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MADRAS RECORD OFFICE

Government of Madras

Public Works

DEPARTMENT

G.O. No.	1836	Press
B.P. No.	1836	Mis.
Dated	1-7-	1275 195

Not to be folded or roughly handled

Read the following papers:—

No. 12. Proceedings of the Madras Government in the Revenue Department, dated 26th May 1875, No. 814.

ABSTRACT.—*Irrigation Project near Battagoondoo in Madura District.*—Referring to the Public Works Department Board's Proceedings regarding the —, in view to steps being taken to have the project examined.

No. 13. Memorandum by Chief Engineer for Irrigation, dated 22nd June 1875, No. 665.

THE Sub-Collector of Madura in his letter of the 6th March 1875, No. 71, has shown that the investigation of the project near Battagoondoo for the formation of a large tank which would supersede several existing and inefficient smaller tanks is probably desirable, and were it practicable the services of an officer might be usefully employed on its examination. Seeing, however, that there are several important districts which are at present under-officered, and that in three districts and in Wynnad

South Arcot.
Tanjore.
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the officers in charge have, owing to no others being available, been obliged to retain their ranges in addition to the general district duties, it is quite impossi-

ble at present to provide for the investigation of new projects. On the other hand the District Engineer of Madura has too much to do in connection with existing irrigation works, and more particularly as regards those tanks which affect the safety of the Railway, with also other than irrigation works, to be able to devote that time and attention to a new project involving several difficult and intricate considerations, without which the employment of a subordinate establishment would be likely to lead to waste of money.

2. Mr. Bliss is no doubt quite right in his remarks in paragraph 15 as to the difficulty of treating as separate subjects the improvement of the existing and the provision of new means of irrigation, but similar considerations are applicable to a vast number of the old works of the country, and there is probably hardly a group of tanks, or a succession of anicuts on any small river, which does not need to be dealt with in a much more systematic and comprehensive way than has hitherto been attempted. District Engineers and their Range Officers should do their best to treat all irrigation works in the most effective manner possible, and assistance in the way of Survey Establishments will be obtainable on the conditions mentioned in the Irrigation Circular, No. 62. In the particular case of the Battagoondoo project, however, much more than the improvement of existing irrigation works is contemplated, *viz.*, a very large extension of irrigation, and without doubting that there are *prima facie* grounds for believing that the construction of a great reservoir would be advantages, it must be noticed that it is more necessary to attend to existing works, and to such improvements of their condition and circumstances as are within the means of the Government.

(Signed) JOHN MULLINS Lieut-Colonel, R.E.
Officiating Chief E

No. 14.

ORDER THEREON, 1st July 1875, No. 1,836.

IRRIGATION, No. 3.

THE Government, while recognizing the value of much that is urged by the Sub-Collector of Madura, cannot provide

for the examination of new projects at present.

(True Extract.)

Major, R.E.,

Offg. Joint Secretary to Government.

To the Revenue Department.

„ District Engineer, Madura.

„ Chief Engineer for Irrigation.

A. A. Grubert.

No. 288. Read the following Proceedings of the Board of Revenue, dated 12th May 1875, No. 1,251 :—

Read the following letter from W. McQUHAE, Esq., Collector of Madura, to H. E. STOKES, Esq., Acting Secretary to the Board of Revenue, dated Kadugusandai, 18th March 1875, No. 114 :—

I HAVE the honor to submit, for favorable consideration, copy of a letter from the Sub-Collector, dated 6th March 1875, No. 71, urging that a special establishment be placed at the disposal of the District Engineer for the investigation of an irrigation project near Batlagoondoo.

2. In the country adjoining the Palni and Travancore hills several projects for the extension of irrigation have been suggested at different times, but with the exception of the large Perryaur project, I believe that none of them has ever been thoroughly investigated. Whether Government can spend money on inquiries is a question which it is useless for me to discuss, but I have no doubt many of these minor irrigation projects which are much desired by the ryots could prove very beneficial and remunerative, and would be preferable in many ways to large canal projects.

Enclosure No. 1.

From W. H. BLISS, Esq., Sub-Collector of Madura, to W. McQUHAE, Esq., Collector of Madura, dated Dindigul, 6th March 1875, No. 71.

I HAVE the honor to address you in continuation of my letter, No. 513, dated the 21st December 1874, on the subject of the Kanavoyputty anicut and tank.

