



Combined Irrigation Administration Report in the State of Bombay for the years 1946-47, 1947-48 and 1948-49

Part I



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BARODA
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CONTENTS

Map of the Province of Bombay	...
Diagram showing expenditure on irrigation works from loan funds and	...
Diagram showing expenditure on establishment in the Roads and Buildings of the Report	...
and irrigation Branches.	...
General description of Irrigation	1-2

SECTION I.

COMPRISING IRRIGATION WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.

General Remarks	3-14
-----------------	------

DETAILED REPORTS BY LOCAL OFFICERS.

North Gujarat Circle.

Halhmati and Khari Cut Canals	15-16
First Class Irrigation Tanks in Gujarat :—	}
Wangroli Tank	}
Savli Tank	}
Tranza Nagrama Tanks	}
Futeiao Tank	17-19

Deccan Irrigation Circle.

Sugar Factories	19-20
Diagram showing Working Record for Nira Right and Left Bank Canals	}
Diagram showing Financial Record for Nira Right and Left Bank Canals	Facing page 20
Lloyd Dam at Bhatgar and Nira Right Bank Canal	20-23
Nira Left Bank Canal	23
Nira Valley Development Project	23-25
Mutha Canals and Matoba Tank	25-26
Godavari Canals	26-27
Chankapur Tank—Girna Canal	28-29
Kadwa Canal	30-31
Parsul Tank	31-32
Gangapur Dam Project	32
Pravara River Works	32-34
Diagram showing Combined Working Record of Godavari and Pravara Canals	}
Diagram showing Combined Financial Record of Godavari and Pravara Canals.	Facing page 34
Bhatodi Tank	34-35

Eastern Circle

Ekruk Tank	}
Ashti Tank	}
Pathri Tank	}
Mhaswad Tank	}
Krishna Canal	}
Rewadi Canal	}
Upper Man River Works	}
Yerla River Irrigation Works	38-40
Maini Tank	}
Chikhl Canal	}

Central Circle.

Shubhada Echannel	}
Lower Panjhra River Works	}
Jamda Canals	}
Mhaswad Tank	41
Shirsuhal Tank	}
Bhadwad Tank	42

CONTENTS.

Southern Circle.

Gadikeri Tank	...	...	...	...	...	...
Dambal Tank	...	...	...	...	...	...
Mudleri Tank	...	...	...	...	...	...
Madag Tank	...	...	...	...	...	...
Asundi Tank	...	...	...	...	...	...
Dharma Canal	...	...	...	...	...	...
Mavinkop Tank	...	...	...	...	...	...
Muchkundi Tank	...	...	...	...	...	...

Karnatak Irrigation Circle

Gokak Canal	...	...	...	...	...	...
Ghataprabha Left Bank Canal	...	...	...	...	...	...

SECTION II.

COMPRISING IRRIGATION WORKS FOR WHICH NEITHER CAPITAL NOR
REVENUE ACCOUNTS ARE KEPT.

DETAILED REPORTS BY LOCAL OFFICERS.

North Gujarat Circle.

Salat Tank	...	...	...	...	...	...
Muvalia Tank	...	...	...	...	...	...

Deccan Irrigation Circle.

Rakh Tank	...	...	...	...	...	...
Effluent irrigation on the Mutha Right Bank Canal						
Bandharas (Poona District)	...	...	...	...	...	...
Khamgaon Tank	...	...	...	...	...	...
Bandharas (Nasik District)	...	...	...	...	...	...
Khirdi Sathe Tank	...	...	...	...	...	...
Visapur Tank	...	...	...	...	...	...

Eastern Circle

Koregaon Tank	...	...	...	...	...	...
Wadshivne Tank	...	...	...	...	...	...
Gherdi Tank	...	...	...	...	...	...
Hotgi Tank	...	...	...	...	...	...
Waki Bandhara
Parewadi and Sanghvi Tank
Wakeshwar Canal

Central Circle.

Old works
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Southern Circle.

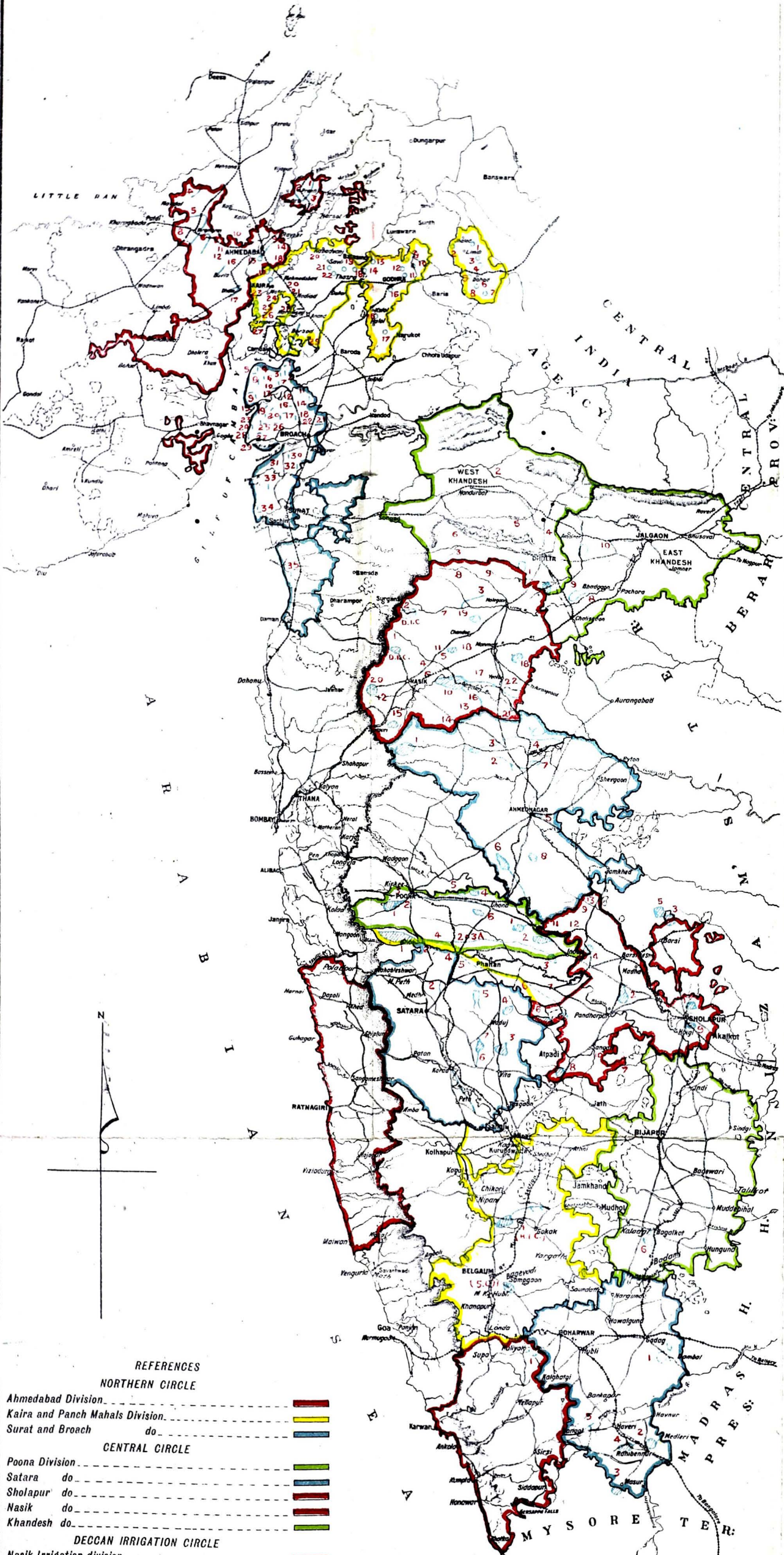
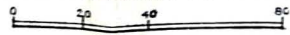
Second Class Irrigation tanks in Belgaum, Dharwar, Kanara, Ratnagiri, and Bijapur Division
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SECTION III.

Research Work
Statement I-E, showing area irrigated and average discharges and duties of water in regard to irrigation works during 1946-47						
Statement I-F, showing water rates per acre in force during 1946-47						
Statement showing expenditure on establishment in the Roads and Buildings and the Irrigation Branches						
Statement showing the maximum and minimum levels and contents etc.						

MAP OF THE PROVINCE OF BOMBAY TO ACCOMPANY THE IRRIGATION ADMINISTRATION REPORT FOR 1948-49

SCALE 40 MILES TO 1 INCH



REFERENCES

- NORTHERN CIRCLE**
- Ahmedabad Division
 - Kaira and Panch Mahals Division
 - Surat and Broach do
- CENTRAL CIRCLE**
- Poona Division
 - Satara do
 - Sholapur do
 - Nasik do
 - Khandesh do
- DECCAN IRRIGATION CIRCLE**
- Nasik Irrigation Division
 - Ahmednagar do
 - Poona Irrigation & Research Division
 - Nira Canals Division
- SOUTHERN CIRCLE**
- Belgaum Division
 - Dharwar do
 - Kanara do
 - Ratnagiri do
 - Bijapur do

NORTHERN CIRCLE

AHMEDABAD DIVISION AHMEDABAD DISTRICT

- Works in Operation*
- Hathmati Canal
 - Bokh Reservoir
 - Timba Tank
 - Odhav-Solgam Drain
 - Panar-Devasan Drainage
 - Virangam Drainage
 - Narsingpur Drainage
 - Hebatpur Drain
 - Khari Cut
 - Chokhla Drain
 - Ghoda Feeder
 - Ogan Drain
 - Godhavi Goraj Drain
 - Chandola Tank
 - Vasai Reservoir
 - Bhayla Feeder
 - Eastern and Western Drainage at Dholka

KAIRA DISTRICT

- Works in Operation*
- Khari Sluices
 - Gobhraj Tank
 - Gatki Tank
 - Bherai Reservoir
 - Nauka Reservoir

KAIRA AND PANCH MAHALS DIVISION PANCH MAHALS DISTRICT

- Works in Operation*
- Pania Tank
 - Wareol Sapoti Tank
 - Mandolao Tank
 - Saki River Project
 - Muwalia Tank
 - Fulelao Tank
 - Garidola Tank
 - Chharchheta Ambli Tank
 - Rajayata Wandoli Tank
 - Dangaria Tank
 - Orwada Tank
 - Bordra Tank
 - Guneli Tank
 - Rameshwar Tank
 - Kanelao Tank
 - Malao Tank
 - Wada Tslao Tank

KAIRA DISTRICT

- Works in Operation*
- Wangroli Tank
 - Materwal Tank
 - Savi Tank
 - Phetar Tank
 - Sarat Tank
 - Matar Drain
 - Tranja Tank
 - Nagrama Tank
 - Paroy Tank
 - Tarapur Gorad Drain
 - Karamsal Drain
 - Anand Mogri Drain

Note:—

Incomplete Works marked thus

SURAT AND BROACH DIVISION

- (I) BROACH DISTRICT**
Works in Operation
- Channel from Uber Vile to meet Channel near Daba
 - Nobar-Umra-Kotasar Drainage Channel
 - Nandhava-Nalsar Drainage Channel
 - Bund at Dehej
 - Sindhay Drainage Channel
 - Kora-Madapher-Jantra Drainage Channel
 - Ananpur Nadiad Drainage Channel
 - Bund between Nada and Devla Villages
 - Bund at Nala Village
 - Bund at Islampur
 - Ghamad Drainage Channel including Danda and Shimaltha
 - Wansetta Drainage Channel
 - Asarsa Reclamation Bund
 - Ninum Channel
 - Protective Bund at Gandhar
 - Ora-Velhad Badapur Chal.
 - Rahad Channel
 - Kovan Itola Drainage Channel
 - Bund at Aladar
 - Pakhajam Ambhol Channel
 - Waghutan Drainage Chal.
 - Wansi Channel
 - Protective Bund at Hari-nagar
 - Protective Bund at Kadodra
 - Samadpur Puniadra Chal.
 - Nadila-Akhd Channel
 - Bund at Suva
 - Jotva Channel
 - Protective Bund at Lakhi-gam
 - Asta Channel
 - Hansot Reclamation Bund
 - Adol Hajat Channel

(II) SURAT DISTRICT

- Works in Operation*
- Morthan Channel
 - Bund between Kapasi and Kuidiana Villages
 - Waghrej Protective Works

CENTRAL CIRCLE

POONA DIVISION POONA DISTRICT

- Works in Operation*
- Shirsuphal Tank
 - Bhadalwadi Tank

SATARA DIVISION SATARA DISTRICT

- Works in Operation*
- Krishna Canal
 - Rowari Canal
 - Mayani Tank
 - Upper Man River Works
 - Pingli Tank
 - Yerla River Works Neher Tank
 - Chikhli Canal

