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MADRAS RECORD OFFICE.

Government of Madras.

Public Works DEPARTMENT.

G.O. No. 921	Press
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Dated 22-3-1866.	

Not to be folded or roughly handled

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*Proceedings of the Madras Government, Public Works Department,
22nd March 1866.*

No. 463. . Read the following letter from the Officiating Superintending Engineer, 8th Division, to the Secretary to Government, Department Public Works, dated Madura, 2nd March 1866, No. 2,375 :—

1. Referring to G. O. No. 3,596 of the 28th November 1865, I have the honor to forward copy of a report from
1 Letter. Captain Payne on the Perryaur project,
1 Sketch Plan. with sketch plan showing a section taken

from the Perryaur river to the Cumbum valley ridge.

2. Captain Payne is of opinion that the scheme of diverting the Perryaur water into the Madura country is quite practicable; but that the manner in which that diversion may be best effected cannot be decided until the whole of the country has been thoroughly reconnoitred and contoured. He finds, as the result of his levels, a rise of 186 feet from the bed of the Perryaur to the crest of the water-shed, in a distance of about $3\frac{3}{4}$ miles. This result agrees very nearly with that obtained by Mr. Barton, who states in paragraph 4*

* *Vide* G. O. No. 1,337 of 17th May 1865. of his letter to the Resident of Travancore, that by the Barometer he made the crest of the gorge 180 feet above the bed of the Perryaur. Captain Ryves in his letter of 4th March 1862 gives the difference of level at about 140 feet, as taken by Aneroid observations, but he does not specify clearly the point from which he takes his levels; and Captain Payne's figures are certainly the most to be depended on, as he is the only one who has taken a section with a levelling instrument. As to the volume of water in the Perryaur, Captain Payne calculates a discharge per hour of about 19,000 cubic yards; Captain Ryves in his letter of 4th March 1862, considers that the available supply from January to March would decrease to 50, 40, or even 30,000 cubic yards; but it is to be observed, that this has been a season of unusual drought* there has been a total failure of the north-east monsoon, and it is thus easy to reconcile the discrepancy as to the probable annual supply of water. Captain Payne having taken his levels up the beds of the Chinna Mooliar and Soorooliar rivers, finds that the water had cut its way down to the hard rock, so that there is little doubt but that a deep cutting at the ridge would involve an immense amount of labor and expense; he is, therefore, of opinion that the simplest plan of carrying out the scheme would be by damming up the Perryaur river entirely to such a height that the cutting through the ridge should be limited to a depth of 40 feet.

3. Further calculations would be necessary to ascertain the volume of the Perryaur when in full flood, estimated by Captain Ryves at 100 to 120,000 cubic yards per hour; and whether the whole river might, without danger, be turned into the Madura District, or how the surplus might be turned off. Captain Payne proposes that he should carry on the investigation of the project early in June, when the hills are considered free from fever; and I would recommend that the Government should sanction this proceeding.

4. The only report adverse to the project is that of the late Sir J. Caldwell, who writes of a mountain drain so abrupt in descent upon continued bed of rock, that in all points it must be classed a rapid, but then he admits that before he had

*by the grass and jungle to work with the
former.*

proceeded 400 yards he condemned the project; in all probability therefore, that Officer had not conceived a scheme at all approaching in magnitude that which is now under consideration.

* Savings from Estimates.

5. I beg to submit for the sanction of Government from the allotment* for Minor New Works a bill of Rupees 18, for expenses unavoidably incurred by Captain Payne, on his late survey duty; an application for authority to incur such expense ought properly to have been previously obtained, but Captain Payne experienced a difficulty which he did not anticipate, inasmuch as he could not burn down the grass, and owing to its density and that of the jungle generally he required more assistance than could be afforded by his own small establishment of Lascars.

† No. 83.

