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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Revenue DEPARTMENT

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GOVERNMENT OF MADRAS.
PUBLIC WORKS DEPARTMENT.

20th June 1877, No. 93 I.

Irrigation.

Read the following paper:—

No. 34 I.

No. 77. *Note by the Chief Engineer for Irrigation.*

EXECUTIVE CHARGES, KISTNA DELTA.—In the order of Government as per margin No. 2,478, dated 2nd September 1874. the Chief Engineer for Irrigation and the Chief Engineer, Public Works Department, were directed to report, after the filling up of the vacancies in the junior grades of the Engineer Establishment, whether the Kistna Delta should be formed into two Executive Divisions with sub-divisions, each side of the river or section of the delta being constituted a division, or whether the system of four separate ranges should be continued.

2. REDUCTION OF NUMBER OF SEPARATE EXECUTIVE CHARGES.—It has, it is believed, been quite decided, in connection with the reorganization of the Public Works Department, that the numerous ranges of the present organization are to be consolidated into a much smaller number of Executive Divisions with a view to facilitate the transference of executive charges to competent officers, and to reduce the number of officers in account with the Examiner. In the case of the Kistna Delta the undersigned has already on several occasions urged the introduction of the revised arrangement, and, as estimates to a large amount have been submitted to the Government of India for sanction, it is of great importance that permanent arrangements should be organized, so that the confusion which would result from a change after the works have been started may be avoided.

3. TWO EXECUTIVE DIVISIONS RECOMMENDED.—In the discussions which took place last year on the subject of the number of Executive Divisions to be allowed for the Presidency generally it was suggested that both the Godavery and Kistna Districts might be each divided into two Executive Divisions, the rivers in each case being the line of division. The undersigned believes that no Executive Engineers, however active and able, would be able to manage the charges so formed, and that on the one hand the northern parts of the districts would be neglected and the delta management would suffer. The reason why there has been little reason to find fault with executive work during the last six years in the Godavery Delta, and frequent occasion to express satisfaction therewith, is that the Engineer Establishment, though frequently for a time short-handed, has been able to exercise actual control over all work in progress, and to see that it was done properly. As a consequence nearly 20 lakhs of Rupees have been well spent on new Irrigation Works besides outlay on repairs and on Local Fund Works, and good work has been secured at moderate rates. Financially the arrangements have undoubtedly been much more successful than would have been the case had the charges of the Executive Officers been more extensive.

In the Kistna Delta the new work to be done greatly exceeds that which remained six years ago to be carried out in the Godavery Delta, and the undersigned is certain that two Executive Engineers will be more than fully employed for many years to come if their divisions are entirely restricted to the delta. It is

recommended, therefore, that there should be a third Executive Division for the non-deltaic part of the district, and it will be assumed in the following observations that the eastern and western sections of the delta will each form an executive division.

4. SUB-DIVISIONS OF EASTERN DELTA DIVISION.—The views of the Superintending Engineer, Kistna, which as regards the extent and number of the divisions and sub-divisions of the delta accord with those of the Chief Engineer for Irrigation, will be found in the letter now submitted. For the Eastern Delta Division, which will include the anicut and head works, the quarries and the workshops, the larger area* and the greater extent† of irrigation, three sub-divisions are considered necessary, and the distribution of charges will be—

* Whole delta 2,110 square miles.
Eastern section 1,160
† Whole extent 470,000 acres.
Eastern section 270,000 "

- 1st Sub-division.—(1.) Anicut and head-works.
(2.) Quarries.
(3.) Workshops.
(4.) Main Canal.
(5.) Masulipatam Canal to Kunkipad Lock, 12 miles, with charge of all heads and head sluices.

The main water distribution of the entire section of the delta will be in this sub-division, viz., to the Ellore, Ryves', Masulipatam, Bank, and Pulleru Canals. It may be noticed that the quarries are a very important part of the charge; the present cost of getting stone is believed to be higher than is necessary, and it is known that at Dowlaishweram, where the circumstances of the quarries are less favorable, a considerable reduction has been effected since a more efficient establishment has been able to supervise the work more closely.

2nd Sub-division.—The tract of country bounded by the Ellore Canal and the Colair Lake on the north, by the Masulipatam Canal to Pamarru, the Pulleru to Cowtaram, the Singaripalem affluent, and the Peddalunka Drain on the south, and the Upputern on the east.

