M.R.O. 1—77,000—6-4-31.

(1) Number of pages 22

(2) Date of repair

(3) Initials of the Referencer

MADRAS RECORD OFFICE.

Government of Madras.

DEPARTMENT.

G.O. No. Press Mis.

Dated 18 .

Not to be folded or roughly handled

No. 66. Read the following Endorsement of the Acting Superintending Engineer, 8th Division, dated Madura, 17th June 1871, No. 880:—

From J. W. RUNDALL, Esq., Executive Engineer, Tinnevelly, to the Superintending Engineer, 8th Division, dated Palamcottah, 3rd June 1871, No. 91.

WITH reference to your verbal orders to me to go with Mr. Stuart, the Sub-Collector, and to inspect the site of proposed anicut in the hills, I have the honour to report that I have accompained Mr. Stuart to the hills, and have, in his company, gone over the ground.

2. There are three places where Mr. Stuart proposes to turn water down on to the dry plains of the Nanguneri Talook, all situated on a stream which is not clearly laid down in the printed Trigonometrical Map, as it runs through a tract of unsurveyed mountainous and jungly country, lying to the west of Thirukrengudi and Calacad.

3. On this stream Mr. Stuart's proposals are, first, to re-construct an old ruined work on its higher part; second, to construct an entirely new work and channel lower down; and, third, to improve an existing anicut and channel which supplies the Nanguneri channel.

4. Mr. Grant, Assistant Engineer, has already taken some levels which give an idea of what would be required.

5. At the upper site there are the remains of an old anicut, consisting of roughly squared stones with a bank in front of it, and there is a distinct channel for a considerable distance. By whom this work was built and how long ago, there is not even a tradition, except that it was done by the "Pandians." At present the channel is completely overgrown with jungle of large forest trees and elephant grass, (a partial clearing of its line was made by Mr. Stuart's orders,) and it has a reverse fall from a certain point about 1,400 yards from the river, now acts as a feeder to the main stream for that distance.

6. Mr. Grant's levels show that the highest point of the bed of this channel is about 30 feet above the bed of the river at the site of the old anicut, and he also found that there was about 6 feet of silt and accumulation in the channel at this point, hence that the bed of the old channel was probably 24 feet above the bed of the river, and that a dam, 30 feet high, would pass a depth of 6 feet down the channel. The river near old anicut has a well-defined rocky section, and there would be no difficulty in constructing such a masonry dam beyond the inaccessibility of the site and the cost of conveying lime from the plains; some aneroid observations made the site of old anicut about 3,600 feet above sea level.

7. With regard to the quantity of water available, or likely to be available, there is, however, no information whatever; we cannot even guess at the catchment basin of the stream, and the rainfall is quite unknown; as there is a very high range of mountains on the west of the stream, it is probable that its supply from the south-west is much less from the north-east monsoon. I think it is worthwhile to endeavour to obtain information as to the rainfall, though I doubt if in such a jungly place we could get any one to take reliable gaugings of the stream.

8. It will require a considerable amount of investigation before we can judge of the quantity of water available. Mr. Stuart states that the water from this channel can be turned both into the Numbiar and the Nanguneri channels. If by improving the Nanguneri channel (to be referred to by-and-by) we can make it take off more of the flood-water of this stream, it would perhaps be better to send the greater portion of the water from the Upper Anicut into the Numbiar and its tanks, but this is entirely a matter for future settlement after proper investigation.

9. The second anicut on the same stream, proposed by Mr. Stuart, is an entirely new one with an entirely new channel. The channel he proposes to run along the side of a hill composed of loose stone boulders for about 1,300 yards, where the water would then find its way over a ridge into the plains below and eventually into the Nanguneri channel.

10. The construction of this channel would present many difficulties and be very expensive, and need not, I think, be investigated at present, for there is already an anicut below this place with a channel led away from it, which anicut now forms the head work of the Nanguneri channel.

11. This anicut, called the Carumbandien Ammencovil Anicut, is in good order; the channel has a circuitous course of several miles before it reaches the plains, of which about 3 miles are artificial, the channel being carried through rock and in several places retained on the hill-side by masonry walls. The chunam has been washed out of the lower portion of these walls, and there is consequently a considerable amount of leakage through them when I inspected the channel; although there must have been about 2,000 cubic yards per hour passing in at the head (which is open), not a drop passed on beyond a calingulah built across a jungle stream which passes the line of channel about three-fourths of a mile from the anicut. Part of this loss may occur through the bed of the channel, but the leakage through the walls is evident. I have little doubt that this channel is capable of great improvement, widening in some places and deepening and equalizing the level. At the head of the channel, as far as the jungle stream above mentioned, is a series of cascades.

