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MADRAS RECORD OFFICE

Government of Madras

Public Works DEPARTMENT

G.O. No.	2272	Press	<i>Refusal</i>
B.P. No.		Mis.	
Dated	28-8-	1876	
		195	

Not to be folded or roughly handled

No. 616. Read the following letter from Lieutenant-Colonel J. F. FISCHER, R.E., District Engineer, Madura, to Major-General G. W. WALKER, R.E., Secretary to Government, Public Works Department, dated Madura, 7th August 1876, No. 1,648:—

On receipt of G.O. of the 26th January 1876, No. 205, I wrote to Captain J. Pennycuik, R.E., to ask him to give me

1 Sketch.

the height of the top of the Goodaloor

Ghaut above any point in the bed of the Perryaur river, as determined for the proposed project, as it appeared to me from the last report the suggestion for taking out a channel had not been fully considered as it had occurred to me; his reply was "the highest point of the Goodaloor Ghaut is about 172 feet above the ordinary summer level of the Perryaur at the site where it is now proposed to construct the dam. This point is about 1,900 yards below the junction with the Perryaur of the stream which flows down from the Goodaloor Tavalum.

"It (the river bed) rises about 35 feet between the dam site and the junction of the Perrya Moollyaur."

2. On the accompanying sketch map I have marked as nearly as I can the head of the Goodaloor Ghaut at the point A, which is then 172 feet above the point B at which it is proposed to construct the dam; thence to the point C, just below the junction of all the main streams, the rise is 35 feet and the river bed level about 137: the project which occurred to me was to construct a dam at this point of sufficient height to divert the waters of the Perryaur into the head of the drainage marked E, to lead the water across the heads of these valleys to the point F, and to dam across the next valley to the point G; here it will be necessary to see if the cut II is feasible, or if we must still lead the water round to I; near this there are saddles which are not 10 or 15 feet above the head of the Goodaloor Ghaut, or about 182 or 190 feet above the Perryaur at B, the site of the proposed dam. If the dam at C is made about 100 feet high above the level of the bed of the river, the cutting through any of the saddles at A, K, or L will not be more than from 40 to 60 feet deep at summit, but the height of this work will, I believe, have to be regulated by the height of the saddle II above the bed of the river at the point C.

3. I do not propose to have any great storage reservoir on the Perryaur, but only an anicut of great height to divert a sufficient supply of water from it for use in the Percacolum Taluq, and, if necessary, to store the lesser floods of the Perryaur at the head of the Cumbum valley in a reservoir which could be easily put up near Goodaloor and distributed all over this taluq and the adjacent zemindaries. This project has occurred to me after considering the water-supply of the Perryaur as given in G.O. of the 30th April 1875, No. 1,193. In this we have the heavy flood of November 1869 discharging at the rate of nearly seventeen million cubic yards per hour, but for all the other months of the several years given in the report the mean hourly discharge of the river, even in the south-west monsoon, is under 200,000 cubic yards per hour, except in July 1871, when this was 330,744 cubic yards per hour. If, then, an anicut of sufficient height be constructed on the Perryaur so as to retain its moderate freshes, whilst a sluice conveniently placed discharges them into a channel to be led off as shown in the sketch map and cut or tunnelled through any suitable saddle, there is no reason why a good system of irrigation should not be

established at once in the Peracolem Taluq. The registers of the flow of water in the Perryaur show we can rely upon obtaining by regulating its flow upwards of 100,000 cubic yards per hour from July to January in ordinary years, or for eight months, and a rice crop does not require water for more than four or five months; this quantity of water for mere irrigation is ample for 50,000 acres of land, and, with care and proper regulation, ought to suffice for 75,000 acres, which is as much land as we are likely to find available in Peracolem.

