

MADRAS RECORD OFFICE.

Government of Madras.

Finance DEPARTMENT.

G.O. No. 581	Press Mis.
Dated 23. 11 -	1860

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Proceedings of the Madras Government, Financial Department,

23rd November 1860.

No. 58. Read the following Proceedings of Government in the Public Works Department,
(Public) dated 20th November 1860, No. 2,397.

*Forwarded for instructions being issued through
the Financial Department to Dr. Shaw, Assay
Master, to assume charge of the Mint during
Major Orr's absence on special duty in con-
nection with the Irrigation Works, &c.* } (Vide Proceedings Public Works Department,
dated 20th November 1860, Nos. 311 @ 315.)

No. 59. ORDER THEREON, 23rd November 1860, No. 581.

Resolved, in reference to the last paragraph of the foregoing Proceedings, that Dr. Shaw,
Assay Master, be directed to assume charge of the Mint during Major Orr's absence on special
duty, and Dr. Scott, Deputy Assay Master, will take charge of the Assay Department during Dr.
Shaw's employment in the Mint.

(Signed) T. PYCROFT,
Chief Secretary.

Exd. T. O'Connor.

PROCEEDINGS OF THE MADRAS GOVERNMENT.

Read the following papers :—

From the Consulting Engineer for the Irrigation and Canal Company.

Forwards with his opinion a letter from the Consulting Chief Engineer, to the Secretary to the London Board on the revision of the scheme being rendered necessary by the orders contained in the Despatch from the Secretary of State of the 29th June last, No. 41. (Here enter 2nd November 1860, No. 85.)

Minute by the Honorable the President.

(Here enter 8th November 1860.)

Minute by the Honorable Mr. Maltby.

(Here enter 10th November 1860.)

Minute by His Excellency the Commander in Chief.

(Here enter 11th November 1860.)

ORDER THEREON, 20th November 1860, No. 2,397.

1. With his letter of the 2nd instant the Consulting Engineer submits copy of one addressed by the Chief Engineer of the Irrigation and Canal Company to the Board of Directors in England sketching a scheme of works not to exceed in cost one million sterling, to meet the refusal of the Right Honorable the Secretary of State to allow an increase to the guaranteed capital.
29th June 1860, No. 41.
In Proceedings, 9th August 1860,
No. 1,696.

2. The revised scheme comprehends the works at and near Kurnool for the purpose of turning water from the Tumbaddra into the Kundár and the Pennár, together with works for irrigation in the Kundár Valley, and for a line of navigation by canal and river to the coast canal at Kistnapatam. It also includes the construction of the reservoir on the Huggry at the Mári Kanvai, intended to supply summer water for both the irrigation and the navigation; but it omits the upper portion of the original scheme as sanctioned by Government on the 4th April 1860, No. 716, for irrigating the Bellary District. The amount of the whole Estimate including Home and Agency charges, and a considerable margin for unforeseen items is a hundred lacs of Rupees, or one million sterling.

3. The Government disapprove the omission of the Bellary part of the original project, as it was one of the chief objects of Government that the Bellary District should be supplied with water.

4. As far as the Government are aware the Mári tank scheme has not yet met the sanction of the Mysore authorities, and the Company will learn from the Despatch of the Secretary of State to the Government of India, dated 9th August last, which has just been communicated to their Agent, that, if they undertake that scheme at all, they must do so as a separate work and without a guarantee. This Government is not now authorized to take into consideration any scheme of which the Mári tank forms a part and must therefore require the Agent of the Company to submit a new plan of operations for the Bellary District. Meanwhile they proceed to make remarks on that portion of the modified scheme now before them which relates to the Kurnool or 4th Section of the great original plan.

5. From the smallness of the sum put down for "two Locks and Junction Canal," viz., one lac of Rupees, the Government are in doubt whether any provision is made for the canal between the Tumbaddra and the Kistna. They observe that Rupees 40,874 have been already expended in only partially excavating the short piece of the canal which is to connect the Tumbaddra at Kurnool with the Sunkasala channel, and that the two locks are to cost according to the Estimate Rupees 25,000 each. More than the sum entered in the Estimate will thus be apparently required for the portion of the Junction Canal to the south of Kurnool. It is therefore a cause of surprise that 2 lacs of Rupees should be proposed to be expended on an Anicut at Kurnool solely for the purpose of this junction navigation canal without apparent due provision being made for connecting it with the Kistna. But the Government entertain serious doubt whether this work should be undertaken at all.

