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MADRAS RECORD OFFICE.

Government of Madras.

Public works DEPARTMENT.

G.O. No. 30 Press Mis.

57-58

Dated 8 1 1872.

Not to be folded or roughly handled

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

No. 57. Read the following papers :—

From the Superintending Engineer, 8th Division, to the Acting Chief Engineer for Irrigation, dated Madura, 20th November 1871, No. 3,312.

As the Executive Engineer in charge of Southern Range, Tinnevelly, 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 proceedings in this respect will meet with the approval of Government.

No. 209.

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 Tinnevelly 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 on one or 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 seed grain should be weighed as well as measured, and the grain of the crop produced should also be weighed and measured and the straw should be weighed. The Madras Seer of 3·1 lb. is the measure which should be used.

4. The nature of the soil in the experimental field, and the class in which it has been placed by the Revenue Settlement 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 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 ½ 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 1½ to 2½ cubic yards per hour per acre, in neighbouring plots ½ 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 must 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,
8*th December* 1871.

(Signed) R. F. OAKES, Captain, R.E.,
Acting Chief Engineer for Irrigation.

No. 58.

ORDER THEREON, 8th January 1872, No. 30.

IRRIGATION, No. 7.

THE Government sanction an appropriation of Rupees 300 from the allotment for Minor New Works in the Tinnevelly 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 information required, to admit of correct

deductions being drawn from the experiment being obtained, 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.

Ed. E. C. Shunker.

Superintending Engineers
Office, Madura.
30th November 1871.

No. 3312

From

Lieutt Colonel R. A. Roberts. R.E.
Superintending Engineer
8th Division.

To

Captain R. F. Oakes. R.E
Ag Chief Engineer for Irrigation
Madras.

Sir,

As the Executive Engineer in charge of Southern Ranges Tinnevelly has applied for an allotment of Rupees 300 from the Current years 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 1871 respectively, I have the honor 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

is very favorable for conducting the experiment in question, I have issued the necessary instructions in anticipation of sanction and I trust that my proceedings in this respect will meet with the approval of Government.

I have the honor to be
Sir
Your Most Obed.t Serv.t

Rich.d H. Roberts Lieut.t Col. R.E.
Superintending Engineer
8.th Division.

7a

No 3312
Dated 782.
From
The Supg Engineer
8 Dn
To
The Chief Engineer
for Irrigation

Dated 30th Nov 1871
Received 5th Dec 71

P.W. 5870/71.

Requests to obtain the early Sanction of Govt for an allotment of Rs 300 from the current years 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.

To the Secy to Govt P.W. Dept No 209 7th Decr 71.

No 209

Letter No 3312 of 30 November 71 from Supg Engineer 8th D.
Note by the Acting Chief Engineer for Irrigation

Enclosure one

In the above Letter the Superintending Engineer of the 8th Division applies for the appropriation of Rs 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 Tinnevelly District. I think have supposed it was now too late to carry out the experiment this Season. 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 have 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

the supply is to be drawn from a Tank: the tank should be carefully entered & its capacity at every 3 or 6 inches calculated & recorded & the reading 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 & attention and so far, no satisfactory deductions can be drawn from the Experiments carried out in this Presidency owing to the omission of information on one or 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 seed grain should be weighed as well as measured and the grain of the crop produced should also be weighed & measured and the Straw should be weighed. The Madras Seer of 3·1 lbs is the measure which should be used.

4. The nature of the soil in the experimental field and the class in which it has been placed by the Revenue Settlement Department should be stated, a brief description of the situation of the field

field relative to its level as regards neighbouring fields & to that of the high & ordinary water mark of 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 ½ 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 found adhered to & the Crops have been lost. Such 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 run off after the fall of heavy rain should also be measured, but in the absence of rain he should be

be directed to supply only as much water as may be required day by day. If the quantity taken is from 1½ to 2½ cubic yards per hour per acre, in neighbouring plots ½ 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 must be drawn off & 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 & 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 & 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 Meraidar would undertake the experiment on his own lands if guaranteed against all loss in 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 for the said beds.

Fort St. George
8th December 1871

I have &c.
(Sd) Captain
Chief Engineer for Irrigation

To
The Secretary to
Government &c &c &c

Compd &c

Public Works Departt.

No. 30.

Proceedings of the Madras Government

Under date the

Read the following

From

The Actg. Chief Engineer
for Irrigation

H.E. No. 209 of 8th Nov/71

The Government
sanction an appropriation
of Rs. 300 from the allot-
ment for minor Irrigation
works in the Tinnevelly
District for the purpose
of preintecting an experiment
to ascertain the quantity
of water required to bring
paddy crop to maturity
if arrangements have been
or can be made to ensure
the information required,
to admit of correct de-
ductions being drawn
from

Rd. 1871 Revenue
Irrigation 3895

The Chief Engineer
for Irrigation

The Secretary to Govt.
Public Works Dept.

Dated 8th Nov/71

Received 10th Nov/71

Note on a letter from
the Secretary to Govt.
Public Works Dept. dated
8th Nov/71 No. 209
forwarding for the approval
of the Madras Govt. the
proposal of the Chief
Engineer for Irrigation
for the allotment
of Rs. 300 from the allot-
ment for minor Irrigation
works in the Tinnevelly
District for the purpose
of preintecting an experiment
to ascertain the quantity
of water required to bring
paddy crop to maturity
if arrangements have been
or can be made to ensure
the information required,
to admit of correct de-
ductions being drawn
from

Copy

Dated 8th Nov/71

Received 10th Nov/71

No. 209

From

The Secretary to Govt.
Public Works Dept.

To

The Chief Engineer
for Irrigation

Sir,

I am directed to forward for the sanction of the Madras Government the accompanying letter from the Chief Engineer for Irrigation, No. 1130-8 dated 1st instant, requesting the sanction of Government to the allotment of Rs. 300 from the allotment for minor Irrigation works in the Tinnevelly District for the purpose of preintecting an experiment to ascertain the quantity of water required to bring paddy crop to maturity if arrangements have been or can be made to ensure the information required, to admit of correct deductions being drawn from

I have the honor to be
Sir
Your most obedient servant
Secretary to Govt.
Public Works Dept.

from the escperiment, being
obtained, if not, the
escperiment should be
postponed till next
season.

As the Government
of India are desirous of
obtaining information
relative to the quantity
of water required to bring
a Rabi Crop to maturity,
and as the experiments
hitherto conducted have
failed in affording any
real practical information
on the point owing to
the neglect to record
observations on one of
more points bearing

on the subject the Govern-
ment 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
escperiments during the
next particularly Season.
Estimates should be sub-
mitted of the probable
amount required to
conduct the experiments
in one or more locali-
ties in each Division,
and a brief memo
should

should accompany the
Estimates, indicating the
manner in which it is
proposed to measure
the supply and sur-
plus water, the source
of supply, the area of
the pitots, also 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

1/72

1865 The Supt Engr 8th Dist
All other Supt Engrs
5 " Chief Engineer for Irrign
Nov R.L. Dist R

Dec 5/72

6 13 Dec 72 R. 14

should be examined with the

Ops 5-87

Govt of {1871} Madras.

PUBLIC WORKS.

To The Superintending Engr
8th Circle

Datea

Recd. Fwd. 1

G. O. 8th Jany 1872 No. 30.

Nos. 57458

Rice Cultivation - An
appropriation of Rs 300 from
the allotment for minor
new works, immediately
&c., for the purpose of
conducting experiments
to ascertain the quantity
of water required for rice
cultivation, sanctioned with
remarks.