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MADRAS RECORD OFFICE.

Government of Madras.

Public works **DEPARTMENT.**

G.O. No. 492 Press ~~Mis.~~

227-28

Dated 12 2 1870.

Not to be folded or roughly handled

Proceedings of the Madras Government, Public Works Department, 12th February 1870.

No. 227. Read the following Proceedings of the Madras Government in the Political Department:—

Stating that the Governor in Council has perused with much interest the Memorandum submitted by the Resident on the Peermade and Cardamom Hills. } (Here enter 26th January 1870, No. 38.)

No. 228. ORDER THEREON, 12th February 1870, No. 492.

CIVIL WORKS, No. 30. COMMUNICATED to the Superintending Engineer of the 8th Division.

2. The subject of the petition referred to in paragraph 14, has been dealt with in G. O., No. 473, dated 11th February 1870.

(True Extract.)

Colonel, R.E.,
Secretary to Government.

No. 55. Read the following letter from G. A. BALLARD, Esq., Resident in Travancore and Cochin, to the Chief Secretary to Government, Fort Saint George, dated Peermade, 24th December 1869, No. 110.

I have the honour to submit copy of a Memorandum mainly on the communications on the Peermade and Cardamom Hills for the information of Government. A copy has been sent to the Dewan of Travancore.

No. 1039.

MEMORANDUM.

I have lately made a very interesting tour over these hills. My route was from Peermade across the Perryar to Gudalur Tavalam, by the existing track; thence by Nellicunapathy to Millyar Tavalam; thence down portion of the ghaut partially opened by the British Government in connexion with the great Perryar Anicut project and across the head of the Cumbum Valley to Comebay; and thence up a steep native ghaut past the Tavaran Mettoo to Udambanshola in the heart of the Cardamom gardens. From Udambanshola I returned by Kalkundal and Pulia Malei, to Thoduvullay Perryar, and thence by Perintora to Peermade. I had the advantage of Mr. Munro's company and guidance from Peermade to Thoduvullay Perryar.

2. Between Peermade and Millyar Tavalam there is only the native track, and in parts it is steep and difficult for a horse. Between Udambanshola and Peermade about 30 miles of bridle-path have been opened; the native track is circuitous and often difficult.

From Peermade to Gudalur Tavalam about	17	miles.
On to Millyar Tavalam	11	,,
From Udumbanshola to Kalkundal	7	,,
On to Pulia Malei	13	,,
,, to Thoduvullay Perryar	10	,,
,, to Perintora	14	,,
,, to Peermade	6	,,

3. There are several subjects on which I have requested Mr. Munro to be good enough to give me more particular information, and on some of these I may have occasion to remark hereafter. But I have now received a copy of that gentleman's report* to the Dewan on a road system for the hills, and I will offer some remarks thereon without delay, as it seems to me very desirable that Mr. Munro should be put in a position to push on with vigour the work which he has so intelligently and well begun.

* Dated 20th Dec. 1869, No. 93.

4. It appears that at first it was proposed to open paths on the hills to a width of three feet only. The Dewan considered that they should be opened to six feet through forest, and Mr. Munro has been opening to that width generally throughout. He estimates that he can do this at about Rupees 125 per mile. The sections already opened by Mr. Munro are, in my opinion, almost exactly the style of communication wanted at this stage for the development of these fine hills. Cart-roads as a rule cannot and need not be at present attempted. Good lines for cooly, bullock, and horse traffic are what are wanted. Mr. Munro determines a good line. Much attention is paid to the gradients and generally anything steeper than 1 in 16 is turned by zigzag or *detour*. Swamp is embanked across, with rough timber culverts for the passage of drainage and the smaller drainage crossed by rubble culverts or causeways of course crossing of the larger streams cannot be provided at the rates.

5. I am only afraid Mr. Munro, with a laudable desire for economy, has pitched his estimates rather low for what he undertakes.

I think that a really useful line once determined, the pathway provided should be six feet *clear* (excluding side-drain, parapet where required, &c., &c.,) that the stones used for the culverts and causeways should be larger than those I observed generally used so as to be less liable to displacement from passing traffic, scour from heavy rain, &c., that especial care should be taken that the embankments across swamps, &c., are of full width with easy side-slopes and ample waterway; and that check-drains with cross drainage should be provided. I believe it would be true economy when a line has been determined, to open it with a liberal construction of the above principles. Generally, with modifications at short sections here and there, Mr. Munro's traces as far as I have

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seen would be suitable lines for cart-roads should such be determined on at some future period, so that a more liberal expenditure than he estimates would be quite justified.

