
A DESCRIPTIVE ACCOUNT
OF THE
WORKING OF IRRIGATION WORKS
IN
DECCAN AND GUJARAT
DURING THE YEAR
1906-1907.

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General Remarks by the Chief Engineer, Irrigation.

The report deals with the irrigation during the hot weather and monsoon of 1906 and rabi season of 1907. The previous year had been one of general failure of rain in the Deccan, when famine works were opened, but in 1906-07 the rainfall was seasonable and regular during the monsoon, though not excessive; the rabi or cold weather rains were weak. Under the small works in Gujarát, the area irrigated was up to the average and reached 12,262 acres.

2. In the Deccan, the most important works are the canals provided with storage works on the rivers rising in the Western Ghats, where the rainfall is assured. They consist of the Palkhed Canal in the Násik District with its storage reservoir—the Waghad Tank, of the Mutha Canals in the Poona District with the well-known storage reservoir at Kadakvasla or Lake Fife, about eleven miles from Poona, and a tail tank at Matoba into which canal water is run, and the Nira Canal in the Poona District with the fine storage reservoir at Bhatgar, Lake Whiting, in the Bhor State. The Nira Canal also fills the Shetphal Tank, a small tank at the tail of the canal. Water has to be run 90 miles down the canal to fill this tank. The greater part of the reliable storage water of these works is devoted to sugarcane cultivation. The sugarcane area was increased from 5,302 to 7,183 under the canal direct, and a still further increase seems practicable.

The total area irrigated by these works devoted mainly to perennial irrigation was 55,030 acres, of which 9,077 were perennial irrigation, the total area commanded being 335,883.

3. The Gokak Canal in the Belgaum District is on a river with an excellent ghat-supply and the storage is small and available up to the end of the cold season only; the rainfall in this district was seasonable for crops; the area irrigated was 2,138 acres less than in the preceding year but amounted to 8,946 acres or about half the total area commanded.

4. At the canals fed from Ghat rivers but without any storage works, like the Jamda Canals in Khándesh, the Ojhar in Ahmednagar and the Krishna in Sátára, the rainfall was seasonable for crops during the monsoon, when water was available in the rivers and the rabi supply was but little larger than during the previous year of drought. The area irrigated amounted to 12,735 acres or 4,524 acres less than in the previous year.

5. *Tanks depending on Local Rain.*—In Khándesh, the area irrigated was similar to the preceding year and reached 3,338 acres, but the tanks in the Deccan had a most successful and efficient season; the rainfall during the monsoon filled the tanks, and the water thus stored was issued to rabi crops in the cold weather when the rainfall was insufficient. At the Bhadalwadi Tank in Poona District 1,929 acres were irrigated out of a gross area commanded of 3,000 acres, of which 2,400 are culturable. On other works, the area increased and the water was well used, but the area commanded bears a larger proportion to the supply of water available, and Bhadalwadi is the best instance of the extent to which irrigation is sought for monsoon and rabi irrigation when facilities are available. At these tanks in the Southern Mahrátta Country, the rainfall was more suitable for crops in the rabi season than in the Deccan, and the area irrigated did not increase. The total area irrigated by this class of works—tanks depending on local rain—amounted to 25,958 acres.

6. Works depending on the natural flow of small streams were short of water in the cold weather or rabi season, for the rainfall was not above the average in the monsoon and was deficient in the cold weather. Liberal remission was granted to cultivators under the bandharas or weirs in the Násik and Khándesh Districts, where the greater part of these works are situated. Rs. 71,000 were spent on repairs to these works.

7. For the small tanks in Gujarát and the Southern Mahrátta Country, the detailed information is not available in this report. They are several thousands in number and the season was one in which they would be most useful. Rs. 2,21,795 were spent on repairs and maintenance of these works.

8. The principal work under construction was the Godaveri Canal Project this large work will command 240,000 acres when finished and have a fine masonry dam and large storage tank near the G. I. P. Railway between Igátpuri and Násik to supply the canals with water during the cold and hot weather. The canal will irrigate Násik and Ahmednagar Districts. Excellent progress was made with the commencement of this large work estimated to cost Rs. 95½ lakhs.

The high masonry dam at Chankapur to supply bandharas in Násik on the Girna River and the provision of automatic gates and weirs to Waghad Tank were the principal other works in progress—all these are in Násik District.

9. The Secretary of State has recently sanctioned the Pravara River Project. This project has already been described. It is estimated to cost Rs. 86,44,841. A storage reservoir will be provided in the Ahmednagar ghauts by a dam 250 feet high and 228,000 acres will be commanded by canals on each bank of the river, commencing from the Ojhár weir about 50 miles further down the river. The area to be irrigated is near the Dhond-Manmad Railway line between the station of Ráhuri and Belápur. It has not been practicable to commence this work yet for want of funds, the Godáveri Canal work being able to expend all available.

10. The survey work for investigating the irrigation works practicable for the protection of the Deccan made excellent progress with most satisfactory results. In addition to the Godáveri and Pravara Projects, commanding 468,000 acres, and already sanctioned, complete plans and estimates were prepared for the Gokak Canal to command 498,000 acres between the Ghatprabha and Krishna Rivers in Belgaum. This Gokak Project has been carefully examined by the Irrigation experts with the Government of India and pronounced a sound project. The estimated cost is Rs. 179 lakhs. Other surveys have covered a wide area and canals on the right bank of the Nira to command a million acres in Sholápur, a canal to command another million acres on the left bank of the Bhima in Ahmednagar and Sholápur, and a canal to command 250,000 acres on the left bank of the Mula in Ahmednagar seem practicable and are under investigation.

