

MADRAS RECORD OFFICE.

Government of Madras.

Revenue. DEPARTMENT.

G.O. No.	2409	Press
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<u>361-63</u>		
Dated	24 th August	1869.

Not to be folded or roughly handled

*Proceedings of the Madras Government, Revenue Department,
21th August 1869.*

Read the following papers:—

No. 361. Proceedings of the Board of Revenue, dated 6th August 1869.

Read again Board's Proceedings, dated 28th June 1869, No. 4,607.

Read also the following letter from the Collector of Malabar, to the Acting Secretary to the Board of Revenue, dated Calicut, 20th July 1869, No. 201A:—

I HAVE the honour to acknowledge receipt of the Board's Proceedings, No. 4,607, of 28th June 1869.

The Board observe that my proposal is too vague, and that I do not specify either a particular site or the amount of labour to be employed, but that they are prepared to consider favourably a more mature proposition.

2. I must admit a want of detail, and have to explain that this was not so much from a want of maturity in the plan I had in view as because my object was more to introduce to the general notice of the inhabitants of Malabar in different parts an expeditious and economical method of reclaiming swamp lands, than of benefiting Government directly by restricting all my operations to one spot. I sought to introduce a system rather than to make money for Government. With this object I proposed employing the men I asked leave to entertain, for short times at different places, just to initiate the system, and then pass on to another proprietor's, as the circumstances of each spot and the intelligence of the proprietor in question suggested. I also wished completely to reclaim a particular spot on behalf of Government; but this was merely to prove to any doubters the feasibility of the system, and also as a school for coolies who might then be sent out to assist in silting other places; and I was in hopes that the Board would not object to place the small sum I asked at my discretionary disposal for the above purpose.

3. I now re-submit the proposal with details as desired by the Board. I would request the Board's sanction to the following proposal:—One mile from Payoly in the immediate neighbourhood of two ineffectual attempts at reclamation—one covering 300 acres, and another about 100—there is a portion of back-water about 50 acres in extent, which might with advantage be reclaimed. It consists of a shallow bay of an average depth of three feet with small hills on each side, and an island in front.

The island should be connected with the main land by two embankments in such a way as to cut off the bay from the rest of the back-water, and silting channels should then be made on the hills to silt up the enclosed space. A large stream has its outlet from the neighbouring country by the bay, and though, as it runs in the valley among paddy-fields, it cannot be worked as a silting channel, it already brings a large amount of sediment from the country that it drains; and if on entering the bay its current is checked by the above embankments and only one exit at a high level provided for it, it would undoubtedly deposit its silt at once, and thus aid and quicken the process of filling up the bay very much.

4. The details of the process I wish to carry out are as follow:—

As we have here no running stream to aid in eroding and removing the soil of the hill to the hollow, it is necessary, as far as possible, to supply its place by creating a temporary one during a shower. For this purpose several drains, one cubit deep and one foot wide, have to be brought at the gentlest incline at which water will run freely from the farthest point of the hill, (so as to intercept the whole of the rain-fall on it,) and made to converge on the spot where it is decided the erosion

*Proceedings of the Madras Government, Revenue Department,
21st August 1869.*

is to take place; from this spot to the hollow, where the silt has to be deposited there must be a larger channel to convey the accumulated water and silt.

In order to produce the greatest possible amount of velocity and carrying power in the small stream, which each shower is thus made to produce, all these channels must be kept narrow. In order that at night, when the action of the stream cannot be supplemented, it may itself exercise some appreciable influence, there should be a sudden drop of 6 feet or more below the spot where the water channels converge. It will then, according to its volume, erode and carry away the soil without assistance.

The way in which this natural action has to be aided and quickened is, by digging and loosening the soil in the lower channel and upwards as the stream eats into the hill, and by directing the mass of mud and stones, which would otherwise occasionally fill up the channel and spread uselessly right and left. This is done by keeping open a small straight channel down the middle of the debris that is brought down. As the work that thus devolves on the cooly is extremely small, one man ought to be able to attend to two or three channels near each other.

5. As the Board objected not to the proposal but to the form in which it was put before them, and as each passing day of the monsoon, if lost, tends to put off the experiment for a year, I have ventured to anticipate the sanction of the Board to the proposal I have now put before them, and have taken steps for completing, if they will allow me, the silting up of the spot abovenamed.

