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MADRAS RECORD OFFICE

GOVERNMENT OF MADRAS

Revenue DEPARTMENT

G.O. No. *411*
B.P. No.

Press
~~Mis.~~

Dated *13-3-1875* 196 .

Not to be folded or roughly handled

No. 163. Read the following Proceedings of the Board of Revenue, dated 4th February 1875, No. 245 :—

Read the following letter from H. S. THOMAS, Esq., Acting Collector of Tanjore, to J. GROSE, Esq., Secretary to the Board of Revenue, dated Vallam, 4th December 1874, No. 363 :—

On my way to join this district, I learnt that Dr. Day's fish-ladder had failed, and that a lock had been sanctioned for the passage of the Hilsa. On arrival, I lost no time in reading up the papers which were new to me, and kindly accompanied by the Range Officer, I visited the lower anicut. The Coleroon was in high flood.

2. The causes of failure in the ladder, and the grounds for hoping success in the lock, are not to my mind exhausted. More data appear necessary. From the papers and from what I learnt from Lieutenant Smart, R.E., the heartily-interested Range Officer on the spot, it would seem that it was possible the Hilsa could not ascend : (1) because they could not find the way, or (2) because, when found, they "had not a jump in them," or (3) because there was too little water on the apron, or (4) because there was too much water coming down from above.

3. If objections 2 and 4 turn out to be the real ones, then the proposed lock seems calculated to meet them.

4. If objection 3 is the difficulty, then it will probably be found equally a difficulty in connection with the lock.

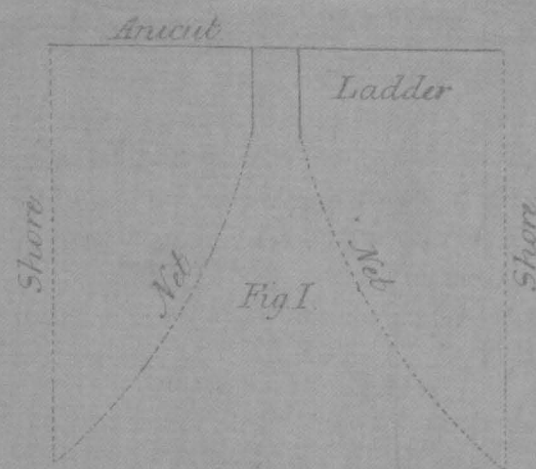
5. Though objections 2, 3, 4, if true, are all to my mind remediable, they are so, only by an alteration of structure, alterations which can be made when they are found to be really necessary, and which need not interfere with the speedy construction of the lock now contemplated.

6. With the very limited opportunity which I have had for personal observation of the locality, it is obvious that I could not presume at this date to offer any observations affecting the structure. I will not, therefore, venture to make at present any proposals subversive of, but only such as may be subservient to, present sanctioned arrangements.

7. This brings me then to objection 1. It is possible the fish cannot find the ladder, or that but a small proportion of them find it by reason of there being so many other currents besides that at the ladder, and by reason of the current of the sluice immediately adjoining the ladder being so much stronger than the ladder current, that the latter is quite lost in it. It will be satisfactory to put this question beyond a doubt by the simple expedient of guiding nets.

8. If a wall-net is made of a size of mesh so small that a Hilsa cannot run its head through, and be entrapped by the gills, and of cord so coarse that it cannot help seeing it, then, as proved in labyrinth nets, the fish coming across it will

not be so foolish as to make any effort to get through it, but will swim alongside of it, with a view to get round the end of it, and will thus find themselves facing the ladder, and guided away from the wrong currents. The wall-net of about 6' deep should be made taut from the edge of the ladder to the shore at an angle

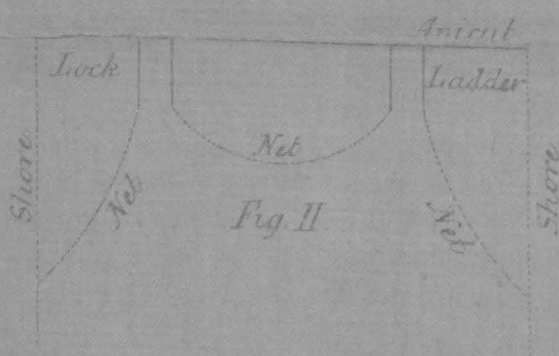


of 45 with the current, secured at necessary intervals to anchors or large stones and hung in the stream by means of floats and leads. This might be done for the ladder at once, as in Figure I.; and when the new lock is completed, the net could be re-adjusted so as to suit both (as in Figure II).

