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TAMIL NADU ARCHIVES

GOVERNMENT OF TAMIL NADU

Revenue DEPARTMENT

G.O. No.	1936	Press.
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Dated	6.4.1877	197 .

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Read the following papers :—

No. 200. From Captain R. R. E. BROCKMAN, R.E., District Engineer, Tanjore,
to the Chief Engineer for Irrigation, Public Works Department, dated
Camp, Perauruni, 21st October 1876, No. 2,008.

In reference to G.O., No. 50, dated 10th January 1876, relative to the construction of regulating head works to the Codamoorthy and Trimulrajan rivers, I have the honor to forward herewith a survey, plans, and estimates for these works for approval and sanction. A sum of Rupees 16,000 has already been

One Plan of Trimulrajan regulator.

" " of Codamoorthy.

" Survey Plan.

" Detail Plan of capstan-headed screwnut and hexagonal concrete block apron.

" Abstract Estimate of Rupees 31,380.

entered in the Irrigation Budget of this district for the year 1877-78, but I trust funds in part may be forthcoming to admit of these works being put in hand after the close of the north-east monsoon, as intimated in paragraph 3 of the Government Order under reference.

The number of vents adopted for the regulators has been that proposed by Lieutenant-Colonel Oakes in paragraph 12 of his letter embodied in the Government Order, viz., sixteen vents of 10 feet for the Codamoorthy and ten vents of 10 feet with $4\frac{1}{2}$ shutters for the Trimulrajanaur.

From the statement A which accompanied Lieutenant-Colonel Oakes' letter, it will be seen that with a depth of $4\frac{1}{2}$, corresponding to 45.905 on the Codamoorthy bridge gauge, that river was receiving its full supply; when the depth of water in the river falls below this, regulation becomes necessary to prevent the Trimulrajanaur carrying off an undue supply. I have therefore allowed a lift of only $4\frac{1}{2}$ in the shutters of the regulator at the head of the latter river, and allow the current to lift the shutters on its surface as its level increases. The shutters are prevented from being carried away by the second cross beams shown in the elevation and section. When the water level falls to $4\frac{1}{2}$ the shutters hang vertically over their grooves, and are lowered into them without difficulty. By this arrangement the unsightly appearance of a screw standing 8 feet or 9 feet above the level of the roadway of the work is avoided, whilst the cost is much reduced. For raising the screw I have provided a capstan-headed nut, into which levers are inserted and turned by two men pushing against them, instead of the ordinary nut and spanner, which necessitates that the former be raised to a sufficient height above the platform to enable it to be worked. The capstan-nut maybe cast with a pipe 5 feet long attached, into which the screw when raised rises, so as to prevent its being exposed to the action of the weather or dust and grit blown on to it from the river bed, an arrangement that has been adopted in my design for the Dowlaiswaram head sluice gearing.

The survey plan shows the improvements that require to be carried out to the Padugay at the heads of the rivers, so as to fall in with the alignment of the works.

The original levels of Lieutenant-Colonel Oakes' statement are retained, as no M.S.L. bench-marks have been laid down in the delta for reference.

Proceedings of the Madras Government, Public Works Department,
8th March 1877. No. 803.

CAUVERY DELTA—CAUVERY SECTION.

IRRIGATION.

Fund.—Capital Extraordinary.

Class.—Work.

Main head.—Main canal and branches, Codamoorty river.

Sub-head.—Regulators.

Name of Work.—Constructing regulating works for the Codamoorty and Trimulrajénaur

Estimate No.—T. J. of 1877-78.

Rupees ... 31,380.

