M.R.O. 14—12,000—27·9-24

MADRAS RECORD OFFICE.

Government of Madras.

Revenue **DEPARTMENT.**

G.O. No. 2945 Press Mis.

717-718

Dated 31-10-1866.

Not to be folded or roughly handled

No. 717. Read the following letter from the Consulting Engineer for Irrigation and Canal Company, to the Secretary to Government, Public Works Department, dated Camp, Garladinny, 28th August 1866, No. 55 :—

1. I have delayed offering any observations on the reports from the several Divisions, on the experiments made last year with a view to ascertain the quantity of water per acre, per hour, required for paddy cultivation, and which were communicated with the Order of Government of the 12th June last, No. 1,836, until by a reference to the Superintending Engineer of the 3rd Division, I had ascertained whether the calculations made by the Officer in charge of the Anantapore Range were correct and reliable. I have now been to Anantapore, and the Range Officer this morning shewed me the channel, and, from the enquiries I have made, it appears to me certain that the data on which Mr. Wilson's calculations were made were not sufficiently reliable to make it at all certain what quantity of water was really used for the area, 123 acres, under the channel.

2. In the first place, the channel is far from being as regular as I had supposed. It is an irrigation channel crossing the road to the bungalows of the station, and its sides are lined with rather irregular blocks of trap. The bottom is very irregular, and the channel above and below has a much larger cross section than the revetted portion. In the next place, the surface inclination of the water was not ascertained, nor was its velocity taken by a float, and, as in most similar contractions, the velocity is in excess of that appertaining to the channels of larger sectional area above and below, there is good reason for believing that the discharge obtained from the general fall of the channel and the sectional area of the water in the revetted portion is less than the actual discharge.

3. The position of this channel is, however, very convenient for observation, and if it be converted into a masonry channel, with an even width, and perfectly regular fall from end to end, and if a gauge be inserted in the side at each end with the zero on a level with the bed, at each end respectively, and then, if the depth of water at each end be carefully registered, there will be good data for estimating the discharge, and it would be advantageous also, when the Range Officer himself has a few minutes to spare, were the surface velocity carefully taken by a float, in order to check the calculated velocity of discharge, and ascertain the proportion existing between them. Should the water at any time be clear, the bottom velocity could also be taken, by using a small ball with a specific gravity only very slightly in excess of that of water.

4. The experiments made in the 7th Division only shew that 4⅝ cubic yards an hour per acre, in addition to thirty-six inches of rain, are recorded as having been applied to the land, and of course that information is, as mentioned, valueless. In the 8th Division, however, the arrangements made would, under more favorable circumstances as regards the supply of the tank, which was to afford the water, have afforded valuable data; and in the 6th Division it is much to be regretted that the trouble taken by Captain Hasted, at Tranquebar, led, owing to the circumstances of the season, and the consequent failure of the crop, to conclusions which cannot be deemed reliable, the perfection of the crop being the only criterion of the suitability of the supply.

5. I hope the Government will be pleased to sanction the continuance and extension of the experiments for two or three years. It was hardly to be expected that satisfactory results would be obtained in one season, and those entrusted with the experiments will, when these come to be repeated, be in a much better position than at first for managing the arrangements, so as to obtain useful results. Perhaps, too, the reports received are, in themselves, very strong evidence of the necessity for obtaining more reliable information than is at present to be had. The Superintending Engineer of the 6th Division may be generally correct in supposing that three cubic yards an hour are an ample, but not very excessive supply, though I am disposed to think that two-thirds of this quantity would suffice, with ordinary care in its utilization; but, on the other hand, the Superintending Engineer of the 3rd Division considers that the experiments at Anantapore shew that, even in an unfavorable year, as regards fall of rain and in, it may be remarked, a much drier climate than Tanjore, a cubic yard of water per acre, per hour, is more than sufficient. In projecting an irrigation work, the projector might estimate the probable returns on the supposition that the one cubic yard is sufficient, but it would be open to some one else to object that three cubic yards would be necessary, and thus divide the returns by three; and it seems, therefore, to be of much importance that the fair average should be ascertained, and if, in calculating the probable returns from any outlay, the quantity be increased by twenty-five per cent., as a provision for contingent causes of increased demand per acre, there will be some tangible data on which to discuss the merits of any project, which may be proposed for execution.

