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MADRAS RECORD OFFICE

GOVERNMENT OF MADRAS

Revenue DEPARTMENT

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~~B.P. No.~~ ~~Mis.~~

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Proceedings of the Madras Government, Public Works Department,
24th May 1876.

Read the following papers :—

No. 427. From Major J. O. HASTED, R.E., Superintending Engineer, Kistna, to Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation, Public Works Department, dated Camp at Noozeed, 23rd February 1876, No. 131.

I HAVE the honor to submit the following remarks on the Commamore Canal.

2. This channel 47 miles in length from the head lock at Duggiralah was but very little used for navigation up to 1872, and that only in the upper part. In 1873 and 1874, however, the Great Northern Road between Guntoor and Bezorah was under construction, and the traffic being hindered, the cotton from Guntoor was brought in considerable quantities to Chabrole and Jagerlamoodi, 8 and 12 miles distant from Guntoor, respectively, and there shipped on dhonies for Cocanada. The traffic through the head lock in these years was, therefore, very heavy. In 1874, the road from Guntoor to Seetanagaram was completed, as far as the surface was concerned, and with a smooth metalled surface for 19 miles was more attractive to traffic than 8 or 12 miles of only a gravelled road and an additional 20 and 24 miles of canal; consequently the shipment of cotton at Jagerlamoodi and Chabrole ceased.

3. In January 1874, I took an officer's boat the whole way down the canal to Santaravoor, the terminus, and found that with a little improvement the canal was suitable for navigation by any boat not drawing more than 2 feet of water. The improvement was carried out, and boats soon began to make use of the channel. The following statement of value of cargo carried down the canal will show that the traffic is now of some importance, although cotton, which swelled the traffic return for the two years mentioned, is not now carried :—

		Rs.
1871-72,	value of cargo passed head lock	73,813
1872-73,	„ „ „	3,40,019
1873-74,	„ „ „	2,66,935
1874-75,	„ „ „	1,73,213
1875-76,	„ „ up to December only	1,28,700

The returns for the former years I believe to have been overestimated, but every care is taken to make the present returns correct.

4. I have lately been down the whole length of the canal and have made inquiries regarding the traffic. The goods conveyed are principally wood, bamboos, rice, cocoanuts, &c., and are landed at or near the terminus of the canal; they are stored outside the canal bank and thence conveyed by cart or otherwise to the dry parts of the district; a considerable part of the wood being sent, as I was informed, into the Nellore district. On my inspection I found stored at Santaravoor (terminus), rice, &c., to the estimated value of Rupees 10,000, wood Rupees 10,000; at Swarna, 44th mile, wood to the value of Rupees 10,000, and a smaller quantity at Karemchadoo. The rice was being conveyed across the Rampairoo to the large villages on the sand ridge Kadavakuduroo, Churala, &c.

5. The rice, &c., comes from parts of the Kistna Delta and also from the Godavery by the Ellore Canal; the cocoanuts exclusively from the Godavery. The wood is principally from the Upper Godavery; but some may come also from Ebrampatam, 12

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miles above the Kistna anicut, to which place considerable quantities of junglewood, such as yapee, billoodoo, &c., are brought by cart from the Nizam's country opposite to Bhadrachellam in the Godavery, through Tiruvoor, Mylavaram, and Condapilly in the dry weather.

6. The traffic thus springing up in the face of imperfect navigation and the difficulty of bringing the empty boats back (no return cargo being available) against a heavy current, is most promising, and proves, I think, that this line which will connect the Godavery and Kistna Canals with the East Coast Canal, will be a most valuable communication. I have little doubt that, as we can extend the canal, the boats will push on, and the inland navigation will compete successfully with the local coasting vessels; as a proof of the likelihood of this the villages on the sand ridge above-mentioned are now getting rice, &c., from Santaravoor, although it has to be carried by coolies for some miles, instead of as formerly from the port of Motupalli.

7. The irrigation prospects of the Commamore Canal are also much improved and cultivation is being steadily extended; for example, near Karenchadoo where there was formerly a large "soudu" plain, rice is now being grown, and the village of Swarna, lately purchased by Government, is only waiting for the settlement of their land assessment to cultivate on an extensive scale.

