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MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	1005	Press
B.P. No.		Mis.
14-15		
Dated	1-4-	1873

Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,
1st April 1873.*

No. 14. Read the following Proceedings of the Government of India, Public Works Department, (Irrigation,) dated Fort William, 18th February 1873, No. 104-I. :—

Read—

Despatch from the Secretary of State for India, to the Government of India, dated 18th December 1872, No. 114.

Enlargement of the Chembrumbaukum Tank in Madras.

I HAVE received and considered in Council your Excellency's letter No. 112 of 9th September last, reporting proceedings relative to a scheme for enlarging the Chembrumbaukum Tank, distant 17 miles from the City of Madras, and described as one of the finest and largest tanks in the Madras Presidency.

2. A previous scheme for the same purpose, whereof the cost was estimated by the Madras Government at $3\frac{1}{2}$ lakhs, but was expected by your Government to become more nearly 6 lakhs, was sanctioned in the autumn of 1867, in full confidence apparently that the annual returns, being calculated by the Madras Authorities at about 20 per cent. on the amount of the smaller estimate, would not fail to be at least 9 per cent. on that of the larger. According to this earlier project, an addition of 16 feet was to be made to the height of the bund (more than 4 miles long) by which the tank is sustained, the capacity of the tank being thereby raised from 55 to 196 millions of cubic yards, and means of irrigation provided for a greatly extended area. Subsequently, however, to the sanctioning of this project, it was discovered to be vitiated by two serious errors, and the consequence is that it has been abandoned, although not until after an expenditure upon it of Rupees 1,11,141, or about £11,000, and that, in substitution for it, the present plan, which is to add only 6 instead of 16 feet to the height of the tank, and the annual returns from which are expected to be under 5 per cent. on the estimated outlay, has been submitted by the Madras Government, and sanctioned by your Excellency's Government without apparently any hesitation, except on one point of very secondary interest.

3. Your Government has ruled that to the cost proper of the new scheme, estimated at Rupees 3,02,859, shall be added the Rupees 1,11,141 "expended in prosecuting the original scheme on erroneous data," thereby raising the total to Rupees 4,14,000, and reducing to only 4.21 the expected percentage of net revenue, and also that of this total, the sum of Rupees 1,94,964, already expended from Loan Funds, may continue to the same debit as a special arrangement, but that the balance must be provided from the ordinary grants of the province. The principle by which you have been guided in thus deciding, instead of acceding to the proposal of the Madras Government that the actual cost of the new scheme should be borne by Extraordinary, and the money wasted on the old scheme refunded from ordinary funds, is not explained; and I do not myself perceive how any part of the expenditure can, consistently with the rules in force, be treated as Extraordinary, seeing that no portion of it is expected to yield even so much as 5 per cent. of annual profit. On the other hand, if, as appears to be the case, what is called the "6 feet"

be quite distinct from, and independent of, the abortive "16 feet project," to charge the new project with money wasted in the old one cannot but have the effect of making the 6 feet project appear an even less profitable investment than it really is. These, however, are comparatively unimportant questions, from which I pass to one of considerably greater consequence.

4. The two serious errors mentioned as having been committed in the original project were to the following extent:—(1) That the contour of the proposed full level of the lake, "instead of reaching only up to, or a little beyond, where the trunk road crosses the new Bungairo, really passed through the depression at that point, and then spread out so as to submerge 2,130 acres of land," of which 1,770 were worth at least Rupees 200 per acre, so that their purchase would of itself have necessitated an extra outlay of Rupees 3,54,000, or more than the whole amount of the original estimate. (2) That the drainage basin which had been depended upon as the main source for the future increased water-supply, so far from sufficing to fill the enlarged tank, has not, in more than one out of three consecutive years of actual observation, furnished more than one-fourth of the quantity needed to fill even the existing tank. As to how it was that Mr. W. Fraser, the Executive Engineer by whom the scheme was drawn up, came so extraordinarily to mistake the contour of the projected lake, nothing is said in your Excellency's letter under reply, or in its enclosures, possibly because the fact was perceived to admit of only one explanation. For the over estimate of the water-supply, however, some excuse is suggested in a note drawn up, under date 30th November 1870, by Major Mullins, at that time Chief Engineer for Irrigation to the Madras Government. This note is not to be found among the papers by which your Excellency's letter under reply was accompanied, but I have had portions of it extracted from the printed volume of Madras Public Works Consultations for the first quarter of 1871, and appended for facility of reference to this despatch. In the language of the note, "Mr. Fraser's argument with reference to the data at his disposal was fair enough." Moreover, "he took pains to ascertain from rain-fall and revenue records what the facts were * * *, and no better data were then to be had." Yet, as Colonel Mullins proceeds to intimate, Mr. Fraser did not trouble himself to collect data with reference to the particular drainage basin really in question, but contented himself with the records of rain-fall of the Madras Observatory, a locality at least 17 miles distant from the nearest point of the tract of country draining towards the tank. If he had been at the pains of making proper inquiries on the spot, he could not have failed to learn, as Colonel Mullins himself subsequently did, that "considerable falls of rain might occur at Madras without the tank getting more than a nominal amount of water;" and also that in no more than eight out of twenty-one consecutive years had the tank received enough water to allow of any passing over its surplus weirs. Neither, in that case, could he easily have failed to perceive that the tank did not really require enlarging at all, for that, if filled to the extent of its present capacity, its contents would be more than sufficient to irrigate the whole of its *ayacut*, or of the cultivable land commanded by it.