Incomplete Work

SHOLAPUR DIVISION SHOLAPUR DISTRICT

- Works in Operation*
- Ekrak Tank
 - Ashti Tank
 - Pathri Tank
 - Wadshivne Tank
 - Koregaon Tank
 - Mhaswad Tank and Nira Right Bank Canal Branch III from mile No. 101 to 105½
 - Gherdi Tank
 - Budhial Tank
 - Hotgi Tank
 - Javla Tank
 - Parwadi Tank
 - Saugvi Tank
 - Mangi Tank

Incomplete Works

KHANDESH DIVISION WEST KHANDESH DISTRICT

- Works in Operation*
- Mukti Tank
 - Tapti River Minor Tributaries
 - Upper Panjhra River Group
 - Lower Panjhra River Group
 - Burai River Group
 - Kau River Group

Incomplete Work

EAST KHANDESH DISTRICT

- Works in Operation*
- Jamda R. B. Canal
 - Jamda L. B. Canal
 - Parmapada Tank
 - Mhaswa Tank

DECCAN IRRIGATION CIRCLE

NASIK IRRIGATION DIVISION NASIK DISTRICT

- Works in Operation*
- (D.I.C.) Waghad Tank
 - (D.I.C.) Chankapur Tank
 - Girna Canal
 - Palhed Canal
 - Wadali Canal
 - Ohar Tambat Canal
 - Girna Group
 - Aram Group
 - Mosam Group
 - Godavari Group
 - Katwa Group
 - Darna Group
 - Deo Group
 - Maha'ungi Group
 - Darna Reservoir (Lake Beale)
 - Godavari R.B.C. (mile 0 to 35)
 - Godavari L.B.C. (mile 0 to 20½)
 - Khirdi Sathe Tank
 - Parul Tank

(Work under Construction-Incomplete Work)

OHAD TANK

- Works in Operation*
- Godavari R. B. Canal (from mile 35 to 69)
 - Godavari L. B. Canal (from mile 20½ to 13)

GANGAPUR STORAGE DIVISION NASIK DISTRICT

- Works under Construction*
- Gangapur Dam

AHMEDNAGAR DIVISION AHMEDNAGAR DISTRICT

- Works in Operation*
- Wilson Dam (Lake A. Hill)
 - Pravara R. B. Canal
 - Pravara L. B. Canal
 - Lakh Canal *Intermittent Works*
 - Limpwadi Tank
 - Visapur Tank
 - Musalwadi Tank

POONA IRRIGATION & RESEARCH DIVISION POONA DISTRICT

- Works in Operation*
- Lake Fife
 - Matha R. B. Canal
 - Mutha L. B. Canal
 - Matica Tank
 - Khangon Tank

Incomplete Works

WARVANDI TANK

- Works under Construction and Operation*
- Lloyd Dam at Bhatgar (New Lake Whiting)
 - Nira L. B. Canal
 - Shetpal Tank
 - 3A Rakh Tank

SATARA DISTRICT

- Works in Operation*
- Nira R. B. Canal (from mile 0 to 11½)
 - Nira R. B. Canal (from mile 11½ to 47) Phaltan State
 - Nira R. B. Canal (from mile 47 to 100)
 - Bhansurdi Tank

SOUTHERN CIRCLE

BELGAUM DIVISION BELGAUM DISTRICT

- Works in Operation*
- Gadikeri Tank

BIJAPUR DIVISION BIJAPUR DISTRICT

- Works in Operation*
- Muchkundi Tank

DHARWAR DIVISION DHARWAR DISTRICT

- Works in Operation*
- Dambal Tank
 - Madleri Tank
 - Madgad Tank
 - Asundi Tank
 - Dharma and Naregal Canals

KANARA DIVISION KANARA DISTRICT

- Works in Operation*
- Mavinkop Tank

KARNATAK IRRIGATION CIRCLE

- Works in Operation*
- Gokak Canal 1st Section and Storage Works

PROVINCE OF BOMBAY DIAGRAM

SHOWING
EXPENDITURE ON IRRIGATION WORKS
IN THE PUBLIC WORKS DEPARTMENT
FROM
LOAN, FUNDS, & REVENUE

— EXPENDITURE (LOAN FUNDS).
— MAINTENANCE & REPAIRS
EXPENDITURE (REVENUE).
— NEW WORKS (REVENUE).

LAKHS
230
220
210
200
190
180
170
160
150
140
130
120
110
100
90
80
70
60
50
40
30
20
10
0

1923-1923

1924-1924

1924-1925

1925-1926

1926-1927

1927-1928

1928-1929

1929-1930

1930-1931

1931-1932

1932-1933

1933-1934

1934-1935

1935-1936

1936-1937

1937-1938

1938-1939

1939-1940

1940-1941

1941-1942

1942-1943

1943-1944

1944-1945

1945-1946

1946-1947

1947-1948

1948-1949

**A COMBINED IRRIGATION ADMINISTRATION REPORT,
BOMBAY STATE, PART I.
FOR 1946-47, 1947-48 AND 1948-49.**

**PHYSICAL FEATURES—GENERAL DESCRIPTION
OF IRRIGATION.**

The area under irrigation in the Bombay State is not compact. Rainfall is available for agricultural operations but is often precarious. Tanks and canals provide irrigation for valuable crops such as sugarcane and also provide a source of supply to other crops when the rainfall is deficient or irregular. The old irrigation works consist chiefly of a few small canals and moderately large tanks some 12,000 smaller tanks mostly in the southern part of the State and in Gujarat, and of about 400 bandharas in Nasik and Khandesh Districts. The tanks have earthen dams and the larger ones irrigate areas up to 1,300 acres, and the smaller ones up to 500 acres, situated immediately below the dams. The chief crop irrigated is rice. The bandharas are masonry weirs built across rivers to head up the water to a level sufficient to irrigate lands on the banks of the streams by means of channels taking off from the flanks of the bandharas. The areas irrigated are up to 800 acres and the chief crops are sugarcane, wheat, bajri and gram. From these small beginnings have evolved the magnificent irrigation works, which now form such a conspicuous feature in the Deccan and have so successfully fulfilled their beneficent purpose in banishing the famines which formerly devastated this portion of the State.

2. The irrigation works in the Deccan are fundamentally different from those in Sind, the Punjab, Egypt or Mesopotamia, where wide alluvial plains have been formed by great deltaic rivers in perennial flow. The Bombay Deccan consists of a sloping table-land running eastward from the ridge of the Western Ghats. These form a ridge running parallel to the sea-coast at a distance from it of 50 to 100 miles; precipitous on the western side, they fall away more gradually to the east. The heaviest rainfall occurs on the peak of the ridge, where anything up to 270 inches of rain is recorded in the four monsoon months. The intensity of the rainfall rapidly decreases as we go eastward from the highest ridge, reaching a figure of 20 or 25 inches at a distance of 100 to 150 miles east of the Ghats. The rivers in the Deccan rise in the valleys close to the ridge, flow in an eastward direction, and are dry or practically so for 7 or 8 months of the year. The line of the Ghats, like the ridge of a roof, divides the rainfall into two parts; one the small portion falling westward into the Indian Ocean, and the other flowing through long lengths of tortuous rivers to the east and joining the rivers, which reach the sea on the south eastern coast of the peninsula. These rivers are in flow during the monsoon months only, and if no artificial means of conserving their waters were provided, the whole monsoon rainfall would be wasted so far as the Bombay Deccan is concerned, and would simply flow away to the sea benefiting but to a small extent the country traversed.

3. The large irrigation systems in the Deccan are all of the same type. Each depends upon a storage lake near the head of one of the river valleys, where sufficient water is collected during the monsoon to supply the country on either side of the river valleys below. The water stored during the rains is let out during the dry months of the year in accordance with requirements ; and at a point on the river, which may be as far as 50 miles from the main storage lake, a "pick-up-weir" is constructed across the river-course to divert the water into canals which take off on either side of the weir. In one case only, that of Lake Fife at Khadakwasla near Poona, do the canals take off from the flanks of the dam itself. The canals are always constructed at a considerably flatter slope than that of the river, and consequently are able to diverge from the river itself on each side of the valley ; as a rule each canal only irrigates the area between itself and the river.

SECTION I.

COMPRISING IRRIGATION WORKS FOR WHICH CAPITAL
AND REVENUE ACCOUNTS ARE KEPT

GENERAL REMARKS.

Works in operation.

4. The following list includes all the works
in operation (39 in number) :—

Serial Num. ber.	Name of work.	Area of four months' crops which could be irrigated in normal years with a duty at the head of the canal of 120 acres for the monsoon and 120 acres for the rabi season per cusec.	Whether supply is reliable or dependent on local rain.	Whether storage works completed or proposed.	Remarks.
1	Hathmati and Khari Cut Canal.	Acres. 24,000	Dependent on local rain.	No storage work Bokh reser- voir, Chandola tank and Wasai reservoir, com- pleted.	The catchment of the Hathmati river is hilly, covered partly with forest and that of the Khari is undulating ground at its source and then plain ground with cultivated fields. The supply depends upon the flow in the rivers, and the con- tents of the Bokh reservoir, Chandola tank and Wasai reser- voir.
2	Wangroli Tank	3,400	Do.	.. Completed	.. The catchment is ordi- nary plain ground and cultivated fields.
3	Savli Tank ..	3,000	Do.	Do.	Ordinary catchment on undulating ground.
4	Tranza Nag- rama Tanks.	800	Do.	.. Do.	.. The Tranza tank has no independent catch- ment. The Nagrama has a catchment of 1.5 square miles. Both are fed by the Matar drainage channel which is not reliable as it seldom flows.
5	Futelo ..	800	Do.	.. Do.	.. Hilly catchment.
6	Nira Left Bank Canal includ- ing Shetphal tank.	1,00,000	Reliable	.. Lake Whiting (Lloyd Dam) completed.	Ghat catchment.
7	Nira Right Bank Canal.	1,80,000	Do.	.. Do.	.. Do.

Serial Num- ber.	Name of work.	Area of four months' crops which could be irrigated in normal years with a duty at the head of the canal of 120 acres for the monsoon and 120 acres for the rabi season per cusec.	Whether supply is reliable or dependent on local rain.	Whether storage works completed or proposed.	Remarks.
		Acres.			
8	Mutha Canal including Ma- toba Tank.	49,000	Dependent on local rain.	Lake Fife completed.	Ghat catchment
9	Godavari Right Bank Canal.	44,000	Do.	} Lake Beale completed.	Do
	Godavari Left Bank Canal.	26,000	Do. ..		
10	Girna Canal ..	9,000	Do. ..	Chankapur tank com- pleted.	Do
11	Kadwa River Works.	Palkhed Canal, Ojhar Tarnbat Canal,	} 7,689 Do. ..	} Waghad Tank completed.	Do
		Wadali Canal			
12	Pravara Right Bank Canal.	18,480	} Do. ..	} Lake Arthur Hill (Wilson Dam) completed.	Do.
	Pravara Left Bank Canal.	64,080			
13	Bhatodi Tank	1,461..	Do. ..	Completed ..	Do.
14	Parsul Tank	Information not available.			
15	Shirsuphal Tank.	1,150	Dependent on local rain.	Completed. ..	Deccan catchment.
16	Bhadalvadi Tank.	1,223	Do. ..	Do.	Do.
17	Ekruk Tank	13,070	Do. ..	Do. ..	Ghat catchment.
18	Mhaswad Tank	14,000	Do. ..	Do. ..	Do.
19	Ashti Tank ..	3,382	Do. ..	Do. ..	Do.
20	Pathri Tank	3,094	Do. ..	Do. ..	Hilly catchment.
21	Jamda Canal	42,000	Girna river supply not re- liable.	Water is issued from the Chankpur Tank when available.	Ghat catchment for small part and for the rest Deccan catchment.

Serial Num- ber.	Name of work.	Area of four months' crops which could be irrigated in normal years with a duty at the head of the canal of 120 acres for the monsoon and 120 acres for the rabi season per cusec.	Whether supply is reliable or dependent on local rain.	Whether storage works completed or proposed.	Remarks
22	Mhaswa Tank	Acres. 3,256	Dependent on local rain.	Completed ..	Deccan catchment.
23	Shahada Channel.	2,000	Reliable ..	No storage work.	Hilly catchment; supply is perennial.
24	Lower Panjhra River Works.	8,173	Panjhra river supply not re- liable.	Mukti Tank completed.	Ghat catchment for one part and Deccan catchment for the rest.
25	Krishna Canal	6,412	Reliable ..	Proposed ..	Ghat catchment.
26	Rewari Canal	439	Dependent on local rain.	No storage work.	Deccan catchment.
27	Upper Man River Works.	373	Do. ..	Pingli Tank completed.	Do.
28	Yerla River Ir- rigation Works	1,182	Do. ..	Nehr Tank completed.	Do.
29	Chikhli Canal	358	Do. ..	No storage work.	Do.
30	Maini Tank ..	455	Do. ..	Completed ..	Do.
31	Gokak Canal	17,627	Reliable ..	27 feet comple- ted.	Do.
32	Gadikeri Tank	423	Dependent on local rain.	Completed ..	Do.
33	Muchkundi Tank	Information not available.			
34	Dambal Tank	531	Dependent on local rain.	Completed ..	Do.
35	Medleri Tank	291	Do. ..	Do. ..	Do.
36	Madag Tank ..	1,418	Reliable ..	Do. ..	Ghat and Forest catch- ment.
37	Asundi Tank	303	Dependent on local rain.	Do. ..	Deccan catchment.
38	Dharma Canal	For monsoon season 9,100 acres for Rabi nil.	Fairly reliable.	Proposed ..	Forest catchment.
39	Mavinkop Tank	617	Dependent on local rain.	Completed ..	Deccan catchment.