9. The marginal diagrams will better explain the position of the proposed nets.

Figure I. before the lock is built.

Figure II. after the lock is built.



10. I ascertained that the nets with floats and leads could be made by the local fishermen for Rupees 45 a 100-yards, which would come to Rupees 140 for about 310 yards, adding something for the taut rope and anchoring; I suppose the whole cost would not be over Rupees 200 or Rupees 250 at most.

11. Net fishing within 100 yards of anicuts is, in paragraph 12 of G. O., dated 25th October 1872, No. 1,478, prohibited. It came out inadvertently in conversation with the fishermen that they habitually fish within 60 yards. The probability is that it is a very short sixty. Before enforcing the 100-yard, I

think it would be fair to the ignorant fishermen to put up a 100-yard pillar on each side of each river, they could not then err unconsciously. The cost of four pillars would, at Rupees 5 each, be about Rupees 20.

12. A simple supplementary measure will be to drive in a few piles with tenter-hooks on them, or cover a few common casks with tenter-hooks, fill them full of stones, and sink them. Being 100 yards away from the end of the apron, they can do no possible harm to the anicut. Being just within the warning pillars, the fishermen will have no fair cause for complaint if they get their nets torn.

13. There is another little matter in connection with the anicut which I will take this opportunity to throw in for the reason that it is so easily remedied. I observed young prawns unceasingly swarming up the four buttresses of the

anicut. It was obvious that their instinct was to go up stream, but that the anicut prevented them; the rush of falling water being too heavy, they consequently avoided the main stream, and availing themselves of the back-water or counter-current at the edge of the river, and of the lee of the buttresses, they swam in the comparatively still water up to the edge of the strong current; there they swarmed up the face of the buttresses so as to escape it, and clinging on to the perpendicular masonry, they struggled hard to keep their foot-hold round six corners, and over many yards of slippery perpendicular surface, so as to gain the still water above the anicut. Where they commenced, they were a regular crowd in long closely-packed piles; where they ended, they were solitary individuals at well-marked intervals, and they seemed to creep parched and painfully round the last corner out of the reach of the violence of the current into the struggled-for upper waters. All along the line of march, the casualties were frequent; they kept dropping into the violent torrent; whether they were battered and drowned or returned to renew the struggle, I cannot say. Let us hope it was the latter.

14. It would be a very easy matter to make for them a way of surmounting the anicut. A log or two bound together and taken round the corners from still water to still water would, by its power of floating, keep itself always in position, and so for about Rupees 10 a bridge would be made over which these little creatures could safely cross the anicut and gain the upper waters. They are worth it. When full grown they weigh seven to the pound. A million of them would mean many thousand pounds of nutritious meat in the upper waters, and I calculate that not less than a quarter of a million a day would pass over each bridge. If we had at this lower anicut four such floating bridges, one for each shore of the Coleroon and one for each shore of the Cauvery, we should, for the trifling sum of about Rupees 40 or Rupees 50, have arranged for easily passing up so many millions of fry of prawns, that, after making all allowances for the numbers that would go to indirectly supplying meat in being themselves the food of edible fish, we should still have directly supplied to the upper waters such a quantity of prawn meat, as would probably be best spoken of in tons.

15. With a view to avoid delay in reference and to save a season, I sent a copy of this letter to the Superintending Engineer, anticipating that as the Range Officer who visited the spot with me had no engineering objection to make, he would be able to supply me with a letter to the same effect for enclosure. He has, however, an objection to the prawn bridge, and proposes another plan which, as I understand it, would not suit the prawns at all. This portion of my

proposals had perhaps better be deferred therefore till by another personal conference we can come to an agreement.

Dated 14th November 1874, No. 1,962.
(Copy enclosed).