12. I would propose that immediate steps be taken to have a register of the water passing the anicut kept at this Carumbandien Ammencovil, and also a register of rainfall. There is a native coffee garden close to this place. I do not think we should have any difficulty in getting a tolerably trustworthy man to stay there. It might be possible to establish a gauge near one of the cascades, which would enable us to get an idea of the quantity passing down the channel. There is also an old anicut, where the Nanguneri channel proper begins, near the foot of the hills, at which another gauge should be established and a rain gauge kept. I would therefore ask you to sanction a Goomastah on Rupees 15 per month for the upper gauge, one on Rupees 12 per month for the lower gauge, and a peon on Rupees 5 per month to bring down weekly reports, etc., or a total of Rupees 32 per month from the 15th June to end of January, or 7½ months equal Rupees 240, from Minor New Works.

13. When Mr. Grant has completed the lower Numbiar investigations these two channels might be taken up.

Proceedings of the Madras Government, Public Works Department, 5th September 1871.

14. I have already (on the 19th May) asked you to request the Revenue Survey Officers to survey in those hills not laid down by the Trigonometrical Survey; if this is done we shall get a correct idea of the catchment basin of the stream we propose to deal with, and, with rain registers and water registers at the two anicuts, have some idea of how far water will be available for an increase of supply.

15. While applying for gaugers for this stream, I would ask you to be good enough to sanction also the gaugers previously sanctioned for the Govenkulam and Perungudi Anicuts on the Numbiar—*vide* G. O., No. 2,167, dated 5th July 1869—to continue the registers for another season during which Mr. Grant will be working. I submit an estimate for the whole probable expense, and hope you will be able to accord sanction to it as a Minor New Work. Mr. Grant will want extra lascars when he again commences surveying at the expiration of his leave.

16. The villagers are very much interested in these works, and have subscribed Rupees 10,000 in hopes they may be speedily undertaken. Even if the investigations should prove that it would not pay Government to construct the works from Loan Funds, yet I have no doubt some conjoint action between the Government and the ryots might be arranged, which would be profitable to both. When the villagers have a direct interest in a work from having spent their own money on it, they are likely to be keen regarding its up-keep, which is an important point where the works are remote and inaccessible.

MINOR NEW WORKS.

Estimate of the cost of Establishment required for gauging streams in the Nanguneri Talook.

				Rs.	A.	P.	Rs.	A.	P.			
1 Goomastah...	...	...	...	15	0	0	15	0	0			
1 Do.	...	...	...	12	0	0	12	0	0			
2 Do.	...	...	...	10	0	0	20	0	0			
							47	0	0			
For 7½ Months										352	8	0
4 Lascars for Mr. Grant for 3 months, at 7 Rupees each, Rs. 28										84	0	0
For fixing bench-marks, registers, etc.										63	8	0
							Total...			500	0	0

(Signed) J. W. RUNDALL,
Executive Engineer.

PALAMCOTTAH,
3rd June 1871.

FORWARDED to the Acting Chief Engineer for Irrigation, with a recommendation that the early sanction of Government may be obtained to the accompanying estimate of Rupees 500, being cost of establishment required for gauging streams in the Nanguneri Talook, the estimate to be debited, as suggested by Mr. Rundall, to the current year's grant of Rupees 7,500 under "Minor New Works," Agricultural, Tinnevelly District.

(Signed) R. A. ROBERTS, Lieut.-Colonel, R.E.,
Acting Superintending Engineer, 8th Division.

Proceedings of the Madras Government, Public Works Department, 5th September 1871.

No. 67. ORDER THEREON, 5th September 1871, No. 2,262.

ESTABLISHMENT, No. 9.

THE Government sanction from the current year's grant for Temporary Establishments the estimate of Rupees 500 for the establishment required for gauging streams in the Nanguneri Talook of the Tinnevelly District.

(True Extract.)

Captain, R.E.,
Under Secretary to Government.

To the Acting Superintending Engineer, 8th Division.
" Controller of Public Works Accounts.
" Chief Engineer for Irrigation.

Exd. S. T. Augustin.

Palamcottah
3rd June 1871.