Ekruk tank, Gadikeri tank, Mavinkop tank and Shahada channel are the only productive works and the rest are unproductive.

5. The interest account for the years under report was as follows :—

		Productive works.	Unproductive works.	Total
		Rs.	Rs.	Rs. *
Total interest charges during :—	1946-47 ..	46,361	41,28,867	41,75,228
	1947-48 ..	46,361	41,37,990	41,84,351
	1948-49 ..	46,361	42,17,543	42,63,904
Net revenue realised during :—	1946-47 ..	1,29,869	35,89,058	37,18,927
	1947-48 ..	1,53,568	35,67,719	37,21,287
	1948-49 ..	2,94,262	30,72,446	33,66,708

Net loss i.e. difference between interest and net revenue is as under :—

		Rs.
1946-47 ..	..	4,56,301
1947-48 ..	..	4,63,064
1948-49 ..	..	8,97,196

6. The financial results of the years under report by main heads were as under :—

	Area irrigated.	Revenue realised			Working expenses.	Net revenue.
		Direct receipt	Share of land revenue	Total.		
	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.
Productive :—						
1946-47 ..	3,840	2,03,718	9,395	2,13,113	83,244	1,29,869
1947-48 ..	6,664	2,29,149	8,662	2,37,811	84,243	1,53,568
1948-49 ..	6,772	3,54,869	8,193	3,63,062	68,800	2,94,262
Unproductive :—						
1946-47 ..	4,62,806	59,96,497	14,943	60,11,440	24,22,382	35,89,058
1947-48 ..	4,29,568	63,04,694	12,089	63,16,783	27,49,064	35,67,719
1948-49 ..	4,02,008	62,12,126	9,542	62,21,668	31,49,222	30,72,446
Total :—						
1946-47 ..	4,66,646	62,00,215	24,338	62,24,553	25,05,626	37,18,927
1947-48 ..	4,36,232	65,33,843	20,751	65,54,594	28,33,307	37,21,287
1948-49 ..	4,08,780	65,66,995	17,735	65,84,730	32,18,022	33,66,708

The gross revenue and the net revenue during the year 1948-49 show increase of Rs. 30,136 and Rs. 3,60,177 and decrease of Rs. 3,54,579 and Rs. 3,52,219 respectively, as compared with the figures for the previous two years, respectively.

7. The figures of the area irrigated, the revenue assessed and realised and the working expenses during the year 1948-49 as compared with those of the previous three years, are given below :—

Year.	Area irrigated * Revenue, etc.	Revenue		Working expenses.
		Assessment.	Realisations.	
	Acres.	Rs.	Rs.	Rs.
1945-46	4,59,049	58,41,548	57,67,861	27,24,289
1946-47	4,66,646	66,13,294	62,24,553	25,05,626
1947-48	4,36,232	66,84,303	65,54,594	28,33,307
Average	4,53,979	63,79,715	61,82,336	26,87,74
1948-49	4,08,780	66,40,147	65,84,730	32,18,0202

*Inclusive of the area under consolidated water and land assessment.

8. The gross area under command was 16,76,884 acres during the year 1948-49 against 17,95,292 and 17,81,609 acres, respectively during the previous two years. The area irrigable was 6,01,708 acres during 1948-49 as compared with 6,75,800 and 6,83,290 acres, respectively for the previous two years.

9. The state of Revenue collections was as follows :—

		1946-47		
				Rs.
Balance of demands unrealised at the commencement of the year 1946-47. .. ..	.. ..	.. ..	.. ..	8,51,992
Demands of the year 1946-47 :—				
			Rs.	
Rabi	1945-46 .. ..	.. ..	13,88,197	
Kharif	1946-47 .. ..	.. ..	41,49,411	
Miscellaneous receipts.	.. ..	.. ..	9,32,571	64,70,179
			Total	73,22,171
<i>Deduct —</i>				
Remissions	.. ..	.. ..		1,52,539
			Net total	71,69,632

Amount unrealised at the close of the year 1946-47.		Rs.	10,84,957
		Rs.	
Actual receipts of the year 1946-47		60,84,675	
<i>Add</i> —			
Share of land revenue	24,338		
Over collections during the year.	1,28,962		62,37,975
<i>Deduct</i> —			
Refunds of revenue			13,422
Revenue realised			<u>62,24,553</u>
	1947-48		
Balance of demands unrealised at the commencement of the year 1947-48.			10,46,859
Demands of the year 1947-48 —			
		Rs.	
Rabi 1946-47	11,36,062		
Kharif 1947-48	31,49,406		
Miscellaneous receipts	5,34,549		
			<u>48,20,017</u>
		Total ..	58,66,876
<i>Deduct</i> —			
Remission			54,130
		Net Total ..	<u>58,12,746</u>
Amount unrealised at the close of the year 1947-48			12,23,060
		Rs.	
Actual receipts of the year 1947-48.		65,34,487	
<i>Add</i> —			
Share of land revenue	20,751		
			65,55,238
<i>Deduct</i> —			
Refunds of revenue			644
Revenue realised			<u>65,54,594</u>
	1948-49		
Balance of demands unrealised at the commencement of the year.			10,12,840
Demands of the year :—		Rs.	
Rabi 1947-48	14,47,015		
Kharif 1948-49	42,60,089		
Miscellaneous receipts	10,37,014		
			<u>67,44,118</u>
	Total ..		77,56,958

<i>Deduct</i> :—			
Remissions	..		Rs. 31,226
		Net total ..	77,25,732
Amount unrealised at the close of the year.			14,74,203
		Rs.	
Actual receipts of the year	..	65,68,843	
<i>Add</i> :—			
Share of land revenue	..	17,735	65,86,578
<i>Deduct</i> :—			
Refunds of revenue	..		1,848
Revenue realised	..		65,84,730

The remissions and refunds together amounted to Rs. 33,074 during the year 1948-49 as compared with Rs. 54,774 and Rs. 1,65,961 during the previous two years, respectively.

Unrealised irrigation revenue at the close of the years 1948-49, 1947-48 and 1946-47 amounted to Rs. 14,74,203, 12,23,060 and 10,84,957, respectively.

	1948-49	1947-48	1946-47
	Rs.	Rs.	Rs.
Ekrak Tank	69,390	32,796	10,473
Hathmati and Khari Cut Canals	6,505	6,022	13,540
Bhadalwadi Tank	1,235	794	892
Krishna Canal	40,060	74,115	47,176
Ashti Tank	4,948	2,205	435
Lower Panjhra River Works	30	2,270	799
Yerla River Irrigation Works	2,339	2,232	1,522
Parsul Tank	807	2,658	2,291
Mutha Canals	57,653	66,548	84,322
Gokak Canal	1,75,935	..	1,35,783
Mhaswad Tank	27,724	23,833	1,339
Jamda Canals	11,800	5,737	8,679
Nira Left Bank Canal and Sheppal Tank.	3,48,361	3,00,396	2,15,255
Girna Canal	1,18,799	..	56,725
Kadwa Canals	26,081	26,397	21,133
Godavari Canals	72,730	8,382	34,440
Nira Right Bank Canal	2,86,708	2,55,708	3,00,586
Pravara Canals	1,67,446	1,79,228	1,24,565
Other Works	55,655	1,73,747	25,073
Total	14,74,203	12,23,060	10,84,957

10. The working expenses of the year 1948-49 amounted to Rs. 32,18,022 as compared with Rs. 28,33,307 and Rs. 25,05,626 during the previous two years, respectively. The following table compares the charges under the principal heads during the year 1948-49 with those of the previous three years.

	1945-46	1946-47	1947-48	1948-49
	Rs.	Rs.	Rs.	Rs.
Works	3,64,405	1,41,802	2,45,123	2,13,443
Repairs	9,54,330	8,96,197	9,85,948	9,34,229
Establishment ..	12,51,625	13,87,945	15,46,511	20,23,478
Tools and Plant ..	19,799	14,560	19,124	17,151
Post War Reconstruction Programme.	..	38,475	11,854	4,969
Total in Public Works Department.	25,90,159	24,78,979	28,08,660	31,93,270
Collection charges. ..	1,20,813	16,123	12,224	13,254
Indirect charges ..	13,317	10,524	12,423	11,498
Total working expenses	27,24,289	25,05,626	28,33,307	32,18,022

11. The following table gives the details of working expenses for some of the principal works :—

Name of work.	Years.	Average incidence of water rate per acre.	Cost of measurement.		Working expenses in the Public Works Department.	
			Total cost.	Per acre.	Per mile of Canal	Per acre irrigated
		Rs.	Rs.	Rs. a. p.	Rs.	Rs.
Nira Left Bank Canal and Shetphal Tank.	1946-47	14.7	3,549	0 0 10	1,407	4.5
	1947-48	14.3	3,646	0 0 10	1,631	5.3
	1948-49	14.00	4,838	0 0 11	1,803	5.8
Pravara Canals ..	1946-47	15.2	3,371	0 1 1	2,224	4.7
	1947-48	18.9	3,435	0 1 3	2,208	1.9
	1948-49	21.5	6,474	0 1 6	2,427	8.7
Girna Canal ..	1946-47	13.7	20,876	0 1 8	3,581	7.4
	1947-48	15.3	1,443	0 1 4	3,231	7.3
	1948-49	12.8	2,064	0 1 9	4,076	8.5
Godavari Canals ..	1946-47	15.1	4,969	0 1 10	1,279	4.4
	1947-48	18.7	4,901	0 1 5	1,374	5.7
	1948-49	26.1	5,728	0 1 9	1,790	9.7
Mutha Canals including Matoba Tank.	1946-47	7.1	2,054	0 1 4	1,139	8.1
	1947-48	9.9	2,146	0 1 6	1,115	9.1
	1948-49	30.0	1,428	0 1 3	1,379	11.4

Name of work.	Years.	Average incidence of water rate per acre.	Cost of measurement.			Working expenses in the Public Works Department.	
			Total cost.	Per acre.	Per mile of Canal.	Per acre irrigated.	
		Rs.	Rs.	Rs. a. p.	Rs.	Rs.	
Niro Right Bank Canal	1946-47	13.4	3,626	0 0 8	1,074	5.9	
	1947-48	19.9	6,014	0 1 2	1,013	7.02	
	1948-49	12.8	6,259	0 1 2	1,138	7.0	
Mhaswad Tank	1946-47	3.95	365	0 1 0	956	8.38	
	1947-48	4.5	1,717	0 2 5	1,262	3.44	
	1948-49	4.56	895	0 1 4	2,097	5.0	
Krishna Canal	1946-47	4.53	1,492	0 3 8	2,433	6.36	
	1947-48	7.79	1,793	0 4 2	3,581	13.88	
	1948-49	6.83	2,657	0 7 10	1,121	12.86	
Yerla River Irrigation Works.	1946-47	4.6	971	0 6 10	599	4.0	
	1947-48	4.54	1,398	0 4 9	599	3.67	
	1948-49	4.65	1,943	0 7 3	828	7.14	
Upper Man River Works	1946-47	4.73	170	0 4 1	712	10.78	
	1947-48	4.18	293	0 3 4	537	5.51	
	1948-49	4.71	208	0 3 5	745	18.4	
Jamda Canals	1946-47	2.43	1,490	0 2 0	271	3.61	
	1947-48	5.09	1,174	0 3 11	198	3.52	
	1948-49	5.95	1,831	0 4 7	301.72	5.4	
Ekruk Tank	1946-47	4.67	..	..	1,056	..
	1947-48	5.14	446	0 3 4	1,369	27.44	
	1948-49	5.29	363	0 2 11	1,006	21.48	
Gokak Canal	1946-47	5.56	1,990	0 2 0	681.67	2.22	
	1947-48	5.78	3,244	0 3 0	1,413.78	4.59	
	1948-49	7.99	3,128	0 3 0	1,454.46	4.64	
Dharma Canal	1946-47	4.87	704	1 1 5	1,676.72	4.89	
	1947-48	4.3	1,188	1 14 0	1,178.55	3.91	
	1948-49	4.42	..	..	766.07	2.49
Hathmati and Khari Cut Canals.	1946-47	3.85	No separate establish- ment was maintained	..	1,995	9.15	
	1947-48	2.27	..	..	1,700	24.04
	1948-49	2.12	..	..	1,610	179.65
Dambal Tank	1946-47	2.18	..	..	1,361.47	8.66
	1947-48	3.17	1,188	1 14 0	1,178.55	3.91	
	1948-49	3.57	..	..	1,198.16	7.91
Medleri Tank	1946-47	5.54	..	..	201.42	8.94
	1947-48	6.26	1,188	1 14 0	189.36	7.52	
	1948-49	6.46	..	..	613.12	23.07
Madag Tank	1946-47	4.27	..	..	390.33	5.82
	1947-48	4.49	1,188	1 14 0	257	3.63	
	1948-49	4.34	..	..	814.56	11.14
Asundi Tank	1946-47	6.88	..	..	2,199.38	35.04
	1947-48	7.78	1,188	1 14 0	463.99	4.53	
	1948-49	5.92	..	..	634.36	8.86