6. On the data furnished, the Government find it impossible to form any opinion as to the worth of the calculations on which the various items are based. The total is given as one million, and the Consulting Engineer assuming that the Chief Engineer has framed the Estimates on sufficient data has expressed himself satisfied with them considering that they are ample for the objects proposed.*

* Paragraph 36.

7. There is however one circumstance connected with this new plan, which is not noticed by the Consulting Engineer, but which in the opinion of Government is a most important one, i. e. that no provision is made for the storage of water to afford the supply necessary to fill, after the freshes have passed away, the channels, canals and rivers to be used between Kurnool and Kistnapatam by the Irrigation Company. The supply of water hoped to be obtained from the Mâri tank, and carried, it is presumed by the Huggery river into the Tumbaddra above the Sunkasala Anicut, cannot, after furnishing water for $2\frac{1}{2}$ lacs of acres in Mysore and Bellary, be sufficient to compensate for the want of the reservoirs in the valley of the Hindri and the Pennâr. That the Tumbaddra alone is not equal to the supply needed is generally admitted. The Kundâr is without water for a considerable period in each year; and the waters of the Pennâr are already required by Government for the supply of the channels connected with the Nellore Anicut. It is not apparent, therefore, where the required water is to be obtained, as it does not appear to be provided for in the Chief Engineer's Estimates.

8. This omission is the more remarkable, because the construction of reservoirs was certainly the grand and peculiar characteristic of the plans formerly put forth by the Company, and without which it was not expected by them that their project to combine Irrigation and Navigation could be successfully carried out. On this point the following extract from Colonel Horsley's letter to Government dated 28th May 1860 paragraph 8 relative to the proposal made by this Company to build an Anicut across the Pennâr especially deserves attention. "One thing however I would say, and that is, that seeing that the success of the Irrigation Company's scheme depends entirely upon the storage of water during the freshes for use in the dry season, it would seem that large reservoirs are the first thing to be thought of; or at all events, that they ought to be carried on simultaneously with the works for arresting and distributing the water of the several rivers embraced within the grand project. Otherwise the Anicut and channels although constructed, will be comparatively useless."

9. Again, Captain Rundall, in his letter of the 1st February 1860, expresses himself as follows:—

"During the remaining months however (from December to June) the small quantity (of water) in the Tumbaddra cannot be touched, and the canals must remain dry unless recourse be had to reservoirs. It would be manifestly bad economy to close the communication for six months of the year when the cost of storing additional water is comparatively so small. To say nothing of the summer irrigation, half the utility of the works would be lost if the navigation was interrupted; and there can be no question but that reservoirs must be made for securing the summer supply. Indeed one of the principal benefits looked for from the Company's operations is their utilizing the surplus water of the freshes which is at present lost. It has been shown that the Mâri tank will supply enough for 3,00,000 acres and suffice for the canal between Paramdevanhulle and Kurnool. For the Kundâr Valley I have recommended the Chief Engineer to examine a site on the Hindri, about 10 miles above Kurnool where it is probable the whole rain fall of the basin may be collected. At present no use whatever is made of that river. I believe there is not a single acre of land to which a drop of its water is led, and that thus more than 2,000 millions of cubic yards of water are annually lost. The whole basin of the Hindri lies within the District of Kurnool. Its water will therefore be appropriately turned to account when distributed over that District. The storage of 2,000 millions of cubic yards will ensure a daily supply of 300,000 cubic yards per hour for 180 days, much more than sufficient to maintain a first rate navigable canal; and judging from information, I have lately received render also the Pennâr quite accessible to boats drawing three feet of water."

10. The Chief Engineer Colonel H. C. Cotton wrote in a similar strain. In his letter to the Directors of the Company dated 21st December 1859, he pointed out that from December to June the Kistna and Tumbaddra rivers have no spare water so that reservoirs must be relied on. Accordingly his description of the 4th Section or Kurnool project showed that the estimate of Rupees 41,52,500 provided for as its 8th feature "the storage of a supply of water in large reservoirs" and that 300 millions cubic yards of water were to be stored "in a reservoir for which an eligible site appears in the course of the Hindri river."

11. Thus all these three Officers have expressed decided opinions as to the necessity of extensive reservoirs to supply summer water; and it is therefore with much surprise that the Government find in the present plan no provision for that important object, with the single exception of the Mâri tank. But even if that reservoir had been available, it seems doubtful whether its water would suffice for the wants of Bellary; and as it is 200 miles distant from Kurnool, it would appear little adapted to supply a long line of canal from that place to the coast. Under any circumstances, it would seem a more suitable and economical arrangement to use the facilities which have been reported to exist in the neighbourhood of Kurnool itself for storing water.