6. I may observe that only at the Perryar did I on my late tour have occasion to use a raft for my horses. All the other streams were fordable. It is only during monsoon floods that these streams are unfordable, so at present it does not seem necessary to discuss the question of bridging them. Where opportunity offers, a rough foot-bridge will be thrown across by the hillmen. But it would be well where possible to improve the fords by causewaying with large stones generally procurable near at hand, care being taken that the exact line of the causeway is plainly marked on the banks.

7. Turning to Mr. Munro's statement of roads I believe that all the lines he enumerates will be found useful and well-selected. On the very important line to the Cardamom Hills starting from the head of the Peermade Ghaut, the distances and amounts required seem to be as follows :—

Numbers on Mr. Munro's list.	Distance in miles.	Estimate.	
		Rate per mile.	Amount.
		RS.	RS.
Nos. 1 and 2.....	7	400	2,800
,, 3 to 7.....	49	125	6,125

Mr. Munro observes that Nos. 1 and 2 belong properly to the Department of Public Works. It is true there are Coffee estates along the line as far as Perintora; which the road will benefit greatly as they have now great difficulty in getting their produce removed. They are entitled to some consideration. But it is not proposed to carry the ghaut-road beyond the 45th mile from Cottyam on the finished scale on which it is being constructed by the Department of Public Works to that point, and the department have still plenty to do on and below the ghaut. The section is necessary at any rate to complete the communication between the ghaut and the Cardamom Hills. Considering all these circumstances I would decidely support Mr. Munro's recommendation that the Cardamom Hill road be traced on from the 45th mile (which may be considered Peermade ghaut-head) and opened to 10 feet clear as far as Perintora by Mr. Munro on his estimate; and that Rupees 2800 for this purpose be placed at his disposal for expenditure as far as he can efficiently manage it in March, April, and May next, when he may be able to work in this locality though prevented by the fear of sickness from carrying on active operations elsewhere. This sum may well I think be allowed from the several State funds, and should not be debited to the cattle-fee collections, which I understand are very judiciously set apart as a sort of Local Fund for opening the hill communications.

The expenditure of the further sum of Rupees 6125, which will complete the line on (six feet wide) by Thoduvullay Perryar, &c., to Kolapara station in the Cardamom country, should certainly be sanctioned.

I must again say that I am not quite satisfied that this line, as just proposed, can be opened satisfactorily as indicated in paragraph 5 for the low rate of Rupees 125 a mile. But I am sure its advantages will more than repay even enhanced expenditure, and if Mr. Munro can complete it for something near his estimate he will deserve very great credit.

8. I recommend sanction for the other items mentioned by Mr. Munro as in progress, or to be at once carried out.

	RS.
5 miles of foot-trace, &c.	625
45 ,, of rough	900

9. Mr. Munro seems to have been able to make very advantageous arrangements with the hillmen for maintenance.

It will be observed that the new route is expected to save (besides time) in cost of carriage of the cardamoms alone to the coasts some 6 or 7 chuckrums per tolam as compared with the present route. This may represent, I suppose, a direct saving to the Sirkar of some Rupees 500 or 600 per annum on this item, and strengthens (if it were necessary) the ground for recommendation that the

Proceedings of the Madras Government, Political Department,
26th January 1870.

grant of Rupees 2800 be allowed for the section from Peermade to Perintora from general State funds.

10. The importance of Roads Nos. 12 and 13, and the action to be taken regarding them, will best be determined when Mr. Munro's report on the forest tract, which he is about visiting and reporting on immediately, is received. Of the other roads he mentions I should be inclined to have those from Thoduvullay Perryar to Thoduvullay (No. 21), and Gudalur Tavalam by Millyar Tavalam to the Tinnevelly frontier (Nos. 17 and 18) taken up in due course. There is a quantity of fair teak along and near the probable line of No. 17, as well as a large extent of rich low-lying land that would make magnificent rice fields if people could be induced to settle there. But the climate at certain seasons is, I fear, very trying.

11. But there is one line of communication not mentioned by Mr. Munro that I am inclined to think may, with advantage, be also put under his management. I allude to the line from the Peermade Ghaut across the Perryar by Gudalur Tavalam to Gudalur and Cumbum in the Madura country.