12. The gross assessed revenue, direct and indirect, amounted to Rs. 68,80,464 during 1948-49 as compared with Rs. 67,60,922 and Rs. 66,13,294 in the previous two years, respectively. The details of the gross assessment are as under :—

	Direct revenue.			Indirect revenue	Total.
	Water rate.	Other receipts.	Total		
	Rs.	Rs.	Rs.		
Productive :—					
1946-47 ..	11,091	1,98,838	2,09,929	9,395	2,19,324
1947-48 ..	23,986	2,38,939	2,62,925	8,662	2,71,587
1948-49 ..	26,649	3,82,738	4,09,387	11,528	4,20,915
Un-productive :—					
1946-47 ..	56,45,294	7,33,733	63,79,027	14,943	63,93,970
1947-48 ..	56,36,220	8,41,026	64,77,246	12,089	64,89,335
1948-49 ..	55,11,833	9,41,509	64,53,342	6,207	64,59,549
Total —					
1946-47 ..	56,56,385	9,32,571	65,88,956	24,338	66,13,294
1947-48 ..	56,60,206	10,79,965	67,40,171	20,751	67,60,922
1948-49 ..	55,38,482	13,24,247	68,62,729	17,735	68,80,464

The net assessed revenue of the year 1948-49 after deducting working expenses (Rs. 32,18,022), amounted to Rs. 36,44,707 as compared with Rs. 39,27,615 and Rs. 41,07,668 during the previous two years, respectively.

13. The following table gives the percentage return earned during the years 1946-47, 1947-48 and 1948-49 on capital outlay on the principal works in operation :—

Name of work.	Year.	Total Capital outlay.	Gross receipts	Working expenses	Net revenue	Percentage turn on Capital Outlay.
		(direct and indirect).	(direct and indirect).	(direct and indirect).		
		Rs.	Rs.	Rs.	Rs.	Rs.
Ekruk Tank	1946-47	13,40,386	1,93,430	50,701	1,42,729	10.65
	1947-48	13,40,386	2,25,121	66,039	1,59,082	11.87
	1948-49	13,40,386	3,42,730	50,860	2,91,870	21.73
Hathmati and Khari Cut Canals.	1946-47	13,18,729	88,046	1,03,785	—15,119	..
	1947-48	13,18,729	29,968	87,806	—57,840	..
	1948-49	13,18,729	17,856	83,788	—65,932	..
Nira Left Bank Canal and Shetphal Tank.	1946-47	1,47,88,227	9,45,980	3,44,084	6,01,296	4.07
	1947-48	1,47,89,900	9,46,666	4,01,245	5,45,421	3.69
	1948-49	1,47,93,560	10,25,688	4,30,906	5,94,782	4.02

Name of work.	Year.	Total Capital out lay (direct and indirect).	Gross receipts (direct and indirect).	Working expenses (direct and indirect).	Net revenue	Percentage return on Capital Outlay.
		Rs.	Rs.	Rs.	Rs.	Rs.
Nira Right Bank Canal.	1946-47	4,12,21,453	11,16,768	4,86,635	6,30,133	1.53
	1947-48	4,14,07,051	12,05,575	5,16,553	6,89,022	1.66
	1948-49	4,18,17,553	11,15,989	6,54,978	4,61,011	1.10
Mulla Canals and Matoba Tank.	1946-47	70,19,168	5,21,890	1,95,873	3,26,017	4.64
	1947-48	70,19,168	6,23,438	1,91,754	4,31,684	6.15
	1948-49	70,19,168	5,87,741	2,45,423	3,42,318	4.87
Godavari Canals.	1946-47	1,06,86,383	12,87,402	2,99,292	9,88,110	9.25
	1947-48	1,08,64,957	12,40,361	3,21,384	9,18,977	8.46
	1948-49	1,34,93,815	11,21,497	4,18,869	7,02,628	5.21
Chankapur Tank Girna Canal.	1946-47	20,79,541	2,40,623	1,42,023	98,600	4.74
	1947-48	20,79,541	2,45,823	1,29,297	1,16,526	5.60
	1948-49	20,79,541	2,41,803	1,58,982	82,821	3.95
Kadwa River Works	1946-47	10,35,876	1,02,575	36,138	66,437	6.41
	1947-48	10,35,876	1,16,088	41,800	74,288	7.17
	1948-49	10,35,876	93,738	52,427	41,311	4.00
Pravara River Works	1946-47	1,51,02,368	14,05,137	4,15,899	9,89,238	6.55
	1947-48	1,51,02,368	14,32,664	5,80,772	8,51,892	5.64
	1948-49	1,51,02,413	14,85,734	6,04,498	9,81,236	5.83
Mhaswad Tank.	1946-47	20,96,016	17,776	63,355	-45,579	..
	1947-48	20,96,016	75,848	64,269	11,579	0.55
	1948-49	20,96,016	91,961	1,09,991	-18,030	..
Lowar Panjhra River Works.	1946-47	4,68,621	28,149	8,470	19,679	4.20
	1947-48	4,68,621	22,430	15,648	6,782	1.45
	1948-49	4,68,621	26,779	15,062	11,717	2.50
Krishna Canal	1946-47	9,49,807	41,404	85,787	-44,383	..
	1947-48	9,49,807	58,266	1,27,306	69,040	..
	1948-49	9,49,807	74,283	69,550	-4,733	0.5
Gokak Canal	1946-47	15,79,513	55,267	35,296	19,971	1.26
	1947-48	15,79,513	1,39,719	73,877	65,842	4.17
	1948-49	15,79,513	88,625	75,587	13,038	0.82

14. The average water rates per acre of land actually irrigated during 1946-47, 1947-48 and 1948-49 were as under :—

	1946-47	1947-48	1948-49
	Rs.	Rs.	Rs.
Productive works	4.36	4.39	4.56
Unproductive works	6.51	7.78	7.29

15. The water rate assessments and other receipts during 1948-49 compared with those of the previous two years were as under :—

	1946-47	1947-48	1948-49
	Rs.	Rs.	Rs.
Water rates	56,56,385	56,60,206	55,38,482
Other receipts :—			
Plantations	17,143	11,249	20,451
Water power	14,313	4,34,463	2,23,402
Miscellaneous	9,01,115	6,34,253	10,80,394
Total	9,32,571	10,70,965	13,24,247
Share of land revenue	24,338	20,751	17,735
Grand Total	66,13,294	87,60,922	68,80,464

16. The principal crop acreages irrigated during 1946-47, 1947-48 and 1948-49 are given below :—

Crop Acreages	1946-47 Acres.	1947-48 Acres.	1948-49 Acres.
Garden and orchards	12,926	15,283	14,146
Sugarcane	57,428	55,470	59,157
Wheat	35,026	28,859	27,185
Rice	34,970	21,123	16,755
Jowar	1,10,484	1,01,084	1,14,640
Bajri	58,135	45,869	46,874
Gram etc.	28,542	36,896	24,069
Groundnut	2,428	5,263	5,249
Cotton	109	350	248
Condiments	4,994	7,473	5,440

The total estimated value of the crops irrigated was Rs. 1191.31 lakhs during the year 1948-49 as compared with Rs. 1178.21 lakhs and Rs. 1136.42 lakhs during the previous two years, respectively.

DETAILED REPORTS BY LOCAL OFFICERS NORTH GUJARAT CIRCLE

All the three years under review were marked by a poor monsoon which broke in the months of June-July and ended by September. The rainfall was much below normal and of low intensity with the result that it was inadequate for rice crops and for storage. There was very little runoff from the catchments of the rivers. The little flow in the Hathmati River was utilised in filling up the reservoirs and tanks and for rice irrigation. The transplanted area could not be protected fully by canal water. The total area protected by irrigation under the Hathmati and Khari Cut Canals was 11,333, 3,673 and 466 acres, respectively, during the three years under review.

The total rainfall gauged at Ahmedabad and Prantij during 1948-49 was 24.41 inches, as compared with 39.89 and 52.90 inches, of the last two years respectively. Similarly at Bareja, which is situated in the centre of the area irrigated by the Khari Cut Canal, the rainfall during the year 1948-49 was 10.70 inches as compared with 29.32 and 25.44 inches, for the last two years, respectively. At Himatnagar, where the Head Works of the Hathmati Canal are situated, it was 18.34 inches during 1948-49 as compared with 30.21 and 28.01 inches, for the past two years, respectively.

The principal irrigation works in operation in this Circle are (1) the Hathmati and Khari Cut Canals (2) the Wangroli Tank, (3) the Savli Tank (4) The Tranza-Nagrama Tanks and (5) the Futelao Tank.

No. (1) is a work which includes the Bokh Storage Reservoir with a capacity of 300 million cubic feet of water and several small tanks with small independent catchments depending on local rainfall. The other works are storage tanks all depending on local rainfall.

The five works are financially unproductive, as the annual revenue is not sufficient to cover the working expenses:

AHMEDABAD AND KAIRA AND PANCH MAHALS DIVISIONS

HATHMATI AND KHARI CUT CANALS.

This is the most important canal system in Gujarat. The Hathmati Canal irrigates tract of land lying between the Sabarmati and Khari rivers and this system in addition to irrigating the area dependent on it, its designed to pass surplus water, when available, first into the Bokh Reservoir and then into the Khari River via the Bhujwa Channel. The Bokh Reservoir does not provide any direct irrigational supplies but only acts as a storage reservoir for the Khari Cut Canal. Further downstream on the Khari River are situated two small irrigation systems and these utilise the natural flow of the river and also any surplus water which can be made available from the Hathmati canal; the Khari water is abstracted at the so-called "Khari Sluices" for direct irrigational purposes, while the surplus water from the Hathmati is diverted through an artificial cut called "the Khari Cut" into a natural channel and this in its turn supplies a system of distributaries, several small tanks and the large Chandola Tank situated near Ahmedabad. The system was first opened in 1873-74 and has cost more than Rs. 13 lakhs. The Hathmati River was in floods only once during the year 1948-49 and it was of short duration due to poor rainfall in the catchment of the river. The area irrigated under this canal during 1948-49 was 466 acres as compared with 2,199 and 4,761 acres of the previous two years, respectively. The average daily discharge admitted into the canal at its head during the Kharif season of 1948-49 was 36 cusecs of which quantity only 20 cusecs were utilised for irrigation carried out under the canal, the balance being let down into the Bokh Reservoir. During the Rabi season of the same year average daily discharge admissible into the canal at its head was 74 cusecs which was utilised for irrigation under this canal.

The Khari River rose in flood four times during the years 1946 and 1947 and only once in year 1948. The floods were of short duration and little volume. The flood waters were dealt with according to the terms of the provisional agreement in force in the respective years. Under this canal no area was irrigated in the year 1948-49 as compared with an area of 1,474 and 6,572 acres for the previous two years, respectively.

The area irrigated, the revenue assessed and the working expenses in connection with the Hathmati and Khari Cut Canals as compared with the average of the preceding three years are as under :—

Year.	Kharif.		Rabi.		Total.		Working expenses.
	Area irrigated.	Assess-ment.	Area irrigated.	Assess-ment.	Area irrigated.	Assess-ment.	
	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	
1946-47 ..	9,606	38,964	1,727	4,692	11,333	43,656	1,03,765
Average ..	14,197	63,738	2,659	7,591	16,856	71,675	1,11,269
1947-48 ..	3,076	8,241	597	1,336	3,673	9,577	88,325
Average ..	13,700	2,830	8,292	8,292	16,531	69,227	1,20,269
1948-49 ..	276	582	190	408	466	988	83,724
Average ..	9,664	40,142	1,753	4,849	11,417	44,901	1,67,112

No remissions were sanctioned during the year 1948-49 as compared with Rs. 3,148 and Rs. 3,084 during the preceding two years, respectively. The gross revenue realised from all sources amounted to Rs. 17,772 during the year 1948-49 as compared with Rs. 29,951 and Rs. 87,505 during the last two years respectively. The working expenses amounted to Rs. 83,724 during 1948-49 as compared with Rs. 88,325 and Rs. 1,03,765 for the last two years respectively. These figures show a net loss of 1.23, 0.44 and 5.00 per cent. on the total capital outlay of Rs. 13,18,729 during the three years under report, respectively.