4. In this taluq the people have for ages been accustomed to irrigation, in a crude way, by means of small tanks and channels led out of the Vygay and its tributaries from anicuts on them; they have a good market for their produce in the Tinnevely District and in Ceylon, and means of access to it though of an imperfect character; but the average price of rice in Madura, 8 seers for the rupee, shows the demand for this produce must be very great, and that the water would be readily taken by the people, for in the Godavery the average price is 23 seers for the rupee, and the water is readily taken at Rupees 4 per acre, under ordinary management; and I do not, therefore, doubt that we could easily obtain a water-rate of Rupees 4 per acre here, though the yield from the land will probably be only one-third that obtained from average delta lands, as prices are so much higher. It is then probable the revenue from such a work would be between 2 and 3 lakhs a year to the Government, and as such lands sell readily for Rupees 200 an acre at the least when supplied with river water, the value of the property would be between 100 and 150 lakhs of Rupees and the annual revenue charge on it between one-thirtieth and one-fiftieth of its enhanced value.

5. It is of course impossible to say what the works may cost. I have only brought forward the idea as a suggestion which I cannot but think is more feasible than the proposed project for a dam nearly 170 feet high for a reservoir, with a long expensive tunnel from it, and heavy subsidiary works to lead the water as far as Maylors; by the scheme I propose the dam of 100 feet in height is no doubt a formidable work, but all the rest is plain and simple enough, and the irrigation can be commenced at once as soon as the water is obtained, and none of this need be lost, as all surplus from the irrigated area can be stored again near the village of Goodlapooram at the point where all the drainages from these hills join to form the Vygay proper, or it can be redistributed by two existing anicuts, the Chittanay and Peranay, to lands which now receive anything but regular supplies of water, and so greatly improve the irrigation under these works, and probably extend its area very considerably.

6. I have already sent to the Chief Engineer for Irrigation the registers maintained of the flow of water in the Vygay for the years 1874 and 1875. Orders have been passed on the former, but I am not aware what has become of the latter, though it was sent in so long ago as last January. It is quite evident from these registers maintained during two very ordinary years that the late Major Ryves and I were quite right in stating that there is water enough in this river, if properly stored and

* 38,000 acres. G.O., 30th April 1875, No. 1,193.
distributed, for the irrigation of four or five times the extent of land which it now supplies; * in fact, from the results since obtained by Mr. Binnie on the Nagpore Water Works, I am of opinion that from 200 to 250 acres per square mile of its drainage ought to be irrigated, or from 250,000 to

300,000 acres, from a drainage basin of over 1,200 square miles of exceedingly steep, hard, hilly country, from which 60 or 70 per cent. of the rainfall must run off even in ordinary years, when it is recollected that Mr. Binnie actually received as much as 98 per cent. of a heavy shower into his reservoir at Nagpore from a small basin of $6\frac{1}{4}$ square miles of ordinary undulating pasture land, and the same results have been registered at the Vehar works in Bombay, and the eminent Hydraulic Engineer Mr. Bateman fully confirms this fact from all his experience in England and Scotland; as it has been laid down that we cannot get more than 30 acres of irrigation from 1 square mile of drainage area, it is quite evident we are not obtaining one-tenth of the results we ought to have, and so very little or no attempts have been made to reduce the cost of transport of raw agricultural produce to the least possible amount; it is no wonder the land revenue is almost if not quite at a stand-still, simply from not attending properly to the fundamental elements for obtaining rent from land.

7. I regret to say I was wrong about the saddle I had reported as existing; the grass was exceedingly high when I first visited the locality, and the district trigonometrical survey map misled me; I have since lately examined the place again, and there is no doubt this survey is incorrect; it does not form any portion of the Perryaur water-shed as shown in it, but I do not know if any trace was ever made in this valley to avoid the very awkward zig-zags in the middle of the Goodaloor Ghaut which will always give a great deal of trouble; from a rough trace we have made this appears to be quite feasible. I beg to add, for the information of the Government, the ghaut is now quite passable for bandies on our side and in good order except the masonry works, which, I fear, will have to be reconstructed in great measure.

No. 617. ORDER THEREON, 28th August 1876, No. 2,272.

IRRIGATION, No. 66.

RECORDED with reference to G.O.,
Nos. 2,281 of 6th August 1875, and 205
of 26th January 1876, containing reports

on the Chief Engineer's suggestion to the same effect.

(True Extract.)

Colonel,

Offy. Under Secy. to Govt., P.W.D.