6. Lieutenant-Colonel Ouchterlony, in addressing † Government on the 27th August 1862, recommended a grant of Rupees 800 from the Reserve, for the investigation of this project; charges of this nature cannot be accurately defined beforehand, but I beg to submit an approximate rough estimate, calculated from the expenses now incurred, of Rupees 500, for sanction from next year's Reserve, if the Government think fit to order the prosecution of the scheme.

From the Executive Engineer on special duty, 8th Division, to the Superintending Engineer, 8th Division, dated Madura, 19th February 1866, No. 7.

1. With reference to Government Orders as per margin, I have the honor to inform you that from the 15th to 25th of last month I was in camp, at the Mooliar Tavalam, and engaged in taking a series of levels from the Perryaur river to the lowest point of the water-shed dividing the Madura District from the Province of Travancore.

G. O. No. 1,337, 17th May 1865.
Do. „ 3,596, 18th November 1865.

2. The north-east monsoon having been almost a failure, I anticipated but little difficulty about burning the grass, which at this season usually attains its greatest length and thickness. But in this I was disappointed, for I found it still too green to burn.

3. I had taken a spirit and water level with me, and seeing that it would be almost impossible, owing to the density of the grass and jungle, to work with the former, I determined to take the section with the water level, an instrument well adapted for the purpose, owing to the short sights obtainable, and to the rough nature of the country to be traversed.

4. The accompanying section shows the result of the levels, viz., first a rise of 23.20 feet from the bed of the Perryaur to the bed of the Chinna Mooliar, close to its junction with the Perrya Mooliar; secondly a rise of 131.55 feet from the bed of the Perryaur to the bed of the Chinna Mooliar, at the site of Colonel Faber's Anicut; * and a total difference of level from the bed of the Perryaur to the crest of the water-shed of 186.05 feet, the distance between the two points being about 3½ miles.

5. In consequence of the long drought, the Perryaur had but a small quantity of water passing down it (by calculation about 17,280 cubic yards per hour). The Perrya Mooliar stream contributed some 1,780 cubic yards more, giving a total discharge per hour of 19,060* cubic yards.

6. The scarcity of water, and general appearance of the jungle indicating the near approach of the unhealthy season, and the long grass preventing any proper survey of the country being

taken, I considered it useless to remain longer on the hills than was necessary to enable me to determine the difference of level, on which point the question of prosecuting or abandoning the project of turning the Perryaur water into the Madura District, appears to rest.

7. And as the result shows that the water-shed is only 186 feet above the bed of the Perryaur, Captain Ryves' scheme of diverting the water appears quite practicable, although how that diversion can be most economically effected is still a question that cannot be decided hastily, and before the whole of the country about has been thoroughly reconnoitred and contoured.

8. From the knowledge I have gained so far of the country, it would seem that perhaps the simplest way of carrying out the scheme, would be by damming up the Perryaur entirely, forming an extensive lake and draining the upper portion of the latter, by a cutting through the ridge, which at its deepest point could not, I consider, be carried economically below forty feet. My levels were taken (with an exception here and there) up the beds of the Chinna Mooliar and Sarvayalaur streams, where the water had cut its way down to the hard rock, so that it is pretty certain that a deep cutting would entail an immense amount of labor and expense in blasting through solid rock.

9. This plan would probably be subject to modification, when the volume of the Perryaur when in full flood, has been correctly ascertained, that is to say, it would not apparently be prudent to turn the whole of the river into the Madura District, otherwise the results might be disastrous, for judging from marks on trees, &c., on its banks, the river when in flood rises some twenty or twenty-five feet, and comes down like a mountain torrent.

10. The ordinary† stream, therefore, when the river is under the influence of the monsoons, is all that it would seem desirable to divert for

irrigational purposes. An examination of the country may show that the surplus can be turned over a masonry dam, constructed on one of the spurs of the hills to the north or south of the river.

11. I would propose that the further investigation of the project be taken up about the beginning of next June, from which date the south-west monsoon usually sets in, and the hills are considered free from fever. Meanwhile, the long grass will have been burnt and the work of leveling and surveying thus rendered less difficult.

No. 464.

ORDER THEREON, 22nd March 1866, No. 921.