11. Generally, the year was one of successful irrigation under the works now existing and of good progress in the construction of new works and the survey of additional ones.

A. HILL,
Chief Engineer for Irrigation.

DETAILED REPORTS BY DIVISIONS.

•CENTRAL DIVISION.

The works are divided into two classes. The first—Works for which Capital and Revenue Accounts are kept, including new works and restorations or Extensions and Improvements, and the second—old works, such as tanks and bandharas scattered all over the Division, principally in the Khándesh and Násik Districts, which are maintained in proper order by the Public Works Department. The capital expenditure was principally on the Chankapur Tank, Kadwa River Works and the Godaveri Canals.

The Chankapur Tank in Kalvan Táluka of the Násik District is to store water of the Girna River for the extension of irrigation under existing bandharas, and for a small new canal—the Girna Left Bank Canal. On the Kadwa River Works, a masonry waste weir is being made for the Waghad Tank. This reservoir and the addition of the weir will considerably increase the storage for the Palkhed Canal in the Násik District.

The Godaveri Canals Project provides for a storage reservoir near the village of Nandgaon on the Darna River in the Násik District and for a pick-up weir and Canal Head-Works at Nandur-Madhmeshwar near Niphád in the Násik Collectorate and system of canals to irrigate 64,000 acres entirely in British Territory.

The total length of main canals completed in this Division was 450 miles and that of distributaries 478 miles.

For the year under report the culturable area under command was 612,350 acres and the area at present estimated as annually irrigable by the works in operation was 271,550 acres.

The total area irrigated by the works in operation was 81,265 acres, as compared with 78,223 acres in the previous year, and the average rainfall was 22.14 inches, as compared with 12.57 in 1905-06. The increase in area irrigated was mostly on the minor works in the Central Division, and was due to the good replenishment the tanks received in August and September 1906 and to their therefore being able to supply water to a large area of rabi crops.

The principal crops irrigated were :—

	Acres.
Jowári	22,479
Bájri	18,564
Sugarcane	13,940
Groundnut	7,887
Wheat	5,994
Gram	4,665
Rice	2,063

The gross assessed revenue amounted to Rs. 7,92,019 against Rs. 7,44,071 of the preceding year. The increase in revenue was chiefly due to the increase in the area of sugarcane and the increase in the sanctioned water-rates.

The gross actual revenue realized from all sources was Rs. 7,01,976 against Rs. 7,10,793 of the preceding year. The outstandings amounted to Rs. 5,11,026 of which Rs. 3,59,200 have been realized since March 1907. The outstandings were, in some cases, due to failure of groundnut crop, and in some cases, to the fact that large arrears of land revenue and tagai were recovered during the year and that the demand statements were received late by the Revenue Officers.

The working expenses during the year amounted to Rs. 2,79,332 against Rs. 2,73,637 in the previous year.

The net revenue of the year after deducting working expenses on the basis of assessment, was Rs. 5,12,687, and on that of realizations, Rs. 4,22,644.

The Second Class Irrigation Works in the Poona, Násik and Khándesh Districts irrigated 39,870 acres against 38,679 acres—the average of the past 10 years, the Irrigation share of revenue being Rs. 1,88,261 and Rs. 2,16,195 respectively. The decrease in revenue is due to heavy remissions granted by the Revenue Department in the Násik District.

The estimated value of crops irrigated during the year was Rs. 71,53,433, against Rs. 68,04,963 of the previous year.

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SOUTHERN DIVISION.

1. The Sátára District is grouped with the Southern Public Works Department and Irrigation Division.

2. The number of works and the total gross revenue from them in each District are as follows:—

District.	New works (1st class).		Old works (2nd class).		Remarks
	Number of works.	Gross revenue.	Number of works.	Gross revenue.	
		Rs.		Rs.	
Sátára	6	65,003	1	660	
Belgaum	2	52,418	67	33,049	
Dhárwár Irrigation	5	8,725	473	1,58,183	
Ratnágiri	4	3,097	
Bijápur	1	462	16	5,925	
Total	14	1,26,608	561	2,00,914	

3. *Irrigation works for which Capital and Revenue Accounts are kept.*—

First class works. The total receipts of the year amounted to Rs. 50,431 and the working expenses to Rs. 14,274, giving a net revenue of Rs. 36,157, which represents a return of 2.26 per cent. on the capital outlay (Rs. 15,98,947). The area irrigated during the year was less than that of the previous year by 2,138 acres, as there was seasonable rabi rainfall.

The Krishna Canal irrigated during the year 7,013 acres or 3,094 acres less than in the previous year. The water-rate assessment amounted to Rs. 39,087 as against Rs. 51,716 of the previous year. The falling off in area and assessment is due to good rainfall which reduced the demand for canal water.

4. *Financial Results.*—The total assessed revenue during the year on all the works of this class amounted to Rs. 1,26,608. The working expenses amounted to Rs. 55,808, net revenue to Rs. 70,800, and proportion of net revenue to capital outlay 1.54 per cent. The corresponding figures for the previous year were Rs. 56,258, Rs. 85,768, and 1.87 per cent., respectively.

5. These are nearly all small tanks. The number regularly maintained by Public Works Department, as given in the above table, is about 561 and the collective irrigation assessment realised annually is Rs. 2,00,914. The works are managed by the cultivators themselves. Government are systematically improving the tanks and increasing their efficiency wherever possible. A sum of Rs. 1,09,009, equivalent to 54 per cent. of the year's net revenue, was spent on extensions and improvements and repairs during the year. In addition to the 561 tanks, there are several thousand smaller tanks not dealt with in this return.

N.B.—Similar Descriptive Account for the Northern Division will be printed separately as a Supplementary Press Note.