

MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 2660	Press Mis.
178-179	
Dated 11—11—1867.	

Not to be folded or roughly handled

*Proceedings of the Madras Government, Revenue Department,
11th November 1867.*

No. 178. Read the following Proceedings of the Madras Government in the
Public Works Department:—

Sanctioning estimate for an irrigation project in }
connection with the enlargement of the Madran- } (Here enter 6th November 1867, No. 3,436.)
ticum tank, &c., in the Madras district.

No. 179. ORDER THEREON, 11th November 1867, No. 2,660.

Irrigation, No. 3.

Communicated to the Revenue
Board.

(True Extract.)

(Signed) F. H. WILKINSON,
Acting Under Secretary to Government.

To the Board of Revenue, with Proceedings Public Works Department, No. 3,436.

Exd. S. T. Augustin.

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*Proceedings of the Madras Government, Public Works Department,
6th November 1867.*

No. 111. Read the following letter from the Acting Superintending Engineer, 4th Division, to the Secretary to Government, Public Works Department, dated Madras, 14th October 1867, No. 3,349 :—

1. In the Budget of 1868-69, which I lately submitted to Government, I entered an estimate, amounting to Rupees 19,500, for an irrigation project in connection with the enlargement of the Madranticum tank and of certain channels to other tanks dependent on it in the Madras district, whereby the extent of irrigation, it was anticipated, would be considerably increased.

2. I have now the honor to forward three plans, Ayacut statement, and eight estimates, amounting to Rupees 20,900, for the execution of the work, the amount of probable cost having been altered in my office on a recent revision of the details of the estimate. The plans in elucidation of the project are, one, showing the site of the Madranticum and other tanks, and the proposed channels leading to them, with sections of the latter and of the supply-channels, and two others showing the sections of present and proposed tank banks.

3. The abstract details of the estimate are as follow :—

	RS.
1. Strengthening Madranticum tank... ..	3,757
2. Raising do. calingulah... ..	3,400
3. Constructing two new calingulahs	360
4. Widening Carungooly tank supply-channel and raising two calingulahs	3,809
5. Building two road culverts 340	
two masonry falls 250	
seven sluices 356	
	946
6. Enlarging Mambaukum tank... ..	1,887
7. Constructing 15 yards calingulah do.	220
8. Excavating channel from do.	5,620
9. Compensation for land	901

Total ... 20,900

4. These estimates have been returned and approved by the Collector. They appear to have been countersigned by Colonel Boileau, but not investigated by him. On going through the papers connected with the project, I found that alterations had to be made, and information obtained, to be laid before Government, which led to correspondence between Mr. Leggatt and myself, and has caused some delay. I am, therefore, unwilling to call for the plans in greater detail.

5. It has long been thought advisable, when funds became available, to prepare an estimate for the enlargement of the Madranticum tank, by the raising of the calingulah and strengthening of the bank, the supply being more than was necessary for the present cultivation, as the quantity of waste water which was discharged in the monsoon months very plainly showed. By storing this water and allowing of a portion of the increased supply being taken off by two new

calingulahs at its north and south ends, channels could be excavated and other tanks below it could be fed, the increased capacity of these tanks being provided for in the ordinary irrigation repair estimates of the range which have been prepared by the Executive Engineer.

6. The tank now receives its supply from the Cheyar Madugoo and Keliar river, which have an abundant supply. The latter rises in the Wandawash talook of the North Arcot district, and receives a large amount of drainage. The former receives the surplus of the large Ootramalloor tank, and the drainage of the western portion of the Madranticum talook. They both, especially the latter, have defined banks for some miles before they enter the tank, and the drainage and spring water flows on for four months after the monsoon ceases. Mr. Leggatt proposes to raise the calingulah of the tank, which is 720 feet long, by 2½ feet. I find that, under present circumstances, a full discharge of three feet of water passes over, a week at a time, at two or three periods in the wet season, and that an ordinary discharge of one foot in height passes off for six weeks at a time. The raising of this calingulah will increase the water spread, it is reported, by some two millions of square yards, but it is not anticipated that great damage will be caused by this submerision, as the cultivators are now in the habit of raising, by a mud dam, the calingulah as the water subsides, and of cultivating in the bed. Much of the crop which was cultivated hitherto will be still sown, but at a later season.

7. It is proposed, in addition, to build a calingulah two feet above the present one, with its crest three inches below the proposed work, to supply the Carungooly tank by a channel half a mile in length and nine inches per mile of fall, which will have its own tank calingulah on the same level. This channel will be carried on at the same fall for a distance of two miles, supplied with masonry falls and sluices, and will feed four other tanks.

