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CONCERNS BOTH BRITISH INDIA
AND INDIAN STATES.

MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 1975

Press
Mis.

Dated

17-6

18 39.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
17th June 1869.*

No. 384. Read the following Proceedings of the Madras Government in the
Political Department:—

Deputing Colonel Walker to inspect, with Mr.
Barton, the Chief Engineer of the Travancore
State, the locality, and to state whether the
Wurkully project is feasible at a reasonable
cost. (Here enter 2nd June 1869, No. 189.)

No. 385. ORDER THEREON, 17th June 1869, No. 1,978.

CIVIL WORKS, No. 64.

COMMUNICATED to the Superintend-
ing Engineer of the 7th Division, who
will make arrangements to meet Mr.

* Barton at Wurkully, and will, after careful personal inspection, give his opinion
of the feasibility and probable cost of cutting and tunnelling through the barrier at
that place to complete the water communication between Trevandrum and Quilon
Alleppy, Cochin, &c.

(True Extract.)

Colonel, R. E.,
Secretary to Government.

To the Superintending Engineer, 7th Division.
,, Resident in Travancore and Cochin.
,, Political Department.

Exd. S. T. Augustin.

the

Govt. of Madras.

PUBLIC WORKS.

THE SUPERINTENDING ENGINEER,

1867.

Recd.

1867.

JUNE

Nos. 384-385

W. K. B. P. Project.—The Superintending Engineer of the 5th Division reported to the Government, for the consideration of the Government, the project of Mr. Barton, Chief Engineer to the Travancore Government, and report on the Wurkullay Barrier Project.

Proceedings of the Madras Government, Political Department,

2nd June 1869.

No. 6. Read the following letter from the Acting Resident in Travancore and Cochin, to the Chief Secretary to Government, Fort Saint George; dated Cochin, 8th May 1869, No. 37.

On taking up my appointment as Acting Resident, I found that voluminous correspondence had passed on the subject of cutting through the Wurkullay Barrier, the single interruption to through water-communication between Trevandrum, the Capital of Travancore, and the south; and Quilon, Alleppy, Cochin, and the north.

2. The Resident reported at some length as noted, and forwarded an estimate framed by Mr. Barton, Chief Engineer of Travancore, for opening the water-communication by cutting and tunnelling at a cost of about 4½ lacs of Rupees.

16th January 1867.

3. Mr. Barton's project was referred to Colonel Walker for report after personal inspection; but for reasons stated in his letter to the Secretary to Government, Department of Public Works, dated 23rd May 1867, personal inspection was not made. Colonel Walker, however, reported generally favourably on Mr. Barton's scheme, and Government observed that, in their opinion, the project was both feasible and highly desirable, and recommended its early execution with such means and appliances as might be at the disposal of the Travancore Government.

Vide G. O., dated 7th June 1867, No. 1704.

4. It does not appear that anything was done, probably owing to Mr. Barton's absence on leave, during the interim; but in February last, in reply apparently to a reference, the Dewan wrote to the Resident "that His Highness the Maharajah was prepared to sanction the work on the understanding that it was feasible, and that the cost would not materially exceed the estimate, which was less than five lacs." The Dewan "asked for the plans, sections, detailed estimates, &c." Mr. Newill replying referred to the Proceedings of the Madras Government above quoted, and observed that the whole project had come under the professional consideration of the Officers of the Madras Government, who would unquestionably have pointed out any glaring matter that would at all seriously affect the estimates.

Mr. Newill went on to say, "I do not understand how you can have any further means at hand of a satisfactory nature for checking the estimate, and as it is a national undertaking for which there are more than ample funds, and has now been too long deferred, I consider it inexpedient that any impediments should be thrown in the way of its execution on the ground of further inquiries of the nature proposed."

5. Finding matters at this stage, and impressed with the importance of the work, I took an early opportunity of mentioning the subject to His Highness the Maharajah and the Dewan.

His Highness assured me that he, impressed with the importance of the work, was desirous to see it undertaken, provided there was reasonable probability that it could be done for somewhere about the estimate, and that the Sirkar would not be committed to greatly enhanced expenditure.

A Memorandum from the Dewan, which gives his views at length, is submitted.

It will be observed that the Dewan estimates that some fifty carts only are now kept up to

NOTE.—From personal inquiries when passing the barrier going to and coming from Trevandrum, I should quote the present charge on existing traffic somewhat (say 25 per cent.) higher.