16. My other proposals are briefly that there should be guiding nets, warning pillars, and preventive piles, etc. If the Board are pleased to support them, and the Government to sanction them, the Range Officer, Lieutenant Smart, who accompanied me and took a hearty interest, will, with the Superintending Engineer's permission, be well able to give them effect.

Proceedings of the Madras Government, Revenue Department,
13th March 1875.

ENCLOSURE No. 1.

From Lieutenant-Colonel R. A. ROBERTS, R.E., Superintending Engineer, to H. S. THOMAS, Esq., Acting Collector of Tanjore, dated 14th November 1874, No. 1,962.

In reply to your letter No. 304, dated 10th instant, forwarding, for my perusal, a copy of a letter which you propose sending to the Board of Revenue on the subject of the passage of fish across the lower anicut, I have the honor to state that I can see no engineering objections, on account of the safety of the anicut, to the proposals made by you, except as regards the floating logs suggested by you for the convenience of the prawns.

2. I am certainly of opinion that, however well protected with iron fender-bars the abutment may be, the continual banging against it day and night of these logs can, to say the least, do the anicut no good. In fact, they would introduce an element of mischief which I do not think that I should be justified in permitting, the more especially as it appears to me that the object desired can be attained in a manner not similarly open to objection.

3. Instead of the floating logs, I would suggest that stout planks be fitted to the three faces of the abutment in the manner of fixed venetians. In this manner, independent of the rise and fall of the water, the prawns would have a bridge continually available to them, as shown in the margin; these boards would form an angle of 60° with the abutment to which they are attached. If this slope be considered too steep, it can be reduced and be rendered as flat as is thought necessary. The greater the slope the fewer of course the number of planks required.

4. Should you approve of this suggestion, I would recommend your adding Rupees 50 to the amount of your approximate estimate, making it in all Rupees 250.

(True Copy.)

(Signed) H. S. THOMAS,
Acting Collector.

In this letter, the Collector of Tanjore asks sanction for a sum of Rupees 200 or Rupees 250 for providing guiding nets to direct the fish seeking to pass the lower anicut on the Coleroon to the ladder constructed for them under the advice of Dr. Day, and for Rupees 20 for the erection of pillars to mark the limits within which fishing is prohibited. He also suggests that "preventive piles" which would tear nets cast within the limits should be put down.

2. The Board recommend that these proposals be sanctioned. The whole cost will probably be within Rupees 250, and even if the measures suggested do not render the ladder successful, they will at least narrow the question as to the causes of its failure.

3. The Board, however, believe, from what they learn from their Acting Second Member, that the construction of the ladder is radically faulty. In a fresh, it is quite useless owing to the violence of the current, and even when there is only an inch of water on the crest of the anicut under the arch, the current in the ladder is very strong and the water much broken by the barriers which extend alternately from opposite sides of the ladder about two-thirds across. If a fish could get to the top of the ladder, it would still have several yards of rapid water, only an inch deep, to pass through, and would probably be as far as ever from overcoming the obstacle presented by the anicut.

Proceedings of the Madras Government, Revenue Department,
13th March 1875.

4. The Board are of opinion that before further heavy expenditure is incurred, it would be well that the habits of the *Hilsa* should be carefully observed and ascertained. If the fish is a good jumper and usually attempts to overcome obstacles by throwing itself over them, a modification of Dr. Day's ladder might succeed. The barriers should go completely across the ladder so as to divide it into sections, and at such intervals that each section should be nearly still water; but the length of such a ladder would be very great, and also its cost. Whether the latter would exceed that of a lock the Board are unable to say, but they think that further knowledge should be obtained before a decision as to which plan is to be preferred can be arrived at, and an inquiry with that object could not be placed in better hands than Mr. Thomas'.

(True Copies and Extract.)

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

No. 164.

ORDER THEREON, 13th March 1875, No. 411.

Miscellaneous.

APPROVED: with liberty to incur any necessary expenditure.

(True Extract.)

(Signed) D. F. CARMICHAEL,
Secretary to Government.

To the Board of Revenue.
" the Public Works Department.
" the Accountant-General.

Exd. W. H. French.

REVENUE DEPARTMENT.

No. 634

4/1/75

From B^d of Rev.

Dated 4 February 1875.

