

Public Works (1898) Department.

G.O., No.

567 I

DATED

22 July '98

257/98

[Despatch Abstract.]

Administration Report of Irrigation Works in
the Madras Pres. : Review of the — for 1896-97

by the Govt of India, Communicated to the
Officers concerned with remarks.

250/15

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Indexed.

Government { 1898 } of Madras.
PUBLIC WORKS.

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G.O., No. 567 I., 22nd July 1898.

JULY.

Administration Report of Irrigation Works in the Madras Presidency

Review of the — for 1896-97 by the Government of India, communicated to the officers concerned with remarks.

GOVERNMENT OF MADRAS.

PUBLIC WORKS DEPARTMENT.

Irrigation.

Read—the following paper:—

From J. S. BERESFORD, Esq., Officiating Joint Secretary to the Government of India, Public Works Department (Civil Works—Irrigation), to the Joint Secretary to the Government of Madras, Public Works Department, Irrigation Branch, dated Simla, 8th July 1898, No. 241 I.

[Review of the Administration Report of Irrigation Works in the Madras Presidency for 1896-97.]

Read—

G.O., No. 161 I., dated 3rd March 1898, reviewing the Administration Report of Irrigation Works in that Presidency for 1896-97.

G.O., Nos. 317 and 413 I., dated, respectively, the 18th April and 21st May 1898, ordering the substitution of revised statements III-E and IV-E for those printed in the Administration Report.

Observations.—In the Madras Presidency there are ten major works, of which nine are classed as productive and one, the Rushikulya project, as protective. All the major works were in operation, and the construction estimates of eight of them have been closed.

There are 26 minor works for which capital and revenue accounts are kept, and of these 22 are irrigation systems and 4 are tidal canals intended for purely navigation purposes. With the exception of the Muniyeru, Dondapad and Sagileru projects and the Ganjam-Gopalpur tidal canal, all these minor works are in operation. The construction estimates have been closed for all the works in operation except the Lower Coleroon anicut system.

2. The transactions of the year under review may be summed up as follows:—

Capital Outlay.

The capital outlay on the Madras irrigation works amounted to 17½ lakhs of rupees as compared with 22½ lakhs in 1895-96. On the major works the expenditure of Rs. 10,20,205 was almost entirely confined to the Kistna delta system, on which rather more than 6 lakhs (including indirect charges) were spent on various improvements to heads works, canals and distributaries, and to the Rushikulya project on which Rs. 2,14,283 were spent in completing distributaries and on the construction of the Surada reservoir, a work which has been in progress since 1878.

The capital outlay on minor works for which capital and revenue accounts are kept was Rs. 7,31,418, and was incurred chiefly on the Muniyeru and Sagileru projects, the Lower Coleroon anicut system and the Buckingham canal.

The total capital charges to the end of the year amounted on major works to Rs. 6,96,96,115, and on minor works for which capital and revenue accounts are kept to Rs. 1,75,36,421.

Mileage of Channels.

3. The lengths of completed main and branch canals in operation during the year aggregated 3,561 miles as compared with 3,530 miles in operation in 1895-96. Of this total, 990 miles are for navigation as well as irrigation, 2,267 for irrigation only, and 304 for navigation only.

The length of distributaries was increased by an addition of 42 miles, the total length now being 6,884 miles.

Area Irrigated.

4. The total area irrigated during the year amounted to 2,919,496 acres which exceeded the previous year's total by 189,532 acres. Of this area the major works irrigated 2,606,435 acres and the minor works 523,424 acres.

Taking the major works separately the Cauvery delta system was, as usual, the largest contributor with an area of 977,123 acres; the Godavari comes next with 739,849 acres and is followed by the Kistna with 482,638 acres. The Kurnool-Cuddapah canal irrigated 87,226 acres against 32,903 in the preceding year, the large increase being attributed to the scanty rainfall. The Periyar project, which was brought into operation for the first time during the year, irrigated altogether 63,751 acres, but only 6,442 acres of this are credited to the new works, the balance of 57,309 acres being considered to be "old irrigation," i.e., irrigation which, before the dam was made, was effected from old channels not constructed from Government capital. The report, however, is nearly silent in regard to the results of the opening of these new works, and it is not clear to what extent the project has fulfilled the anticipations recorded in the forecast of 1894. An enquiry addressed to the Madras Irrigation Department on the subject has merely elicited the reply that the old irrigation developed more rapidly, and the new irrigation less rapidly, than was anticipated. It is added that an objection has been taken to the revenue accounts and that the matter is under enquiry in the Revenue Department of the Madras Government. The Government of India trust that the Madras Irrigation Report for 1897-98 will describe more fully the results attained by the opening of the Periyar project and that they will be carefully compared with those forecasted in 1894.