12. The change of plan involved in the omission of the reservoirs is so essential, that the Government are of opinion that they cannot act further in the matter until they have obtained from an experienced Engineer Officer a full report on the present project. This measure is rendered the more necessary, from the extensive alterations which have been proposed in the Kurnool works.*

* Proceedings 9th November 1860, No. 2324.

13. The Government resolve therefore to appoint to this important duty Major Orr, Mint Master, whose experience and skill in irrigation works are acknowledged to be of the highest stamp. Major Orr's attention will be directed to the following points:—

(1.) The eligibility of Sunkasala as the new site of the Anicut across the Tumbaddra, and the suitability of the chain of works leading from it to the coast for their intended purposes of irrigation and navigation; also the sufficiency of the sums estimated for constructing them.

(2.) The means by which summer water is to be obtained either for irrigation only or for irrigation and navigation combined, during the dry half of the year, or from December to June.

(3.) The alterations now proposed in the Pennâr portion of the line of navigation, in consequence of that river having been discovered to be itself unfit for navigation.

(4.) The propriety or otherwise of abandoning the works which have been commenced at Kurnool.

14. The first of these is an Engineering question on which the Government have not now the means to form an opinion. On the second they have already stated their sentiments. As regards the 3rd point, Major Orr's investigation will be valuable, not only in showing whether the new plans will be advantageous to the Company, but also whether they will interfere with existing interests, especially as respects the project of constructing an Anicut across the Pennâr at Soméswarem. In a Minute lately recorded the President has pointed out the necessity of protecting existing irrigation works and a copy of that Minute* will be communicated to Major Orr.

* Dated 16th October 1860.

15. The 4th point is also one of great importance, and the Government desire that pending Major Orr's report, work should be stopped at Kurnool on the Anicut and on the junction navigation canal which it is proposed to make from the Sunkasala channel to the Kistna. This canal is only 15 miles in length, and the junction was to have been made from the north end of the Anicut below Kurnool, by which originally the Kundâr Valley canal was to be supplied. That Anicut is now to be placed 18 miles above Kurnool, and the junction canal should therefore be led off from its northern side. It was no part of the original plan that a separate Anicut should be built in order that this junction canal might be in a particular spot, and to continue the Kurnool works for the sake of it would apparently be a large and unjustifiable waste of money. The Chief Engineer's present estimate allows three lacs for completing an Anicut at Kurnool for two locks and the junction canal, but unsuitably great as that expenditure would be for such an object, the real outlay must be much more. The dam and one lock at Kurnool are estimated to cost two lacs. One lac therefore only remains for the canal and two locks. But the estimates show that locks cost Rupees 25,000 each, so that only Rupees 50,000 remain for the work of excavation. Now the portion of the canal on the south of Kurnool although only two miles long and although only finished to "1/4th of its intended width" has already cost Rupees 40,874. The estimate of three lacs must therefore be much exceeded even without any money remaining for excavating the 12 miles of canal from the north of Kurnool to the Kistna.

16. If the country between the two rivers is a flat delta, there will not apparently be difficulty in leading off the junction canal from Sunkasala, the site newly fixed on for the Anicut, and in this case it seems wise to abandon the works commenced in error at Kurnool, instead of completing them at an increased and unsuitable expense. At all events it appears advisable to suspend them pending Major Orr's report, especially since no local storage of water for the summer months has been yet provided for and without such aid the Sunkasala channel must be useless for navigation during half of the year.

17. During the time that Major Orr may be employed on the duty above specified, the duties of Mint Master will be carried on by the Assay Master Dr. Shaw, and instructions to this effect will be issued through the Financial Department.

(True Extract.)

J. S. M.

Acting Secretary to Government.

To the Consulting Engineer, for the Irrigation and Canal Company.
 " Agent for do. do.
 To Major C. A. Orr.
 " the Financial Department.
 " Civil Auditor.
 " Chief Engineer.
 " Board of Revenue.
 " District Engineer, Kurnool.

Exd. S. T. Augustin.

Tril 1860 Sept 16

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With an Order

Order thereon

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To Dr. Shaw, Deputy Master
Dr. Shaw, Deputy Master
Scott General
Civil Auditor
but not to be