The contract for the monopoly of carrying at certain Schedule rates let for Rupees 10,000 per annum, whilst the monopoly was formed; but it was very liberally abolished some time ago by the Sirkar. Considering that the barrier lies between the capital and the principal ports of the Sirkar; and that North and South Travancore produce very different staples, consumable, however, mutually by either population, the ease given to traffic by the work in question could not fail enormously to increase interchange.

carry the traffic across the four miles of barrier; that each of these carts may make Rupees 150 per annum, and that consequently Rupees 7500 per annum may be taken as the value of the work on the present traffic, the cost of water-carriage being inappreciable, and not taken account of. Considering incidental benefits of saving in time, &c., he would allow Rupees 10,000 per annum; but with this, and allowing that increased facilities of transit would double the

present traffic, he points out that to give a return of twelve per cent. the expenditure should not exceed a capital of two lacs of Rupees.

He points to the diversity of opinion already expressed by professional men as justifying caution, if not suspicion. He thinks Mr. Barton's rates too low, and that sufficient allowance has not been made for contingencies.

Vide Mr. Barton's resume of former projects in his letter printed with the Proceedings of Government, dated 7th June 1867, No. 1704.

In fine he would have the locality inspected leisurely and thoroughly by an officer of standing of the British Government, mainly with a view to the expression of opinion, not only as to whether the project is feasible in the abstract, but whether it is feasible for the money estimate.

He is willing, however, to recommend the immediate execution of the work to His Highness the Maharajah, if the British Government, on the information already before it, expresses itself satisfied that the work can be executed within five lacs of Rupees.

If the Madras Government will neither give this expression of opinion, nor depute an officer, he argues that there are roads; improvements of the canals north; and extensions of it south, that might be more profitably undertaken than the barrier scheme.

6. The great importance of the work has been recognized and is undoubted. Former papers of the Dewan's dwell much more strongly on this point than his present Memorandum.

Now the main question, it will be observed, resolves itself into this. Can the work be done for about five lacs of Rupees?

I cannot but think the Sirkar has some reason for the doubts it entertains in this respect.

Dated 23rd May 1867, No. 33.

Vide Proceedings of Government, dated 7th June 1867, No. 1704.

In his report (paragraph 5) Colonel Walker says, "All difficulty to the supply of funds being apparently overcome by the assent of the Travancore Rajah, and favourable financial statements of several residents." and again (paragraph 8) "as to Mr. Barton's rates he is the only competent person to judge of them from his local experience."

These expressions, whether rightly or wrongly, do not appear assuring to the Sirkar, and especially when taken in connexion with

Vide Proceedings of Government as above.

Mr. Kennedy's words, (paragraph 44,) which are, "If it were resolved to connect the backwaters 'and let the boats pass on unobstructed at any cost, and in such case the cost must be a secondary consideration.'"

7. The Sirkar, therefore, earnestly desires that the Madras Government will be pleased to depute an officer of standing to go over the ground with Mr. Barton; make such examination as may be necessary, and finally advise as to whether, in the said officer's opinion, the Sirkar may have reasonable expectation, not merely of eventually carrying out the work "at any cost," but of completing it for something like the estimate; or even for about five lacs of Rupees.

I beg to express my strong hope that Government may be pleased to comply with the Sirkar's requests, and need hardly submit that it is most desirable that the question should be speedily settled one way or the other, as if this work is not to be taken up, the Sirkar's funds and the Engineer's attention should be applied at once to others instead of it.

It would, however, in my opinion, be extremely to be regretted if an undoubtedly important work, on which so much thought has been bestowed for so many years is abandoned without very cogent and positive reason for giving it up.

Memorandum on the Wurunkullay Junction Canal.

The subject having been personally discussed between the Acting Resident and myself. I need not here dwell on it at any great length.

The system of leasing out the postage a cross the Wurunkullay Barrier was abolished in the year 1867 by way of relief to trade. It is now open to any one who chooses to do so, to keep a cart or other conveyance for the transit of the traffic. The number of carts, therefore, now plying on the barrier is a very fair measure of the present traffic. This number I have ascertained to

be on an average 50 per diem. They are generally small carts, and the annual earnings of each may be estimated at 150 Rupees: consequently the aggregate earnings for the year of all the 50 carts must be 7500 Rupees. This amount then is the value of the relief which will be conferred on the traffic if the barrier be cut through by a canal. Strictly speaking, the cost of water transit for the length of the junction canal must be deducted from the said 7500 Rupees. But this item may be safely left out of account without overestimating the value of the benefits expected to result from the canal.