As mentioned above two embankments are needed, and a general silting up of the whole confined area. The embankments themselves might be constructed with silt; but as they are of considerable length (660 yards), and as the silt brought by the large stream would be lost until these are finished, and their completion by silting alone might take some time, I consider it will save time and be true economy to have the embankments constructed at once in the usual way, namely, by driving in two rows of large coconut stakes, and filling in with clay clods from the bottom of the back-water.

I have therefore had the stakes driven in, and propose to give orders for the filling in with mud. This would be completed in about ten days, and would then effectually arrest every particle of sediment that was brought down by the ditches and the large stream.

6. I estimate that to reclaim this spot an expenditure, (as detailed below,) of Rupees 700 will be required for the embankments, and Rupees 200 for the actual silting operations, or Rupees 900 in all—a sum which I hope will be far more than returned in the sale-price of the land, and also in the annual tax which may be imposed at once instead of being remitted, as in other cases, for ten or twelve years. The fine silt may also be expected to yield to the cultivator heavier crops than usual.

Three main and eight minor silting ditches have been opened, and with every considerable shower the silting is progressing. The completion of the embankments will however greatly quicken it.

Considering the very great advantage to the country of the adoption of such a system as pointed out in my last letter, I trust the expenditure of the above sum (Rupees 900) may be sanctioned, or else that an advance of this amount as a loan be sanctioned, to be adjusted in the accounts on the sale of the reclaimed land.

*Proceedings of the Madras Government, Revenue Department,
21st August 1869.*

Expenses of constructing embankment 660 yards long one broad, and of an average depth of one yard.

	rs.
Price and carriage of wood...	216
Cooly-hire for splitting and cutting it and driving in the piles ...	64
Do. throwing up clay from bottom of back-water ...	400
Total ...	680

Silting expenses.

Extra coolies at commencement for formation of ditches.	36
Tools and huts in sites, etc. ...	20
4 Permanent coolies, at Rupees 6 each, for four months...	96
1 Maistry, at 12 Rupees, for four months, 12 x 4...	48
Total ...	200

Probable cost and returns.

50 acres at present average price of swamp land, namely, Rupees 15 = Rupee 15 x 50 acres ...	750
Tax for ten years—None.	
50 acres at 50 Rupees each, 50 x 50 ...	2,500
Tax for eight years, at 1 Rupee the acre, 50 x 1 x 8 ...	400
	2,900
Deduct expenditure ...	880
Balance ...	2,020

(Signed) E. C. G. THOMAS,
Collector.

SUBMITTED for the orders of Government.

2. The Acting Collector of Malabar proposed to reclaim fifty acres of back-water by the silting process at a cost of Rupees 880, Rupees 216 of which is to be expended on constructing embankments in the usual way.

3. The Board declined to support the Collector's first vague proposition in which he mentioned no site and gave no definite particulars as to how he intended to get the work performed; but now they have his second letter before them, in which he describes at length his proposals and the method he has adopted, and states that he has commenced the work in anticipation of sanction; they resolve to submit the matter for the orders of Government. They believe the project to be feasible, and think the description of work is one for which the silting process is suitable.

4. There can be no question as to the benefits which will result if Mr. Thomas reclaims the land which is the subject of his operation. The natives of Malabar are a very enterprising race, and the extent of reclaimable back-waters in the district commanded from a small distance by hills is very great.

5. The Board accordingly recommend Government to sanction the expenditure of the amount applied for by Mr. Thomas. There is every reason to believe that there will be sufficient savings in the Budget to cover the amount.

Govt. of 1869

REVENUE.

THE BOARD OF REVENUE.

Secy. Secy. Secy.

Dated August, 21st.

Recd.

Encl.

G. O. 21st August 1869, No. 2,409.

To the Board of Revenue
of the Madras Government

AUGUST.

Nos. 361-363.

By: H. E. Stokes
29th Aug 1869

Reclamation of paddy lands of back-water
in Malabar.—Rupees 800 sanctioned for this
work. Board of Revenue to report the result of the
silting process.

Proceedings of the Madras Government, Revenue Department,
21th August 1869.

REFERRED to the Accountant-General for report as to the source from which the
sum of Rupees 880, referred to in the Proceedings of the Board of Revenue, can be
provided.

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

No. 362. From the Officiating Accountant-General, Madras, to the Chief Secre-
tary to Government, dated Fort Saint George, 16th August 1869, No. 140.

