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MADRAS RECORD OFFICE.

Government of Madras.

Revenue DEPARTMENT.

G.O. No. 539 Press Mis.

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Not to be folded or roughly handled

Proceedings of the Madras Government, Revenue Department, 7th March 1861.

Read the following papers :—

No. 125. Endorsement of the Chief Engineer, dated Chepauk, 12th December 1860, No. 7,882 :—

Read the following letter from Captain E. H. HARINGTON, District Engineer Ganjam, to the Deputy Chief Engineer Northern Circle, Department Public Works, Fort Saint George, dated Chicacole, 17th November 1860, No. 277.

SIR,

1. With reference to Chief Engineer's Proceedings, No. 3,040 of 26th July 1860, forwarding Government Order, 21st July 1860, No. 1,211, I have the honor to report as follows, on the project for forming a Salt Depôt at Battili.

2. The result of the further inquiry and observation I have made regarding the scheme is, that the opinion I first expressed as to its difficulties has been strengthened, and that I do not consider the project at all practicable.

3. I have come to this conclusion after personal examination of the river, and after observation of the experiment lately made under the superintendence of the Deputy Collector in charge of the Salt Department.

4. The Deputy Collector, in his statement recommending the formation of a Salt Depôt, remarks, in paragraph 1, that the Vamshadara river is "generally navigable from 15th June to "15th October, and that it is now navigated by the merchants during these months, though "their boats draw above 3 feet of water."

5. During the past monsoon, or from 1st June to 31st October last, the Calingapatam merchants have only sent up *one* fleet of boats to Battili, for oil seed. *On their return with the stream*, about the middle of October, the boats grounded between Battili and Váranási, or about 13 miles from Battili, or 52 miles from Calingapatam. Application was made to me, to allow carts with the merchants' seed, from the boats, to use the new road from Váranási, *vid* Kimidi to Calingapatam. This shows how little the river can be depended upon, even under the most favorable circumstances.

6. The Deputy Collector proposed to send up boats of 25 tons each, drawing only 2 or 2½ feet of water, each under the management of four Lascars, assisted by ten coolies posted at intervals (or fourteen hands per boat of 25 tons). He calculated the time necessary for going from Calingapatam to Battili, as "within eighty-four hours" (*vide* paragraphs 3 and 4).

7. The boat he has constructed is of much smaller dimensions than he at first proposed. The boat of 25 tons would have been some 75 feet in length. The one with which the experiment has been made is only 30 feet long, 4 feet deep, and 8 feet beam, and was loaded with only 5 tons, or one-fifth of the load proposed in the scheme. It took from 8th August to 23rd September to reach Battili from Calingapatam, or forty-eight *days* instead of eighty-four *hours*. It required at times from eighteen to above sixty coolies to drag the boat.

8. On 7th August, there was a fresh in the river, 7½ feet deep. The boat laden with about 140 maunds of Salt = 5 tons, started from Calingapatam (tracked by four Lascars and eighteen coolies) on the 8th, when the water had somewhat subsided. However, the water fell so fast (as is always the case with this river) that, after being dragged 400 yards in six hours, the boat grounded, and remained so till 3rd September, during that interval, there were slight freshes in the river, but not water enough to enable them to get the boat off. On 3rd September, there was a fresh of 4½ feet, and *after all the Salt had been taken out of the boat;* it was then tracked up *empty* to Bairi, about nine miles. The Salt was put on nine carts, and partly re-shipped at Bairi. Of the nine cart loads, it was thought prudent only to ship seven loads. The boat left Bairi at 11 A.M. 6th September, and reached Ooparpett, distance five miles, on 7th about 11 A.M. As she grounded there, it was again found necessary to take all the Salt out of her. The boat was tracked *empty* about three miles, and the Salt was then re-shipped. She reached Purushóttapúr (nine miles from Bairi) on the afternoon of 9th September. On the way it was necessary to lighten her by taking out eight bags, which were put back at Purushóttapúr. She

reached Váranási (distance from Purushóttapúr thirty-four miles) on the evening of 16th September (being at the rate of about five miles per day). It took about forty men to drag her, and as she grounded frequently extra coolies were required to extricate her. From 17th to 19th September the boat was detained at Váranási, in consequence of a flood in the river. Starting on 20th September, she reached Battili, distance thirteen miles, on 23rd September. The depth of water was very favorable owing to the recent fresh, but such was the strength of the stream (due to the rapid fall in the river) that the difficulties of tracking were very great. At one place it took nine hours to accomplish two miles, dragged by above sixty men.

9. Thus, it will be seen how the uncertainty of the river, and the strength of the current impeded the passage of this small boat on its experimental trip, though all was done that could be done under the Deputy Collector's personal superintendence to ensure its success.

10. I have tested the fall of the river at different places. At Híramundalum it is 4′-8″per mile; at Váranási 5′ 0½″; at Shingoody 5′ 10″; at Battili 5′-4″. The velocity due to a fall of 5 feet per mile, with a depth of 4 feet (which the loaded boat requires) is about 4 miles per hour. Lieutenant Burton, Assistant District Engineer, informed me that he saw the merchants' boats coming down the river, in fresh, and that they came down with such speed, that he considered it would be quite impracticable to tow them against the stream.

11. When at Battili, I made inquiries from the dealers there, and was told that they can generally get Umaravilli Salt (which has been brought on carts) for Rupees 1-3-0 per maund, or only 1 Anna in excess of the price paid to Government at the Pans; and that, when the roads are completed, they will be able to supply themselves at or about that rate, throughout the year. When the country is, at times, impassable for carts between Battili and the Pans, Rupees 1-6-0 might be paid for Salt offered at Battili; but, this was represented as an extreme price, only to be given on emergency, and in exceptional cases.

12. It cannot be expected that the Brinjaries will buy Salt at an *increased* rate at Battili, (or even always at the *same* rate, as at the Pans). They bring produce of sorts for the large towns and ports, and, after its disposal, they get return loads of Salt at the Pans. Purchasers for all their goods are not to be found at Battili or in its neighbourhood.

13. The Deputy Collector, in his estimate, calculated that all expenses included, the Salt would cost in transport by water from Calingapatam to Battili, 8½ Pice per maund. It has been remarked above, that it can be brought by carts at 1 *Anna* per maund. Under any circumstances, therefore, there would not be much advantage in the establishment of a Depôt by Government. I am convinced, however, that his calculations were far too sanguine, and that they must be altogether vitiated, if the amount carried per boat, viz., 5 tons, is to be ⅕th of the amount proposed, viz., 25 tons: the labor of dragging at least trebled, in case of a 5 ton-boat, over that considered sufficient for a 25 ton-boat: the time of voyage extended from 84 hours to forty-eight days.