Agl

From

The Executive Engineer
Tinnevelly

To

The Superintg Engineer
8th Division

Sir,

With reference to your verbal orders to me to go with Mr Stuart the Sub Collector and to inspect the site of proposed Anicut in the Hills, I have the honor to report that I have accompanied Mr Stuart to the Hills and have in his company gone over the ground.

2. There are three places where Mr Stuart proposes to turn water down on to the dry plains of the Nanguneri Talook, all situated on a stream which is not clearly laid down in the printed Trigonometrical map, as it runs through a tract of unsurveyed mountainous

and jungly country lying to the west of Thorikkrenguddi & Kalakad.

3. On this stream Mr Stuarts proposals are 1 to reconstruct an old ruined work on its higher part. to construct an entirely new work and channel lower down and to improve an existing anikut and channel which supplies the Nanguneri channel.

4. Mr Grant Assistant Engineer has already taken some levels which give an idea of what would be required.

5 At the upper site there are the remains of an old Anicut, consisting of roughly squared stones with a Bank in front of it and there is a distinct channel for a considerable distance. By whom this work was built and how long ago this is not even a tradition except that it was done by the "Pandians". At present the channel is completely over grown with jungle of large forest trees and Elephant grass. a partial clearing of its line was made by Mr Stuarts orders. and it has a reverse fall from a certain point about 1400 yards from the river now acts as a feeder to the main stream for that distance.

6. Mr Grants levels show that the highest point of the bed of this channel is about 36' above the bed of the river at the site of the old anicut and he also found that there was about 6' of silt and accumulation in the channel at this point, hence that the bed of the old channel was probably 24' above the bed of the river, and that a dam 30 high would pass a depth of 6' down the channel. the river near old anicut has a well defined rocky section and there would be no difficulty in constructing such a masonry dam beyond the

inaccessibility of the site and the cost of conveying lime from the plains, some aneroid observations made the site of old Amicut about 3600 above sea level.

7. With regard to the quantity of water available or likely to be available there is however no information whatever, nor cannot even guess at the catchment basin of the stream, and the rain fall is quite unknown as there is a very high range of mountains on the west of the stream it is probable that its supply from the south west is much less from the north east monsoon. I think it is worthwhile to endeavour to obtain information as to the rainfall, though I doubt if in such a jungly place we could get any one to take reliable guagings of the stream.

8. It will require a considerable amount of investigation

before we can judge of the quantity of water available - Mr Stuart states that the water from the channel can be turned both into the Numbiar and the Nanguneri channel. If by improving the Nanguneri channel to be referred to bye & bye we can make it take off more of the flood water of this stream, it would perhaps be better to send the greater portion of the water from the upper Amicut into the Numbiar and its tanks, but this is entirely a matter for future settlement after proper investigation.

9. The second Amicut on the same stream proposed by Mr Stuart is an entirely new one with an entirely new channel. The channel he proposes to run along the side of a hill composed of loose stone builders for about 1300 yards where the water would then find its way over a ridge

into the plains below and eventually into the Nanguneri channel.

10. The construction of this channel would present many difficulties and be very expensive and need not I think be investigated at present, for there is already an anicut below this place with a channel led away from it which anicut now forms the head works of the Nanguneri channel.

11. This anicut called the Kairambandien ammencoil Anicut is in good order, the channel has a circuitous course of several miles before it reaches the plains of which about 3 miles are artificial. The channel being carried through rock and in several places retained on the hill side by masonry walls. The channel has been washed out of the lower portion of these walls and there is consequently

a considerable amount of leakage through them. When I inspected the channel although there must have been about 2000 byds per hour passing in at the head (which is open) not a drop passed on beyond, a calingulah built across a jungle stream which passes the line of channel about 3/4 of a mile from the Anicut. Part of this loss may occur through the bed of the channel but the leakage through the walls is coident. I have little doubt that this channel is capable of great improvement, widening in some places and deepening and equalizing the fall. At the head of the channel as far as the jungle stream above mentioned is a series of carcades. Cascades

12. I would propose that immediate steps be taken to have a register of the water passing the anicut kept at this

Karumbandien Kammercoil and
also a register of rainfall. There is
a native coffee garden close to the
place. I do not think I should
have any difficulty in getting
a tolerably trustworthy man
to stay there. It might be possi-
ble to establish a gauge near
one of the arcades which would
enable us to get an idea of the
quantity passing down the channel.
There is also an old aqueduct where
the Kangraneri channel proper
begins near the foot of the hills
at which another gauge should
be established and a clerk
gauge kept. I would therefore
ask leave to sanction a permanent
allowance of Rupees 15 per month for the
upper gauge, one of Rs. 12 per
month for the lower gauge and
a peon on Rs. 5 per month to
bring down weekly reports &c. or
a total of Rupees 32 per month
from the 15th June to end of January

or 7½ months = Rupees 240 from Minor
New Works.

