

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT

G.O. No. 826

Press
~~Mis~~

657-660

Dated 21/12/1918

Not to be folded or roughly handled

*Proceedings of the Madras Government, Revenue Department,
24th March 1869.*

No. 659. Read the following Proceedings of the Madras Government in the
Public Works Department:—

Passing orders on the letter from the Govern-
ment of India sanctioning, with remarks, the
estimates amounting to Rupees 8,31,600 for
extending irrigation from the Tambrapoorney
river in the Tinnevely District. (Here enter 16th March 1869, No. 844.)

No. 660. ORDER THEREON, 24th March 1869, No. 836.

Irrigation No. 15.

Communicated to the Revenue Board.

(True Extract.)

(Signed) H. W. WELLESLEY,
Acting Under Secretary to Government.

To the Board of Revenue, with Proceedings, Public Works Department, No. 844.

Exd. G. A. Turton.

No. 416. Read the following letter from the Secretary to the Government of India, Public Works Department, (Irrigation,) to the Secretary to the Government of Fort St. George, Public Works Department, dated Fort William, 11th February 1869, No. 531:—

2. The project has been carefully prepared, and in its engineering features calls for no special remarks. It is based on a scheme drawn out several years ago. The river which supplies the works is stated to be one of the few in Southern India which carries a constant stream of water through the year, and therefore to be of much value as a means of irrigation. There are several other weirs and channels on the upper parts of the river, but there is still a constant flow of water available at the proposed site of the new weir, and this it is now intended to utilize to the utmost.

4. The calculation of the area likely to be irrigated with this supply of water, and the probable revenue to be got from the new works, may be made as follows:—

6. A comparison of these estimated areas with the water-supply may next be made. The 600 cubic feet per second of minimum supply in the south-west monsoon half-year would, at 66½ acres per cubic foot, the rate assumed by the Madras Engineers, give 40,000 acres; during the rest of the year, with a minimum of 200 cubic feet per second, the area would be 13,500 acres. In all 53,500 acres. The aggregate of the areas before stated is 32,667 acres of double crop, or 65,334 acres of single crop. This would leave about 12,000 acres to be provided for by the excess supply above the minimum quantities which have been taken as the basis of the above calculation, and by the water that may be stored in the tanks which form part of the system of works. This presumption seems quite fair, and

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16th March 1869.*

supposing that the land is generally capable of bearing two crops yearly, which also may be assumed to be the case, the estimate of area appears satisfactory. If the whole area of the tract commanded by the works is 120 square miles, and if 500 acres per square mile is taken as the culturable portion, there would be a total culturable area of 60,000 acres, of which something more than half would be cropped twice a year.

7. The estimate of returns accepted by the Madras Government is that made by the Collector, but this, as is observed by the Engineers, and not questioned by the Madras Government, seems decidedly taken too low as a final result. The total sum gross thus named is Rupees 1,82,000. This assumes the average rate per acre for fully irrigated lands at Rupees 7. As a fact, it appears that, in the part of the district where the works will operate, the average is about Rupees 11, and on the higher anicuts, the average on six works, irrigating 35,000 acres, is shown to be above Rupees 14 per acre. The addition of Rupees 3 per acre, raising the Rupees 7 rate to Rupees 10, would, on 32,667 acres, make the gross income Rupees 2,50,000, and this does not seem an excessive estimate, so far as the facts stated admit of an opinion being formed.

8. The charges for maintenance, &c., are estimated by the Madras Government at 10 per cent. on the income. This, on the other hand, does not appear sufficient, when all elements of outlay and charge are considered, and it more probably should be 15 or 20 per cent. The worst estimate would thus give about Rupees 1,20,000 net income; but it is not unlikely that the profits may be as much as Rupees 2,00,000.

9. The estimated cost of the works is Rupees 8,31,600. But this does not allow for the cost of establishments during construction. It does not appear to be a correct view to say that the establishments cost nothing, because the existing establishments will execute the works. Whatever Engineers, &c., are employed on the new works in fact cost money, which is virtually part of the capital outlay. Taking the establishment charges then at 15 per cent. on the estimate, the total outlay will be Rupees 9,56,000; so the minimum net return may be put down at 12½ per cent., and the maximum at about 20 per cent. on the capital invested. These results accord satisfactorily with those obtained on other Madras works, and are quite sufficient to show that the project is likely to be amply remunerative, and may be sanctioned for execution from the Extraordinary grant.

10. A few remarks may be made as to some of the details of the works, which may be considered by the Engineers of the Madras Government:—

The crest of the weir is made six feet above the floor of the head-sluiques. Now the full supply of water required to irrigate 19,000 acres, the area to be dealt with on the north bank of the river, will, at 66½ acres per cubic foot per second, be less than 300 cubic feet. But it is stated that with a depth of four and a half feet the discharge would be 567 cubic feet per second, or nearly double the necessary full supply. It seems difficult to avoid the conclusion that the weir is needlessly high, and might be reduced probably two feet without any inconvenience. The point is referred to in the Executive Engineer's report, but not in a way to prove that the greater height is of any real use. Perhaps there may be some misconception as to the relative levels of the crest of weir and head-sluiques; but if not, it would seem likely to be cheaper

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and better to make the head-sluiques wider if necessary, though this seems doubtful, and not to require the water to be held up to give the necessary discharge through them.

The channel which takes water to Tuticorin beyond the last of the tanks, would apparently be better laid out along the contour level line suited to the depth needed, rather than across the country in a nearly direct line.

The propriety of forming one bank of the main channel throughout its entire length of such a width as to give a convenient road for inspection purposes, is also worthy of consideration.

11. The general map of the project is so ill-drawn as to be extremely difficult to understand, and several of the section-sheets have also been very badly copied. It would be more satisfactory to have more attention paid to this matter.

12. The sanction given in this letter has been registered in this Office as No. 17 I, of 1868-69.

13. The estimates and drawings are returned.

No. 417. ORDER THEREON, 16th March 1869, No. 844.

IRRIGATION, No. 24.

1. Communicated to the Superintending Engineer of the 8th Division for information and guidance in continuation of G. O. No. 3,365, dated 26th October 1868.

2. The Chief Engineer for Irrigation will, in communication with Captain Prendergast, consider and report upon the suggestions contained in paragraph 10.

(True Extract.)

[Signature]

Colonel, R. E.,

Secretary to Government.

To the Chief Engineer for Irrigation.
Superintending Engineer, 8th Division.
Controller of Public Works Accounts.
Accountant General.
Revenue Department.

82-836.
*Comm. to the
Revenue Board.*

Exd. E. C. Shunker

26 March 1869.

Rev. Govt.

Govt. of (1869) Madras.

H. 859

PUBLIC WORKS

THE CHIEF ENGINEER, THE PUBLIC WORKS DEPARTMENT, MADRAS.

Dated Madras, 18th

Recd. 18

G. O. 10th March 1869. No. 414

MADRAS

No. 416-417

Sanctioning. - Passing orders on the letter from the Government of India sanctioning with remarks, the estimate amounting to Rupees 8,31,300 for extending irrigation from the Tamiraparani river in the Tiruchirappalli District.

at 256. 21/4/69

With order