14. As a proof of the difficulty attending the use of the river for conveyance of goods, I will add that I was informed at Battili, that the rate paid per garce for *water carriage* from Battili to Calingapatam, is about Rupees 10: by cart about 5½ or 6 Rupees. As I before remarked, the necessity for payment of the higher cost is due to the country being at times impassable for carts. I was also told, some time ago, at Calingapatam, that the charges by boats are much more expensive than by carts.

15. I enclose a sketch map showing localities, alluded to in this letter. It will be seen that land communications between Battili and the Port of Calingapatam, and Salt Pans of Umaravilli and Nowpada, are in an advanced state. I have just returned from an inspection of he important Battili and Híramundalum line, with Lieutenant Burton, and I hope it may be opened to traffic before the next rainy season.

16. A copy of this letter is being forwarded to the Collector for his information.

Submitted to Government with reference to their Proceedings, No. 1,211, dated 21st July 1860.

(Signed) W. H. HORSLEY, Lieut.-Colonel,
Chief Engineer.

No. 126. From G. S. FORBES, Esq., Collector of Ganjam, to J. D. SIM, Esq., Acting Secretary to Government, Revenue Department, Fort Saint George, dated Chetterpúr, 28th November 1860, No. 317:—

SIR,

1. I have the honor to submit a Report from the Deputy Collector in charge of the Salt Department describing the progress of his trip to Battili by the Vamshadara river.

2. I was about to dispatch this report some days since, when I received from Captain Harington the District Engineer, copy of a letter which he has apparently sent direct to the Chief Engineer. Finding this letter to contain many grave (though no doubt unintentional) mis-statements, I detained Narasinga Ráu's Report to enable the latter to give his own explanation and comments; his remarks are appended to Captain Harington's letter, and, in my opinion, they confute completely the statements of that Officer regarding the time occupied, the means used in ascending the river, the extent to which it has been navigated this season, &c.

3. Narasinga Ráu made his first experiment during a very partial fresh, but found that the river was too wide near its mouth for tracking. About the same time he was summoned here by my orders to transact duties connected with his own Department, and it was by my instructions that after his return to the south he made Bairi his point of departure instead of Calingapatam. His journey from thence to Battili occupied thirteen and not forty-eight days.

Bairi is about seven miles from Calingapatam.

4. His Report speaks for itself, and in my view proves that what he has accomplished in a boat ill-calculated for the purpose, without proper means of propulsion and during the most unfavorable monsoon known here for years, may be performed with certainty and ease in a better description of boat, the means of propelling which must be secured either by clearing a proper towing path (for want of which the boat was tracked by men evading in the water) or by a steam tug.

5. I need make no remarks on Captain Harington's statement about the price of Salt at Battili.

P. S.—I should add that Diddi Narasinga Ráu has requested me to bring forward his claim to be placed in the third instead of in the fourth grade of Deputy Sub-Collector. I consider him a very useful and zealous Government servant, and beg to recommend his request to the favorable notice of Government.

From D. VENKATA NARSINGA RÁU, Deputy Collector, in charge of the Salt Department, Ganjam District, to G. S. FORBES, Esq., Collector of Ganjam, dated Chetterpúr, 27th November 1860, No. 84.

SIR,

1. I beg to submit the following observations on Captain Harington's Report to the Deputy Chief Engineer Northern Circle, dated 17th November 1860, No. 277, regarding the formation of a Salt Depôt at Battili.

2. In the 4th and 5th paragraphs Captain Harington states that from 1st June to 31st October one fleet of boats went up to Battili, and that on their return in the middle of October they were grounded, and that application was made to him by the merchants to use the new road.

3. I beg to point out to you that I caused a Register to be kept of the depth of water and the number of boats navigated in the Vamshadara river during the past monsoon. If you refer to enclosure A of my Report you will find that 215 boats were navigated from 22nd July to 21st October as detailed in the margin.* This Reigster was kept by the Wádáda Tahsíldár on my requisition and was weekly sent to me attested both by the Tahsíldár and by his Sarishtadár, &c. You will find from the Register that the river was navigated for three months, though the season was most unfavorable.

* *Months.*	*Empty boats.*	*Loaded boats.*
July	9	3
August	58	43
September	103	94
October	45	75
	215	215

4. In the 6th paragraph Captain Harington states that the time specified by me for proceeding from Calingapatam to Battili was 84 hours. This is not the time allowed by me. What I said was that it would take fully six days or 144 hours (*vide* paragraph 5 of my Memorandum). It was my object that the Engineer Officers should take up the scheme and build boats that would suit the river, and navigate them according to the period within which Masoolah boats proceed from Calingapatam to Battili.

5. In the 7th paragraph he says that it took me from 8th August to 23rd September to reach Battili from Calingapatam, or forty-eight days instead of 84 hours, and that it required at times eighteen from to sixty coolies to track the boat.

6. You are well aware that I started from Calingapatam on the 15th August, and reached Chetterpúr on the 19th idem to consult you on the matter. I at the same time embraced the opportunity to distribute on the 23rd of the month to the Salt manufacturers at Ganjam 9,000 Rupees, and then by the end of the month returned to Chicacole. Paragraphs 8 to 10 of my Report will explain the subject more fully. During my absence no attempt was made to ascend the boat.

7. Paragraphs 12 and 16 of my Report will show the number of coolies employed to tow the boats, and the assistance rendered by the villagers. Captain Harington confesses that as small a number as eighteen men employed at times. A great many coolies were collected, more than the number required, and from them were selected suitable men. Whoever could swim and was brave enough to go into the water, those men were employed to hold the rope to track the boat, the rest were sent away.

8. In the 8th paragraph of his letter, Captain Harington states that I carried the Salt three miles from Wupparapetta near Lukalam and that the boat was tracked empty and then re-loaded, that eight bags of Salt were taken out again to lighten the boat and replaced at Purushóttapúr. If you would be pleased to refer to the 10th paragraph of my Report you will observe the truth of the case. I did not carry the Salt to so great a distance as three miles. I have not measured the distance, perhaps, it may be a few hundred yards more than what I have inserted in my Report. The village of Kuragam, where I lightened the boat the second time, is not more than three miles to Wupperapetta, and eight bags of Salt were never carried to Purushóttapúr. I can make this statement with great positiveness, because I walked the entire distance up to Kuragam.