5. I have no desire to press with special severity on Mr. Fraser. The proceedings of his under review are spoken of by the chief adviser in irrigation

affairs of the Madras Government in terms rather of commendation than otherwise, and have not been visited with one word of censure by either that Government or the Government of India. Presumably, then, they were characterized by no greater remissness than any officer of the department might be guilty of, without thereby forfeiting his claim to have acquitted himself fairly well. It is apparently not so much himself as the system that was to be blamed. But, if so, no condemnation can be too severe for a system, according to the ordinary routine of which it is possible for a project to be submitted, with all the parade of detailed elaboration and of no less than 23 sheets of plans, for an expenditure thereon of 3½ lakhs to be authorized on the assumption that the annual return would be at least 9, and might be 20 per cent., and for the project to be, after an interval of three or four years, abandoned on account of its containing inherent defects that would inevitably cause the result of its continued prosecution to be, instead of high profit, heavy loss, yet not abandoned without more than £11,000 being expended subsequently to the detection of these glaring and fatal defects. For that this is no exceptional case is clear from the fact of my having, within the last few months, found myself called upon to animadvert on similar heedlessness in the preparation of irrigation projects, in three several instances,—those of the Moota Valley, the Madras Water Supply, and the Orissa Works, with regard to each of which confident promises of signal financial success were at first held out, and of which one has already proved, and the other two threaten to prove, and long to continue, signal financial failures. There must plainly be something radically wrong in a system under which such results are of such frequent occurrence, and I must desire your Excellency's Government to give to the subject your immediate and most serious attention, with a view to the application of a proportionately radical remedy. Recent disclosures are, I confess, causing me to contemplate, with no small apprehension, the possible consequences of the large extension of works of irrigation on which the Indian Government is engaged, and of the wisdom of which I had previously entertained no doubt. Several irrigation schemes on a gigantic scale are already in process of execution, and many more are in preparation, which it was sanguinely hoped would benefit the people of India, not more by their direct influence in agriculture than indirectly by causing a largely augmented flow into the national exchequer, but, unless very much more thought has in general been bestowed upon them than those specially adverted to above, would seem to have received; it is only too probable that the 30 millions sterling which have been provisionally accepted as the amount in round numbers required within the current decade for the extension of irrigation, may eventually prove to have been expended, not in diminution, but in augmentation, of the national debt of India.

ORDER.—Ordered that a copy of this despatch be forwarded to the Government of Madras for information and guidance, with request that every precaution may be exercised in submitting projects for irrigation works in future.

(Signed) G. P. SKIPWITH, Captain, R.E.,
Asst. Secy. to the Govt. of India.

*Proceedings of the Madras Government, Public Works Department,
1st April 1873.*

No. 15.

ORDER THEREON, 1st April 1873, No. 1,005.

IRRIGATION, No. 3.

ORDERED to be communicated, to the
Revenue Department, the Chief Engineer
for Irrigation, and all District Engineers.

(True Extract.)

Lieut.-Colonel, R.E.,
Joint Secretary to Government.

W. 1873 Department
12 12 65

GOVERNMENT OF INDIA.
PUBLIC WORKS DEPARTMENT.
IRRIGATION.

To

No. 104 I.

Dated February 18, 1873.

Received — 25 —

W. 1873

13072
1000
at Bangalore

Chief Engineer

Ordered to be communicated to the Revenue Department for inspection and all District

in 1873

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Govt. of 1873 Madras

PUBLIC WORKS.

to District Engineers

Notes

Recd.

Encl.

G. O. 1 April, No. 1005.

No. 149/5

Chembumbakam Tank.

~~Passing order~~ No. of the
Govt. of India forwarding
a despatch from the
Secy. of State relative to

the enlargement of the
Tank and requesting that every
precaution may be exercised
in submitting projects for
irrigation works in future, con-
sidering the fact that the Government