FOR ORDERS.

Govt approve the B^d Rev
 men taken & sanction
 all necessary by order
 24/2 M

105

1.13/75

Sp

Govt. of 1875: 31/12/75.

REVENUE.

THE BOARD OF REVENUE.

To, Ac. Ac.

Police House, 13th.

Recd.

G. O. 13th Nov 1875, No. 411.

MARCH,
 No. 103, 104.

For the purpose of the Collection of Revenue—
 ing the proposals of the Collector of Tanjore to
 render the — successful, and empowering the Board
 of Revenue to incur any necessary expenditure.



FOR ORDERS.

*Fish Ladder at
H. S. Thomas*

4/4/11

*Approved: with
Liberty to incur any
necessary expenditure*

6/3/5

13 March 1875

*14. To the Board of Revenue, 16 March
21. The Board of Revenue
6. The Accountant General*

No. 245.

PROCEEDINGS OF THE BOARD OF REVENUE, dated 4th February 1875.

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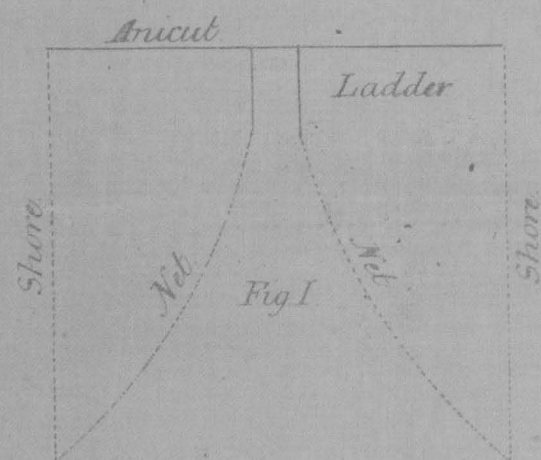
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8. If a wall-net is made of a size of mesh so small that a Hilsa cannot run its head through, and be entrapped by the gills, and of cord so coarse that it cannot help seeing it, then, as proved in labyrinth nets, the fish coming across it will

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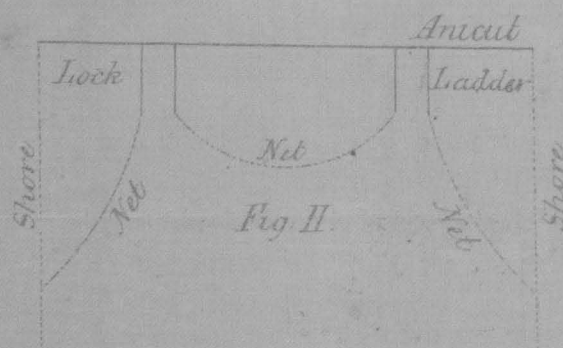


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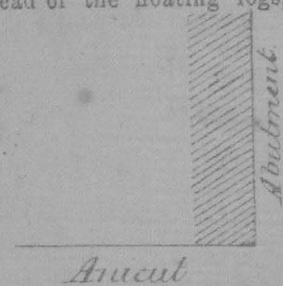
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Enclosure 1.—Letter.

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Acting Collector.

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(True Copies and Extract.)

Acting Secretary.

To the Acting Secretary to Government, Revenue Department.
the Acting Collector of Tanjore.

Exd. W. H. French.

2025 Oct 24 - 1872 No 223 - 29

No 634

Passwd 1875. *de jure*
BOARD OF REVENUE,
MADRAS.

PROCEEDINGS, 4TH FEBRUARY 1875, No. 245.

20/19 8/10/75
Encl.

Received 28 Feb 75

FEBRUARY.
No. 245.

Fish.—Proposals of Collector of Tanjore District to provide guiding nets to direct the fish seeking to pass the lower ancient on the Coleroon to certain ladder constructed for them; to erect pillars to mark the limits within which fishing is prohibited, and to put down "preventive piles" to tear nets cast within these limits, at a total cost of about Rupees 250, recommended for sanction of Government. Remarks passed on certain points connected with the subject, and on the faulty construction of the ladder.

Dr 411-10 Madras 1875.

For order
W. H. Gordon

C 22 726/75 No 6 March 75