9. In the 11th paragraph he states that the dealers at Battili declared that they could get Umaravalli Salt at 1 Anna in excess of the price paid for a maund at the Government stores at the Umaravalli Salt Pans, and when the roads are made that they will be able to supply themselves at that rate throughout the year. Now, one bandy with a pair of strong bullocks or buffaloes cannot carry more than 14 maunds of 82lb. weight each maund, and the distance is sixty-five miles. The Nasula or the fixed rate of bandy hire in the District is 10 Pice per mile; at that rate the hire of the bandy is Rupees 3-8-0, a little more or less according to the circumstances of the season, that is something more than 4 Annas the maund. I cannot understand how the merchants could have said that they can buy a maund of Salt at only 1 Anna in excess of its prime cost. I do not think that the hire for cartage on any kind of road would be so cheap; in fact almost equal to the cost of water carriage. The real fact is, the dealers do not like to see a Salt Depôt formed at Battili; because they are now making their fortunes by bartering Salt for grain, &c., with the Brinjaries and Savaras.

10. In conclusion, I beg to be excused for repeating here the number of coolies employed to track the boat. I walked along the bank of the river half the way to Battili and never allowed more than fifteen or twenty coolies to track the boat. After I became fatigued, I used to leave the boat and go into the villages on a promise to give some reward to the Lascars if they brought the boat soon. I have paid these rewards out of my own pocket. Perhaps at such opportunities, the Lascars might have taken more men than the fixed number though it was not necessary. This having been the first trial trip, it was not practicable to regulate all things at once. At some places four or five men used to guide us through the water, and in places wherever there were large trees on the banks of the river, the men used to cross the rope of the boat over to the other side. If such extra assistance be calculated, the number may be considered great.

From D. VENKATA NARASINGA RÁU, Fourth Class Deputy Collector, in charge of the Salt Department, Ganjam; to G. S. FORBES, Esq., Collector of Ganjam, dated Chetterpúr, 19th November 1860, No. 83.

SIR,

1. With reference to the Orders of Government dated 29th August 1860, No. 1,471, I have the honor to submit the Report called for respecting my expedition up the river Vamshadara.

2. The project which I proposed for forming a Salt Depôt at Battili by means of the Vamshadara river, was sanctioned by Government; but the District Engineer started difficulties after receiving their order; still, I did not like to lose the opportunity of making the experiment during the approaching monsoon, and I was quite prepared to build a boat at my own expense. I wrote to you at first to allow me to build a boat at the Government expense for the purpose of making the experiment; you sanctioned 600 Rupees and instructed me to build three small boats of 8 tons each, instead of boats of 25 tons burden each. A Carpenter Maistry, who came to me from Vizagapatam, stated that he could build flat bottomed boats, and that he had before built boats of the same description at Dowlaishwaram. Confiding in his statement, I commenced the work, and built, at a cost of 208 Rupees, one boat measuring 26 feet × 8 × 4 with a deck to it to keep the rain from damaging the Salt.

3. On the 19th July, I loaded the boat with 8 tons of Salt and tried to track it up the river. I found that it drew more than 3 feet of water, and, as the mouth of the river is very wide and during the low freshes runs by two branches, there was not sufficient depth to float the boat. The cost of this experiment amounted to Rupees 7-9-6, particulars of which are noted in the margin.* As I had no practical man to consult about the matter, I brought the boat into dock and went upon the river bank a little further to find the depth of water at several places. Up to Salahundam, a distance of five miles from Calingapatam, I found that there was not a sufficiency of water at several places for a loaded boat to float in.

	RS.	A.	P.
* *For Lascars*.....	2	0	0
Hire for carrying 8 tons of Salt from the platform to the boat.....	3	6	0
Hire for Coolies for tracking the boat.	2	3	6
	7	9	6

4. This year we have not had seasonable rains, and I have been told by many persons that the river was never so low for the last eight or ten years. Besides, as the rains failed, the water in the river was reduced still more in consequence of the sluice gate of six channels†, which are within thirty miles of Calingapatam, having been kept open during the whole season to irrigate the surrounding country.

† *Bairi channel*	1
Polaky do.	1
Lukalam do......	1
Purushóttapúram do.	1
Zulmúr do...	1
Talupulayedda do.	1

5. After I had built the first boat I caused another boat to be built four feet longer than the first one, to try if it would float in 2 feet of water with a burden of 8 tons, and a third boat of the same dimensions as the first. Excepting the calking and little more work here and there, the second boat was almost completed, and something more than one-fourth part of the work of the third boat was finished by the 6th August, and Rupees 527-12-0 were expended for the three boats. It was at this stage of my proceedings that Captain Harington, in his letter of the 6th August, No. 90, desired me not to incur any further expense on the proposed Battili Depôt, agreeably to the Orders of Government, No. 1,211, 21st July 1860, and declared that he would not be justified in admitting into his accounts any money that may be expended in building boats.

6. Between the 19th July and 8th August there was no rain or freshes. Notwithstanding several Masula boats were going up and down the river.

7. On 8th August a full fresh came down and the Lascars in charge of the boat tracked it to about 500 yards from Calingapatam and then grounded it ashore. The Lascars of the boat, I should here mention, were inhabitants of Calingapatam and seemed to have joined the boatmen and other people of that Port in thwarting my efforts. Thus ended the second trial, and its expenses amounted to 3 Rupees as per margin.

	Rs.	A.	P.
Lascars.....	1	0	0
Coolies for tracking...	2	0	0
	3	0	0

8. The Government having passed orders that the scheme of the Battili Depôt should be held in abeyance until Captain Harington reports on the subject, and I myself thinking that the experiment would cost more than what I had anticipated, I went to Chetterpúr to consult you on all matters and you desired me if I find it difficult to pass the village of Gára with a loaded boat to take it empty to Bairi which is seven or eight miles from Calingapatam and there load it, so that it may float in 2 feet of water, and at the same time you advised me to keep a Memorandum of all the impediments that I may meet with in the passage.

9. As I was twice disappointed and annoyed at Calingapatam and could not get men to take the boat up the river, I wrote to Vizagapatam and engaged a Serang and four Lascars, and with their assistance I managed to bring the above empty boat to Baírí on the 6th September.

10. The Salt was conveyed from Calingapatam to Baíri on carts and there I loaded the boat with 4 tons of Salt, so that it may float in 2 feet of water. I started at 11 o'clock A.M. and reached Lukalam next morning, where we were obliged to stop for a day and a half for want of sufficient depth of water as the river was here as wide as at Salahundam and Gára near Calingapatam. Most of the water was running into the interior through the six channels already mentioned. If the shutters had been closed until I had passed the channels, doubtless the water in the river would have risen half foot higher at least, and the boat would have passed without any difficulty. However, I lightened the boat by carrying by land to about 800 yards, twenty bags of the Salt. I then re-loaded the boat and proceeded on the river. At Kuragam which is two miles past Lukalam, I was again obliged to carry the Salt to a distance of 100 or 150 yards, the depth of water being insufficient. After this we did not at any place lighten the boat. We arrived at Váranási on the 16th September.