With reference to the docket of the Acting Under-Secretary to Government,
Public Department, on the accompanying Board's Proceedings, dated the 6th instant,
I have the honour to state that the sum of Rupees 880 therein referred to can be
met from savings under "Land Revenue" in the current year's Budget.

2. The four enclosures to the docket under reply are herewith returned.

No. 363. ORDER THEREON, 24th August 1869, No. 2,409.

Miscellaneous.

SANCTION is accordingly granted
for Rupees (880) eight hundred and
eighty. The Government observe that

the Collector was not justified in commencing the work before receiving the
approval of Government.

2. The Board will report in due course the result of the silting process.

(True Extract.)

(Signed) R. A. DALYELL,
Acting Secretary to Government.

To the Board of Revenue.
[.. the Accountant-General.

Exd. F. R. Bantleman.

No. 4,607.

PROCEEDINGS OF THE BOARD OF REVENUE, dated 28th June 1869.

Read the following letter from E. C. G. THOMAS, Esq., Acting Collector of Malabar, to the Acting Secretary to the Board of Revenue, dated Calicut, 22nd May 1869, No. 128:—

As the Board are doubtless well aware, a large area in the Coast Talooks of Malabar lies waste and useless in the form of land submerged by the backwaters.

Square miles of fertile land, covered by water of varying depth from one to twelve feet, are thus lost to the Government and the people.

2. As four-fifths of this land has less than six feet of water over it, attempts are made to reclaim portions of it from time to time by the more energetic or speculative of the population.

3. But on looking over the statistics of the subject, and visiting some of the localities, I find that very slow progress is made. Government gets very low prices, and occasionally the enterprising cultivator finds himself ruined ere the dilatory expensive process in vogue, enables him to reap any profits.

4. The course adopted is usually as follows:—Raising the level of the land by ordinary methods being too expensive to be thought of, the attempt is not made; it is hoped that this may gradually result from natural causes, and meanwhile it is merely sought to shut out the salt water and raise such rice as will grow. For this purpose two lines of stakes are driven in four feet apart, the nearest mud thrown between them, and thus an embankment formed to shut off the brackish waters of the backwater from the land intended to be reclaimed; some of the water is thrown over the bank out of the enclosed space by means of the "Malabar wheel," and then there is planted in the water (still some three or four feet deep) young shoots of a peculiar kind of paddy which is remarkable for producing crops even under such circumstances. If the season is a moderate one, the paddy grows in height, as the depth of water is increased by the monsoon rains; when ripe, the straw is five or six feet long, and it is then reaped from boats.

5. This crop is usually below the level of the dammed-out brackish water, and either the bursting of the embankment, or unseasonably heavy rain, (no unfrequent circumstance,) destroy the crop. The cultivation is thus hazardous at the best, and improvement is only looked for from the gradual raising of the level caused by the accretions from successive crops of rice, or the spontaneous growth of rushes.

6. It is not to be wondered at, that under the circumstances, Government gets but little for the fine land thus tardily reclaimed. The average selling price of good Paddy land in South Malabar is Rupees 300 per acre, and the average price obtained by Government for these reclaimed lands, Rupees 15; the rent being at the same time entirely remitted for ten or more years.

7. While on the Neilgherries for my health lately, I witnessed a process which might, I believe, be applied in Malabar with equal benefit to the Government and the people.

8. During three visits to a spot, where under the orders of the Home Government, Mr. McIvor is constructing the bund of a reservoir by the silting process, I was struck with what at first sight must be considered the truly marvellous work effected by a small stream, well directed.

9. As this interesting and important experiment is doubtless being watched and reported on by competent scientific men, I will not trouble the Board with any lengthy description of it.

10. It is sufficient for my present purpose to mention that I was a careful observer of the few simple means adopted for enabling a tiny stream that would not have filled a four inch pipe to stop the course of a small river, one of the chief sources of the Bhowany, and to fill up to the depth of twenty feet, a valley 700 feet in length by 100 in breadth, at extraordinarily small cost, and in the course, I believe, of not more than fifty working days.

11. In the Puraparamba canal in this district and in other places, we have no lack of instances of the power of water to convey large quantities of soil, and deposit it disastrously on flourishing fields. I request the permission of the Board to employ this powerful agent in our service, and turn it to good account.