To the District Engineer, Madura.
„ Chief Engineer for Irrigation.

Exd. A. F. Goodall.

Spare Copies

No 1648.

151
District Engineer's Office
Madura 7 August 1876

From

Genl Colonel J. F. Fisher R.E.
District Engineer, Madura

To

Major General G. W. Walker R.E.
Secretary to Government

Re:

Encl 1
Sketch
1115

On receipt of L^{to} of the
26 January 1876 No 205, I wrote
to Captain J. Perryman R.E.
to ask him to give me the height
of the top of the Goodaloor ghāt
above any point in the bed
of the Perryman river, as determined
for the proposed project, as it
appeared to me from the last
report, the suggestion for making
out a channel had not been
fully considered as it had
occurred to me. His reply was
the highest point of the Goodaloor
ghāt is about 172 feet above
the ordinary summer level of
the Perryman at the site where
it is now proposed to construct

off the Periyar at the head of the
Munim valley in a reservoir
which could be easily put up
near Goodaloor and distributed
all over the Talook and the
adjacent Zeminaries. This project
has occurred to me after considering
the water supply of the Periyar
as given in L^o of the 30 April
1875, to 1193. In this we have the
heavy flood of November 1869 dis-
charging at the fall of nearly
17 million cubic yards per hour.
but for all the other months of the
several years given in the report
the mean hourly discharge of
the river, even in the South West
Monsoon is under 200,000 cubic yards
per hour, except in July 1871 when
this was 330,744 cubic yards per
hour. If there are canals of suffi-
cient height be constructed on
the Periyar so as to retain its
moderate freshes whilst at places
conveniently placed discharges
them into a channel to be led
off as shown in the sketch/

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and put or tunneled through any
suitable saddle there is no reason
why a good system of irrigation
should not be established at once
in the Pericolum Talook. The registers
of the flow of water in the Periyar
show we can rely upon obtaining
by regulating its flow upwards
of 100,000 cubic yards per hour
from July to January in ordinary
years or for 6 months, and a
rice crop does not require water
for more than 4 or 5 months. This
quantity of water for mere irri-
gation is ample for 50,000 acres
of land and with care and
proper regulation ought to
suffice for 75,000 acres which is
as much land as we are likely
to find available in Pericolum.
In this Talook the people
have for ages been accustomed
to irrigation in a crude way, by
means of small tanks, and
channels led out of the Vaygar
and its tributaries from ancient
on them, they have a good

market for their produce in the
Trimmelly District and in Seeylon
and means of access to it though
of an imperfect character, but the
average price of rice in Madura,
8 seers for the Ruper, shows the
demand for this produce must
be very great and that the
water would be readily taken by
the people, for in the Godavery the
average price is 23 seers for the Ruper
and the water is readily taken at
Rupus 4 per acre, under ordinary
management and I do not therefore
doubt that here we could easily
obtain a water rate of Rs 4 per
acre here though the yield from the
land will probably be only $\frac{1}{3}$
that obtained from average Delta
lands, as prices are so much
higher. It is then probable the
revenue from such a work would
be between 2 & 3 lacs a year to
the Government and as such
lands sell readily for Rupus 200
an acre at the least when supplied
with pure water the value of the

property would be between 100 & 150 lacs
of Rupus and the annual revenue
charge on it between $\frac{30}{100}$ & $\frac{50}{100}$ of
its enhanced value.

5. It is of course impossible
to say what the works may cost
I have only brought forward
the idea as a suggestion which
I cannot but think is more feasible
than the proposed project for a
Dam nearly 170 feet high for a
reservoir, with a long expensive
tunnel from it, and heavy sub-
sidiary works to lead the water
as far as Meylore. By the scheme
I propose the dam of 100 feet in
height is no doubt a formidable
work but all the rest is plain and
simple enough and the irrigation
can be commenced at once
as soon as the water is obtained
and none of this need be lost as
all surplus from the irrigated
area can be stored against near
the village of Ivollapottum
at the point where all the drainages
from these hills join to form the

Vygar proper, or it can be redis-
tributed by 2 existing aments.
the Chittanay and Peranay
to lands which now receive anything
but regular supplies of water
and so greatly improve the
irrigation under these works and
probably extend its area very
considerably.