2. In that letter I intimated my opinion that the anicut was not only in urgent need of repair, but that there were required considerable improvements in the way of straightening it, and of the addition either of a head work to the channel or of a new calingulah to the tank, without one or other or both of which means of protection I said that I thought that the tank, if repaired, would have but a poor chance of standing during heavy rains; and I added estimates of the returns per cent. which might be expected from the repair of the tank on, *first*, the plan proposed by Mr. Hawksworth (a simple repair of the existing earthen bunds); and, *secondly*, a more comprehensive scheme which the people told me was prepared in or about 1856 by Mr. Scott, then District Engineer, but though sanctioned never executed on account of the financial pressure caused by the mutiny.

3. I have now visited the place again and gone carefully over the ground in company with the District Engineer, and the conclusion we have arrived at are as follows.

4. *First*, the repair of the anicut in a thoroughly satisfactory way will cost much more than the Rupees 200, which if I recollect right is the amount of Mr. Hawksworth's estimate for the work.

5. *Secondly*, if the tank is to be repaired on the present plan, it will be absolutely necessary to build not only a new calingulah but a new sluice as well. These two masonry works will cost about Rupees 750, and the amount of the estimate for the repair of the tank will thereby be doubled, and the possible profits of the undertaking shown in paragraph 5 of my former letter halved, and thus reduced from 8.13 to 4.06 per cent. It will therefore clearly not be worthwhile to repair the tank at all in the manner proposed by Mr. Hawksworth.

6. It may still of course be worthwhile to repair the tank on Mr. Scott's plan, but until the records of the District Engineer's office have been searched, and the exact nature of that plan has been ascertained, it cannot be certainly said that it will be.

7. In going over the ground, however, the District Engineer discovered close to the anicut a site at which a magnificent tank might clearly be constructed at very moderate cost, and in such a position as to command not only the whole of the lands now dependant for means of irriga-

tion on the Kanavoyputty anicut but the whole of the Batlagoondoo nunjah and the beds of the three large Batlagoondoo tanks which might all be cultivated without difficulty, as well as almost any amount of land in the valley of the Vigay on the other side of the line of low hills which runs along the south of the Batlagoondoo nunjah lands.

8. We took a few rough levels and measurements, and find that at the point in question a dam less than half a mile long, and of a maximum height of 36 feet, would head back the river Manjalar over an area of about five square miles to an average depth of at least 10 feet. The contents of such a tank would be about 50,000,000 of cubic yards, or sufficient to irrigate 10,000 acres of land for a single crop. Rather over 1,000 acres being however already under irrigation in Batlagoondoo village, the increase of area that could be watered would not exceed 9,000 acres, which with a water-rate of Rupees 6 per acre, which would be moderate for this district and would be gladly paid by the people, would raise the revenue by not less than half a lakh of rupees per annum.

9. So far as can be ascertained by the rough estimates we were able to make on the spot, the cost of this work will be about a lakh of rupees, to which must be added about another lakh as compensation for the 3,000 acres (about) of land that would be exempted in the water-spread. On the other hand, the beds of the existing tanks (acres 342) would no longer be required for the storage of water, and would probably sell for at least Rupees 125 per acre, as they are first rate soil, and would require but little expenditure to convert them into excellent sugar lands. Over Rupees 40,000 would probably be recouped in this way, and the net cost of the works would thus be reduced to Rupees 1,60,000, upon which expenditure the anticipated increase of revenue of Rupees 50,000 would yield interest at the rate of 31 per cent.; and even supposing the cost of the works to be double, or the returns to be only half, of the roughly estimated figures above given, the profit to Government would exceed 15 per cent., to say nothing of the great advantage that would be conferred on the people by so large an extension of irrigation as the storage of 50,000,000 of cubic yards of water would render feasible.

10. It may be objected I am aware,

1stly, that the drainage area may not be sufficient to yield so large a quantity of water as 50,000,000 of cubic yards; and,

2ndly, that every drop of water stored in this proposed reservoir would diminish by so much the supply of the Vigay river upon which many important works of irrigation are dependant.

11. As to the first objection, it is sufficient to say that the drainage area of the Manjalar at the point in question is nearly, if not quite, 100 square miles, much of which is steep hilly ground off, which an unusually large proportion of the rain-fall would drain, and that the annual rain-fall must on an average over this area be at least 50 inches. Assuming however the rain-fall to be only 36 inches and only one-third of it to drain off, which is a moderate estimate considering the nature of the ground, we should receive into the tank every year 105,000,000 of cubic yards of water, or more than enough to fill it twice over. There can therefore, I think, be no reasonable doubt of the water-supply being sufficient to fill it once a year, with an ample margin to cover loss by evaporation.

