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# MADRAS RECORD OFFICE

## Government of Madras

*Revenue* . DEPARTMENT

|                     |             |       |
|---------------------|-------------|-------|
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Not to be folded or roughly handled

*Proceedings of the Madras Government, Public Works Department,  
8th January 1872.*

No. 57.

Read the fo

From the Superintending Engineer, to the Acting Chief Engineer  
for Irrigation, dated Madurai, November 1871, No. 3,312.

As the Executive Engineer in charge of the Southern Range, Tinnevely, has applied for an allotment of Rupees 300 from the current year's grant under "Minor New Works Agricultural" for carrying out the experiment for ascertaining the quantity of water required for bringing a crop of paddy to maturity, under instructions conveyed in your Circular Memoranda Nos. 22 and 26, dated 15th February and 11th May 1870, respectively, I have the honour to request that you will be good enough to obtain the early sanction of Government for appropriating the said sum of Rupees 300 towards the above object.

2. As the present season of the year is very favourable for conducting the experiment in question, I have issued the necessary instructions in anticipation of sanction, and I trust that my proceeding in this respect will meet with the approval of Government.

No. 59.

*Note by the Acting Chief Engineer for Irrigation.*

In the above letter the Superintending Engineer of the 8th Division applies for the appropriation of Rupees 300 from the allotment for Minor New Works for the purpose of carrying out an experiment for ascertaining the quantity of water required to bring a paddy crop to maturity, and states that the present is a favourable season for carrying out the experiment. From my knowledge of the Tinnevely District, I should have supposed it was now too late to carry out the experiment this season. As, however, the Government of India are most anxious that some trustworthy data should be obtained relative to the quantity of water required to bring a rice crop to maturity, I would suggest that the sum applied for by the Superintending Engineer should be sanctioned, provided he has been able to arrange to measure the quantity of water supplied daily, and that which may be passed off as surplus, also to gauge the rainfall and to estimate loss by evaporation; if the experiment is to be conducted on a large scale, and the supply is to be drawn from a tank, the tank should be carefully contoured and its capacity at every 3 inches or 6 inches estimated and recorded, and the readings of the gauge in the tank should be recorded daily. If accurate information on all these points cannot be obtained, the results will only prove to be fallacious and the experiment should be postponed till next season.

2. The experiment requires great care and attention, and so far no satisfactory deductions can be drawn from the experiments carried out in this Presidency owing to the omission of information more of the above points.

3. In cases in which the experiment is carried out on small plots, the exact area of each plot should be stated. The grain should be weighed as well as the straw, and the grain of the crop should also be weighed and measured. The standard measure is Secr of 3.1 lb. is the measure which should be used.

4. The nature of the soil, the experimental field, and the class in which it has been placed by the Revenue Department, should be stated; a brief description of the situation of the field relative to its level as regards neighbouring fields or to that of the high and low ordinary water mark in neighbouring tanks or streams should be given.

5. In carrying out the experiment in some districts a supposed standard of the quantity of water required has been taken, and while one plot has been supplied with this quantity, neighbouring plots have been supplied with  $\frac{1}{2}$  or 1 cubic yard per hour per acre more or less than the arbitrary standard adopted, and even when the crops have languished under the supply afforded, the supply has been rigidly adhered to and the crops have been lost. From an experiment so conducted no satisfactory deduction can be drawn. If the experiment is conducted on a small scale it appears to me that the services of an experienced cultivator should be obtained, and that he should be allowed to supply as much water as he may deem necessary to the plot under his charge, the quantity he takes being measured; the surplus water he may pass off after the fall of heavy rain should also be measured, but in the absence of rain he should be directed to supply only as much water as may be required day by day. If the quantity taken is from  $1\frac{1}{2}$  to  $2\frac{1}{2}$  cubic yards per hour per acre, in neighbouring plots  $\frac{1}{2}$  a cubic yard per hour per acre above and below that quantity may be supplied; but if it is found that in the one case water cannot be drawn off, and in the other an extra quantity must be supplied from time to time to admit of the crops being brought to maturity, the quantities drained off or supplied must be correctly gauged, and the average daily supply be again continued till drainage or an extra supply be again necessary. If the experiment be thus carefully carried out, and the crops arrive at maturity, some idea may be obtained of the minimum quantity of water required for paddy cultivation aided by periodical floodings.

6. Of course when rain falls and water is not required from the channel or reservoir, it should not be supplied only to be passed off as surplus.

7. It is probable that an intelligent Merasidar would undertake the experiment on his own lands if guaranteed against all loss on the plots selected.

8. The experiment should show the quantity of water required from its very commencement if possible, i.e., inclusive of flooding for ploughing and for the seed beds.

FORT ST. GEORGE, (Signed) R. F. OAKES, Captain, R.E.,  
8th December 1871. Acting Chief Engineer for Irrigation.

No. 58. ORDER THEREON, January 1872, No. 30.

IRRIGATION, No. 7.

Tinnevely District for the purpose of ascertaining the quantity of water required to bring a paddy crop to maturity if arrangements have been or can be made to ensure the quantity of water required, to admit of correct

THE Government sanction an appropriation of Rupees 300 from the allotment for Minor New Works in the Tinnevely District for the purpose of conducting an experiment to ascertain the quantity of water required to bring a paddy crop to maturity if arrangements have been or can be made to ensure the quantity of water required, to admit of correct

deductions being drawn from the experiment, if not, the experiment should be postponed till next season.

2. As the Government of India are desirous of obtaining information relative to the quantity of water required to bring a paddy crop to maturity, and as the experiments hitherto conducted have failed in affording any real practical information on the point, owing to neglect to record observations on one or more points bearing on the subject, the Government resolve to draw the attention of the Superintending Engineers to the note by the Acting Chief Engineer for Irrigation, and to direct that arrangements be made to conduct the experiments during the next cultivating season. Estimates should be submitted of the probable amount required to conduct the experiment in one or more localities in each division, and a brief memorandum should accompany the estimates, indicating the manner in which it is proposed to measure the supply and surplus water, the source of supply, the area of the plots, the nature of the soil, and the general arrangements which have been made to ensure, as far as possible, the experiment being brought to a satisfactory conclusion.

(True Extract.)

Colonel, R.E.,

Secretary to Government.

To the Superintending Engineer, 8th Division.  
To all other Superintending Engineers.  
To the Chief Engineer for Irrigation.  
„ Revenue Department.

Erd. E. C. Shanker.

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Govt. of [1872] Madras.  
PUBLIC WORKS.

THE SUPERINTENDING ENGINEER,

8th Division.

cc. cc. cc.

Dated January 8th.

Recd. & 10<sup>0</sup> Encl.

G. O., 8th January 1872, No. 30.

JANUARY.

Nos. 57 58

Rice cultivation.—An appropriation of Rupees 300 from the allotment for Minor New Works, Tinnevely District, for the purpose of conducting experiment to ascertain the quantity of water required for rice cultivation, sanctioned with remarks.

W. 61.  
G. M. & H. B.  
P. W.  
10. Jan 1872

To the D. & S. of P. W. D. 18 Jan 72