6 I have already sent to
the Chief Engineer for Irrigation
the registers maintained of the
flow of water in the Vygar for
the years 1874 & 1875 orders have
been passed on the former but
I am not aware what has become
of the latter, though it was sent
in so long ago as last January.
It is quite evident from these registers
maintained during 2 very ordinary
years that the late Major Byres
and I were quite right in stating
that there is water enough in this
river if properly stored and
distributed for the irrigation of
4 or 5 times the extent of land

*
38 000 acres
20 30 April
1878 No 1193

5
which it now supplies, in fact
from the results since obtained
by Mr Birnie on the Nagpore
water works I am of opinion
that from 200 to 250 acres per
square mile of its drainage ought
to be irrigated or from 25000 to
30000 acres from a drainage
basin of over 1200 square miles
of exceedingly steep hard
hilly country from which
60 or 70 per cent of the rainfall
must run off even in ordinary
years, when it is recollected
that Mr Birnie actually
received as much as 98 per cent
of a heavy shower into his
reservoir at Nagpore from a
small basin of $6\frac{1}{2}$ square miles
of ordinary undulating pasture
land, and the same results
have been registered at the
Vihar works in Bombay and
the eminent Hydraulic Engi-
neer Mr Bateman fully
confirms this fact from all

his experience in England and Scotland; as it has been laid down that we cannot get more than 30 acres of irrigation from one square mile of drainage area, it is quite evident we are not obtaining $\frac{1}{10}$ of the results we ought to have and so very little or no attempts have been made to reduce the cost of transport of raw Agricultural produce to the least possible amount, it is no wonder, the land revenue is almost if not quite at a stand still, simply from not attending properly to the fundamental elements for obtaining rent from land.

5 I regret to say I was wrong about the saddle I had reported as existing. The graft was exceedingly high when I first visited the locality and the District trigonometrical survey map misled me, I have since lately examined the place

again and there is no doubt
this survey is incorrect it does
not form any portion of the
Terryau water shed as shown
in it, but I do not know if any
trail was ever made in this valley
to avoid the very awkward
zig-zags in the middle of the
Goodlore Ghat - which will
always give a great deal of
trouble - from a ^{rough} trail we have
made this appears to be quite
feasible - I beg to add for the
information of the Government
the Ghat is now quite passable
for bandies on our side and in
good order except the masonry works
which I fear will have to be
reconstructed in great measure.

I have the honor to be
Sir
Your Most Obedt Servant
Your teacher Benl Noel RG
District Engineer

581833-75 No 764
 -15-4-75-1046
 -14-7-75-2005
 -8-9-75-2568
 -3-11-75-3119
 -16-1-76-205.
 20-4-75-1143.
 6-8-75-2281.

P.W.D.
 1011076
 No 5721

No 2272

Public Works Department.

PROCEEDINGS of the MADRAS GOVERNMENT.

UNDER date the 28th Aug 76
 READ the following:—

From
 The District Engineer
 Madras (H.C. No: 1648 of 7th Aug 76)

Recorded with
 reference to G.O. No. 205
 of 26th January 1876,
 Containing a report
 on the Chief Engineer's
 suggestion to the same
 effect.

From,

The District Engineer

Madras

To, The Secretary to Govt.

P.W.D.

Madras

Dated 7th August 76
 Recd

No 1648

* Sent to Secy to Govt
 15/9/76
 Engineer District

Remarks about the
 dimensions of the
 reservoir of the—

No 516

29
 4

B. Madras
 C.B. for J.

Cir- 24-8-76 P.W.D. 28-8-76
 Recd 26-8-76 14-9-76

11-2-1871

5724
Govt. of 11876 Madras.

PUBLIC WORKS.

To

The H. E. Madras

Dated

Issued

Recd

Ed.

G. O. 25 August 1870, No.

2272

Nos. 616-617

Penyuan Project. Madras
Or Report for submitted
by the Engineer on the
subject of the ———
Recorded.

17-9-76