The canal will also obviate some delay and inconvenience, and on this account some 2500 Rupees may be added to the 7500 Rupees, above adverted to, as the actual saving in the cost of transit; and it follows that 10,000 Rupees is as near an approximation to the pecuniary value of the benefits of the proposed canal as can be made. Let us take it even at 12,000 Rupees to be sure that no one thinks we undervalue the results.

Now, an annual gain of 12,000 Rupees is equivalent to the capital value of 1,00,000 Rupees at 12 per cent. In other words, if the State should expect a return to the community of 12 per cent. on capital laid out on any work of public utility, the Wurunkullay Canal, calculated to yield the annual return of 12,000 Rupees, would be worth undertaking at a cost of 1,00,000 Rupees only.

But let us suppose that, in consequence of making the canal, the traffic will increase in a reasonable period, say, it will double itself. Even then, the canal would be worth 2,00,000 Rs. only.

Let us take a still more liberal view. Say the State in such a case may be content with a six per cent. return upon the outlay. It follows that the Junction Canal would be worth 4,00,000 Rs., but no more.

Mr. Barton's estimate is 4,50,000 Rupees, and this does not materially differ from the limit arrived at in the immediately preceding paragraph.

It is hence evident that in reference to the benefits expected, valued as they have been very liberally, the State would not be justified in spending much more than the amount of Mr. Barton's estimate.

To a small State like this, it is obviously very important to take security against being committed to any large work costing an extravagantly higher amount than it was at first led to expect. If sure that Mr. Barton's estimate would not be much exceeded, I would most readily join in recommending to His Highness the undertaking of the Wurunkullay Junction Canal. But I am far from sure.

Now may not a thorough verification of the estimate, as it stands framed, be sought for the satisfaction of all parties.

It seems to me that Colonel Walker's opinion, which the kindness of the Madras Government has enabled us to obtain, refers chiefly to the feasibility of the work as a piece of engineering. It refers to cost as quite a subordinate consideration.

It is to be much regretted that Colonel Walker was not able to comply with the request of the Madras Government which was to the effect that that officer should personally inspect the barrier and report thereon. A personal examination of the region would have enabled him to judge more independently both as to the plan and the estimate, and especially the latter.

Now, it appears very desirable, if possible, yet to arrange for obtaining a thoroughly independent opinion on the question of cost, it being made an essential condition that the basis of that opinion should be a personal scrutiny on the spot.

Such a course appears all the more desirable because the work, as regards cost as well as plan of execution, has undoubtedly given rise to considerable diversity of opinion on the part of professional men.

I may frankly confess my serious fear that Mr. Barton has unconsciously made too sanguine an estimate as he has done in some other instances; in other words, he has greatly underrated the cost. This under-valuation is probably of a twofold character. His rates are too low, and further, he has not sufficiently taken into account the additional works required to meet the difficulties likely to arise from the character of the strata to be operated upon so extensively.

Public Works Department
 No. 1978
 Proceedings of the Estates Government
 Under date the 16 June 1869.
 Read the following

M. Govt. Political Dept. 1869 d/ 2 June 1869.

Communicated
 to the Superintending Eng^r
 of the 7th Divⁿ, who will
 make arrangements to
 meet Mr. Denton at
 Kankully and will,
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 inspection, give his opinion
 of the feasibility and
 probable cost of cutting
 and tunnelling through
 the barrier at that
 place to complete the

Let the 1869 d/ 2 June 1869.
 M. Govt. Political Dept.
 POLITICAL

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THE RESIDENT IN TRAVANCORE

AND COCHIN.

Acc. Acc. &c.

Dated June, 2nd.

Recd. " 19th

Encl.

G. O. 2nd June 1869, No 189.

JUTH.

Nos. 6-7.

Deputing Colonel Walker to inspect, with
 Mr. Barton, the Chief Engineer of the Travancore
 State, the locality and to state whether the Work
 may proceed is feasible at a reasonable cost.

No 1978-16- June 1869.

the water communication
between Travancore and
Quilon Allepy Cochin
per

Wb

To The S. Engr^v 7th Divⁿ
Resident in Travancore
and Cochin
Political Dept^t

Dec^r 18/6/69

C. 2410

Govt. of (1869) Madras.

PUBLIC WORKS.

To
The Superintending Engineer
7th Division

CONCERNS BOTH BRITISH INDIA
AND INDIAN STATES.

Dated

Recd.

Encl.

G. O. 16 June 1869, No. 1978

Hob. 384-385

Wurkhullay Banner Project The Secy
Engr of the 7th Div requested to make
arrangements for meeting Mr. Barton,
Chief Engr. to the Saurashtra Govt., and
report on the Wurkhullay Banner
Project.