11. There are rocks on the banks of the river at the places mentioned in the margin.* The boats will have to pass close to the rocks at two places only, viz., at Karakavalsa and Gulmúr. The width of the river at these two places is more than 100 or 150 yards. At low freshes the water runs close to the rocks and the boats should be taken with some care; but there are not any large rocks in the bed of the river which could impede the navigation. In fact, the rocks are almost on the banks of the river. Those at Karakavalsa and Gulmúr could be blasted at a moderate expense.

* *Between Gára and Salahundam.*
Mokalingam.
Karakavalsa.
Tungatampara.
Gulmúr.

12. The boat stuck at Purushóttapúr at Homsa and at two or three places on our way, but we each time contrived to get off easily through the assistance of the villagers.

13. On the 17th, 18th and 19th we were detained at Váranási, which is only thirteen or fourteen miles this side of Battili owing to the heavy freshes and rain, the latter fell abundantly in this District on the 18th August, injuring some tanks and public roads. On the morning of the 20th the boat started again and arrived at Battili on the 23rd at 10 o'clock A.M., without any impediments excepting trees on the banks of the river preventing the men from towing the boat; the very next day after the arrival of the boat at Battili, the merchants bought the Salt. The quantity in the boat, the wastage and the profit realized, are given in the margin.†

Quantity of Salt	*Wastage.*	*Profit.*		
Tons.	*Maunds.*	Rs.	A.	P.
4	4	26	12	0

† *Sold at Rupees 1-6-0 per Maund, which is the fixed rate by Government.*

14. It will be seen from the foregoing that a boat which started from Bairi on the 6th at 10 o'clock A.M. reached Battili at 9 o'clock A.M. on the 23rd September.. The distance is sixty miles and the time occupied seventeen days, but, deducting the period we were detained on the way, the time was only twelve and a half days, which is little more than double the period that an empty Masula boat would go from Calingapatam to Battili. If any of us were acquainted with the character of the river and the depth of the water, and if the track was marked out, certainly it would not have taken such a length of time. Thus ended the third trial, and its expenses amounted to Rupees 57-8-0 as per margin.

Price of Tools.	Rs.	A.	P.
Padlocks..... .... *Chisels*..... .... *Hatchet and knife, &c*.....	3	8	0
Bamboos and mats for bedding in the boat.....	6	14	0
One Serang, at 10 Rupees per month.	8	0	0
Four Lascars, at 6 Rupees per month per each.....	20	12	0
Bandy hire for carrying Salt to Bairi, &c.....	4	0	0
Cooly hire for tracking the boat.....	14	6	0
	57	8	0

15. After the Salt was sold at Battili I did not stop there a day; I loaded the boat with some paddy and other articles of my own to ascertain the differences of prices between Battili and Calingapatam. I embarked in the boat and voyaged down the river to discover more of its character and reached Calingapatam in four days' time. Wherever I used to go to the shore, of course, the boat was detained for me and this was the cause of the delay in returning.

16. From what I have seen of the state of the river, the great impediment for loaded boats to be towed up is the want of a towing path, and in experimenting the boat I have employed from fifteen to twenty coolies to track it up. As the men were never accustomed to towing boats and as they were also obliged to track it walking through the water almost the entire distance, of course, the power of fifteen or twenty men was reduced to that of about ten men only. I navigated the boat in the middle of the stream almost the whole way. A Masula boat is tracked along ashore in one foot of water, a loaded boat requires another foot more of water, and that is the difference which could be met with in the middle of the stream.

17. If arrangements are made to turn the stream of the river to one side between Salahundam and Calingapatam and at Lukalam and Kuragam and blast the rocks at Karakavalsa and Gulmúr for more convenience, and build paddle boats or some other kind of boats that would suit the river without the necessity of towing them up and employ a steam boat also to tow them, the scheme could be carried out. If an Engineer Officer had taken up the scheme, he would have his own reasons to support his project and would have succeeded in it.

18. The country all the way up to Battili is very productive, and on both banks of the river are situated a large number of villages. A village exists at a distance of every mile, and the country is very cheap; fine paddy and other articles which I bought at Battili were valued more than 50 per cent. at Chicacole. It is the carriage hire that makes the prices dear on the coast. The demand for grain is very great at Calingapatam and the merchants have already opened a water communication to the Port of Calingapatam during the monsoon without any assistance from Government. If the river be made freely navigable, it would greatly benefit the Government and the country.

19. This year the river Vamshadara was flowing since 5th June, but there was not sufficient depth of water until 17th July for boats to go. I have kept a Register* of the water and of the boats that have passed.

* *Vide Enclosure A.*

20. Having now finished my Report on the experimental trip to Battili as required by Government, I beg to be permitted to state my reasons for having proposed the formation of a Salt Depôt at Battili. I took charge of my new office on the 19th August 1859. It was my duty to inquire what improvements could be made in the Salt Department. I thought of

several things and it came into my notice that the river Vamshadara is navigable for some months. I saw boats running up and down the river and the current of the stream did not seem to be so rapid as to obstruct boats going against it. I thought that if I kept a Register of the number of boats, it would be of use to me, and immediately employed one of the Gumáshtas of the Umáravalli Salt Pans on this work, who kept an account from 17th July to 24th October 1859. I observed that thirty-two boats came down with heavy cargoes during that time. I subsequently proceeded on making inquiries amongst the merchants and the Calingapatam boatmen, as to the quantity of grain generally brought down by means of the river, and whether loaded boats could go against the stream and what impediments there were, and so on. Every one told me that if I could make a boat which would float in 2 feet of water, it could ply easily, as there was generally more than 2 feet of water for about four months in the year. I mentioned my thoughts once or twice to Captain Harington, the District Engineer, who said that the scheme would be a very good one.

21. Though the information that I collected from the boatmen and others appeared quite trustworthy, yet I could not bring it to notice without the concurrence of an European Officer. The Records of the Principal Assistant Collector's Office were then under my charge and as Mr. Thornhill, the late Principal Assistant Collector of this District, had been in charge, of the Umáravalli and Nowpada Salt Pans for more than three years,

* *Vide Enclosure B.* I made references to his reports, and in a letter* dated 31st August 1859, No. 319, to the Collector of the District, found his opinion that the river Vamshadara was navigable for some months and arrangements could be made to take Salt from the Umaravalli Salt Pans to Battili. This letter was written by Mr. Thornhill in the same month that I took charge of the Salt Department. In the mean time the Board of Revenue in the 26th paragraph of their Proceedings of the 3rd November 1859, No. 4,487, expressed their opinion that I should state in my Report the expenses of Depôts as Government may decide on trying them. I contemplated proposing the formation of Depôts in the interior. The Proceedings of the Board of Revenue gave me encouragement to frame an estimate to form a Depôt. About this time Colonel Horsley, the present Chief Engineer, who was then Superintending Engineer of the Northern Circle, visited Chicacole. I prepared a rough estimate and explained my object to that Officer before the District Engineer, and both of

† *Vide Enclosure C.* them discussed the matter. Colonel Horsley mentioned my project

‡ *Vide Enclosure D.* in his report† to Government, dated 3rd January 1860. I also wrote to Mr. Colquhan the Sub-Engineer of this District, who also gave me a favorable opinion‡ of the scheme.