8. The improvement of the canal has been estimated for as a part of the scheme for the completion of irrigation in the delta, and the estimates are now being revised in accordance with directions given by the Chief Engineer for Irrigation. As, however, it is probable that the completion estimates will not be put in hand for some time, the subject of revenue to be expected being now under investigation by an officer specially appointed by Government, it is, I think, advisable to call attention to the importance of the work as a communication, and to the necessity of having the navigation perfected before the completion of the East Coast Canal. The proposed masonry works on the canal will be heavy, as the whole drainage of the country is crossed and they would take some years to complete, their early commencement is therefore a matter of some importance, and even supposing that the Commamore Canal should be completed to Pedda-Ganjam backwater before the East Coast Canal was opened throughout, any portion of the East Coast Canal from the backwater that might be completed would undoubtedly be made use of. In this view I think it would be well if the District Engineer, Nellore, would commence the East Coast Canal from Pedda-Ganjam as early as possible.

9. From what I have written above, it may be inferred that I am of opinion the East Coast Canal will be a very important line of communication. I feel convinced if the Coast Canal were now open to Madras, that in addition to all the rice, wood, &c., that would be sent by it to the upper part of the Nellore district, nearly all the oil, seed, &c. now sent from Bezorah to Masulipatam for shipment to Madras would be conveyed by canal. It has now to be sent to Masulipatam by canal, a trip of about eighteen hours, there transhipped and sent out to the coasting vessel, again transhipped and carried 180 miles by sea, which is not always effected in one day, and the time altogether taken up in transit cannot be less than five days, the cost made up of charges for 48 miles canal carriage, transhipment, boat-hire, sea voyage, and boat, hire landing, being very considerable. The British India Steam Navigation Company

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now charge, I am informed, 15 Rupees per ton of seeds carried between Masulipatam and Madras, there the steamers touch almost but once every week, and therefore there may be a considerable loss of time. Were the canal completed, the goods would be shipped at Bezorah for the whole trip, the distance being, say, 300 miles, the cost at 6 Pies per ton per mile would be only Rupees 9-6-0 per ton, and allowing the same rate of travelling as between Bezorah and Masulipatam, the time taken would be four days 16½ hours, with much less risk of damage in transit. This, I think, is quite sufficient to show the value of the Coast Canal and the importance of completing it and perfecting the line to Bezorah as early as possible.

No. 9 N.L.

No. 427-A. IRRIGATION MEMORANDUM.

The Superintending Engineer, Kistna, having recently addressed this office on the importance of the East Coast Canal as a line of communication between the Kistna, Godavery, and Madras, and on the advantage that would result from the prosecution of the Coast Canal from Chinna-Ganjam southwards as well as from the present terminus northwards, the undersigned has the honor to request the District Engineer, Nellore, to be good enough to furnish information on the following points:—

1*st*.—As to whether the alignment of the Coast Canal has been settled throughout the Nellore district and the levels and surveys completed. If not, what part has been completed, and the length remaining to be done. Also, in that case, when the outdoor work will be finished?

2*ndly*.—For what parts of the line estimates have been completed, or will shortly be ready?

3*rdly*.—What is the programme for carrying out the work?

4*thly*.—What is the estimated or approximate cost of the whole line north of the Kistnapatam backwater, and what the annual expenditure can be with reference to the labor available, funds being forthcoming?

5*thly*.—What with reference to the full utilization of available labor would be the desirable plan of operations, or, in other words, should other sections besides those southwards from Chinna-Ganjam and northwards from the Kistnapatam backwater be carried on simultaneously?

2. One principal object in making these inquiries is to determine within what period it is possible or probable that the Coast Canal can be completed in order that arrangements may be made for the Commamore Canal (Kistna Delta) down to Chinna-Ganjam being completed by or before that time. The length of this canal is somewhat under 50 miles, but the masonry works especially are very numerous and heavy, and the working season short owing to irrigation having to be carried on under the canal as it now is.

3. The papers in the District Engineer's Office will, it is hoped, enable the information now asked for to be given, and the expenditure found possible on the part of the Coast Canal which has been completed or is under execution will admit

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probably of a very good idea being formed of what could be done were a much greater length in sections at intervals undertaken simultaneously. It may be noticed also that it might be a good plan as regards labor were 15 or 20 miles of the Coast Canal immediately south of Chinna-Ganjam taken up before the heavy works in the lower part of the Commamore Canal are started.