FIRST CLASS IRRIGATION TANKS IN GUJARAT

The four first class tanks, viz. Wangroli, Savli, Tranza-Nagrama and Futelao were constructed between the years 1904 and 1917 at the aggregate cost of Rs. 9 lakhs. They rarely yield any net return, as the demand for water from them is small in years of good rainfall, whereas in years of scarcity the tanks themselves store deficient supplies. The first three tanks are situated in Kaira Collectorate, while the last one is in the Panch Mahals Collectorate.

The area irrigated, the revenue assessed and the working expenses in connection with the tanks are compared with the average of the preceding three years as below :—

Name of Tank.	Year.	Kharif.		Rabi.		Total.		Working expenses.
		Area irrigated.	Assess-ment.	Area irrigated.	Assess-ment.	Area irrigated.	Assess-ment.	
		Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Rs.
Wangroli	..1946-47 ..	889	4,393	459	1,591	1,348	5,984	6,993
	Average ..	776	3,865	386	1,287	1,162	5,152	7,218
	1947-48 ..	1,155	5,801	54	178	1,208	5,979	7,076
	Average ..	750	3,711	536	1,808	1,286	5,519	7,390
	1948-49 ..	515	2,587	..	..	515	2,587	5,859
	Average ..	892	4,449	344	1,150	1,236	5,599	7,341
Savli..	..1946-47 ..	2,372	12,125	31	101	2,403	12,226	6,430
	Average ..	1,494	7,582	62	250	1,556	7,832	5,842
	1947-48 ..	593	3,094	2	16	595	3,110	10,008
	Average ..	1,680	8,548	72	284	1,752	8,832	6,215
	1948-49 ..	551	1,962	..	..	551	1,962	6,973
	Average ..	1,404	7,212	73	289	1,477	7,501	7,562
Tranza-Nagrama.	1946-47 ..	1	2	..	..	1	2	3,728
	Average ..	23	85	2	4	25	89	2,461
	1947-48 ..	..	..	4	8	4	8	4,585
	Average ..	23	80	2	4	25	84	3,120
	1948-49 ..	..	..	..	..	..	..	5,616
	Average ..	1	1	3	7	4	8	3,801
Futelao	..1946-47 ..	7	14	337	527	344	541	1,237
	Average ..	10	32	247	496	257	527	3,443
	1947-48 ..	50	247	22	53	72	300	4,899
	Average ..	7	24	308	555	315	579	4,657
	1948-49 ..	8	28	223	547	231	575	1,250
	Average	23	101	237	404	260	506	2,940

WANGROLI TANK.

The rainfall gauged at the site of the tank was 25.28 inches during 1948-49 as compared with 27.3 and 37.48 inches for the preceding two years. The tank was partially filled and the water was utilised in irrigating Kharif crop mainly of rice. The miscellaneous revenue realised during the year 1948-49 amounted to Rs. 1,368 compared with Rs. 399 and Rs. 1,894 received during the previous two years respectively. No remissions were granted during all the three years under Report.

SAVLI TANK.

The rainfall gauged at the site of the tank was 16.36 inches during 1948-49 as compared with 19.9 and 37.25 inches for the preceding two years. The tank was partially filled and the water was utilised in irrigating Kharif crops only of mainly rice. The miscellaneous revenue realised amounted to Rs. 2,622 during 1948-49 compared with Rs. 2,523 and Rs. 1,639 received during the previous two years respectively. No remissions were granted. An expenditure of Rs. 600 was incurred towards Special Repairs of the Tank during the year 1948-49. Besides, an amount of Rs. 395 was spent for providing needless and locking arrangements to a regulator across Luni Nalla near outlet No. 2 of Vasuathia Tank Kathana.

TRANZA-NAGRAMA TANKS.

The rainfall gauged at Tranza-Nagrama was only 12.4 inches, during 1948-49 as compared with 32.25 and 29.24 inches for the preceding two years. The tanks did not fill during the year 1948-49 and there was practically no irrigation during the year. The miscellaneous revenue realised amounted to Rs. 40 compared with Rs. 3,559 and Rs. 1,434 received in the previous two years, respectively. No remission was sanctioned. An expenditure of Rs. 1,842 was incurred towards repairs to Bund, during 1948-49.

Besides, the work of Special Repairs was started as a scarcity work and an expenditure of Rs. 880 was incurred thereon.

FUTELAO TANK.

The rainfall gauged at the site of the tank was 24.34 inches during the year 1948-49 as compared with 16.42 and 31.38 inches for the preceding two years. The tank was partially filled and some irrigation was done during Kharif and Rabi seasons during 1948-49. Although the supply of water was sufficient, the reason for less irrigation as compared with the storage of water in the tank is that the Bhills in this area are very poor and illiterate to take sufficient advantage of the water available by way of irrigation. The miscellaneous revenue realised amounted to Rs. 7 compared with Rs. 8 received in each of the previous two years. No remission was sanctioned.

The percentage returns obtained during the year from the working of these tanks are shown below :—

Name of Tank.	Year.	Gross Assessment.	Gross Realisation.	Less working expenses.	Net revenue.	Capital outlay direct and indirect to end of the year.	Percentage of return.
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Vangroli ..	.. 1946-47 ..	7,878	6,629	6,993	—364	2,93,295	—0.12
	.. 1947-48 ..	6,378	7,533	7,076	457	2,93,295	—0.015
	.. 1948-49 ..	3,955	4,562	5,959	—1,297	2,93,295	—0.44
Savli ..	.. 1946-47 ..	13,865	12,411	6,430	5,981	2,55,210	2.34
	.. 1947-48 ..	5,633	9,832	10,008	—176	2,55,210	—0.08
	.. 1948-49 ..	4,584	4,885	6,973	—2,088	2,55,210	—0.81
Tranza-Nagrama	.. 1946-47 ..	1,434	1,447	3,728	—2,294	2,80,635	—0.81
	.. 1947-48 ..	3,567	3,561	4,585	—1,024	2,80,635	—0.36
	.. 1948-49 ..	42	47	5,616	—5,569	2,80,635	—1.98
Futolao	.. 1946-47 ..	549	971	1,237	—688	1,16,461	—0.59
	.. 1947-48 ..	308	1,231	4,890	—3,668	1,16,461	—3.2
	.. 1948-49 ..	582	210	1,250	—1,040	1,16,461	—0.89

DECCAN IRRIGATION CIRCLE.

The rainfall was generally satisfactory till October 1948, except in the catchment of the Lake Whiting at Bhatghar. Unexpectedly heavy showers in the month of November 1948, however resulted in some addition to the lakes and less withdrawals; so that at the end of the irrigation year most of lakes had surplus water.

The following 10 sugar factories have been established on the Deccan Canals. The average for which water is guaranteed at present is noted against each.

Name of sugar factory.	Annual guarantee of water supply for arrears of sugarcane.	Cane standing on 15th June 1948.	Crushing capacity in tons per day.
	Acres.		
1. The Belapur Sugar Company, Harogaon (Pravara Left Bank Canal).	3,550	3,314	1,200
2. The M. S. Mills Limited, Tilak-nagar (Pravara Left Bank Canal).	4,250	3,586	1,000
3. Moessrs. The Walchandnagar Industries Limited (Nira Left Bank Canal and Nira Right Bank Canal).	3,500	3,500	1,250

Name of sugar factory	Annual guarantee of water supply for arrears of sugarcane.	Cane standing on 15th June 1948.	Crushing capacity in tons per day
	Acres		
4. The Phaltan Sugar Works, Limited, Sakharwadi (Nira Right Bank Canal).	2,500	2,052	650
5. The Saswadi Mali Sugar Factory Limited, Akluj (Nira Right Bank Canal).	1,600	1,370	450
6. The Brihan Maharashtra Sugar Syndicate, Limited, Borgaon (Nira Right Bank Canal).	1,600	1,760	350
7. The Rawalgaon Sugar Farm Limited, Rawalgaon (Girna Canals).	1,400	1,400	650
8. The Godavari Sugar Mills Limited, Kanhegaon (Godavari Right and Godavari Left Bank Canal).	..	..	650(G.R.B.C.)
	2,850	2,717	950(G.L.B.C.)
9. The Shree Chagedao Sugar Mills, Limited, Puntamb, (Godavari Right Bank Canal).	1,000	993	350
10. The Belwandi Sugar Farm, Limited, Near Visapur Tank.	No guarantee in respect of area is given but 3/4 of the water supply available on the 15th November in the Visapur Tank is guaranteed annually.	544	250

The area of sugarcane planted by the various sugar factories during the year 1948-49 was about 24,483 acres, as compared with 25,620 and 22,055 acres, respectively, for the previous two years.

A number of Drainage Schemes have been carried out in the various sugar factory areas to save lands from damage due to the intensive cultivation of sugarcane of sugar-factories.

The total area irrigated in the Deccan Irrigation Circle during the year 1948-49 was 3,25,562 acres compared with 3,30,527 and 3,67,031 acres during the previous two years respectively and the gross revenue amounted to Rs. 57.46 lakhs against Rs. 57.33 and Rs. 55.88 lakhs of the previous two years.

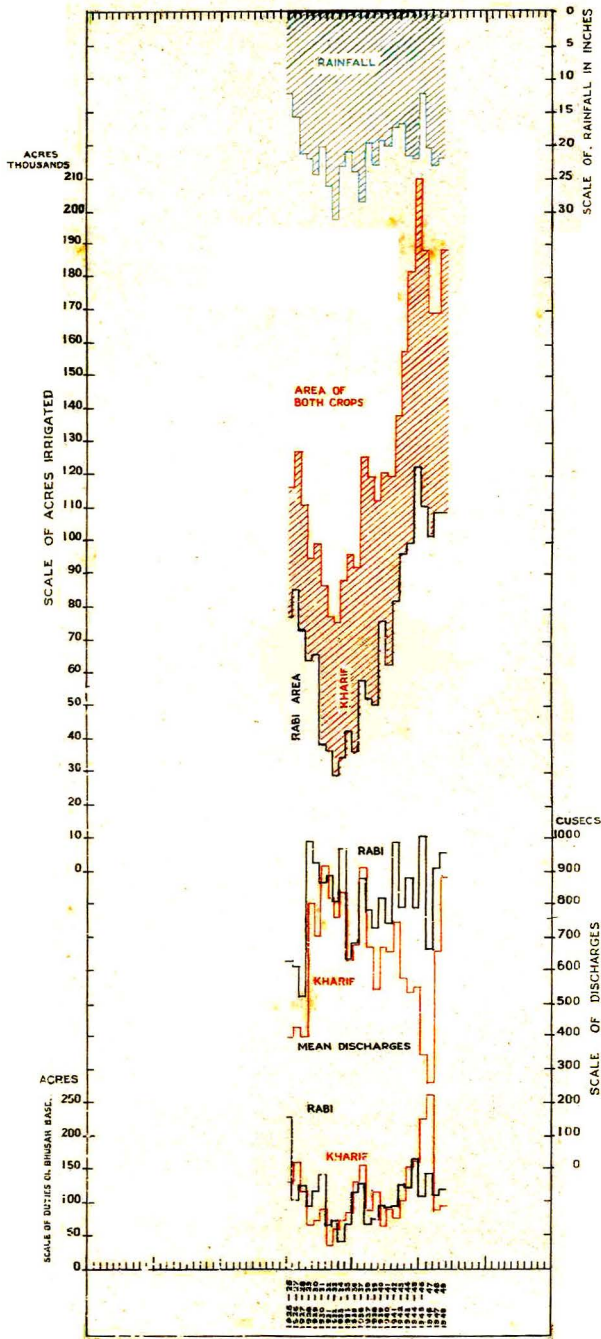
NIRA CANALS DIVISION.

LLOYD DAM AT BHATGAR AND NIRA RIGHT BANK CANAL.

The Nira Right Bank Canal is the largest canal in the Deccan. The original estimate of the project was framed in the year 1910 providing for :—

- The raising of the Dam at Bhatgar by 60' in order to increase its storage capacity from 5,300 to 24,200 million cubic feet.
- The construction of the canal 109 miles long on the right bank of the Nira River having a capacity of 1,500 cusecs at head.
- The enlarging of the existing Nira Left Bank Canal in order to increase its discharge from 450 to 760 cusecs.

POONA IRRIGATION DIVISION WORKING RECORD FOR NIRA R.B. & L.B. CANALS, 1925-26 TO 1948-49.