22. From all the above correspondence, the Government will observe that I had sufficient grounds to prepare a proper estimate. I accordingly prepared one and personally laid the same before you. You have yourself in one of your letters to the Court of Wards, dated 29th September 1859, mentioned that a Salt Depôt should be formed at Battili by means of the Vamshadara river. You concurred in my project, and subsequently, personally, discussed the matter with the District Engineer. As I had no personal experience of the character of the river even for one season, I thought it better to bring all my objects into public notice, so that the best measures may be brought into operation. I mentioned in section 2 of my estimate that if the Anicut which was proposed by Captain F. H. Rundall, the late District Engineer of this District, could be constructed, the cost of the work would be paid out of the Salt profits. The District Engineer suggested that the Anicut project might be suspended for the present. When the District Engineer gave you such concurrence, there was not the least hesitation to believe but that the project of the Depôt could be carried out easily, and you accordingly submitted my Estimate to higher authority.

23. The Government in their Order of the 26th April 1860, No. 612, sanctioned the formation of Salt Depôt and desired the Collector and the District Engineer to give effect to their orders. Captain Haringtón after receiving the orders talked over the subject with me, and wrote to the District Engineer of Godavery to send him a plan of a boat which would float in 2 feet of water and desired to know the cost.

24. Finding from the Records that Captain F. H. Rundall, the Consulting Engineer of the Canal Company, made a proposal in 1854 to the Board of Revenue and Department Public Works to build an Anicut at Híramandalam to make the river navigable during the dry season and also to form a Salt Depôt at Battili. I made a reference to that Officer who in a demi-official reply said that the fall of the river was about 3½ feet per mile and the velocity about four miles per hour and that boats could go up by poling or tracking. Captain Rundall also thought that a steam boat could suit the river better.

25. In conclusion, I most humbly beg to be excused for

* *Vide Enclosure E.* submitting copy of Captain F. H. Rundall's letter* to Mr. T. Prendergast late Collector of this District, with his observations and proposals on the Vamshadara river to make it navigable during the dry season and the benefit to be derived from the measure.

No. 127. Endorsement of the Chief Engineer, 16th January 1861, No. 8,867 :—

Read the following letter from Captain E. H. HARINGTON, District Engineer, Ganjam, to Lieutenant-Colonel S. O. E. LUDLOW, Deputy Chief Engineer Northern Circle, dated Chicacole, 13th December 1860, No. 321.

SIR,

1. Since I despatched my Report dated 17th November last, on the scheme for forming a Salt Depôt at Battili, I have received from the Collector a copy of his letter to the Secretary to Government, Revenue Department, No. 317, 28th November 1860, forwarding a report from the Deputy Collector on the same subject and certain remarks made by the Deputy Collector with reference to my report of 17th ultimo. The Collector also forwarded to me copies of the Deputy Collector's Report and remarks.

2. I enclose a copy of the Collector's letter to Government above referred to, and as he has charged me with having made "many grave mis-statements," I beg to report for the information of Government that I adhere to every statement made in my Report.

3. 1st "*As to the time occupied.*" The boat is allowed to have started from Calingapatam on 8th August, and to have reached Battili on the 23rd September—*Vide* paragraphs 7 and 13 of Deputy Collector's Report No. 83, and paragraphs 6 and 9 of my Report. The difficulties consequent on want of sufficient water in the river, and on the strength of the current due to the fall, prevented the boat reaching Battili before that date. If the Deputy Collector's anticipation had been realized, the boat should have arrived at Battili in 84 hours or on 12th August.

(2.) "*As to the means used in ascending the river.*" I stated, and still maintain, that it took from eighteen to sixty coolies to drag the boat, according as the difficulties due to current, shoals, &c., were less or more. The numbers were daily counted under arrangements made by myself, and I verified the truth of the reports by personal inquiry along the river. I do not think that paragraph 10 of Deputy Collector's reply, No. 84, refutes my statement.

(3.) "*As to the extent to which the river has been navigated this season.*" I stated the *true fact* that only one fleet of boats reached Battili this season, and that the fleet on its *descent* grounded, and the Merchants were obliged to take the grain out and bring to Calingapatam, several miles, on carts. Two hundred and fifty *small* boats ascending *empty* and drawing one foot may have used the river at different places, but the subject in question is the navigation throughout from Calingapatam to Battili of a *loaded* boat of 25 tons.

4. Mr. Forbes thinks the navigation would be facilitated by clearing a proper towing path. The fact is that the stream shifts from bank to bank, and often winds in the centre of the bed of the river. In places it runs under banks 15 or 20 feet high.

5. He complains of the unfavorable monsoon. This is just what I asserted would impede the free navigation of the river. In paragraph 7 of my first letter on the subject No. 30, 31st May 1860, I stated that "the uncertainty of the depth of the water is also a great obstacle. A "few hours rain brings a heavy flood, and rapid currents would be serious impediments to laden "3 feet or less in depth, not sufficient for loaded boats, especially where rocks and shoals "must be passed."

6. Mr. Forbes states that he need make no remarks upon my statement about the price of Salt at Battili. In my opinion, this is a very material point, as on it would depend the remunerative value of the scheme. I consider the information I received at Battili quite correct—*Vide* paragraphs 11 and 12 of my report. The "Neeruk" alluded to by the Deputy Collector in paragraph 9 of his reply does not affect the question. Private individuals and Merchants manage the cartage at far lower rates. The profit derivable by the Deputy Collector's scheme is not very apparent. He sold 4 tons or 110 maunds at Rupee 1-6-0 per maund = Rupees 151-4-0. The cost to Government at the Pans at Rupee 1-2-0 per maund was Rupees 123-12-0, but against this profit of Rupees 27-8-0 must be set expenses of Rupees 68-1-6 in the trip, besides per centage on cost of boat, and the value of the Deputy Collector's time on a salary of Rupees 250 per month.

7. I enclose copies of the Deputy Collector's Report No. 83 and his remarks on my Report No. 84.

Submitted for the information of Government with reference to their Order No. 1,211, dated 21st July 1860, and to the Chief Engineer's Proceedings No. 7,882 of the 12th ultimo.

(Signed) W. H. HORSLEY, Lieutenant-Colonel,
Chief Engineer, Public Works Department.

No. 128. ORDER THEREON, 7th March 1861, No. 530.