12. The second possible objection above noted cannot be so easily disposed of. It is difficult on first thought to believe true the seeming paradox that the subtraction from the supply of the Vigay river of probably nearly 40,000,000 of cubic yards per annum, in addition to the quantity now stored in existing tanks proposed to be abolished, would not in reality diminish the quantity of water therein available for irrigation. But I believe it to be true nevertheless. The fact is, in the first place, that 40,000,000 of cubic yards of water bear a very small proportion to the total annual discharge of the Vigay, which with a drainage area of 1,200 square miles in the Peracolum taluk alone cannot be taken at less than 1,200,000,000 of cubic yards, or thirty times as much as the quantity proposed to be abstracted. In the second place, it is the case so far as I can ascertain that the small freshes which begin coming down the Manjalar in May or thereabouts, when the first rains fall upon the hills, never reach the anicuts on the Vigay at all, but are wasted and lost in the sandy beds of the two rivers. By the construction of the proposed

tank every drop of these would be stored and the tank probably half filled long before the beginning of the cultivation of the lands under the Vigay anicuts and channels. In the third place, a proportion of the water drawn off from the tank and used in the irrigation of the lands under it would surplus back into the river and maintain a steady stream downwards to the Vigay anicuts, the supply of which would thereby be regulated to a certain extent, and lose so far its present intermittent character. How large this proportion would be it is impossible to say, but it could not fail to be considerable from hard red soil closely underlaid everywhere by rock, and the tank itself, if, as I imagine would be the case, the water stored in it was in excess of the requirements of the lands under it in the fork of the Vigay and Manjalar rivers, could be made to assist in the regulation of the supply of the Vigay anicuts, to which, if necessary, a channel could without difficulty be led direct.

13. I do not know how far the above arguments may be thought fully to meet the objection, that the construction of the proposed tank would be injurious to existing interests lower down; but I venture to think that they do so at least in part, and certainly to such an extent that the mere apprehension of such injury should not be allowed to stand in the way of the commencement of investigations as to the engineering feasibility and the financial promise of the project. I have the honor therefore to suggest that Government may be moved, through the Board of Revenue, to make arrangements for placing at the disposal of the District Engineer the services of a special officer competent to conduct such investigations, and of the necessary surveying establishment. Without such assistance it is obvious that the project can only be worked out, if at all, after great delay; for the existing numerous and laborious duties of the District Engineer and of the engineering staff now employed in the district fully occupy all their time, and leave them no leisure, much less the necessary freedom from pre-occupation of mind by other cares, which is essential for the successful prosecution of any difficult and important task. In such a case as this it appears to me that delay is really synonymous with waste of money. I trust therefore that in their own interests, no less than in the interests of the cultivators whom this work would enrich (if that is the interests of the Government can ever be otherwise than identical with those of the governed), Government will find it practicable to comply with this request.

14. I am aware that it is more usual that applications of this sort should be made to Government through the Department of Public Works. In a recent case however, on a similar application being made by the District Engineer for the staff required for the investigation of a project in the Pulni taluk, to which locality Government have specially directed his attention, the Chief Engineer for Irrigation first stated that no special officer could be deputed, none being available, and that it was the wish of Government that all existing irrigation works shall be rendered safe and efficient for the supply of the present ayacut before new schemes are taken up, and sanctioned the employment of a Surveyor for one month only; and subsequently on a renewed request that the pay of a Surveyor and Lascars employed in anticipation of sanction might be passed, simply referred the District Engineer to his former instructions. Under these circumstances, it would of course be improper for the District Engineer to substantially repeat proposals which have been definitively negatived; but I think it not impossible that a different view of the requirements of this case might be taken in the Revenue Department.