5. The season is stated to have been, on the whole, not unfavourable to irrigation, though in some districts the failure of the north-east monsoon and in others the scanty rainfall in the south-west monsoon seriously affected the supply of water in the tanks. The extraordinary floods of the Kistna river in August 1896 damaged to a serious extent a large area in the Kistna Eastern division. The unprecedented height to which this river rose at Bezvada is said to have caused considerable anxiety for the safety of the head works and led to their being subsequently raised and strengthened. A great deal of damage was caused by this flood to the river banks and irrigation works. Irrigation suffered also to no small extent from the protracted floods of the Godavari river which began on the 1st August 1896, and resulted in the river banks in all the three deltas being badly breached, and from the floods in the Tanjore and Trichinopoly divisions which were the highest on record.

In the Tinnevely division several irrigation works were damaged by the cyclone of November 1896, the Upper Odai dam in the Srivaikuntam anicut system suffering most.

6. Of the total area irrigated 2,689,149 acres, or rather more than 92 per cent., were under rice; 57,470 acres or nearly 2 per cent. under ragi, and the remaining 274,650 acres or 6 per cent. under other crops.

The estimated value of the crops irrigated was 697½ lakhs of rupees, the value per acre being Rs. 23-2-0. The average rate levied for the use of the water was Rs. 4 or one-sixth of the value of the crop.

Working Expenses.

7. The total working expenses for the major works amounted to Rs. 24,34,916, as compared with Rs. 21,61,524 in 1895-96, and an average of Rs. 19,69,488 for the last five years. The Periyar project, which commenced operations for the first time during the year, accounts for Rs. 60,004 of the increase over the figures of the previous year, while the remainder is said to be due to the necessity for repairing damages caused by the abnormal floods in the Godavari, Kistna and Cauvery deltas and the Srivaikuntam anicut system. The rate per acre irrigated was 0.93 as compared with 0.90 in 1895-96 and 0.81, the average of the last five years.

On the minor works the working expenses were Rs. 4,10,471 as compared with Rs. 3,52,415 in the previous year and Rs. 4,22,469, the average of the last five years. The working expenses of the minor irrigation works amounted to Rs. 3,00,765 or Rs. 0.6 per acre irrigated.

Financial Results.

8. The financial results of Irrigation and Navigation works in Madras may be summarised as follows:—

	Capital outlay to end of year.	Net actual revenue.	Net revenue attributable to outlay of Government capital.	Return on capital outlay.
	RS.	RS.	RS.	RS.
Major works	6,96,96,115	83,67,245	46,79,666	6.71
Minor Irrigation works for which Capital and Revenue Accounts are kept	74,47,887	15,64,022	6,67,876	8.97
Minor Navigation works	90,96,447	5,983	5,983	0.06

The gross revenue receipts derived from major works amounted to Rs. 1,08,02,161 and as the working expenses were Rs. 24,34,916, the net actual revenue was Rupees 83,67,245. But a considerable portion of the irrigation was from old irrigation works not constructed from Government capital and the receipts, less maintenance charges, due to this irrigation, must be deducted from the net actual revenue in order to estimate the true return on the capital invested by Government on these works. As shown above, the dividend calculated in this manner amounted to 6.71 per cent. during the year, and was rather less than the returns in either of the two preceding years which were 7.61 in 1894-95 and 7.84 in 1895-96.

The interest charges on the major works amounted to Rs. 25,87,820 during the year and to Rs. 4,40,17,284 up to the end of the year. After paying all interest charges these works contributed nearly 21 lakhs to the revenues of the country during the year, the total accumulated net profits amounting to the large sum of nearly 569 lakhs.

The gross revenue exceeded the figures of the previous year by Rs. 2,63,400, but the still greater increase in the working expenses prevented this improvement from being effective. On the whole, the results obtained from the major works in 1896-97 may be considered to be satisfactory. The Periyár project, however, was opened for the first time during the year and the gross receipts due to the new works fell short of the working expenses by Rs. 8,629, this deficit being attributable to the very small area irrigated by the new works. The inclusion, therefore, of the financial results of this project with those of the older works must necessarily reduce the net return of the major works taken together. The figures given above include also the results obtained from the still unfinished Rushikulya project which is a protective, not a productive work. Excluding these two projects the net return yielded by the remaining productive works was 8.2 per cent. on the capital invested by Government. If, further, the Kurnool-Cuddapah canal, which, though purchased in 1882 as a productive work, is really a very unproductive one, be excluded, the net return of the remaining seven major works amounts to over 13 per cent. The three systems which gave the best returns are the Cauvery, which yielded a dividend of no less than 45.86 per cent.; the Gódavari which returned 16.41 per cent.; and the Kistna which returned 10.5 per cent. on the capital invested by Government. These three projects, after paying all the interest charges on the capital invested in them, have yielded a surplus profit to the State of nearly 725 lakhs of rupees.