1. The foregoing letters relate to the expedition of the Deputy Collector in charge of the Salt Department in Ganjam, up the Vamshadara river as far as Battili, with the view of ascertaining the feasibility and expediency of establishing a Depôt for the sale of Salt at that place.

2. It is evident from these papers that the difficulties in the navigation of the river have proved greater than were anticipated by the Deputy Collector; and that in its present state at least, it cannot be beneficially employed for the carriage of Salt to Battili. The Governor in Council therefore resolves to drop the design for the present. It will be for the local Engineer Officer to propose measures for the improvement of the river for navigation, as well as irrigation, if he shall be of opinion that this can be effected for a reasonable sum. When the navigation shall have been thus rendered practicable, the project may be again brought forward.

3. Adverting to the P.S. to the Collector's letter of the 28th November, the Government observe that D. Narasinga Ráu has been promoted in the Gazette of the 19th ultimo, to the 3rd Class of Deputy Collector. The Government fully appreciate his zeal and energy; and they are satisfied that he will find full and useful employment for those qualities in the regular duties of his important charge.

(Signed) J. D. BOURDILLON,
Secretary to Government.

Month	Dates	Depth of Water: Yards	Feet	Inches	Number of empty boats	Number of loaded boats	Remarks
29	Brought forward				36	29	
September	12	1	"	3	"	"	
	13	1	"	"	7	"	
	14	"	2	6	2	"	
	15	1	1	"	1	"	
	16	1	"	6	18	"	
	17	1	"	8	2	9	
	18	2	1	6	"	18	
	19	3	"	"	"	"	
	20	2	2	3	"	5	
	21	2	1	6	2	3	
	22	2	"	9	"	"	
	23	2	"	"	9	"	
	24	1	2	6	"	5	
	25	1	2	"	2	"	
	26	2	"	"	20	4	
	27	2	"	7	"	10	
	28	2	"	"	"	2	
	29	3	"	"	"	"	
	30	2	2	3	4	6	
	Total				163	94	
October	1	2	1	6	14	1	
	2	2	"	9	4	"	
	3	3	"	"	7	5	
	4	2	2	3	"	"	
	5	2	1	6	"	8	
	6	2	"	9	15	"	
	7	2	"	"	"	13	
	8	1	2	6	"	3	
	9	1	2	3	"	5	
	10	1	2	"	"	"	
	11	1	1	"	"	12	

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Extract from a Letter from the Principal Assistant & Collector of Thornhill to the Collector Mr. Forbes. dated 31st August 1859 No 349.

Para 25 - The river Tonnadhana which falls into the sea at Calingapatam is navigable for small vessels and all seeds are brought down it from Veeramandalam and even Canapuram in small quantities and arrangements might be made to take up salt from Amerawelli. Bathing in the salt from Amerawelli. Bathing in the Pinedy Zemindary would be a suitable place for a Depôt.

(Signed) C. Thornhill
Principal Asst Collector
Ganjam -

(True Copy)

C. Nercalla Nadimpooo
Deputy Collector
in Charge Salt Department -

(Signed) W. H. BOURDILLON,
Secretary to Government.

Register showing the depth of Water in the Nunnaddara River and the boats passed up and down from 17th July to 24th October 1866.

Month	Date	Depth of Water yards	feet	inches	Number of empty boats	Number of loaded boats
July	17th	3	"	"		
	18th	2	"	"		
	19th	1	2	3		
	20th	2	"	"		
	21st	1	1	6		
	22nd	1	"	9	8	
	23rd	1	"	"		
	24th	1	"	"		
	25th	1	"	"	6	
	26th	"	2	3	"	3
	27th	1	"	"	"	"
	28th	"	2	3	"	"
	29th	"	2	3	"	"
	30th	"	1	10½	"	"
	31st	"	1	6	"	"
Total		"	"	"	9	3
August	1st	1	"	"	"	"
	2nd	1	"	"	"	"
	3rd	"	2	"	"	"
	4th	"	1	9	5	"
	5th	"	1	9	"	2
	6th	1	"	"	"	"
	7th	1	"	9	"	4
	8th	3	1	6	"	"
	9th	2	"	"	8	"
	10th	1	2	6	5	"
	11th	1	1	6	4	"
	12th	1	"	6	"	"
	13th	1	"	6	"	"
	14th	2	1	"	"	"
	15th	2	"	"	"	5
	16th	1	2	6	"	"
	17th	1	"	9	"	3
	18th	2	"	"	8	"
	19th	1	2	"	"	4
	20th	1	1	6	"	"
	21st	1	1	6	7	"
	22nd	1	1	6	"	"
	23rd	1	"	6	"	"
	24th	1	"	"	6	1
	25th	1	1	6	"	4
	26th	2	"	"	7	3
	27th	1	2	"	"	3
	28th	1	1	"	5	4
	29th	1	"	6	2	"
	30th	1	"	"	4	"
	31st	"	2	9	2	5
Total		—	—	—	58	43
September	1st	"	2	6	3	4
	2nd	4	"	6	"	"
	3rd	1	"	3	"	"
	4th	1	"	"	4	1
	5th	"	2	9	"	14
	6th	1	"	"	"	5
	7th	1	"	6	5	"
	8th	1	"	3	"	3
	9th	1	"	"	20	3
	10th	"	2	6	4	"
	11th	1	"	6	"	"
	Carried forward				36	29

Copy in a Letter to Govt.
Dy 19th Apl. 61 No. 59

Enclosure B
In a letter from the Dy
Collector in charge of the Salt
Department to the Collector
of Customs dated 19th January
1860 & No. 83

R 2996/60.

Copy

Extract from a letter from
Mr. Druid Asst Collr, Thondaie
dated 31st August 1859 respect-
-ing the possibility of navigating
the river Mawadara up to
Batticotta.

progress on an estimate of Rs 1450. Under these circumstances the above canal by which to bring the Travpada salt to Caliqapatam, is not so much required at present as it was at the time Lieutenant Colonel Cotton proposed it. A scheme is under consideration for forwarding salt to a Depôt on the Wanraodana or Baini river at Cumpuram beyond Battily, 60 miles up; and should the Comercolle salt Pans not be able to meet the increased demand, which may be expected by the formation of the proposed Depôt, water carriage from Travpada to Caliqapatam would still be desirable, particularly as the salt manufactured there is preferred up the Brinjaries from its superior quality and grain there being less wastage in transit. The Deputy Collector Didai Narsingarow with whom I had an opportunity of personally conversing on the subject, is of opinion, that by an arrangement of boats and an establishment of Coolies on the river to track them up, it will be possible

Caliqapatam to Cumpuram during the months of June, July and August, the rainy season in three parts; at a total cost, including interest on prime cost of 14 boats, (each boat to cost Rs 550, and to convey 22 tons) of Rupees 2115 being at the rate of about 2 pice per ton, per mile. The Deputy Collector promised to send me a copy of the paper he is preparing on the subject, as soon as he had completed his enquiries and should I receive it in time, it will form an appendix to this report

(Signed) W. H. Harvey
Deputy Chief Engineer &c

(True copy)
Seneapatam
Deputy Collector

Copy in a Letter to Govt
Dy 19th April 61 No 59

Enclosure C

In a letter from the Deputy Collector in charge of the Salt Department to the Collector of Ganjam dated 19th November 1860 & 1088.—

Copy

Extract from the Proceedings of Government communicating the views of Colonel Horsely Deputy Chief Engineer Northern Circle respecting the projected scheme of forming a Salt Depôt at Bathly by means of river Vamsadara

£ 2996/10.

m a Letter from Captain A H Rundall Civil
Division to J Prendergast Esquire Collector
m dated 2nd September 1854 No 377.