CIVIL WORKS, No. 56.

1. The Government have given the reports above read their fullest consideration, and are of opinion that any plan which may be devised for diverting the waters of the Perryaur into the Madura country is well deserving of attention, and ought to be carefully matured and reported on in full detail. They approve of Captain Payne being authorized to further prosecute his investigation of the project in June next, and the Superintending Engineer will apply after the 1st May for the grant of Rupees 500 required for the purpose.

2. Captain Prendergast is competent to deal with the bill of Rupees 18 submitted by him under paragraph 8, Clause 1, Chapter IV. of the Code.

(True Extract.)

(Signed) CHARLES A. ORR, Colonel, R. E.,

Secretary to Government.

To the Superintending Engineer, 8th Division.
" Controller of Public Works Accounts.
" Revenue Department.
" Board of Revenue.
Exd. S. T. Augustin.

*of the grass and jungle work with the
former.*

No 47 Madurai
19th February 1866

From,
The Executive Engineer
Special duty 8th Division
To, The Superintending Engineer
8th Division

Sir,

G.O. No 1337
17th May 1865
G.O. No 3596
28th November 1865

With reference to Government orders as per margin, I have the honor to inform you that from the 15th to 25th of last month I was in camp at the Mulyam Talalam, and engaged in taking a series of levels from the Periyar river to the lowest point of the watershed dividing the Madurai District from the province of Travancore.

2. The North East Monsoon having been almost a failure, I anticipated but little difficulty about burning the grass, which at this season usually attains its greatest length and thickness. But in this I was disappointed, for I found it still too green to burn.

3. I had taken a spirit and water level with me, and seeing that it would be almost impossible, owing to the density of the grass and jungle to work with the former,

former, I determined to take the section with the water level, an instrument well adapted for the purpose, owing to the short sights obtainable, and to the rough nature of the country to be traversed.

11. The accompanying section shows the result of the levels - viz. 1st a rise of 23.20 feet from the bed of the Perryaur to the bed of the Chinnai Mulyaur, close to its junction with the Perryaur Mulyaur; 2nd a rise of 131.55 feet from the bed of the Perryaur to the bed of the Chinnai Mulyaur, at the side of Colonel Haber's Anicut, and a total difference of level from the bed of the Perryaur to the crest of the watershed of 186.05 feet; the distance between the two points being about 3 1/2 Miles.

5. In consequence of the long drought the Perryaur had but a small quantity of water passing down it (by calculation about 17,280 Cubic yards per hour) The Perryaur Mulyaur Stream contributed some 1780 Cubic yards more, giving a total discharge per hour of 19,060 Cubic yards.

6. The scarcity of water, & general appearance of the jungle indicating the near approach of the unhealthy season, and the long grass preventing any proper survey of the country being taken, I considered it useless to

to remain longer on the hills, than was necessary to enable me to determine the difference of level, on which point the question of prosecuting or abandoning the project of turning the Perryaur water into the Madras District appears to rest.

7. And as the result shows that the watershed is only 186 feet above the bed of the Perryaur, Captain Ryves's scheme of diverting the water appears quite practicable, although how that diversion can be most economically effected is still a question that cannot be decided hastily and before the whole of the country about has been thoroughly reconnoitred and contoured.

8. From the knowledge I have gained so far of the country, it would seem that perhaps the simplest way of carrying out the scheme would be by damming up the Perryaur entirely, forming an extensive lake and draining the upper portion of the latter by a cutting through the ridge, which at its deepest point could not, I consider, be carried economically below forty feet. My levels were taken (with an exception here and there) up the beds of the Chinnai Mulyaur.

Mulyaur and Sarvagalur streams.
where the water had cut its way down
to the hard rock, so that it is pretty
certain that a deep cutting would entail
an immense amount of labor and expense
in blasting through solid rock.