	Description of Work.	Rate.	Per	Amount.	Total.
<i>Codamoorty Regulator.</i>					
40,290	Cubic feet of brick in scorky mortar at foundation at	0 2 6	C. feet.	8,295 5 0	
8,801 7/8	Do. brick in chunam above at	0 2 3	do.	1,167 5 3	
2,050	Do. archwork at	0 2 6	do.	329 5 0	
7,735 1/2	Do. stonework at	1 3 6	do.	3,335 2 0	
6,165 1/2	Do. hexagon apron concrete at	0 2 3	do.	867 1 3	
94	Squares of pointing at	1 4 0	Square.	117 8 0	
2,350	Cubic yards of excavating foundation and filling in	0 2 0	C. yard.	455 4 0	
10,508 1/2	Do. of earthwork at	0 1 0	do.	656 12 6	
133	Piles at 2 feet apart at	1 8 0	each.	199 8 0	
4	Centrings at	50 0 0	do.	200 0 0	
12	Removing and rebuilding the same	20 0 0	do.	240 0 0	
	Baling			1,000 0 0	
	Scaffolding			100 0 0	
	Sundries, &c., 6 per cent.				14,955 10 0
	Total Estimate				18,850 0 0
<i>Trimulrajén Regulator.</i>					
28,502 1/2	Cubic feet of brick in scorky mortar at foundation at	0 2 6	C. feet.	4,453 8 3	
5,436	Do. brick in chunam above at	0 2 3	do.	763 1 8	
1,332	Do. archwork at	0 2 6	do.	204 3 2	
3,317 1/2	Do. stonework at	1 3 6	do.	3,921 10 2	
10,101	Do. hexagon apron concrete at	0 2 3	do.	1,420 7 3	
454	Squares of pointing at	1 4 0	Square.	55 9 0	
249	Cubic feet of teakwood work at	0 5 0	C. feet.	872 13 0	
1475-10	Lbs. of wrought iron (screw) at	0 2 0	lb.	460 15 6	
2155-26	Do. do. iron at	200 0 0	Ton.	273 2 6	
1,224	Do. cast iron at			109 4 7	
1,553 1/2	Add for carriage 30 per cent.			103 8 0	
8,324 1/2	Cubic yards of excavating foundation and filling	0 2 0	C. yard.	194 2 8	
94	Do. of earthwork at	0 1 0	do.	690 4 6	
4	Centrings at	1 8 0	each.	141 0 0	
6	Removing and rebuilding the same	50 0 0	do.	208 0 0	
	Baling			120 0 0	
	Scaffolding			700 0 0	
	Sundries at 6 per cent.				14,653 10 4
	Total Estimate				876 5 8
	Grand Total of Codamoorty and Trimulrajén Regulators				15,520 0 0
					31,380 0 0

CAMP, PERAURUNI,
21st October 1876.

(Signed) R. R. E. BROCKMAN, Captain, R.E.,
District Engineer, Tanjore.

No. 83 W.

Note by the Chief Engineer for Irrigation.

In G.O., No. 50, of the 10th January 1876, the necessity for regulating the water-supply of the Codamoorty and Trimulrajénaur rivers in Tanjore was considered to

Proceedings of the Madras Government, Public Works Department,
8th March 1877. No. 803.

have been clearly demonstrated, and instructions as to the course to be followed were given.

2. No provision was made for these regulators in the rough estimate of funds required for 1877-78, and consequently no funds for them were made available by the Government of India in the grant under Extraordinary. At the time* at which the

* End of October.

the undersigned was fully engaged in reviewing the completion estimates for the Kistna Delta, and it is only now that he has been able to take up the papers connected with these regulators. The need of introducing regulation however for the distribution of water to the Codamoorty and Trimulrajénaur in due proportion to the acreage

is so pressing, seeing that at present the Codamoorty ... 46,320 ... Codamoorty is altogether inadequately supplied while water much in excess of the requirements of irrigation is running down the Trimulrajénaur, that it seems to be desirable that the Government of India should be asked to sanction the estimates and to provide a small grant, say, 10,000 Rupees, for immediate expenditure, and a sum of Rupees 15,000 for the completion of the Trimulrajén regulator and partial completion of the Codamoorty regulator

† Rupees 70,911, G.O. No. 406 of 5th February 1877.

Letter to Government of India, No. 407 of 5th February 1877.

Godavery and the Kistna Delta systems Capital Extraordinary.

3. The work of more pressing importance is the Trimulrajénaur which has to be regulated so as to throw more water in low freshes into the Codamoorty, while in connection therewith it will be requisite to maintain the bed of the Codamoorty at a proper level and consequently a regulating work across this river is likewise required. In the design for the latter work no shutters have been provided; but shutter grooves in the abutments should be formed in the first instance, and until it is found, as is probable, that regulation here also will be needed the piers and arches need not be built above sill level.

4. These works are in the Cauvery section of the Delta, and regulators have already been built across the Cauvery and Codamoorty at the head of the latter, across the Cauvery and Arasalur, and Cauvery

* Including the cost of extending the aprons of the Codamoorty regulators, sanctioned in G.O., No. 795, of 13th March 1873.