This sub-division includes the irrigation under the Ellore Canal, Ryves' Canal, a part of that under the Pulleru, and the whole of that under the Polraz Kodu Canal.

3rd Sub-division.—The rest of this section of the delta. The irrigation under the Bank Canal, Masulipatam Canal, part of the Pulleru, and Buntumalli Canal is included in this sub-division.

5. HEAD-QUARTERS OF EASTERN DELTA DIVISION AND OF SUB-DIVISIONS.—The head-quarters of the Eastern Delta Division and of the 1st and 2nd Sub-divisions will be at Bezwada, those of the 3rd Sub-division at Masulipatam. This is the Superintending Engineer's proposal, and the undersigned concurs.

6. OFFICE ACCOMMODATION.—In G.O., of the 2nd September 1874, No. 2,478, the construction of offices for the 5th and 6th Ranges at Bezwada was sanctioned, and these offices have been built. The Superintending Engineer mentions that the divisional office can be provided for therein, and that the sub-divisional offices might be put in the Superintending Engineer's old office in the workshop yard; but in the first place the head-quarters of the 3rd Division† will not be at Bezwada, and secondly it is very desirable that the divisional and sub-divisional offices should be in one building. The office will apparently accommodate them very well, and the Nundigama Range Office may temporarily be provided for in the workshop yard.

7. RESIDENCES.—The great difficulty at Bezwada for many years past has been the want of houses for officers to live in, and this difficulty has been much increased of late owing to the widening of the canals having occasioned the removal of some which until recently were available; and Mr. Peters, the Range Officer, has

thus lost the one in which he resided. Major Hasted reports that there is no house available except the one on the hill which was built by the late General Orr when District Engineer. This, it is believed, could be purchased for 3,000 Rupees and another 1,000 Rupees would be needed for repairs. It is a house at which probably but few officers having to be constantly at the office, head works, and workshops would care to live, and as there would have been houses had not the Government works destroyed them, it is recommended that quarters should be built for three officers and rented to them on the usual terms. The saving on the purchase of the hill house for two officers would be not very considerable, and it will be to the interest of Government to have the officers located in a more convenient situation.

8. WESTERN DELTA DIVISION.—The best head-quarters for this division has been for some time under consideration, and the Superintending Engineer, after endeavoring to find a more eligible place, has concluded that no better site than the triangular block of ground near Dugirala bounded by the Main Canal, Commamore Canal, and the second head of the latter is available. Here, therefore, it is proposed to place the divisional and sub-divisional offices. The regulating works of the Nizampatam and Commamore Canals are close at hand.

9. SUB-DIVISION.—This division will require two sub-divisions which will correspond closely with the present two ranges: the Superintending Engineer remarks that the Toongabadra, one of the main lines of drainage, will belong to the Eastern Sub-division, and this is a good boundary, but it will throw one of the distributaries, the Toongabadra side channel of the Commamore Canal into that sub-division, the rest of the canal and its distributaries being in the Western Sub-division.

10. OFFICE ACCOMMODATION.—In G.O., 2nd September 1874, No. 2,478, estimates, amounting to Rupees 5,900 and Rupees 4,300, were sanctioned for the two ranges of the Western Delta, but the construction of the buildings was deferred pending the final settlement of the executive arrangements. The Superintending Engineer has obtained a copy of the plan of the office recently erected at Chettipett, the head-quarters of the Godavery Western Delta; he considers it suitable, and states that including land compensation the cost of divisional and sub-divisional offices on this plan will be Rupees 11,000, so that a further sanction of Rupees 800 only is necessary, and it is recommended that this may be accorded.

11. RESIDENCES.—There are no houses in this division. The Range Officer in charge of the upper part of the delta has lived in a thatched hut at Dugirala, and the other Range Officer has found shelter in a part of the travellers' bungalow at Baputla. It is recommended that bungalows be built for, and rented on the prescribed terms to, the officers who will be here employed.

12. ESTABLISHMENT.—The Executive Establishment necessary to work the two Executive Divisions satisfactorily will be—

	Executive Engineers.	Assistant Engineers.	Sub-Engi-neers.	Super-visors.	Overseers.
Eastern Delta Division	1	3	...	1	4
Western do.	1	2	1	...	4
In order to ascertain the total requirements the 3rd Executive Division, which may be called the Guntoor Division, must be taken into account.					
Guntoor Division	1	...	1	2	6
Present establishment	3	5	2	3	14
	2	2	2	4	12
Required	1	3	...	...	2

3. As the result of the proposed alteration, I require three more Assistant Engineers, two Taluq Overseers, and two Surveyors, while I have one Supervisor, at present employed on Relief Works, more than necessary.