9. This plan would probably be subject
to modification, when the volume of the
Perryaur when in full flood has been correctly
ascertained, that is to say, it would not
apparently be prudent to turn the whole
of the river into the Madura District,
otherwise the results might be disastrous,
for judging from marks on trees &c. on its
banks, the river when in flood rises some
twenty or twenty five feet, and comes down
like a mountain torrent.

10. The ordinary stream, therefore, when
the river is under the influence of the monsoons
is all that it would seem desirable to divert
for irrigational purposes. An examination
of the country may show that the surplus can
be turned over a masonry dam constructed on
one of the spurs of the hills to the North
or South of the river?

* Estimated by
Captain Ryves
at from 100 to
120,000 Cubic ft.
per hour.

11. I would propose that the further
investigation of the project be taken up
about the beginning of next June, from
which date the South west Monsoon usually
sets in, and the hills are considered free from
fever. Meanwhile the long grass will
have been burnt, and the work of levelling
and surveying thus rendered less difficult.

I have &c.
Signed C. M. Payne Captain
Executive Engineer 8th Divⁿ
on Special duty

(True Copy)

Howland, Captain R.E.,
Off^r Superintendent Engineer
8th Divⁿ

No. 2375 Sup^d Engineer's Office S^d D^r
Madura D^r March 1866.

From,
Captain W. L. Trendergast R.E.,
Off^d Superintending Engineer S^d D^r

To, Colonel C. A. Ore R.E.,
Secretary to Government S^d D^r

Sir,
Referring to G.O. No. 3596 of the
28th November 1865, I have the honor to forward
a copy of a report from Captain Payne on the
Perryar project, with sketch plan showing a
section taken from the Perryar river to the
Cumbum valley ridge.

2
Captain Payne is of opinion that the
scheme of diverting the Perryar water into
the Madura Country is quite practicable, but
that the manner in which that diversion may
be best effected, cannot be decided until the
whole of the Country has been thoroughly recon-
nitered and contoured. He finds, as the result
of his levels, a rise of 186 feet from the bed of
the Perryar to the crest of the water shed,
in a distance of about $3\frac{3}{4}$ miles. This
result agrees very nearly with that obtained
by Mr. Barton, who states in para 14 of his
1st May 1865 letter to the President of Travancore, that by
the

Enclosure in p. 6 of 11
2375 dated 3rd March 1866
from the Sup^d Eng^r S^d D^r
to the Secretary to Govt.
2375/1866
Report from Captain
W. L. Trendergast
Engineer on the Perryar
Project

the Barometer, he made the crest of the gorge 180 feet above the bed of the Perryaur. Captain Ryves in his letter of 14th March 1862, gives the difference of level at about 110 feet, as taken by aneroid observations; but he does not specify clearly the point from which he takes his levels. Captain Payne's figures are certainly the most to be depended on, as he is the only one who has taken a section with a levelling instrument. As to the volume of water in the Perryaur, Captain Payne calculates a discharge per hour, of about 19,000 Cubic yards; Captain Ryves in his letter of 14th March 1862, considers that the available supply from January to March, would decrease to 50, 10 or even 20 thousand Cubic yards, but it is to be observed, that this is during a season of unusual drought: there has been a total failure of the N.E. Monsoon, and it is thus easy to reconcile the discrepancy as to the probable annual supply of water. Captain Payne having taken his levels up the beds of the Chinnia Mooliar and Soorooliar rivers, finds that the water had cut its way down to the hard rock; so that there is little doubt but that a deep cutting at the Ridge, would involve an immense amount of labor & expense; he is therefore of opinion that the simplest plan of carrying out the scheme would be by damming up the Perryaur river entirely?

to such a height that the cutting thro' the ridge, should be limited to a depth of 100 feet.

3 Further calculations would be necessary to ascertain, the volume of the Perryaur when in full flood; estimated by Captain Ryves at 100 to 120 thousand Cubic yards per hour; and whether the whole river might without danger be turned into the Madurai District; or how the surplus might be turned off. Captain Payne proposes that he should carry on the investigation of the project early in June, when the hills are considered free from fever; and I would recommend that the Government should sanction this proceeding.