† No. 132 A.I., dated 1st September 1868.

these works has been highly beneficial, and they have certainly proved remunerative,

No. 705 of 12th March 1875.

See also Proceedings, Madras Government, No. 417, 20th February 1874.

margin, will be found the latest information available on the subject.

5. The estimates as submitted by the District Engineer amount to Rupees 31,380, and probably Rupees 25,000 will suffice to do all that is immediately necessary.

*Proceedings of the Madras Government, Public Works Department,
8th March 1877. No. 803.*

6. With regard to the details of the works it is not desirable to sink the upper part of the aprons in rear of the sills below the level of the crest of the retaining walls. There is, however, generally some lowering of the river-bed below regulating works, and it has been found advisable to place the first apron 1 foot and the second 18 inches or 2 feet below the sill level, or below the normal bed level where the sill is a raised one.

7. If Captain Brockman's design for a shutter to swing after clearing the grooves has not been tried, its efficiency and the proper arrangement of details should be determined before the system is introduced on a large scale. The hexagonal block aprons are novel, and may be found a convenient and useful form of concrete blocks as a substitute for rough stone where this, as in the Tanjore Delta, is not procurable.

FORT ST. GEORGE,
27th January 1877.

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

To the Secretary to Government, Public Works Department.

No. 201. ORDER THEREON, 8th March 1877, No. 803.

IRRIGATION, No. 22.

Account.

HIS GRACE the Governor in Council is of opinion that the need of more effective regulation of the water-supply of the Codamoorthy and Trimulrajena rivers in the Cauvery section of the Cauvery Delta has been demonstrated in the foregoing papers, and that as, owing to the circumstances noticed by the Chief Engineer, the estimate amounting to Rupees 31,480 for these works was not submitted to Government for sanction in time to admit of provision being made for them in the budget of 1877-78, it is desirable that arrangement should be made for carrying them out by transfer from other allotments; also that it would be well to prepare materials, &c., during the current year if possible.

2. The papers will be forwarded for the consideration of the Government of India, with a request that the estimate may like those for the other regulators of this delta be sanctioned for execution from the Extraordinary Grant, the evidence being presumably strong that the outlay will be remunerative; the outlay on other regulators of

Proceedings, Madras Government, No. 705, of
the 12th March 1875.

1870-71 to 1872-73 having been Rupees

Vide para. 5 of Irrigation Memorandum,
dated 14th December 1876, transmitted to
the Government of India with letter No. 591,
dated 22nd February 1877.

3. On the sanction of the estimate by the Government of India, the particulars of transfer of allotment for 1877-78 will be determined and reported for the approval of that Government. It is probable that the non-closure of canals in the Godavery

the Cauvery section having already proved to have been highly beneficial, the average increase of revenue for the three years 1865-66 to 1869-70; and the general effect of outlay in the Cauvery Delta and on the Lower Coleroon Anicut having been far more successful than perhaps any similar expenditure elsewhere.

*Proceedings of the Madras Government, Public Works Department,
8th March 1877. No. 803.*

Delta to facilitate transport during the present exceptional season will make feasible a transfer of funds from the provision for works there. Funds for the present year, should early sanction be accorded, can be made available from the surrenders recorded in G.O., No. 406, dated 5th February 1877. Only a small sum can in any case be utilized before the 31st March next.

(Here enter No. 804, dated 8th March 1877.)

(True Extract.)

Lieut.-Col., R.E.,

Secretary to Government, P.W.D.

To the District Engineer, Tanjore.

- " Collector of Tanjore.
- " Chief Engineer for Irrigation.
- " Examiner of Public Works Accounts.
- " Revenue Department.

Exd. S. T. Austin.

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To
The DISTRICT ENGINEER
TANJORE
&c. &c. &c.

Dated March 8th.

Issued

Recd. *Apr 4*

Encl.

G. O., 8th March 1877, No. 893.

MARCH

Nos. 200-201.

No 1936

*Communicated to the
author &*

5 April 1877

Codamoorthy and Trinulacchundur Rivers in
the Coavery section of the Coavery Delta,
Tanjore District.—Passing orders on papers
urging the necessity of more effective regu-
lation of the water-supply of the —.

10. To the 1st of December 1877