4. Supposing that there may be a difficulty in providing the additional Assistant Engineers required, I have made out an alternative scheme of establishment, in which I give one sub-division in each delta to a Sub-Engineer, bringing into the delta Sub-Engineer Sambiah Chetty, who has had a long experience of the irrigation works in the district, and has proved himself a most efficient Range Officer. I should then propose to put the present Guntoor and Palnad Divisions into one division with a Sub-Divisional Officer, and it should, I think, be the charge of an Assistant Engineer. The Nandigama Division, which consists principally of the Hyderabad road, is so much out of the way that I think an Upper Subordinate must remain in separate charge. This arrangement will require an addition of two Assistant Engineers, two Taluq Overseers, and two Surveyors to the present staff.

5. Another alternative is to make two divisions of the district, one all to the north, and the other all to the south of the Kistna, and this could be done without adding to the establishment; but I should grudge the time which the Divisional Officer, who should be an Executive Engineer of the Irrigation Department, would have to give to road work and petty buildings, &c., and I think he would not be able to attend properly to the Delta Project Works.

6. I am disposed to think that the establishment shown as alternative in Statement A will prove the most satisfactory.

* Eastern Delta	Rs.
Western Delta	103
Two extra Overseers' Establishment	64
Temporary Survey Establishment	54
	172
Total	393

7. In Statement B I have shown the present office establishment and that proposed; the additional cost will be Rupees 393* per mensem and Rupees 4,716 per annum.

8. The sub-divisions are proposed as follows:—

Eastern Delta.

1st Sub-Division.—Anicut and head works, quarries, workshops, &c., Main Canal and Masulipatam Canal to Kankipad Lock, with charge of all heads and head sluices thereon.

2nd Sub-Division.—Ellore Canal and country between it, and Masulipatam Canal to Pamarru-Pulleru to Cowtaram, Polur Kodu and country irrigated by it to Colsir and Uppatairu boundary to the east being Singaripalem affluent and Pedda Lanka Drain.

3rd Sub-Division.—Masulipatam Canal from Kankipad, Bank Canal from head, Pulleru below Cowtaram Lock, and all to the east of second sub-division boundary. The head-quarters for both first and second sub-divisions should be at Bezwada, the third I think at Masulipatam.

Western Delta.

1st Sub-Division.—Present 1st or Repally Range (Repally Taluq) with charge of Dugirala.

2nd Sub-Division.—Present 2nd or Bapatla Range (Bapatla Taluq) and Commamore Canal throughout. Head-quarters for Divisional and Sub-Divisional Officers Dugirala.

9. It would perhaps have been more convenient as regards office work to fix the head-quarters of all three sub-divisions of Eastern Delta at Bezwada, but the third Sub-Divisional Officer would be 12 miles out of his sub-division, and Masulipatam is the most convenient place from which to start to most points of the sub-division, so taking into consideration that there is direct postal and telegraphic communication between Bezwada and Masulipatam, I have thought it advisable to make Masulipatam the head-quarters; there will be no difficulty in providing a suitable residence and office at very reasonable rates. At Bezwada there will then be stationed one Divisional Officer, and two Sub-Divisional Officers for whom office accommodation will be required; the Divisional Office can be accommodated in the office (lately built) now occupied by the fifth and sixth divisional offices, and the two Sub-Divisional Offices might be put in the old Superintendent Engineer's Office in the workshop yard.

There will be a difficulty in providing residences for the three officers. Mr. Peters is living in a shed which he constructed on the river bank, in the compound of the house which had to be pulled down when widening the canal: the situation is good and very convenient as regards the office, but the building is anything but permanent. There is no building suitable for an officer's residence in Bezwada, except the house on the hill built by Colonel Orr; this house, I have been told, may be purchased from the present owner for about Rupees 3,000, and would accommodate two young officers without families. It would, I understand, require a good deal of repair, but probably could be made available for 4,000 Rupees. The situation is not good, as the distance from office is considerable; but as it could be given at a low rent, it probably would suit the Sub-Divisional Officers well enough. I propose, therefore, to purchase the house and to build a residence for the Divisional Officer in the compound in which Mr. Peters' shed is situated.