10th × × In form a No 1 containing the list
of works exceeding Rs 10,000 - The most important
is the Anicut across the Calingapatam River
at the village of Nerramandalam from whence a
proper leading off a channel to skirt the high
ground and fill all the reservoirs between that
Village and the sea beyond Pattelgam. There are
at present about 14 or 15 villages which receive no
supply of water from the River, while the remain=
=ing villages at present watered by the 3 fine channels
Polakes, Nortalam, and Sulmoor, receive only the
supply brought by the freshes, the summer water
and low freshes not being stored. The construction
of this work will also enable the whole irrigation
of the Northern side of the Calingapatam River
being brought under one system instead of the several

Extract a Letter to Govt
Dated 16th Novr 1854
No 377

Extract a Letter from Captain A H Rundall Civil Engineer
Northern Division to J Prendergast Esquire Collector
Ganjam dated 2nd September 1854 No 377.

Enclosure D

In a letter from the Deputy
Collector in charge of the Salt
Department to the Collector
of Ganjam dated 19th November
1850 No 83

Copy of a Letter from
Capt. A. H. Rundall Civil Engineer
Northern Division
respecting the effects of
the Anicut across the
Calingapatam River
at the village of Nerramandalam

Rec'd 29th Dec 1854

works being as they are at present all intercommunicating of each other. A large quantity of dry land will thus be converted into wet facility afforded for sugar cane cultivation and a large tract of jungle and waste land be gradually reclaimed.

True Extract.

R. Venkatachariyar
Deputy Collector
in charge Salt Dept.

Extract -

Report on the Irrigation and communication of the District of Tanjore

× × × × ×

I would therefore recommend first bringing the present channels as far as possible under the control of one control by supplying them from one main Head. Head-sluice from the proposed Channel a proposed Channel for this purpose Proposes throwing an Anicut across Vara across the Coleroon river just above the Mandalam village of Veeramandalam where there is a favourable site for such a work and lead a channel from thence which should follow the highest level attainable with a fall of 1 foot per mile, which will I think allow it to terminate in the back water at Koopadah. From the main Head I would supply all the other 4 Channels on the Southern bank, and by this regulating the quantity of water allow the land to have just as much water as was needed, and at the same time not interfere with the proper drainage of the Country.

× × ×

But with this project I have also
had in view the feasibility of establishing a
water communication for at least 6 months in
the year between the village of Butlay in the
confines of the Kimedy Zemindary a great
emporium for trade, and the Salt Pans at
Narpada. The whole rich valley of the Parla
Kimedy Zemindary would thus be opened up
and an incalculable saving effected in the transport
of produce which would tell with especial force
on the item of seed, as the principal crop ripens
in the month of September, when there is the
greatest quantity of water in the River and
when carriage by land is most expensive. The
great demand for seed has caused such a rise
in the prices, that any saving that can be effected
in the cost of carriage will tend to increase the
export, and give additional stimulous to the cultivation as
the present prices are very remunerative. I have
limited the time of navigation to 6 months, but
from what I have seen of the Calingapatam

Combining irrigation with irrigation from the proposed Canal

river I should say that there was enough water
in it to supply a navigable canal for 8 months
in the year. The supply for the remaining 4 months
could without doubt be obtained by having reservoirs
in the Kimedy Hills, but this is a point I
have not yet attempted to investigate. With
the subject of the desirability of establishing a
Salt Depôt at the foot of the Hills bordering
upon country naturally suggests itself, and
there can be but little doubt that the establish-
ment of such a Depôt would cause a very
extensive increase in the export of that article,
as the diminished cost of carriage would enable
it to be supplied so much more cheaply to
the inhabitants in the Interior and become one
of the most effectual means of putting an end
to the illicit manufacture which it is now
almost impossible to prevent.

× × × ×

The road from Palacondah towards Nagpad
would branch from that already sanctioned and in
the event of the Channel from Veeramandalam
being available for navigation need be carried only
to the most convenient point in the Channel

14

to which salt from the Dan would be brought

× × × ×

Signed / A H Rundall

Civil Engineering Division

True copy

L. Venkata Narayana

Deputy Collector

in charge Salt Dept.

7 March 1861 No 125 to 128

Copy recorded in Letter dated 19th April 1861 No 59.

Copy in a Letter to Engr.
Sy 19th Apl. 1861 No. 59

Enclosure E

In a letter from the Deputy Collector in Charge of the Salt Department to the Collector of Ganjam dated 17th November 1860 No 83.—

Copy of a Report from Captain Rundall District Engineer of Ganjam in 1854 on the proposed Lagoon communication across the Rumaadara, for rendering that river useful for navigating the country and navigable for the greater portion of the year.

R 299/60.

Sketch Map

—Shewing—

Course of Wunsadara River

—from—

Butelly

—TO—

Calingapalam

AND

Road in Construction from Butelly to Hermundalum

" Proposed from Heramundalum to Allikam

" Made from Allikam to Comaravelly Salt Pans and Calingapatam Port.

" Made from Waranase via Kimedy to Nowpada Salt Pans

" Made from Heramundalum via Buntoo to Calingapatam

References

Green under Construction

Black Proposed

Red Made

0 1 2 3 4 8 15 Miles

Scale of 4 Miles to an Inches

Butelly

Shingooday

Waranasee

KIMEDY

To the Port of Poondy

Malapella

Heramundahum

Buntoo

Tackally

Saravacotta

Nagaricullacum

Nowpada

To Pulicondah

Poorsulhupoor

Oopparapelly

Nurinapetta

Chintada

Allikam

Byrey

Calingapatam

Gauva

Comaravelly Salt Pans

CHICACOLE

Ganjam District Engineer's Office
Camp at Chicacole 17th November 1860

Captain
District Engineer Ganjam

1/12388/60

1/20396

R 2925/60.