4 The only report adverse to the project is that of the late Sir J. Caldwell, who writes of a mountain drain so abrupt in descent upon a continued bed of rock, that in all points it must be classed a rapid. but then he admits, that before he had proceeded 100 yards he, condemned the project; in all probability therefore that Officer had not conceived a scheme at all, approaching in magnitude, that which is now under consideration.

Savings from
estimated

5 They to submit for the sanction of Government from the allotment for Minor New Works a bill of Rupees 18, for expenses unavoidably incurred by Captain Payne,

Payne, on his late survey duty: an application for authority to incur such expense ought properly to have been previously obtained: but Captain Payne experienced a difficulty which he did not anticipate, in as much as he could not burn down the grass; and owing to its density, and that of the jungle generally he required more assistance than could be afforded by his own small establishment of lascars.

6 Lieutenant Colonel Ouchterlony in addressing Government on the 24th August 1862 recommended a grant of Rupees 800 from the Reserve, for the investigation of this project: charges of this nature cannot be accurately defined beforehand, but I beg to submit an approximate rough estimate, calculated from the expenses now incurred of Rs 500, for sanction from next year's reserve, if the Government think fit to order the prosecution of the Scheme.

Shave & Co

Howe & Co
 Howe & Co
 Captain R.E.
 Off^r Superintending Engineer
 8th Division.

Approximate rough Estimate of expenses to be incurred in the investigation of the Perryaur Project. —

— Guide at 8 annas a day for 30 days — Rs 15.
 — Coolies at 11 — Do Do to aft^r
 in the survey, to cut grass jungle &c
 also to make huts, and rafts, — 11.5.
 Extra Coolies for conveyance of Rice
 instruments &c, from Goodalur — 6.
 Batta in rice for guide, 2 Govern.
 ment lascars, & Coolies 75 pudches
 at 5 per Rupee — 15.

For one month Rs — 81
 Do — 6 — Do — Rs 4 86

Sundries rope nails &c — 14

Total Rupees 500.

Don't print the

Howe & Co
 Captain R.E.
 Off^r Superintending Engineer S.D.

Contingent Expenses incurred in a
Preliminary Examination of the
Periyar project.

	Rs.	A.	P.
1—Guide at Summ. as	5	0	0
for 10 days			
2—Coolies @ 11 annas	5	0	0
for 10 days			
11—Coolies to take rice and instruments from Gudalur to the Malayan Talalam @ 12 ⁰⁰	3	0	0
Rice for 1 Guide 2 Coolies and 2 Government lascars for 10 days @ 1/2 puddee per diem 6 5 puddees per Rupee 1 Total 2 5	5	0	0
puddees			
Total Rupees	18	0	0

Madurai

8th Feb 1866

Signed P. W. Payne, Captain
Executive Engineer on special duty

Thos Sundar Captain R.E.

Off^r Superint^g Engineer S.D.

The Government have given the reports above read their fullest consideration, & are of opinion that any plan which may be devised for diverting the waters of the Perryour into the Jordan Country is well deserving of attention, & ought to be carefully monitored & reported on in full detail. They approve of Capt. Payne being authorized to further prosecute his investigation of the project in

Captain Spang
has been to do in a detached line
business of the project - in
view of the project and the
of the project

June next, & the S Engr
will apply after the 1st May
for the grant of Rs 500 required
for the purpose.

Capt'n Pendergast
is competent to deal with
the Bill of Rs 18 submitted
by him under Para 8 Clause
1, Chapter IV of the Code.



31
 2
 The Hon & Dr
 Controller
 Board of Revenue
 Revenue Dept
 Secy

1977

[Handwritten signature]

Sept. 23rd March

28th March

P. W. 1866. Department.

Proc. of Govt for March

No. 921

PROCEEDINGS OF GOVERNMENT. of Alaska

Dated *22 March/86*

*Perryman project - Madras
District - Passing orders
on letter from the Superin-
tending Engineer of the
8th Division submitting
Captain Paynes Report
on the -*

A 463. 464.