15. The fact is, and I write with every deference to the opinion of Government as expressed by the Chief Engineer for Irrigation, that it is in many cases quite impossible to treat as separate subjects the improvement of the existing and the provision of new means of irrigation. In the case on which I am now reporting, for instance, it is clear that before we can tell not only whether it will be advisable to restore the Kanavoyputty tank, but whether the anicut supplying it should be repaired or not, and whether we should proceed with the ordinary annual repairs of the Batlagoondoo tanks, channels and anicuts, we must ascertain, if we wish to avoid a great waste of money, whether this project, which if executed will supersede all these works, is or is not feasible at such a cost as will render its execution financially desirable. Similarly, with regard to the District Engineer's project for the improvement of the irrigation on the right bank of the Shanmuganadi, which I have carefully gone over with him, and believe will pay well,

*Proceedings of the Madras Government, Revenue Department,
26th May 1875.*

until it is settled whether it will or not, it is utterly impossible for us to decide whether the Paupancolum and Kothamangalum tanks, the former of which is almost in a dangerous state of disrepair, should be strengthened to hold up the increased supply of water which they will receive through the improvements now, I am happy to say, in active progress on the Palani tank and channel which supply the whole of this group of irrigation works: or whether they should be abolished altogether, and their beds as well as their aracuts brought under irrigation from the projected new tank. On these grounds therefore I would ask that at least a competent staff of Surveyors may be placed under the orders of the District Engineer for the investigation of these projects if no officer can be spared for the work from the existing establishments, or can be specially engaged in the country, as I should think could easily be done with the South Indian Railway approaching completion, and many of the able Engineers employed on it likely to be on the look out for fresh engagements. Even with a few Surveyors much might be done, now that the District Engineer has made himself generally acquainted with the district, and will have more time to spare for particular work, but unaided he can do nothing, and the Range and Taluk Establishments have much too much on their hands already to be able to give him any help worth speaking of.

16. I trust the interest I take in the sub-division of which I have now been in charge for an unusually long period, and the wants of which I have frequently and until just lately unavailingly brought to notice, may be accepted as excuse for the length of this letter.

(True Copy.)

(Signed) T. RAM ROW,
Deputy-Collector for Collector.

SUBMITTED to Government with the Board's recommendation that the District Engineer be supplied with the means of examining the project.

(A true Copy and Extract.)

(Signed) H. E. STOKES,
Acting Secretary.

No. 289.

ORDER THEREON, 26th May 1875, No. 814.

Irrigation, No. 5.

REFERRED to the Public Works Department in view to steps being taken to have the project examined.

(True Extract.)

Alcayfer
for Officiating Chief Secretary.

To the Public Works Department.
„ the Board of Revenue.

Exd. W. J. Lewis.

Cir from Ch. Secy for Secy
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No: 4177
Govt. of 118751 Madras

REVENUE.

THE PUBLIC WORKS DEPARTMENT.

Revenue 25-3

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P. H. Sub. Secy

P.W. No. 1875-17-75



Public Works Dept.

91

Proceedings of the Madras Government

Under date the 18/5

Read the following

Pro. Revenue Dept. (Memo. No. 844 of 26th May 1875)

Memoandum by Ch. Secy for Irrigation. Dated
7/6/75

The Honble the

I have the honor to write at length
in a paper of the Chief Secy. in order
to report the inability of the
Dep. Secy. to new project, it
had best be done of memo.
in the meantime
and merely say
Not necessary



The value of work
that is required of
the sub Secy, the
Dep. Secy. will provide
the agency required for the
agony of new works at
present

Governor in Council con-
siders that the sub Col-
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letter of the 6th March
1875 No 71 has shown that
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South Arcot

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Subjects

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in the Circular No. 13
of the Chief Eng. for
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ticular case of the
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viz a very large extension
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doubting that there are
prima facie grounds
for believing that the
Construction

Yours truly,
Wm. H. Burleigh

1811

P. W. 1875 Sept
No: 4231

Janu

The Chief Insp.
for Engin.

Dated 22 June 1875.
Recd. 28 June 1875.
No: 665.

Memo: on the Irriga-
tion Project near
Ballagandoo, in
the Madras Dist.

S.C. No: 1806-17-75

Public Works Dept.

Proceedings of the Madras Government

Under date the 1875

Read the following

of the Public Works Dept. No: 1836 of 14 July 75
by Engin. Insp. No: 1836 of 14 July 75

The Government

while recognizing the
value of such that is
suggested by the Sub-Collector
of Madras cannot
provide for the exami-
nation of new projects
at present.

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Govt. of India
PUBLIC WORKS.

The Revenue Dept.

Order

Order

Order

Order

1st July 1913

Res. 12-14

Irrigation Project near
Ballaigomdos in the Madras
District — Intimating that
the Government cannot
provide funds for the
examination of new
projects at present.

12-14