I have not the papers by me to refer to, but I know that it was proposed to carry out this as a high class cart-road, and that the Peermade Ghaut as now being constructed was undertaken in such manner partially with the view of carrying out that design. The Chief Engineer proposed to leave the ghaut-road about the 43rd mile from Cottyam and strike eastwards thence. A rough trace for some miles between the ghaut and the Perryar has been cut by Mr. Valentine, and the line throughout I believe examined by Mr. Barton himself. It is a fine scheme, but after full consideration I am strongly inclined to think that its execution may well be postponed for the present, and probably for some considerable time to come.

I gather that positively the amount of traffic does not now pass over the hills that used this route in days gone by. Relatively, the traffic has greatly fallen off. The great improvements in the roads to the south through the Tinnevelly country and by Arambooly to Trevandrum, &c., and the improvement of the general communications; with the railway and water carriage in Cochin and North Travancore, has diverted the traffic to those lines; and the excellent line through the Aricnkavil pass lately so skilfully hit upon and traced and already so well pushed on by Mr. Barton, with extensive road systems converging thereon on both the eastern and western sides, must affect most materially the consideration of the Peermade hill route, and detract very much from its necessity and its probable usefulness.

12. I think, therefore, that all that is really wanted at present is the improvement of the present track much in the same manner that the other lines are being dealt with. I would not have further work undertaken on this communication by the Department of Public Works, but would make it over to Mr. Munro, and request him at his convenience to inspect the line carefully, and prepare a rough estimate for putting it in order. If the Sirkar improves the line to the Madura frontier the British Government would probably similarly improve the native ghaut, and the road below to Gudalur and Cumbum, if it requires it, on their side of the frontier.

13. A regular ferry should be established at the Perryar both on this line and at the Thoduvullay Perryar.

14. A petition from the Zemindar and some of the ryots of Comebay regarding an irrigation scheme advocated by them to be undertaken on the Cardamom Hills above the Cumbum Valley has already been brought to the notice of the British Government and the Sirkar.

Vide Resident to Chief Secretary, dated 21st December 1869, No. 108, and to Dewan, dated 23rd December 1869, No. 1033.

15. The hill tribes have suffered terribly from small-pox of late years. I have suggested that several vaccinators be sent up so that if possible a number of the people may be vaccinated before the unhealthy season sets in; and perhaps a visitation of small-pox after the monsoon, when it appears it generally sets in, checked.

16. As I before said I may have to offer some remarks on other subjects connected with the hills ere long. But I cannot close this Memorandum without expressing my high opinion of the intelli-

gent activity displayed by Mr. Munro in his interesting work. His direct success in the Cardamom management has been marked. His roadwork may be said to be an almost self-imposed task. He seems thoroughly to have won the confidence of the hill tribes; and if, as I hope, he is able to continue for some years at his post, I believe he will have accomplished much towards raising them in the social scale, and developing the little-known country of which he has charge.

PEERMADE,
24th December 1869.

(Signed) G. A. BALLABD,
Resident.

No. 56. ORDER THEREON, 26th January 1870, No. 38.

The Governor in Council has perused with much interest the Memorandum submitted by Mr. Ballard with his letter above recorded, and directs that a copy of the letter be furnished to the Public Works Department.

(True Extract.)

J. J. Hutchins

Acting Chief Secretary.

To the Resident in Travancore and Cochin.
,, Public Works Department.

Exd. J. Wright.

20 Jan 1870

P. W. Department.

No. 492

Proceedings of the Madras Government.

Under date the 12th Feby 1870

Read the following.

Pro. of The Madras Government } H. C. No. 38 of 26th January/70
Political Department }

Communicated to the Superintending Engineer of the 8th Div.

The subject of the petition referred to in para 14. has been dealt with in Cy. O. No. 473 dated 11th February 1870.

[illegible]

To the S. Engr 8th Div.
Political Dept.

Dept. 14/2/70

Proof Sent for February

No. 475

POLITICAL.

To

THE RESIDENT TRAVANCORE
AND COCHIN.

&c., &c., &c.

Dated January, 20th.

Read Feby 5th

G. O., 20th January 1870, No. 28.

JANUARY.
Nos. 55-58.

No. 221

ev. 492-12th Feby 1870

Cue 475

Govt. of {1870} Madras.

PUBLIC WORKS.

To

The Superintending Engineer
S. Division

Dated

Rec'd. Ans.

G. O. 12 July 1870, No. 492

Nos. 227-228

Permade and Cardamum Hills

Pro. Political Dept forwarding a copy of the Memorandum submitted by the Resident in Travancore & Cochin, on the Permade and Cardamum Hills - and Dist Off. comments thereon remarks.