12. The local features of Malabar are so well known to the Members of the Board of Revenue, that it is hardly necessary for me to mention, that in the neighbourhood of many of the backwaters, there are hills of laterite soil which could easily be silted down, and made useful in the above way, a monsoon downpour intercepted and properly directed, accomplishing as much in two months, as the Neilgherry stream in twelve.

13. I have just revisited after an interval of some years, a large tract, (more than 30) acres) in process of reclamation, and induced the energetic proprietor who has sunk Rupees 20,000 almost uselessly, to promise to try the effects of silting when the rains come; he has constructed some eight or ten embankments, one of them more than a mile in length, and after ten years of expenditure and struggle has still nothing to show but enclosures of water partially planted with the above-mentioned precarious crop, and really productive more of fish than of rice. Had he spent Rupees 1,000 on the silting process, there cannot be the slightest doubt that he would long ere this have been reaping rich crops, and paying Government a tax, which now has almost yearly to be remitted.

I have described the process to several other backwater reclaimers and interested them in it.

14. But in introducing so novel a method, there are many prejudices to be overcome, and it is especially important that even in so simple a matter, no mistakes at the commencement should detract from its apparent success, and retard the general adoption of a system which will, I believe, permit of land being silted up in one-tenth of the time now spent upon it, and certainly at far less than one-tenth of the present cost, and will, therefore, greatly benefit the people as well as increase the value of Government land ten-fold.

15. I write, therefore, to request the Board to permit me to have the silting process applied under my own supervision to the reclaiming of submerged tracts such as I have been speaking of, and to sanction my entertaining for the purpose a small establishment at a cost of not more than Rupees 100 a month, for four months.

16. I would propose to put one of Mr. Robinson's old survey pupils at the head of it, with a peon and several coolies selected and paid according to their intelligence and alacrity. These trained men might afterwards be useful to Government or their neighbours.

17. I would also propose that the unsilted value of land not sold till thus silted will far more than pay the cost of the establishment that silts it.

18. As the Local Funds have an interest in the amount of the price obtained for Government land, perhaps the required sum might, if the Board think, well be expended from that source.

The Board are not disposed to support the Collector's proposal which is too vague.

2. He does not specify any particular site, or give details as to the amount of labor to be employed.

3. The Board will be prepared to consider favorably a more mature proposition.

(A true Copy and Extract.)

(Signed) A. MACGREGOR,
Acting Secretary.

To the Acting Collector of Malabar.

Ed. G. A. Tutton.

Survey Land—in Malabar District.—Collector informed that his proposal for reclamation of, by silting process, as is done on Neilgherry, is too vague, and that Board will be prepared to consider favorably a more mature proposition.

JUNE.
No. 4,607.

Received

Encl

PROCEEDINGS 25th JUNE 1869, No. 4,607.

BOARD OF REVENUE,
MADRAS.

1869.

Dec. 26/37/69

Indorsement in the Proceedings of the Board of Revenue, Madras, 25th June 1869, No. 4,607.

If Mr Thomas' proposals are acted on successfully and the silting process be introduced into Malabar by means of his attempt, at a cost of Rs. 880, a great improvement will have been effected. I would therefore sanction his proposed outlay - Rs. 880 - but Mr Thomas was not justified in putting the work on hand without sanction -

G. A. Tutton

W. D. R.

J. D. R.

Source of

12. The local features of Malabar are so well known that it is hardly necessary for me to mention, that there are hills of laterite soil which could easily be a monsoon downpour intercepted and properly direct the Neilgherry stream in twelve.

13. I have just revisited after an interval of six

Revenue Separation

17-21-09.

Proceedings of the Madras Govt.
under date the 26th Nov 1889

Read the following

papers:-

Pro: Bd of Revenue:-
Recommendation to
sanction expenditure of
Rs 880 by Collr of Malabar
for reclamation of back-
waters by silting process.

(H.L. 6th Aug 1889)

From the offg. Acct General.
stating that the
sum of Rs 880 can be met
from savings under Land
Revenue.

(H.L. 16th do do)
At 140-

Sanction is accordingly granted for Rs (880) right hundred and eighty. But the Collector was not justified in enjoining the work and having before deciding the sanction approval of the

The Govt. Board that

2. The Board will report in due course the result of

of Revenue,

MADRAS.

Rev. 2637/89

3 25th June 1889, No. 4,607.

Encl

JUNE.
No 4,607.

-in Malabar District.-Collector his proposal for reclamation process, as is done on Neilgherry, and that Board will consider favorably a more

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John Hall