Sketch Map shewing Course of Wamshadara River from Buttely to Calinga-patam.

Note.

On the 13th ult. the Chief Engineer forwarded the report of the District Engineer of Ganjam on the Experiment of establishing a salt depot at Buttely - distance 65 miles inland on the Wamshadara River.

The report of the depot Collr on his trip & that place was called for but before the order was dispatched, it was received & both are now submitted for orders.

The depot was suggested by the depot Collr and has been opposed by the District Engineer as impracticable.

In July last the depot Collr started with a boat load of 80 Tons of salt and the Nizam of

it's mouth was to shallow for the boat which drew three feet. A second trial was made in August with the same result. A third attempt was made in Sept. but this time the Dep/te started from Biri, 7 or 8 miles beyond Cabing abatan. The boat has loaded with 4 Tons of salt, so as to float in 2 ft of water. The start was made on the 6th. On the 7th the boat was detained a day & a half at Lukalam for want of water which was being drawn off for irrigation. A portion of the salt was conveyed 800 yds by land and then replaced

in the boat which was stopped again 2 miles further up and the salt had to be carried by land for 100 or 150 yds. but this was the last portage. The boat stuck at 3 or 4 places higher up but was easily got off with the help of the villagers and then reached Paramasy where it was detained 3 days by heavy rain.

On the 20th the boat started again & reached Batteg on the 23rd.

The trip thus occupied about 17 days.

On the day after arrival the salt was all sold at 1-6.0 per S.M.

The Dep/te had great difficulties encountered with both

it is clear that the improvement of the river must be the first step - if a depot is to be established. The river is said to be navigable only from June to October - the shallows might probably be deviated by the wing-dams proposed by Capt Hains on the Potomac - some blasting would be necessary - a towing path is required and suitable boats must be provided - all this would cost time and after all there is Capt Harrington's assertion that when the river is sufficiently full for a boat drawing 4 ft. the current

y ripture - Dec 1854
Capt Rundall Jos. Post an article & canal for irrigation & navigation combined but the project seem to have been taken up - Capt Harrington's account of the Dept/Colo. Trib to which the latter states exceptions as unduly unfavorable It is evident however that the difficulties have proved greater than anticipated and the Dept/ has not sufficient means - the season has unusually adverse and Contributors there not considerable objection from the merchant

and boat men of Calicut & Tanore —

Capt Harrington has manifestly been misled as to the price of salt at Bantety — in fact the purchase of the Dep.t Collrs Stock on the day after arrival at 1-6-0 per Ton to complete it. The late Capt. H. mentions about 5 pice per Ton per mile — land carriage. Further on he says that 5½ or 6 Rs is paid for the Cartage of a Parcel of Bantety but a parcel is 4.16 Tons — so that this late too is left Rs 5 pice per Ton

as regards the navigability of the river Capt Harrington's statements are founded on personal inspection and merit consideration.

As things can be done in the way of removing the present till at least June next — others are expected as to the Effect the removal of the Establishment shall be ordered & the necessary experiments to be made meanwhile —

II. & the other Capt Harrington shall be asked whether the difficulties which he mentions in the navigation can be removed or materially lessened — if so at

that cost.

III Whether the Canal & Anicut project of 1854 shall be revived & considered.

IV. Whether the Matter shall be dropped.

The financial results of an Experiment carried out under such difficulties afford no criterion whereby to judge of the project.

The river being only navigable for 4 months in the year, its improvement does not appear necessary for funds in the District of Buttely.

The Supdt. of Salt renews his claim of promotion from the 4th Class on Rs 250 to the 3d on 350. He is an able & zealous Officer. I do

(9)

- I would drop the subject of the Depot for the present at all events. - Should the river be improved it can be re-considered hereafter, and it is for the Local Officers (Revenue & Engineer) to bring forward the question of improving the river for Navigation & Irrigation purposes, if this is practicable

[illegible]

Draft a short note Record thereon accordingly

Send the papers after time

Port. to be Plan sent

R. D.

No. 530-

Proceedings of the Madras Government

Under date the 7th March 1861

Read the following papers

From the Chief Engineer
Submits letter from the Dist: Engr. Ganjam reporting that the project of water Carriage of Salt by Vamshadara River from Calingapatam to Buttely is impracticable and that a Depôt at Battely would not be remunerative.

(Here enter 12th Decr 1860 No. 7882)

From the Collector of Ganjam
Submits reports from D. Narasinga Row Deputy Collector in charge of Salt Deptt on his expedition to Buttely.

(Here enter 28th Novr 1860 No. 317)

From the Chief Engineer
Submits letter from the Dist: Engr. Ganjam reporting that he maintains the correctness of the statements regarding the scheme for taking Salt to Buttely made in his letter No. 277 dated 5th November 1860.

(Here enter 16th Janry 1861 No. 8867)

Battili
Rau

1. The foregoing letters relate to the expedition of the Deputy Collector in charge of the Salt Department in Ganjam, up the Vamshadara river as far as Battili, [redacted] with the view of ascertaining the feasibility and expediency

expediency of establishing a
Depôt for the sale of Salt at that
place.

2. It is evident from
these papers that the difficulties
in the navigation of the river
have proved greater than were
were anticipated by the Deputy
Collector; and that in its present
state at least, it cannot be benefi-
:ficially employed for the carriage
of salt to Buttiah. The Governor
in Council therefore resolves
to drop the design for the present.
It will be for the local Engr.
officer to propose measures
for the improvement of the
river for navigation, as well
as irrigation, if he shall be
of opinion that this can be
effected ~~xxxx~~ for a reasonable
sum. When the navigation
shall have been thus rendered

practicable, the project ~~now~~
~~deferred~~ may be again brought
forward.

3. Adverting to the P. S. to
the Collector's letter of the 28th
observe
November, the Govt. ~~will~~
that D.
~~request him to~~ inform D.
has been
Narasinga Row ~~that the Govt.~~
promoted in the Gazette of the
~~fully recognize~~ his zeal and
19 Instant, to the 3d Class of the
~~Service, and that his~~
Calls. The Govt fully appreciate
~~him to promote it with~~
his zeal and energy, and they
~~accordingly.~~
are satisfied that he will
find full & useful employ-
ment for those qualities in the
regular duties of his im-
portant charge

13 Copies Board of Revenue Cir. 8
10 " Chief Engineer "
1 " Collr of Ganjam "

Copy in a Letter to Govt
Dy 19th April/61 No 89.

Battible Salt Depot

Revenue 1861 Dept.
Pro: of Govt for March.

No 530.

Pro: of the Madras Govt.
Dy 7 March/61.

(Regarding) the project for forming a Salt Depot at Battili by means of the Vamshadara River.

No. 75-81
26-4-60
10-12
2-7-60
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