(Signed) JOHN MULLINS, Lt.-Col., R.E.,
Chief Engineer for Irrigation.

13th March 1876.

No. 427-B. From J. O'SHAUGHNESSY, Esq., District Engineer, Nellore, to Lieutenant-Colonel J. MULLINS, R.E., Chief Engineer for Irrigation, dated Nellore, 24th April 1876, No. 20 N L.

In reply to your memorandum, No. 9, dated the 13th March 1876, I have the honor to report on the portion of the East Coast Canal, that is within this district, as follows :—

1*st*.—The alignment of the canal through the Nellore district, with the exception of the immediate point of junction with the portion in the Kistna district, has been settled, the termination of the line of canal at the boundary of the Nellore and the Kistna districts can only be decided upon in communication with the Superintending Engineer of the Kistna.

The levels and surveys have been completed throughout, but the portion north of the Chippalairu (61 miles) has been imperfectly done, and the greater portion of it must be done over again. The out-door work necessary to finish this portion can be done in three months.

2*ndly*.—The canal (as you are no doubt aware) is open for traffic from Madras to Kistnapatam, a distance of 93 miles; an estimate (Rupees 2,74,000) for the portion between Kistnapatam and the Pennair, distance 24¼ miles, was sanctioned in G.O., No. 151, dated 21st January 1876, and the work is now in progress. Plans and estimates for the portion from the Pennair to the Chippalairu, distance 18 miles, have been prepared, but they have been sent back to the officer in charge of the work for revision. This estimate will be ready for submission in about one month from this date.

3*rdly*.—There is no programme yet for carrying out the work.

4*thly*.—Judging by the working estimates already carried out and now in execution, the *outside* cost of the whole line from the Kistnapatam backwater or Kondalairu to the boundary of the Kistna district (108 miles) will be 13 lakhs of Rupees, or nearly Rupees 12,000 per mile, and, if funds are forthcoming, work can be executed to the extent of 2½ lakhs a-year.

5*thly*.—In order to fully utilize the available labor, other sections should undoubtedly be carried on simultaneously with the section north of Kistnapatam and with the section south of Chinna-Ganjam.

2. In regard to the time in which the canal can be completed, it is almost entirely a question of money. I can see no difficulty in collecting 10,000 men on the work, and if they worked for eight months in the year and earned Rupees 5 each per month, the annual expenditure would amount to 4 lakhs and the canal could be completed in about three years. There will certainly be no difficulty in spending 2½ lakhs a-year, and in completing the canal in five years, as stated above in reply to your fifth question.

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3. The average expenditure on the canal during the past three years has been only Rupees 57,758 as shown in the margin, but this can by no means be taken as a guide to future expenditure. In order to open the canal to the centre of traffic at Kistnapatam, it was necessary to some extent to concentrate the available labor on one spot, and there is no doubt that this was very much opposed to good progress. In a case of a death, a marriage, or a feast of the numerous descriptions which laborers like to indulge in, work is entirely stopped for days at a time; in a case of cholera it is entirely stopped perhaps for weeks. If the labor could have been distributed to several sections a few miles even apart, it is possible that work on only one section would be stopped on many of the occasions above referred to, and progress would have been more satisfactory. The system that has been adopted of having only one contractor is not conducive to good progress also; he is independent in so far that he has no competitors; he can reduce the price of labor to an extent which offers no inducement to people at a distance or to those who have any other employment to come to the work. There is, however, one seeming advantage in the system, and that is, that the work is taken up at some triflingly cheaper rate, but this apparent advantage is more than counterbalanced by the delay, the trouble, and the annoyance which it occasions.

			Rs.
1873-74	...	...	66,783
1874-75	...	...	59,885
1875-76	...	...	46,605
			1,73,273
	Average	...	57,758

4. The object now seems to be to connect Kistnapatam with the canals of the Kistna as speedily as possible, and there is not the necessity that hitherto existed of concentrating the labor available on a small section of the work. If funds are available, your suggestion in regard to opening ground on several sections of the canal, should, I think, be certainly carried out, and I would recommend that two other sections in addition to the northern and southern sections should be simultaneously in progress. The objections to only one contractor can at the same time be removed, and several contractors employed at once; indeed, this must be done even on the sections now in progress.

