Presidency from the Moluccas, but now growing admirably at Manantoddy and other parts of Wynaad.

3. Though I am afraid that March and April at Nellumbore might be fatal to young seedlings of Hevea, I believe it would answer on the Carcoor ghaut at 1,500 or 2,000 feet elevation, and probably at Manantoddy; but, as there can be no harm in trying it on a small scale at Nellumbore, I would suggest that, if a box of seedlings or seed packed in soil can be obtained, the Collector of Malabar should try it at all three places; the forest officer at Nellumbore can look after those to be planted on the Carcoor slopes, and the Wynaad forest officer those at Manantoddy.

4. If a box can be also sent to Travancore, I would suggest that they should be tried at Peermede and the western slopes at a lower elevation, and also to a small extent in the Trevandrum gardens.

No. 46. Proceedings of the Board of Revenue, dated 20th August 1873, No. 1,515.

Read the following Proceedings of the Madras Government, dated 22nd July 1873, No. 766, Revenue Department:—

ABSTRACT.—*Trees yielding Pará Rubber.*—Forwarding, for report, to the Board of Revenue, Inspector of Forests, and the Resident of Travancore, despatch from the Secretary of State regarding the cultivation of — in India.

THE Board of Revenue have the honour to answer the reference contained in G. O., dated 22nd ultimo, No. 766.

2. The description given by Mr. Collins in his report of the habitat of the tree which produces the Pará caoutchouc (*Hevea*) convinces the Board that it may be expected to flourish on the Western Coast of this Presidency, and, its product being more valuable and purer than that of any other rubber-bearing tree, the Board would give this species the preference.

3. The climate and rainfall of the Malabar Coast districts closely resemble those of the province of Pará; in the latter province, however, the region where the *Hevea* is abundant is an alluvial flat inundated part of the year and the soil is "nowhere sandy but always either a stiff clay, alluvium, or vegetable mould."

Page 7, Report

4. Such conditions would not all be met with in Malabar: an experiment on a moderate scale would show whether the formation of plantations might be undertaken with the hope of success. In the still uncleared parts of the Sunderbunds it would seem that every condition under which the tree thrives in Pará would be present.

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5. The *Ficus elastica* is found to be widely distributed throughout the forests of Assam: it already adds considerably to the Forest Revenue. If it were introduced into the forests of the Western Ghauts there could be little doubt of its thriving, and like other kindred species it is especially easy to propagate.

6. Of the climbing shrubs the best appear to be the Madagascar *Vahea* and the Bornean *Urceola:* the former produces the most valuable caoutchouc, and the climate of the forests of the Western Ghauts would probably suit it well. The Inspector of Forests will have recorded his opinion on the advisability of cultivating any climbing plant in reserved forests; the Board believe such cultivation to be objectionable where valuable timber is sought to be produced.

7. If, however, plantations of the *Hevea* should be formed, it would seem that one of the creeping producers of caoutchouc might be tried in those plantations, as the *Hevea* thrives in its native habitat in the most densely-tangled forest.

8. On a review of the whole facts brought to notice in Mr. Collins' report and Dr. Brandis' Memorandum the Board incline to the belief that the proper locality in which to extend the cultivation of the *Ficus elastica* is its native province of Assam and the forests adjacent, while for the introduction of the exotic *Hevea* and *Vahea* they think suitable sites for plantations are likely to be found on

the Western Ghauts, and especially in Travancore. The superior quality of the produce of these last-named species alone induce the Board to recommend their trial, for some uncertainty would attend their introduction; while the *Ficus elastica* flourishes in Ceylon (where a Member of the Board has seen fine and productive specimens in the Government Gardens near Kandy), and there can be little doubt that it would find the climate of the Western Ghauts and Travancore congenial.

No. 47. From G. A. BALLARD, Esq., Resident in Travancore and Cochin, to the Hon. W. HUDLESTON, Chief Secretary to Government, Fort St. George, Ootacamund, dated Trevandrum, 11th October 1873, No. 89.

ADVERTING to G. O., dated 22nd July 1873, No. 766, I have the honour, after communicating with the Dewans of Travancore and Cochin, and, through them, with the respective Conservators of Forests, to observe that the climate and conditions of many portions of Travancore and Cochin appear very suitable for the growth of trees yielding the Caoutchouc of commerce. There are several indigenous trees and plants yielding milky juices from which Caoutchouc perhaps may be extracted, but experiment alone can determine whether the process would be remunerative or not.

2. The Conservator of Forests, Travancore, mentions especially the Pachotti* (*Isonandra acuminata*†), a large tree growing in abundance at an elevation of from 2,000 to 3,000 or 4,000 feet, and submits some samples with a memorandum as to their preparation, which I forward‡ with this letter. There are other trees yielding somewhat similar juice in abundance that may be found useful.

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† *Vide* Drury's "Useful Plants of India," page 268.

‡ Will be sent by banghy.

3. The Conservator of Forests, Cochin, speaks of cuttings of the *Ficus elastica* as having been occasionally put down, but little attention was paid to their conservation. They seem, however, only to require the most ordinary protection from the depredations of cattle, etc., to flourish. One put down some fifteen years ago is said to be 2 feet 8 inches round the base of the trunk and 1 foot 4½ inches and 1 foot 3 inches round the lower branches.

He also mentions the *Isonandra acuminata* above said as producing an inferior Gutta-percha, and alludes to others that probably would yield the product.

Called in Cochin, പാളി, Pali.

4. If any plants or seeds are supplied, I am sure experiments will be made with care and attention.

5. This is not the first time attention has been turned to this matter.

I enclose, for easy reference, copy of a report submitted by General Cullen in 1859 on the subject of Gutta-percha.

I have not any information regarding the young trees of the true Gutta-percha mentioned by him in paragraph 10 of his report, but will make inquiries regarding them.

Proceedings of the Madras Government, Revenue Department,
10th November 1873.

No. 48. ORDER THEREON, 10th November 1873, No. 1,252.

Miscellaneous.

ORDERED that these reports be forwarded to the Secretary of State in reply to his despatch of the 30th of April last, No. 8, and with the request that some seeds of the different species of Hevea or Para rubber trees may be supplied to this Government for experimental cultivation in Travancore and Malabar.

(True Extract.)

(Signed) D. F. CARMICHAEL,
Secretary to Government.

To the Board of Revenue.
,, the Inspector of Forests.
,, the Resident in Travancore and Cochin.

Exd. F. R. Bantleman.

Revenue Dept.

No. 1252

Pros. of the Madras Govt.

Under date the 10th ~~October~~ Novr. 1873.

Read the following papers:—

From Inspector of Forests
Submitting report on G. O. regarding cultivation of trees yielding Para-rubber
Pro: Board of Revenue — H. L. 11 Augt. 1873, No. 1861

— Ditto — " 20 Augt. 1873, No. 1615.

From Resident in Travancore.
— Ditto — " " Octr. 1873, No. 89.

Ordered that these reports be forwarded to the Secretary of State in reply to his Despatch of the 30th of April last, No. 8, and with the request that some

Some seeds of the different species of Hevea or Para rubber trees may be supplied to this Govt for experimental cultivation in Travancore and Malabar.

Sd

Bd. of Rev.
Insp. of Forests
Resdt. in Travancore
} Secy. to Govt

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- Cultivation of trees yielding Para rubber

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