9. The minor irrigation works for which Capital and Revenue Accounts are kept did not give as good returns as in the previous year. The gross revenue receipts amounting to Rs. 18,64,787 were less than those of 1895-96, while, as has been stated in a previous paragraph, the working expenses were higher than those of the preceding year. The net revenue attributable to the outlay of Government capital was Rs. 61,049 less than in 1895-96, and the return on that outlay consequently fell from 10.04 to 8.97 per cent.

10. Of the navigation works, the Buckingham canal alone paid its working expenses, the other three works as usual showing a deficit.

11. From the minor works of which neither capital nor revenue accounts are kept, the gross revenue receipts were Rs. 74,13,209, the maintenance charges Rs. 22,43,632, and the net revenue Rs. 51,69,577. These works irrigated 2,849,185 acres of first and second crops. The results were not quite so favourable as in 1895-96.

The outlay on agricultural works amounted to Rs. 9,34,087 as compared with Rs. 5,34,932 in the previous year.

General Remarks.

12. The season was generally favourable for agricultural operations, except in the Deccan districts and in parts of Ganjam, Vizagapatam, North Arcot and Salem. The rainfall was rather below the normal, and in the south-west monsoon was very unevenly distributed. The year was noticeable for the unusually high floods which caused much damage, and the heavy cost of repairing it affected the profits from the irrigation works whose returns were consequently lower than those of the two preceding years. The three largest productive works continue, however, to return very high dividends and their yearly net profits represent a substantial contribution to the Imperial revenues. The measure of usefulness of the Madras irrigation works is clearly indicated by the large value of the crops raised by their means.

13. Six investigating parties were employed on the Tank Restoration scheme, the expenditure on which amounted to Rs. 5,49,777 during, and Rs. 64,64,714 up to the end of, the year: 34,187 square miles have been completely investigated. A small sum amounting to Rs. 15,524 was incurred during the year in the execution of works undertaken for the purposes of famine relief.

The report was not received by the Government of India till the 7th March, the prescribed date for its submission being the 15th November.

Order—Ordered, that copies of this review and of the report with the Proceedings of the Government of Madras read in the preamble be forwarded to the Revenue and Agricultural Department for information.

Ordered also, that copies of the review be forwarded to the Government of Madras for information and guidance and to the Local Governments and Administrations in the Public Works Department noted on the margin for information.

Ordered further, that the review with the Proceedings of the Government of Madras, No. 161 I., dated 3rd March 1898, be published in the *Gazette of India*, and that copies of the review be forwarded to Her Majesty's Secretary of State for India.

ORDER—No. 567 I., dated 22nd July 1898.

Communicated to the officers concerned for information.

2. The attention of the Chief Engineer for Irrigation is drawn to the concluding portion of paragraph 4 of the foregoing review.

(True Extract.)

(Signed) J. C. LARMINIE,
Ag. Joint Secy. to Government,
Irrigation Branch.

To the Chief Engineer for Irrigation.
" Tank Restoration Scheme.
" all Superintending Engineers.
" the Consulting Engineer for Railways.
" the Examiner, Public Works Accounts.
" the Public Department.
" the Revenue Department.

Exd. T. K. Narayana Aiyangar.

Public Works (1898) Department.

CURRENT No. 5959

From

The Govt. of India.

Order

No 5672722.7.98.

Communicated to the

No. 2419

Officers concerned for information.

The attention of the Chief Engr for Irrigation is drawn to the concluding portion of para 4 of the foregoing review.

Dated 8.7.98

Received

Registered

16.7.98

Enclosures -

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SUBJECT.

Administration report of irrigation works in the Madras Pres: for 1896-97.

Review of the —

To the Chief Engr for Irrigation
all Supp Engrs
Comm Engr for Ry.
S. D. W.
Public Dept.
New Dept.
18/7/98

317-189
184-18

2463-1277C
2463-1540C

FURTHER PAPERS.

GOVERNMENT OF INDIA.

PUBLIC WORKS DEPARTMENT.

CIVIL WORKS.

Irrigation.

Simla, the 8th July 1898.

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The Governments of Bombay, Bengal, the North-Western Provinces and Oudh, the Punjab and Burma.

The Chief Commissioner of the Central Provinces.
The Agents to the Governor General in Rajputana and Baluchistan.

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G. J. Borlaseford
Offg. Joint Secy. to the Govt. of India.

To. The Secy to the Govt. of Madras.