5. I cannot find any definite information as to the exact point which may be the best for connecting the Kistna Canal with the canal in this district, and as it may be advantageous to have this fixed before any estimates are made, I beg to suggest that the Superintending Engineer of the Kistna be addressed on the subject. I will depute a competent officer to confer upon it on the spot with an officer of the Kistna district, or I shall be ready to go to the place myself if considered necessary.

6. Considering the amounts already spent on the survey of the canal, I am reluctant to apply for more money for the purpose, but the permanent establishment is so weak (indeed, considering that the expenditure last year was over 5 lakhs, and the expenditure this year will certainly not be less, it seems to be much below its proper strength), I cannot spare a single man to assist Lieutenant Cotter in completing the work. I am therefore obliged to forward an estimate of the cost of the establishment

required, and I request that it may be sanctioned as soon as possible, to enable me to utilize Lieutenant Cotter's services and to complete the work without much further delay.

No. 428. ORDER THEREON, 24th May 1876, No. 1,302.

CIVIL WORKS, No. 33-B.

THE progress made with the East Coast Canal has been disheartening in the extreme. The project consists in the connection of the existing water communication, 72¼ miles in length, north of Madras to Doogarazpatam, with the Commamore Canal in the Kistna district, by 126 miles of new canal.

2. Originally commenced in 1867-68, it had to be suspended in 1870-71, after an outlay of Rupees 1,36,026 had been incurred, in consequence of a misunderstanding on the part of the Government of India, which led to the refund of the loan on which it was started. Resumed in 1873-74 on a revised estimate of Rupees 2,87,000, the 1st section of 20¾ miles to the Kondalairu river near Kistnapatam was reported open for traffic in May 1875.

3. The 2nd section, 24¼ miles long from the Kondalairu to the Pennair, estimated to cost Rupees 2,74,000, was then taken in hand; and the outlay on it, up to the 31st March 1876, is reported at only Rupees [illegible],000.

4. There remain to be surveyed and estimated the following section, *viz*:—

	MILES.
1. Pennair to Chippalairu	18
2. Chippalairu to Pedda-Ganjam	63
	81

of which the 1st section will, it is stated, be sent in May; the remainder having all to be done over again.

5. The chief reason for the slow progress made with both work and surveys is that the District Engineer put the special officer placed at his disposal for the canal in charge of general range duties south of the Pennair, and eventually removed him to the Pennair anicut when that work was breached by the floods of October 1874. The consequence being that even the sums available for the work were not fully utilized, and the funds allotted for surveys were wasted owing to imperfect supervision.

6. A sum of Rupees 1,00,000 has been entered for the work in the Provincial Budget for 1876-77, and Rupees 1,400 are now allotted from the Reserve for completion of the surveys. The District Engineer will take care that Lieutenant Henderson's attention is not distracted from the executive charge of the two sections between the Kondalairu and Chippalairu. The completion of the surveys north of the Chippalairu will be supervised by Lieutenant Rawson, R.E., on Lieutenant Cotter's relief from departmental duty, and that officer will be at liberty to break ground on any portions selected by the District Engineer with reference to the labor available. A short monthly report of progress made will in future be submitted direct to Government.

7. His Grace the Governor in Council entirely endorses the views of the Government as expressed in the G.O., No. 814, 23rd March 1875, and desires earnestly to impress on all those concerned in this work how important it is, on financial considerations, that a rapid progress should be made towards its completion.

(True Extract.)

Colonel,
Offg. Under Secy. to Govt., P.W.D.

To the District Engineers, Nellore and Kistna.
" Chief Engineer for Irrigation.
" Examiner of Public Works Accounts, with estimate.
" Revenue Department.
" Financial "

Exd. E. C. Shunker.
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№ 1352
Rec'd 18th Dec'r

Govt. of {1876} Madras.

PUBLIC WORKS.

To

THE DISTRICT ENGINEER,
NELLORE.
&c., &c., &c.

Dated May 24th.

Issued

Rec'd. 12 June /76 Encl.

G. O., 24th May 1876, No. 1,302.

MAY,
Nos 427-428

Do May

East Coast Canal.—Passing orders on the subject of the progress made with the northern section of the

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Communicated to Trichy by the Ex.

12 June 1876

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