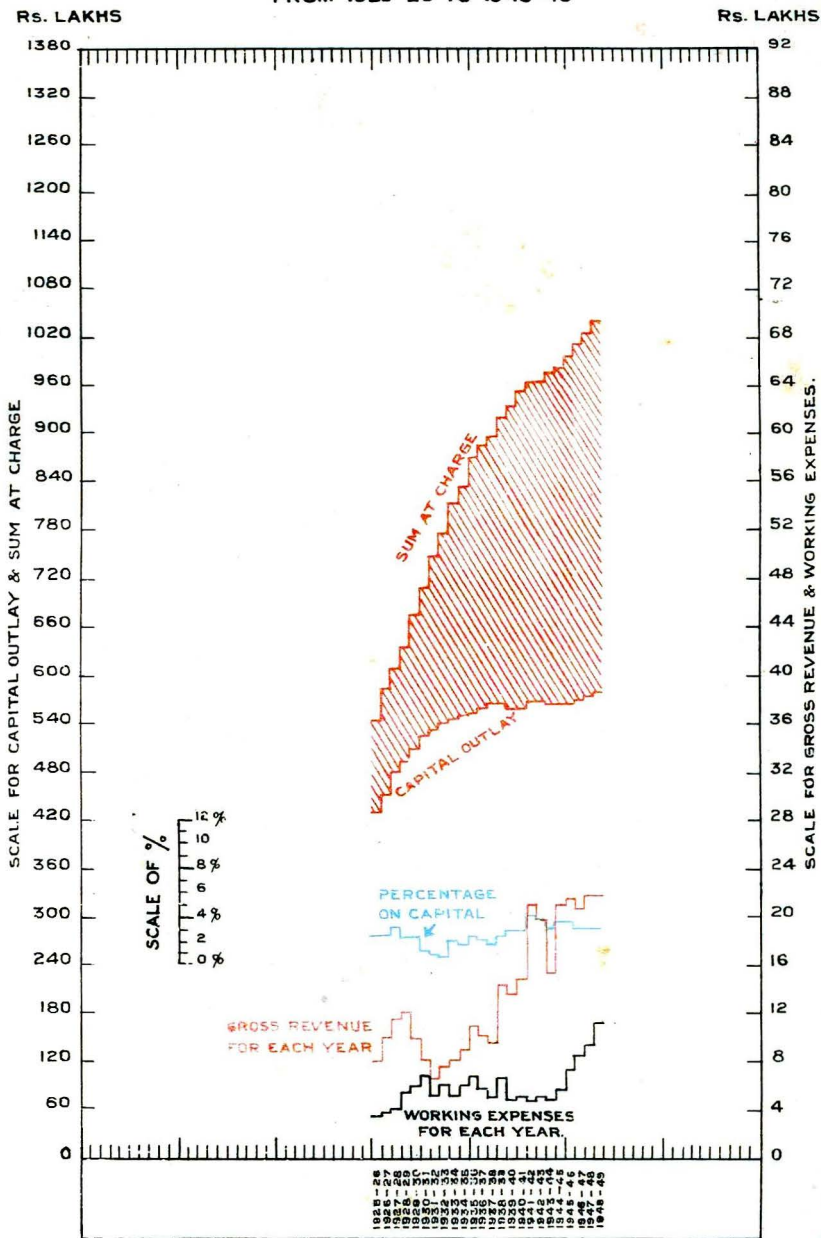
R.P.E.P. PL. WA. 1/52.


 SUPERINTENDING ENGINEER
 DECCAN IRRIGATION CIRCLE, POONA.

POONA IRRIGATION DIVISION

FINANCIAL RECORD FOR NIRA R.B. AND L.B. CANALS.

FROM 1925-26 TO 1948-49



G. R. P. POONA, 1952.

NOTE:-THE INTERCEPTS BETWEEN THE TWO RED LINES SHOW AMOUNTS OF INTEREST UNPAID UP TO END OF EACH YEAR WHICH BEING ADDED TO THE CAPITAL GIVE SUM AT CHARGE THE INTERCEPTS BETWEEN THE BLACK AND RED LINES SHOW THE NET INCOME OF EACH YEAR.

Asst. Engg.
10/11/52

SUPERINTENDING ENGINEER
DECCAN IRRIGATION CIRCLE,
POONA.

The total cost was estimated at about 258 lakhs and the area to be irrigated annually at 1,90,000 acres. The project was submitted to Government of India in May 1911, sanctioned by the Secretary of State in June 1912 and the work was started in the same year. Before the work of raising the Bhatgar Dam was commenced, however, it was decided for technical reasons to build an entirely new dam. Owing to the change and unprecedented rise in the cost of labour and materials due to the Great War a revised estimate amounting to Rs. 491 lakhs was framed in 1920 and submitted to the Government of India in September 1921. The revised project provided for :—

- (a) The construction of a new dam at Bhatgar designed to increase the storage from 5,300 to 24,200 million cubic feet.
- (b) The construction of a canal $106\frac{1}{2}$ miles along on the right bank of the Nira River and
- (c) The enlargement of the Nira Left Bank Canal including the expenditure of $3\frac{3}{4}$ lakhs already incurred on widening the Nira Left Bank Canal.

It was anticipated that 1,32,000 acres would be irrigated annually as a result of this scheme and that the gross revenue would amount to Rs. 15·22 lakhs and the net revenue to 11·92 lakhs yielding a return of 2·4 per cent on the capital outlay. The revised project was sanctioned by the Secretary of State in June 1922.

The Lloyd Dam at Bhatgar is 180 feet high, 5,333 feet long including the waste weir (4,266 feet long excluding the waste weir) and 124' wide at the base and was completed in 1928 at a cost of Rs. 172 lakhs. It is one of the largest masonry dams in India and contains $21\frac{1}{2}$ million cubic feet of masonry. The lake formed by the construction of the dam has a length of 17 miles at full supply level with a corresponding storage capacity of 24,200 million cubic feet. The catchment area is 128 square miles in extent with an annual rainfall varying from 250" in the Ghats to 40" at Bhatgar. In addition to the sluices required for releasing water for irrigation purposes there are 81 waste weir gates for the control and regulation of the flood level in the lake.

The Nira Right Bank Canal has its head works at Vir, 17 miles below the Lloyd Dam. The designed discharges of the canal at head and tail are 1,500 and 414 cusecs respectively, the corresponding full supply depth being 8.5 and 6.5 feet respectively. The canal about $106\frac{1}{2}$ miles in length commands lands situated in the Satara and Sholapur and Districts and the Phaltan (State). Water was first supplied from the canal for irrigation of Rabi Crops in 1924-25. The works on the main canal are completed. The Lloyd Dam was completed in 1928 and the Nira Right Bank Project was completed in 1937-38. There are three branches and 69 distributaries taking off from the canal, while the culturable area commanded by it is 4,48,000 acres. The water regulation and distribution works on the canal are constructed on modern lines and Standing Wave Flume measuring devices are provided at Distributary heads and on the channels. .

The designed discharging capacity of 1,500 cusecs was never attained on Nira Bank Canal and the maximum that could be passed safely was only 1,100 cusecs at the time of peak demand. In order to remedy this defect, a project amounting to Rs. 20 lakhs for raising the banks for discharging capacity of 1,000 cusecs was sanctioned and the same is now under execution. During the year 1948-49 the expenditure incurred on the work was Rs. 5.12 lakhs. On its completion the canal can carry its designed discharge and it will be a great help in furtherance of "Grow More Food" campaign specially in the monsoon season.

On the 15th February, 1948 the depth of water in the Lake Whiting at Bhatgar was 104.20 feet above sill of lowest outlet, the corresponding contents being 10,849 million cubic feet. On the 1st April, 1948 it came down to 90.95 feet, the corresponding contents being 7,252 million cubic feet. The water level was the lowest on the 8th July, 1948 with a depth of 58 feet, the corresponding contents being 1,551 million cubic feet. The lake began to get replenishment from 9th July 1948 and reached 134.2 feet (contents 20,674 million cubic feet) on the 8th September 1948. In November 1948 there were sufficient rains all over the irrigated tract and the depth of water of 136.10' on the 27th November 1948 was constant upto the 11th December 1948. The contents of the lake on 15th December 1948 were 21,000 million cubic feet against 16,544 million cubic feet on the corresponding day in the preceding year in 1947. The level was as high as 117.65 on 5th February 1949 (contents 14,978 million cubic feet) which meant a satisfactorily good balance of water. The average rainfall at the site of Bhatgar Dam during the year 1948-49 was 36.84" and that in the irrigation tract on Nira Right Bank Canal and Nira Left Bank Canal was 21.67" and 22.58" respectively.

•The following table gives the area irrigated, revenue assessed etc., during the three years as compared with the corresponding average of the past three years.

Year.	Area irrigated.	Water rates assessed.	Gross assessed revenue.	Working expenses.	Realisations.	Rainfall.
	Acres.	Rs.	Rs.	Rs.	Rs.	Inches.
1946-47	83,139	11,17,846	11,37,037	4,86,635	11,16,768	22.47
Average	90,384	10,27,044	10,53,995	3,15,403	9,75,007	19.01
1947-48	71,358	24,23,129	14,54,981	5,16,553	12,05,575	23.51
Average	88,891	10,88,781	11,13,933	3,71,670	9,31,038	18.62
1948-49	87,054	13,03,928	13,46,644	6,54,978	11,15,989	22.12
Average	81,159	12,19,424	12,43,159	4,51,244	11,21,806	18.62

The increase in the area irrigated during 1948-49 was due to high demand of Bhusar crops in tail areas on the Nira Right Bank Canal. The cost of measuring establishment employed during 1948-49 was 11 pies against 14 pies and 8 pies in the last two years. Remission amounting to Rs. 10,340

was sanctioned during the year 1948-49 as compared with Rs. 3,693-9-0 and Rs. 34,446 during the previous two years. Expenditure incurred on maintenance and repairs amounted to Rs. 1,73,958 against Rs. 1,84,568 and Rs. 4,84,720 for the previous two years. The perennial limit of the canal is upto mile 79.

NIRA LEFT BANK CANAL.

This canal forms part of the scheme known as the Nira Valley Development Project and irrigates lands situated on the Left Bank of the Nira River. It is one of the pioneer irrigation works in the Deccan and protects a tract in the Poona District with a very precarious rainfall. The original scheme consisted of—

- (a) A ghat-fed storage tank at Bhatgar (Lake Whiting) about 32 miles south of Poona on the Yelwandi River, impounding 5,300 million cubic feet of water,
- (b) A pick-up-weir at Vir on the Nira river about 17 miles downstream from Bhatgar,
- (c) A canal about 100 miles along irrigating about 80,000 acres annually, and
- (d) The Shetphal tank at the tail of the canal with an effective capacity of 592 million cubic feet for the purposes of storing a portion of the surplus monsoon discharge.

The original masonry dam at Bhatgar 127 feet high has since been replaced by the Lloyd Dam mentioned above. The original works were commenced in 1881 and the canal came into operation in 1885-86. The canal originally had a capacity of 456 cusecs but it has now been remodelled to carry a discharge of 720 cusecs. The canal together with the tank, commands a gross area of 2,01,000 acres while the area commanded by the Shetphal Tank itself is 23,000 acres. The culturable area under the canal is 1,49,821 acres.

NIRA VALLEY DEVELOPMENT PROJECT.

The Project was designed for the complete development of irrigation in the Nira Valley. It provided *inter-alia* for widening and remodelling of the Nira Left Bank Canal in order that the canal should irrigate an additional area of 19,000 acres of various types of crops and the construction of a new dam at Vir with storage capacity of 8,000 million cubic feet designed to supplement the storage of 24,000 million cubic feet impounded by the Lloyd Dam at Bhatgar. The construction of Vir Dam estimated to cost about a crore of rupees which was shelved in 1928 on the assumption that by economical distribution of the water available, the storage at Bhatgar would be sufficient to meet all irrigation requirements of the Nira Valley for some years. This will, however, have to be reconsidered now owing to the development of irrigation by the opening of Sugar Companies in the Valley, and at present the demand had overtaken the supply available. It is now necessary to

supplement the water supply and the Vir Dam project should be taken up for construction for complete development of Nira Valley. The remodelling of Nira Left Bank Canal which was started in 1925-26 was practically completed by the end of 1942-43. The average rainfall in the irrigation tract of Nira Left Bank Canal in the year 1948-49 was 22.58" against 20.44" and 19.74" of the previous two years respectively. The level of water in the Shetphal tank (tail tank of the Nira Left Bank Canal) went down to a depth of 13.80 feet on 17th June, 1948, the contents being 67 million cubic feet. The tank reached the full supply level of 37.5 feet on 26th August 1948 and the entire discharge let down to Shetphal was 631 million cubic feet.