10. In the Western Delta there are no offices or residences, the 1st Divisional Office being kept in a thatched shed belonging to Mr. Norris, the second in a godown at Bapatla. It has been already proposed to construct offices and residences for the Officers of the Western Delta, and three sites have been examined and surveyed. The first at Seetanagaram, immediately to the east of the hill and opposite Bezwada, I do not think suitable; it is near the head sluices, but not near the distributing heads, and I think would be a very hot, and probably not a very healthy situation, the hill being immediately above the houses. The second at a village near Ravendrapad, the head of the Bank Canal, is not, I think, more suitable; the ground is very little above wet cultivation, and it is only convenient as being near the head of the Bank Canal. I think the best site is Dugirala on a triangular piece of ground enclosed by the Mein Canal, the Commamore Canal, and the old Toongabudra. The land is not high, but it is thoroughly drained by the Commamore Canal, and the regulating sluices for the supply of the Commamore Canal and Nizampatam Canal and side channels are near at hand. Here we should require an office to accommodate the Divisional and two sub-divisional offices and residences for the three officers.

11. I have been furnished by the Superintending Engineer, Godavery, with a plan of the offices lately constructed at Chettipett, and this building will suit the Western Delta here. The cost, including compensation, will be Rupees 11,000. I have several plans of officers' residences prepared when it was thought the larger divisions would be formed, the least expensive of these will, I think, be suitable for a Divisional Officer; the cost would be Rupees 7,500, and the rent at 8 per cent. would be Rupees 50 a month, quite as much as an Executive Engineer would probably be prepared to pay. For a Sub-Divisional Officer I think a sufficiently good bungalow could be constructed for Rupees 5,000. I learn from the Superintending Engineer, Godavery, that it has been proposed to build officers' residences at Chettipett in a block; I think myself that separate residences are more suitable for this country, and I believe they will be but very little more expensive.

The rough estimate of buildings required is therefore—

Eastern Delta.		Rs.	Rs.
Residence for Divisional Officer	...	7,500	
House on the hill to be bought for Sub-Divisional Officers	...	4,000	
			11,500
Western Delta.			
Divisional and Sub-Divisional Offices	...	11,000	
Residence for Divisional Officer	...	7,500	
Residences for two Sub-Divisional Officers	...	10,000	
			28,500
Total	...		40,000

12. If my proposals are approved, the first thing to do is to purchase the house on the hill at Bezwada, which, with the shed occupied by Mr. Peters, will provide all the accommodation at present required, and to build the Divisional Offices at Dugirala; the rest-house at Dugirala now rented from Mr. Norris will serve as a temporary residence for the Divisional Officer, and the Sub-Divisional Officers must, until their residences are built, make their head-quarters at Nizampatam and Bapatla, where they can find accommodation.

MASSILLIPATAM,
14th May 1877.

B.
Office Establishment in Kistna District.

Office Establishment in Kistna District—(Continued).

PRESENT.					PROPOSED.				
No.	Rank.	Salary.	Total per Mensem.	Total per Annum.	No.	Rank.	Salary.	Total per Mensem.	Total per Annum.
DRY TALUK—(Contd.)									
3rd or Guntoor Division.									
1	Head Accountant	40			As at present.				
1	Clerk	20							
1	Do.	15							
3	Lascars at Rs. 7 each	21							
			96						
12	Overseers' Establishments at Rs. 27 each.	324		4,416	14	Overseers' Establishments at Rs. 27 each.	378	378	4,416
			324	3,888	2	Temporary Surveyors at Rs. 50 each.	100		4,536
					12	Lascars for do. at Rs. 6 each.	72	172	2,064
	Total ..			17,616		Total ..			22,332

MASULIPATAM,
14th May 1877.

(Signed) J. O. HASTED, Major, R.E.,
Superintending Engineer, Kistna.

No. 78.

ORDER THEREON, 20th June 1877, No. 93 I.

HIS GRACE the Governor in Council approves of the immediate formation of the four Delta Ranges of the Kistna District into two Executive Divisions to be called the Eastern and Western Delta Divisions, and of the remaining three ranges of the district into a third, the Guntoor Division. This arrangement will have effect from the 1st October next.

2. The views of the Chief Engineer for Irrigation as to the necessity for three sub-divisions in the Eastern Delta Division, and of two sub-divisions in the Western Delta Division are accepted. The head-quarters of the divisions and sub-divisions will be as recommended, viz. :—

Eastern Delta Division and 1st and 2nd Sub-Divisions ... Bezwada.