8. From the southern end of the Madranticum tank another calingulah on the same level and of the same dimensions will be built, and a channel dug for one and a half miles in length, and a fall of six inches per mile, to feed the Mambaukum and Seerookolatur tanks, which will be connected one with the other, and their capacity increased by the raising of the calingulah, to be re-built 4½ feet in height, above the crest of the present one, and the banks raised and strengthened in proportion, as shown in the plan and estimate. I have had some doubts as to the proper level for this calingulah, and whether it is not too high with reference to the Madranticum tank, but this can be determined hereafter when the project is worked out. From this tank a main channel will be carried on, provided with masonry works, to feed four other tanks. Its length will be one and a half miles with a fall of one foot per mile.

9. There will be no difficulty in excavating these channels, their depth will not average more than from three to seven feet, and in some places they will merely require embanking.

10. The increased capacity given to the Madranticum reservoir will allow of five tanks being supplied directly from it, independent of those mentioned above, the whole project embracing the supply of seventeen large, with their subsidiary, tanks.

11. As regards the revenue to be derived from this project, both from increased cultivation under the Ayacut and waste land of the tanks, as well as from second crop cultivation, I beg to refer to the enclosed statement furnished by the Sub-Collector, which shows the Ayacut under the tanks as 4,148 cawnies, the assessment as Rupees 17,234, and the highest revenue, including second crop, as Rupees 16,090. The waste land shown as capable of cultivation amounts to Rupees 4,040, and second crop assessment as Rupees 3,030, making a total of increased revenue of Rupees 7,120. The number of cawnies is not given in this statement, but in a letter to the Acting Collector, strongly advocating this project, Mr. Burnell estimates it at 1,132 nunjah waste, giving the assessment above, exclusive of waste in the holdings of the ryots.

No. 126 of the 1st August 1867.

* Rupees 7,120.

He shows that the above return* on the original estimate would yield a profit of thirty-seven per cent. or, allowing a safe margin, if the annual increase be assumed at Rupees 5,000, a profit of twenty-six per cent. on the outlay. I beg to append extract, paragraphs 2, 3, 4, and 5 of his letter.

12. As regards the quantity of water available for this cultivation, I have shown above that a full discharge over the present calingulah of three feet lasts for two or three weeks, and an ordinary discharge of one foot for six weeks. The calingulah is 720 feet long, and discharges at present, at the very lowest co-efficient which can be taken, a million and one-third cubic yards in the former, and 265,000 cubic yards per hour in the latter state of flood. I find that the increased cultivation under the tank from direct supply amounts in value to Rupees 3,090 out of Rupees 7,120, leaving land to the value of Rupees 4,000 to be fed from the channels cut from the north and south calingulahs. By the raising of the above calingulah 2½ feet, a very much more than ample supply ought to be obtained.

13. As regards the supply from the branch calingulahs, the land in waste and second crop comprised in this project may be estimated at from 2,000 to 2,500 cawnies, requiring about 17 millions of cubic yards of water in excess of the present supply, taking the estimate given by the Sub-Collector of 1,132 cawnies of waste nunjah, and the remainder as second crop land for which two-thirds of the ordinary supply of water for a first crop may be required. The assessment from the two channels, however, is not more than 4,000 Rupees, and the land is probably under 1,000 cawnies in extent. The calingulahs which are each to be 20 feet long, and are supposed to have an average flow in the monsoon of one foot of water, for two or three weeks duration, will discharge, at the lowest figure, 7,380 cubic yards per hour from each work, and ample for the crop. The channels were provided of a section 9 feet at sill, and side slopes of 1½ to 1, but as I find the cuttings are only 2½ feet deep at the head, and the inclinations 6 and 9 inches per mile respectively, I have been obliged to increase the breadth to 15 feet at the sill.

14. The tank bank of the Madranticum reservoir is already, on an average, of sufficient thickness to hold the increased supply, but an inspection of the sections of this and the Mambaukum and Seerookolatur tank banks in the plans will show that provision has been made to guard against danger from the increased capacity to be afforded. Looking to the ample supply of water available, the

numerous tanks favorably situated within short distance of one another capable of receiving it, and the moderate returns made of the culturable area, there is every reason to suppose that this is a project which may be taken up with the surety of remunerative result to Government.

No. 112. ORDER THEREON, 6th November 1867, No. 3,436.

IRRIGATION, No. 4.

1. The Madranticum tank is one of the largest reservoirs of the Madras district, and, being fed from the Cheyar Madugoo and the Keliar river, is one of the best supplied. The Madugoo receives the surplus of the large Ootramalloor tank and the drainage of the western portion of the Madranticum talook, and the Keliar, taking its rise in the North Arcot district, receives a considerable amount of drainage from the surrounding country. Both sources of supply have well defined banks for some miles before they enter the Madranticum tank, and the drainage and spring water continues to flow into the tank for four months after the monsoon ceases.