The following table gives the figures of areas irrigated, revenue assessed etc., as compared with average of the previous three years :—

Year.	Area irrigated.	Water rates assessed.	Gross assessed revenue.	Working expenses.	Realisation.	Rainfall.
	Acres.	Rs.	Rs.	Rs.	Rs.	Inches.
1946-47	.. 76,799	10,15,751	10,32,585	3,44,684	9,45,980	19.74
Average	.. 83,775	9,04,468	9,34,411	2,41,475	8,70,818	17.90
1947-48	.. 75,194	10,76,860	11,13,904	4,01,245	9,46,666	20.44
Average	.. 82,188	9,60,482	9,86,600	2,99,325	9,18,414	18.02
1948-49	.. 73,256	9,85,218	10,11,926	4,30,906	10,25,688	22.58
Average	.. 77,465	10,17,492	10,46,203	3,55,868	9,29,496	17.53

The area of sugar cane blocks was 13,293 acres on the Nira Left Bank Canal during the year 1948-49 as compared with 14,164 and 14,138 acres, respectively, for previous two years ; while area under two seasonal and food and fodder crops was 26,826 acres in 1948-49 against 28,453 and 28,745 acres for the previous two years. The area of fruit and garden blocks on the Nira Left Bank Canal was 419 acres during 1948-49 as compared with 438 and 423 acres for the previous two years.

The area of sugar-cane blocks was 837 acres on the Shetphal tank during the year 1948-49 as compared with 837 and 838 acres for the previous two years ; while area under two seasonal and food and fodder crops was 1,534 acres in 1948-49 against 1,499 and 1,533 acres for the previous two years. The area of fruit and garden blocks on the Shetphal tank was 19 acres during 1948-49 as compared with 19 and 11 acres for the previous two years. The cost incurred on the measuring establishment was 11 pies per acre during 1948-49 against 10 pies per acre of the previous two years. Remissions sanctioned amounted to Rs. 65,611 during the year 1948-49 as compared with Rs. 19,010-5-0 and Rs. 12,202 during the previous two years, respectively.

The expenditure incurred on Maintenance and Repairs amounted to Rs. 1,32,397 against the expenditure of Rs. 1,60,704 and Rs. 3,43,303 for the last two years.

The perennial limit of the Nira Left Bank Canal is upto mile 75 and that of the Shetphal tank is upto mile 10.

POONA IRRIGATION AND RESEARCH DIVISION.

MUTHA CANALS AND MATOBA TANK.

This system came into operation in 1874-75. The canals were constructed at a cost of about Rs. 65½ lakhs including the cost of a large ghat-fed storage reservoir (Lake Fife) on the Mutha River at Khadakwasla about 12 miles from Poona. The Dam is 107 feet high, spanning the valley of the Mutha. The system comprises of two canals, the Mutha Right and Left Bank Canals, 70 and 18 miles long respectively. The maximum designed discharges of the two canals at their heads were 412 and 385 cusecs but the present maximum discharging capacity due to constant running for town water supplies and consequent weed and silt growth is about 300 cusecs and 20 cusecs respectively. It is not possible permanently to improve the capacity of the Mutha Right Bank Canal until a separate pipe line is provided from the dam to the city from town water supply. Both the canals take off direct from the lake which has a storage capacity of 3,091 million cubic feet of which 500 million cubic feet cannot be utilised on account of the Poona Water Supply System as margin of safety in the event of replenishment being received late. The storage is partly utilised for drinking and domestic purposes in Poona and partly for irrigation. The supply available for irrigation being insufficient, the perennial limit of the Mutha Right Bank Canal was restricted to mile 23 5/8 i.e., upto and including Distributary No. 9. Even so the supply available in the lake is totally inadequate to meet the increasing demands on it and a project for increasing the storage is under consideration and surveys are in progress at present. The Matoba Tank is the tail tank receiving the surplus supply of the canal during the monsoon months.

On the 1st April, 1948 the level of the water in Lake Fife was 17.85 feet, the corresponding contents being 1,172 million cubic feet against the level of 23.50 feet and contents 1,726 million cubic feet on the same date of the previous year.

The replenishment in the Lake commenced from 14th June 1948 when the lowest level was 9.40 feet (contents 514 million cubic feet) and the full supply level of 34 feet (contents 3091 million cubic feet) was maintained upto 14th November 1948 and a regular draw off commenced from 7th December 1948. The rainfall at Khadakwasla was 33.86 inches in 1948-49 as compared with 21.12 inches and 42.80 inches during the previous two years. The average rainfall in the canal tract was 22.59 inches in 1948-49 against 17.25 inches and 22.64 inches of the last two years. The tail tank at Matoba had dried on 15th February 1948 at the end of Rabi Season irrigation. The replenishment from the Mutha Right Bank Canal was allowed from 23rd June 1948. The highest level recorded on 23rd September 1948 was 29.90 feet and contents 184 million cubic feet.

The following table gives the figures of area irrigated, revenue assessed etc., as compared with the average of the previous three years :—

Year.	Area irrigated.	Water rate assessed.	Gross assessed revenue.	Working expenses.	Realisation.	Rainfall.
	Acres.	Rs.	Rs.	Rs.	Rs.	Inches.
1946-47	.. 24,174	1,72,587	5,84,589	1,95,873	5,21,890	22.84
Average	.. 22,365	1,29,644	4,38,764	1,51,180	3,56,543	25.08
1947-48	.. 22,287	2,02,815	6,35,706	....	3,75,014	17.25
Average	.. 21,805	1,46,054	5,02,326	1,87,267	3,07,808	21.38
1948-49	.. 19,545	1,56,762	6,04,770	....	....	22.59
Average	.. 21,488	1,72,139	6,65,220	2,09,626	2,84,907	18.29

Cane irrigation on these canals has been stopped altogether. The area under two season blocks on the Mutha canals was 610 acres during 1948-49 against 688 and 905 acres during the previous two years. The area under two season blocks on the Matoba tank was 1,708 acres in 1948-49 against 1,708 and 1,722 acres respectively, for the last two years. The quantity of water supplied to the Poona Cantonment and Poona City during the year 1948-49 was 3,130 and 3,601 million gallons, respectively, against 3,127 and 3,421 million gallons in the previous year. The revenue assessed during 1948-49 amounted to Rs. 1,75,090 and 2,03,107 respectively against Rs. 1,75,129 and 1,91,184 respectively of the last year. The cost of measuring establishment was 15 pies per acre during 1948-49 as against 18 pies and 16 pies per acre of the last two years respectively. The expenditure on maintenance and repairs amounted to Rs. 60,092 in the year 1948-49 against the expenditure of Rs. 72,989 and Rs. 1,95,092 for last two years respectively.

NASIK IRRIGATION DIVISION.

GODAVARI CANALS.

This is one of the major irrigation works undertaken in the Deccan for the protection of areas liable to famine. It was started in 1907 and completed in 1915-16 at a cost of about 1 crore of rupees. This system comprises of -

- (a) A storage reservoir (Lake Beale) on the Darna river, a tributary of the Godavari situated about 20 miles from Nasik,
- (b) A pick-up-weir at Nandur-Madhmeshwar on the Godavari 47 miles below the Darna Dam, which impounds the water released from the storage reservoir ; and
- (c) Two canals, the Right Bank Canal, 69 miles long which serves the northern tracts of the Ahmednagar District and the Left Bank Canal, 48 miles long which irrigates lands north of the Godavari in the Nasik and Ahmednagar Districts,

The length of the Darna Dam (inclusive of its waste weir) exceeds a mile and the dam has a maximum height of 92 feet above its lowest foundation level. The lake has a storage capacity of 7,763 million cubic feet and the catchment area is 156 square miles. The weir at Nandur-Madhmeshwar is 3,618 feet long inclusive of the Right and Left Bank Canals regulators. It has a maximum height of 34 feet above the level of the river bed. Scouring sluices have been constructed close to the head regulators of the two canals with the object of keeping the approach channels to the latter clear of silt. The total area under the command of the canals is 2,32,390 acres. The two canals (Right and Left) are designed to discharge 384 and 228 cusecs at their heads respectively with full supply depth of 7 feet and 6 feet respectively.

On the 1st April 1948, the level of the water in the Lake was 51.90 feet, the corresponding contents being 4,056 million cubic feet. The lowest level of 28.60 feet was reached on 11th June 1948, the contents being 1,083 million cubic feet when the lake began to receive replenishment. The draw-off for irrigation commenced from 2nd January 1949 with the water level at 64.15 feet, the corresponding contents being 7,470 million cubic feet. The perennial limits of Godavari Right Bank Canal is upto mile 69 and that of the Godavari Left Bank Canal upto mile 44 $\frac{1}{4}$ miles (temporarily extended to mile 48). The average rainfall in the catchment area of the lake was 79.93 inches during the year 1948-49 against 92.42 inches of the last year.

The following table gives the figures of area irrigated, revenue assessed etc., during the year 1948-49 as compared with the corresponding figures of the past 2 years.

Name of work	Area irrigated.		Water rates assessed.		Gross assessed revenue.		
	During the year.	Average Acres.	During the year.	Average	During the year.	Average.	
	Year.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.
Godavari Right Bank Canal.	1946-47	39,954	35,287	5,97,690	5,22,432	10,80,781	8,30,984
Godavari Left Bank Canal.	1946-47	27,934	25,155	4,83,091	4,03,731		
Godavari Right Bank Canal.	1947-48	31,946	35,287	5,60,419	5,22,432	10,52,848	8,70,322
Godavari Left Bank Canal.	1947-48	23,405	25,155	4,74,855	4,03,731		
Godavari Right Bank Canal.	1948-49	24,017	35,033	5,48,092	5,54,260	9,90,426	10,31,638
Godavari Left Bank Canal.	1948-49	18,834	20,412	4,24,281	4,43,315		

Name of work.	Working expenses.		Realisations		Rainfall.		
	During the year.	Average	During the year.	Average.	During the year.	Average.	
	Year.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
Godavari Right Bank Canal.	1946-47	2,90,292	3,15,521	1,50,531	7,50,804	21.72	21.49
Godavari Left Bank Canal.	1946-47					23.85	20.85
Godavari Right Bank Canal.	1947-48	3,21,384	2,95,499	12,40,361	8,99,309	19.33	19.46
Godavari Left Bank Canal.	1947-48					21.00	19.72
Godavari Right Bank Canal.	1948-49	4,18,717	3,01,818	9,90,835	10,31,638	27.77	18.14
Godavari Left Bank Canal.	1948-49					25.95.	19.04

The decrease in area irrigated and decrease in revenue assessed during the year 1948-49 was due to decrease in demand of water for jowar and bajari crops due to timely rains. The area under sugar-cane was 9,317 acres (exclusive of overlap), fruit and garden blocks 3,034 acres and two seasonal blocks 637 acres, during 1948-49 as compared with 10,348, 3,067 and 646 acres, respectively, during 1947-48 and 10,528, 3,055 and 653 acres respectively during 1946-47. The cost of measuring establishment was 21 pies during the year 1948-49 against 17 pies and 22 pies of the previous two years, respectively. Total remission sanctioned during the year 1948-49 amounted to Rs. 14,449 against Rs. 6,906 and Rs. 1,703 during the previous two years. The expenditure incurred on maintenance and repairs during 1948-49 amounted to Rs. 1,16,113 against the expenditure of Rs. 1,09,251 and Rs. 2,98,250 for the last two years, respectively.

CHANKAPUR TANK

Girna Canal.

This is a comparatively small irrigation system situated in the Nasik District having its storage reservoir at Chankapur, fed from a catchment of 100 square miles in extent and its pick-up-weir at Thengoda, situated further downstream on the Girna River from which weir the Girna Canal (19 miles in length) takes off. The tank is situated on the Girna River, a tributary of the Tapi and has been formed by the construction of a masonry dam 140 feet high, which impounds 1,550 million cubic feet of water. The dam and the canal (up to mile 13) were completed in 1909-10 and the canal has been in operation since then. This extension of this canals, designed to carry about 40 cusecs upto mile 19, was completed in 1920-21. The designed discharge of the canal at its head is 90 cusecs and its tail 15 cusecs, the corresponding full supply depth being 4½ feet and 2 feet respectively. The total area under

command of the canal is 29,182 acres and the irrigable area is 8,500 acres. The canal is being remodelled to increase the discharge to 155 cusecs at head and 43 cusecs at tail.

On the 1st April 1948, the level of water in the tank was 80-60 feet, the corresponding contents being 964 million cubic feet. The lowest level of 58-20 feet was reached on 13th June 1948, the corresponding contents being 386 million cubic feet when the tank began to receive replenishment. The draw off for irrigation purposes commenced on 1st December 1948 with water level at 92 feet, corresponding contents being 1,548 million cubic feet.