3rd Sub-Division ... Masulipatam.

Western Delta Division and its two sub-divisions ... Dugirala.

The head-quarters of the 3rd Executive Division will be at Guntoor: those of the two sub-divisions will be fixed by the Chief Engineer, Public Works Department.

3. In the Eastern Delta Division there will, it is observed, be no difficulty as regards office accommodation; as the new office for the 5th and 6th Ranges at Bezwada will suffice for the division and two of its sub-divisions, the 3rd Sub-Division Office can readily be accommodated at Masulipatam, and temporarily the Nundigama Range Office can be provided for in the Superintending Engineer's old office. In the Western Delta Division there is no office accommodation, but estimates, amounting to

G.O., 2nd September 1874, No. 2,478.

Heads of Service.—Provincial.
Fund.—Ordinary.
Class.—Original Works.
Main-head.—Civil Buildings.
Sub-head.—1. Public Works Department.
Section.—1. Offices.
Work.—Construction of Range Offices at Dugirala.
Amount.—Rupees 11,000.
To be carried out by the Public Works Department.
* Provincial Register No. 104 B of 1877-78.

Rupees 10,200, have been sanctioned for offices, and Major Hasted is of opinion that the plan of the offices recently built in the Western Delta Division, Godavery, is suitable, and states that Rupees 11,000 will suffice for their erection at Dugirala. Sanction* for this latter amount is therefore accorded, and the Chief Engineer, Public Works Department, will arrange for the provision of funds as soon as

possible. The Superintending Engineer will furnish an abstract estimate, showing also the amount of compensation for land. Pending the completion of the permanent offices a good thatched shed may be erected, and for this an estimate should be submitted by the Superintending Engineer who will, if he thinks the approximate estimate of Rupees 500 named by the Chief Engineer for Irrigation about sufficient, consider himself authorized to begin the shed at once in anticipation of the sanction of the estimate.

4. The fixed executive establishment for the delta divisions as given in the first table in paragraph 12 of the Note by the Chief Engineer for Irrigation appears suitable, but as the arrangements shown in the second table can be more readily carried into effect at the present time, they are approved. They involve the posting of an Assistant Engineer for the delta and of an Executive Engineer for the charge of the Guntoor Division; for the former the Chief Engineer for Irrigation recommends the transfer of Lieutenant A. W. Smart from Tanjore, which is sanctioned. The Chief Engineer, Public Works Department, will nominate an Executive Engineer for the Guntoor Division. The two additional Overseers will be made available as soon as the demand for supervision of this class on Famine Relief Works diminishes.

5. The Government concur with the Chief Engineer for Irrigation in considering that the present office establishments of the seven ranges will, when concentrated, prove ample for the three executive divisions. When the head-quarters of divisions and sub-divisions are together, there should be no separate establishment and no separate records for the latter. Pending the determination of scales of office establishment for executive divisions generally, there will be no change in numbers or rates of pay of office establishments in the Kistna Divisions, and the Superintending Engineer will concentrate and distribute the existing establishments as may appear expedient. As a temporary arrangement, for a period of six months, ten additional Lascars at a monthly cost of Rupees 60 are sanctioned from the provision for temporary establishment in the Provincial Public Works Budget.

6. On the whole it is not considered expedient to purchase the house built by the late General Orr on a hill at Bezwada. It will be better to construct dwellings, to be rented to the officers on the usual terms, for one Executive Engineer and two Assistant Engineers in a convenient situation at Bezwada and to provide similar accommodation at Dugirala. The Chief Engineer, Roads and Buildings, will have designs prepared in his office and the Superintending Engineer will select the sites for these dwellings, and furnish, with as little delay as possible, surveys of them, showing their situation with respect to the offices, and stating the area of ground required, the amount to be paid for compensation for its purchase, the depth of foundations and height of basement necessary. The Chief Engineer will then complete the designs and transmit them to the Superintending Engineer for the preparation of the estimates.

7. The sanction accorded in paragraph 5 has been registered as Provincial—Establishment, No. 101 B of 1877-78.

(True Extract.)

Colonel, R.E.,
Joint Secy. to Govt., P.W.D.,
Irrigation Branch.

To the District Engineer, Kistna.
" Chief Engineer for Irrigation.
" Examiner of Public Works Accounts.
" Revenue Department.
" Financial
" Chief Engineer, Public Works Department.

Exd. T. D. Ryan.
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