13 When Mr. Grant has
completed the lower Kunnbrak
investigations these two channels
might be taken up.

I have already (on
14 the 19 May) asked you to request
the Revenue Survey Officers to
survey in those hills not laid
down by the Trigonometrical
Survey. If this is done we shall
get a correct idea of the catchment
basin of the streams we propose
to deal with and with rain
registers and water registers at
the two anicuts have some
idea of how far water will be
available for an increase of supply.

15 While applying for
gaugers for this stream I would
ask you to be good enough
to sanction also the gaugers
previously sanctioned for the
Goverikulam and Perungode

amicuts on the Nunbair - Vide Gov^t No 2164 dated 5 July 1869 to examine the registers for another season during which Mr Grant will be working. I submit an estimate for the whole probable expense, and hope you will be able to accord sanction to it as a minor new work. Mr Grant will want Extra Clerks when he again commences surveying at the expiration of his leave.

16. The villagers are very much interested in these works and have subscribed Rupees 10000 in hopes they may be speedily undertaken. Even if the investigations should prove that it would not pay Government to construct the works from Loan funds, yet I have no doubt some conjoint action between the Government and the ryots might be arranged, which would be profitable to both. When the villagers have a direct interest in a work from having spent their own money on it, they are likely to be keen regarding its upkeep which is an important point where the works are remote and inaccessible. Letter

I have &c.

(Signed) J W Rundall
Executive Engineer

(True Copy)

No 880

Forwarded to the Ag Chief Engineer for Irrigation with a recommendation that the early sanction of Government may be obtained to the accompanying estimate of Rupees 500, being cost of establishment required for gauging streams in the Nunguneri Taluk the estimate to be debited, as suggested by Mr Rundall, to the current year's grant of Rupees 7500 under Minor New

Encls

Works Agricultural & Tinnevelly District

Rich.d Norie Lieut. Col. R.E.
Ag. Superintg. Engineer &c &c

Madura
17th June 1871.

To
The Chief Engr
for Irrigation

Dated 17th June 1871
Received 20th June 1871
Regd. in Augmt. 1871
No 2262 S. Engr.

Submits copy of
his Rundalls report
of this inspection
of certain hills
streams in the
Tinnevelly District
requests that this Sanct.
of Government may
be obtained to the
accompanying estimate
for gauging those streams.

No 66

Minor New Works. 17

Estimate of the cost of Establishment required for Guaging streams in the Nanganeri Talook.

		Rs.	A.	P.
1. Coomastah	Rs 15	15		
1 D.o	12	12		
2 D.o	10	20		
		47		
7½ Months	Rs	352	6	
4 Lascars for Mr. Grant for 3 Months at 7 Rs each	Rs 28	84		
For fixing Bench Mark in Register years		63	6	
Total Rupees		566	6	

Palamcottah
3d June 1871.

(Sigd) F. W. Rundall
Executive Engr.

(True Copy)
Tinnevelly
Rich.d Norie Lieut Col R.E.
Ag Supt Engineer &c &c

P.W.D. 8

No. 2262.

19

Proceedings of the Madras Government

Read the following

From,

The Actg. Supt. of Engineer
8th Div.

(No. 880 of 17th June 1871)

The Government sanction from the current year's ~~grant for Temporary Establishment not here noted~~ The estimate of Rupees 500 for the establishment required for guaging streams in the Nanguneri Taluk of the Tinnevelly District.

Read

Sntdg. Engr. 8th Div. ✓
Contr. do. do. ✓
Ch. Engr. for Info. ✓ Dispd. 6/9/71

Encl. 1 Abstract
from the Superintending
Engr. 8th Div. dated
Trichinopoly 17th June 1871
No. 880

P.W. 3845/71

Estimate
of cost for Establishment
employed for guaging
streams in the
Nanguneri Taluk

No. 3845

Cost of 1867 Madras.

PUBLIC WORKS.

To The Acting Superintending Engr & Secretary

Dated 1

Rec'd 5 Sept. 2262.

Nos. 1867

Establishment. Rs entrusted

Orders for the Establishment required for staging Screens in the Stampenerie Block of the Tinnevelly Dt, sanctioned.

6 Octr 16 Augt/71