6. It may also be remarked, with reference to paragraph 4 of the report made by the Superintending Engineer, 1st Division, that nothing can be better than the registration of the supply in masses to separate areas, if the drainages which carry off the surplus, be also accurately gauged, but without this latter proviso, which I hardly think is contemplated by the expression used "noting if the drainages take off much water," all that would be ascertained would be the quantity used, and not that necessary. If in any of the Divisions the supply to, and the waste from, large areas can be, with tolerable accuracy, ascertained, that will be the best evidence of requirements, but when facilities for such observations do not exist, it seems needful to fall back on small areas, the supply to which can be measured, and waste prevented.

Referred to the Revenue Department for consideration, with reference to the suggestion in paragraph 5. Rupees 800 have been granted for carrying on the experiments in the 2nd and 5th Divisions during the current year.

(Signed) CHARLES A. ORR, Colonel, R. E.,
Secretary to Government, D.P.W.

FORT SAINT GEORGE,
5th September 1866.

No. 718. ORDER THEREON, 31st October 1866, No. 2,945.

Land Revenue.

1. The Government are of opinion that the experiments instituted for the purpose of ascertaining the quantity of water required for wet cultivation should be continued for at least another year.

Proceedings of the Madras Government, Revenue Department,
31*st October* 1866.

2. The estimates submitted with this view by the Superintending Engineers of the 2nd and 5th Divisions have been already sanctioned.

3. The other Superintending Engineers are each authorized to expend a sum not exceeding Rupees 300 in connection with the experiment.

4. The Government desire that an estimate may be submitted as soon as possible, shewing the probable expense of preparing the channel and resuming the experiments at Anantapore, as proposed by the Consulting Engineer.

5. The Superintending Engineer of the 8th Division will be instructed to report whether the arrangements made by Major Paxton, at Ellendacolum, cannot be taken advantage of for making a fresh attempt to ascertain the quantity of water required for wet cultivation.

(True Extract.)

(Signed) J. D. SIM,
Secretary to Government.

To the Department Public Works.
" the Board of Revenue.

Exd. S. T. Augustin.

Lower to be accepted by Captain Mullaly when he is prepared to carry on the work in accordance with the general arrangements now in force.

WDL JP

The Govt desire that an estimate may be submitted as soon as possible showing the probable expense of preparing the channel and resuming the experiments at Anantapore as proposed by the Consulting Engineer.

The Supt Engr of the 8th Divn should be instructed to report whether the arrangements made by Major Paxton at Ellendacolum cannot be taken advantage of for making a fresh attempt to ascertain the quantity of water required for wet cultivation.

WDL JP

Revenue Department

No. 2945.

Proceedings of the Madras Government

Under date the 31st October 1866.

Read the following

letter from the Consulting

Engineer for Irrigation and

Canal Company.

Offers certain observations on the reports from the several Divisions on the experiments made last year with a view to ascertain the quantity of water per acre per hour required for paddy cultivation communicated with the order of Govt. No. 1836 of 12th June last.

(Here enter 28th August 1866)

1. The Government are of opinion that the experiments instituted for the purpose of ascertaining the quantity of water required for wet cultivation should be resumed for at least another year.

2. The estimates submitted with

Can be measured, and waste prevented.—

Share the amount to be

Paid annually by the Ryots

benefited by the Canal

Colonel R.E.

with this view by the Su-
=perintending Engineers of the 2nd
and 5th divisions have been
already sanctioned.

The other Superintend-
=ing Engineers are authorized each
to expend a sum not exceeding
Rs. 300 in connection with the
experiments.

The Govt. desire
that an estimate may be
submitted as soon as possible
showing the probable expense
of preparing the channel and
resuming the experiments
at Anantapore as proposed
by the Consulting Engineer.

The Superintending
Engineer of the 8th Division
will be instructed to
report whether the arrange-
=ments made by Major
Proctor
Proctor at Ellendacolum
cannot be taken advantage
of for making a fresh at-
=tempt to ascertain the re-
quantity of water required
for wet cultivation.

The conduct of these
experiments and the results
will be carefully watched
by the Secretary P.W. Works.

J.R.

14 Feb. Board of Rev. Desp. Nov.

21 Z. D. M. S.

35

3

Revenue 1866 Dept.
Proc of Govt for Octr

Nº 2945

Proc of the Madras
Government
dated 31 Octr 1866.

Circular Nº 87 PWD dated
Sept 1867 Co Nº 2071

Ecstablishments of
water required for paddy
Cultivation to be continued
for another year.—

From the Supt Engineer
3rd Division dated 10. April 67
Nº 1020

Nº 717-718

2945