2. It having been long observed that the supply of this tank is so great as to allow of a large surplus quantity of water being every year discharged to waste over the calingulah, the Executive Engineer has sought to devise measures for utilizing the water so annually lost, and he has now submitted through the Superintending Engineer a project for the purpose. It is estimated that, as the discharge over the calingulah beds for two or three miles three feet in depth, and for six miles, on an average, one foot in depth, a volume of water of at least $1\frac{1}{2}$ millions of cubic yards per hour passes off during the former period, and 265,000 cubic yards an hour during the latter. Thus the enormous volume of about 900 millions of cubic yards of water annually escapes over the calingulah of Madranticum tank. To retain some part of this within the tank for the irrigation of such portions of the Ayacut as cannot now be cultivated for want of water, and to give command of level to allow a quantity to be diverted into the Caroonguly and four other tanks on the one hand, and into the Mambaukum, Scerokolatur and some minor tanks on the other, it is proposed to raise the calingulah of the Madranticum tank, $2\frac{1}{2}$ feet, to construct two calingulahs at the north and south ends of the bund, and over them to discharge water into channels to be excavated to the Caroonguly and other tanks referred to. The two new calingulahs will be on a level of three inches below the main calingulah of the Madranticum tank. From the north calingulah a channel, half a mile in length with a fall of nine inches per mile, will be cut to the Caroonguly tank, from which it will be carried on at the same fall for a distance of two miles to supply the Malavalum, Areyapaukum, Savor and other tanks. From the south calingulah, a channel will be excavated one and a half miles in length, with a fall of six inches per mile, to feed the Mambaukum and Scerokolatur tanks, which will be connected with each other, and their capacity increased by constructing a new calingulah $4\frac{1}{2}$ feet in height above the crest of the existing work, and from the Mambaukum tank a main channel will be carried for a distance of one and a half miles with a fall of one foot per mile to supply the Mambaukum, Sautheenoor and Aringoonum tangles and the Sautheenoor tank. All of these channels will be provided with the requisite masonry works, and no difficulty is expected to be experienced in their excavation, as their depth will not average

more than from three to seven feet, and in some places they will merely require embanking.

3. The bank of the Madranticum tank is believed to be of sufficient strength to bear the pressure of the increased depth of water against it, but, to guard against danger, it is proposed to give additional thickness to its base, and to raise portions of the interior rough stone revetment. The banks of the Mambaukum and Scerokolatur tanks are also to be strengthened in proportion to the additional depth of water to be stored.

4. These tanks appear to be the principal that will be benefited by the increased height to be given to the Madranticum tank calingulah, but the Superintending Engineer states that the whole project "embraces the supply of seventeen large, with their subsidiary tanks," at an estimated outlay of Rupees 20,900 as follows:—

Strengthening bank of the Madranticum tank and raising calingulah	RS. 7,157
Widening the Caroonguly tank supply channel and raising calingulah	3,809
Constructing new calingulahs and other masonry works	1,306
Enlarging the Mambaukum and Scerokolatur tanks and constructing calingulahs	2,107
Excavating channel from the Mambaukum tank	5,620
Compensation for land	901
	20,900

5. The extent of land at present under irrigation from these tanks, is 4,148 cawnies with an assessment of Rupees 17,234, but the average annual revenue during the past five years has not exceeded Rupees 14,913. By the proposed works it is expected that an additional area of 1,132 cawnies will be brought under cultivation, yielding a revenue, including second crop, of not less than Rupees 5,000 per annum, or 24 per cent. on the estimated outlay.

6. The Acting Collector of the district warmly advocates the carrying out of the project, and as there is every prospect of its proving highly remunerative, the Government sanction the estimate and authorize the entry of the project in the Budget of 1868-69.

(True Extract.)



Colonel, R. E.,

Secretary to Government.

To the Superintending Engineer, 4th Division.
Accountant General.
Controller of Public Works Accounts.
Revenue Department.

Erd. S. T. Augustin.

Revenue 1867. Sept 1st
Grand total for 6 months
\$2-3050.

11th Nov 67

Proceedings of the
P. M. Office.

Ordered 1st 3 hours
Received 74-1867.

\$2-3436.

Some learning
estimated for our village.
from prospect information
with the enlargement of
the black and lecture
to the 1st in the 11th
District

\$2-2660.

Commenced to the
Revenue Record.

11th Nov 67

in Office with 2nd Nov with
the 1st Nov 34 50 2nd Nov 11th

Sept 1879

With Order

CR 2000. 11th Nov

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