The following table gives the figures of the area irrigated, revenue assessed, etc., as compared with the average of the past three years :-

Name of work	Area irrigated.		Water rates assessed.		Gross revenue assessed.	
	During the year.	Average	During the year.	Average	During the year.	Average
	Year.	Rs. Acres.	Rs.	Rs.	Rs.	Rs.
Chankapur Tank	1946-47 ..	19,266 14,709	2,65,789	1,70,403	2,73,947	1,77,244
Girna Canal	.. 1947-48 ..	17,310 16,254	2,64,594	2,12,761	2,74,860	2,14,921
	.. 1948-49 ..	18,868 17,724	2,62,266	2,45,569	2,77,223	2,53,876

Name of work.	Working expenses .		Realisations.		Rainfall.		
	During the year.	Average	During the year.	Average	During the year.	Average.	
	Year	Rs.	Rs.	Rs.	Inches.	Inches.	
Chankapur Tank.	1946-47 ..	1,42,023	1,09,176	2,31,876	1,59,259	26.50	25.85
Girna Canal	.. 1947-48 ..	1,29,297	1,39,658	2,35,010	1,84,183	23.81	25.88
	.. 1948-49 ..	1,58,982	1,45,054	2,26,601	2,22,916	29.19	22.39

The increase in area irrigated during the year 1948-49 was due to increase in area under food and fodder crops. The 1/3 sugar-cane blocks were introduced on the Girna Canal with effect from 15th February 1946 and the area sanctioned under blocks during the year 1948-49, was 2,100 acres as against 2,115 and 1,401 acres during the previous two years. The sanctioned area under the two-seasonal block during 1948-49 was 112 acres as compared with 119 acres and 129 acres, respectively, for the last two years. The cost of measuring establishment during 1948-49 was Rs. 0-1-9 as compared with Re. 0-1-4 and Re. 0-1-9, respectively during the previous two years. The remissions sanctioned during the year 1948-49 amounted to Rs. 3,213 against Rs. 1,142 and Rs. 831 during the previous two years. The expenditure incurred on maintenance and repairs amounted to Rs. 25,746 during 1948-49 against the expenditure of Rs. 24,563 and Rs. 1,41,501 for the last two years, respectively.

KADWA CANAL

These works, which came into operation in 1868-69, consist of 3 small canals, viz., the Palkhed, the Ozar Tambat and the Wadali, taking off from weirs constructed across the Kadwa River and its tributary, the Banganga. The system comprises 38 miles of canals and distributaries. The storage reservoir is at Waghad (a ghat-fed storage) situated on the Kadwa River in the Nasik District. The catchment of the tank is 29 square miles in extent. The tank is remarkable for the size of its earthen dam, which has a maximum height of 96 feet. The designed discharges of the Palkhed Canal at its head and at its tail are 63 cusecs and 15 cusecs, respectively, the corresponding depths at full supply being 3½ feet and 2 feet. The designed discharges of the Ozar Tambat canal at its head and tail are 33 cusecs and 5 cusecs respectively, (the depths at full supply being 3½ feet and 2 feet respectively). The designed discharges of the Wadali canal at its head and tail are 19 cusecs and 5 cusecs respectively and the depth at full supply being 2 feet and 1 foot respectively.

On the 1st April 1948, the level of water in the tank was 117.40 feet, the corresponding contents being 327 million cubic feet. The lowest level of 97.20 feet was reached on 13th June 1948 with corresponding contents of 57 million cubic feet when the tank began to receive replenishment. The draw off for irrigational purposes commenced on 6th January 1949 with the water level at 127.50 feet and the corresponding contents being 589 million cubic feet. The draw off was continued upto 7th July 1949 when the tank level was 99 feet and corresponding contents being 75 million cubic feet.

The following table gives the figures of area irrigated, revenue assessed, etc., as compared with the averages of the past three years :—

Name of work	Year.	Area irrigated.		Water rates assessed.		Gross revenue assessed.	
		During the year.	Average	During the year.	Average	During the year.	Average.
		Acres.	Acres.	Rs.	Rs.	Rs.	Rs.
Palkhed Canal	1946-47 ..	2,979	2,931	45,580	24,779	1,10,514	59,686
Ozar Tambat Canal.	1946-47 ..	2,349	2,085	41,680	21,649		
Wadali Canal.	.. 1946-47 ..	1,290	1,398	21,865	11,707		
Palkhed Canal	.. 1947-48 ..	3,003	2,892	51,992	32,018	1,23,874	76,005
Ozar Tambat Canal.	1947-48 ..	2,006	2,090	45,662	28,444		
Wadali Canal	.. 1947-48 ..	1,219	1,339	24,861	15,165		
Palkhed Canal	.. 1948-49 ..	2,202	3,071	45,062	41,322	1,09,147	90,346
Ozar Tambat Canal.	1948-49 ..	1,728	2,202	40,627	36,914		
Wadali Canal.	.. 1948-49 ..	825	1,463	19,204	19,910		

Name of work	Working expenses.		Realisations.		Rainfall.		
	Year	During the year.	Average	During the year.	Average	During the year.	
		Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
Palkhed Canal						34.40	24.42
Ozar Tambat Canal.	1946-47	36,138	28,893	99,661	62,938	25.31	26.39
Wadali Canal.						25.74	25.63
Palkhed Canal						20.13	29.68
Ozar Tambat Canal.	1947-48		32,524	1,33,521	75,777	27.69	25.85
Wadali Canal.						27.47	25.66
Palkhed Canal						33.60	24.67
Ozar Tambat Canal.	1948-49	52,427	36,547	88,578	78,397	28.15	23.44
Wadali Canal.						24.58	22.71

The decrease in area irrigated and revenue assessed during 1948-49 was due to timely rains in the irrigation tract. The area of two-seasonal blocks during the year 1948-49 was 550 acres against 584 and 600 acres, respectively, for the last two years. The expenditure incurred on maintenance and repairs amounted to Rs. 14,818 during 1948-49 against the expenditure of Rs. 14,670 and Rs. 36,009, respectively for the last two years. The cost incurred on measuring establishment was Re. 0-1-3 during 1948-49 against Re. 0-1-4 and Re. 0-3-0, respectively for the last two years. Remissions sanctioned during the year 1948-49 amounted to Rs. 1,677 against Rs. 1,063 and Rs. 497 during the last two years, respectively.

PARSUL TANK.

As per Government Resolution, Public Works Department, No. 810/36 of 23rd October 1946, the Parsul Tank was transferred to this Circle from the Central Circle.

This system comprises of an earthen reservoir across Parsul river, pick-up-weir (pucca Bandhara) at Umrana and Soundhana villages and the 3 Channels viz. Umrana Left Bank, Umrana Right Bank and the Soundhana Right Bank Channels.

The tank was dry on the 12th March 1948. The first replenishment was received on 7th July 1948 and the tank filled upto full supply level on 2nd August 1948. The first draw off for irrigation purposes commenced on 25th August 1948 with a discharge of 0.33 cusecs. The total rainfall in the catchment at the two stations, viz., Nandurtek and Umrana was 14.09 inches and 12.87 inches respectively during the year 1948-49. The average rainfall during the year 1948-49 worked out to 13.48 inches against 13.25 inches and 20.69 inches of the last two years respectively.

The figures of area irrigated and revenue assessed for the year 1948-49 as compared with the figures for the last two years are as under :—

Year.	Area irrigated. Acres.	Gross assessed revenue. Rs.
1946-47	2,102	7,557
1947-48	2,080	12,164
1948-49	1,644	6,997

GANGAPUR STORAGE DIVISION

GANGAPUR DAM PROJECT.

The Government has sanctioned the project amounting to Rs. 2.35 crores for the construction of a dam at Gangapur across the river Godavari, under Government Resolution No. 6875/36-I of 19th January 1949, to serve as an additional storage for Godavari canals and a major irrigation scheme meant to irrigate the lands in the upper portion of the Godavari Valley also.

The dam will be 13,000 feet long, 130 feet above the river bed and will need over 100 million cubic feet of earth for its construction.

The dam will hold in its final stage of development 7,200 million cubic feet of water out of which 5,500 million cubic feet will be stored in the first stage on completion of the dam and before the installation of the waste weir gates.

The dam will cost nearly Rs. 175 lakhs (excluding over-heads). The canals will irrigate more than 40,000 acres of mixed crops and over 70,000 acres on the basis of food crops. All the preliminary work in connection with the construction of the dam is complete and the work of dam proper was started from 21st February 1949.

The project is planned to be completed in June 1953.

AHMEDNAGAR DIVISION.

PRAVARA RIVER WORKS.

The canal system which was constructed at a cost of $1\frac{1}{2}$ crores of rupees comprises of the following :—

- (a) The Wilson Dam at Bhandardara on the Pravara River. This dam which impounds the water of the Lake Arthur Hills is one of the highest dams in India having a height of 282 feet. It is 1,600 feet in length and the lake formed by the dam has a storage capacity of some 11,189 million cubic feet.
- (b) A pick-up-weir 890 feet long situated at Ozar, 53 miles downstream from Lake Arthur Hill and about 8 miles east of Sangamner, and
- (c) Two canals, the Pravara Right Bank Canal, 23 miles and the Pravara Left Bank Canal, 48 miles, long take off at the weir at Ozar.

These canals irrigate lands in the Ahmednagar District and command an area of 2,28,729 acres. The designed discharges of the two canals (Pravara Right and Pravara Left) at head are 152 and 530 cusecs respectively, the corresponding full supply depths being 5 feet and 9 feet. The work of remodelling the first 16½ miles of the Pravara Left Bank Canal and the Northern Branch has been completed in order to meet the increased demand for water from the Sugar Factories established on the Left Bank Canal. The work of remodelling Distributaries Nos. 8 and 9 and Water Course Nos. 32, 33 and 34 of the Pravara Left Bank Canal has also been completed. The work (1) remodelling the Lakh Canal - 0 to 5-3/8 miles and (2) completing the Musalwadi Tail Tank of the Pravara Right Bank Canal were in progress during 1948-49. With the remodelling of the canal and rotational running now practised, weeds do not appear at present. The Ozar weir has been raised by 2 feet in order to obtain the necessary supplies in the two canals. The height of the waste weir at Bhandardara was raised by 5.17 feet by constructing a crest wall. The construction of the Wilson Dam, which impounds the water of Lake Arthur Hill was commenced in 1911 and completed in 1926. The catchment area of the Lake is 47 square miles; it is situated in the ghats and has an assured run-off. The dam is designed to impound a maximum depth of water of 270 feet and is constructed across a gorge in the valley of the Pravara River. At present water is impounded to a depth of 265.70 feet giving a storage of 11,189 million cubic feet.

On the 1st April 1948, the level of water in the lake was 215.4 feet, the corresponding contents being 4,346 million cubic feet. The lowest level reached during the year 1948-49 was 151.9 feet on 13th June 1948, the corresponding contents being 288 million cubic feet. Replenishment commenced from 14th June 1948 and the full supply level of 265.70 feet was reached on the 26th August 1948, the contents being 11,189 million cubic feet. The maximum flood occurred on the 1st September 1948 when the level was 266.50 feet and lasted for about 12 hours. The draw off for irrigational purposes commenced from 26th September 1948 when the water level in the lake finally began to fall below 265.70 feet and the level of water gradually fell to 250.60 feet on 15th February 1949, the contents being 8,507 million cubic feet. The level of water on 31st March 1949 was 237.33 feet, the corresponding contents being 6,660 million cubic feet. The yield from the catchment (47 square miles) of the lake was 8 868 million cubic feet while the average rainfall of the two rain-gauge stations was 125.5 inches during the year 1948-49.

The following table gives the figures of the areas irrigated, revenue assessed, etc., as compared with the averages of the past three years :—

Name of Work	Area Irrigated		Water rate assessed		Gross assessed revenue		
	During the year.	Average.	During the year.	Average	During the year.	Average.	
	Year.	Acres.	Rs.	Rs.	Rs.	Rs.	
Pravara Right Bank Canal.	1946-47 ..	26,947	22,882	2,96,831	2,44,802	3,01,732	2,58,046
	1947-48 ..	22,751	23,823	2,97,197	2,67,244	2,99,250	2,78,783
	1948-49 ..	17,517	24,723	2,78,838	2,90,737	2,86,323	2,95,070
Pravara Left Bank Canal.	1946-47 ..	61,487	66,112	10,48,398	9,46,506	10,60,837	9,56,489
	1947-48 ..	56,985	59,329	12,17,892	10,05,775	12,22,131	10,16,403
	1948-49 ..	51,542	61,480	10,84,295	10,82,918	10,87,795	10,91,284

Name of work	Working expenses		Realizations		Rainfall		
	During the year.	Average.	During the year.	Average.	During the year.	Average.	
	Year.	Rs.	Rs.	Rs.	Rs.	Inches.	
Pravara Right Bank Canal and Pravara Left Bank Canal.	1946-47 ..	4,15,899	3,08,875	9,89,238	11,09,233	47.68	44.58
	1947-48 ..	5,80,772	3,44,791	12,32,664	12,53,422	45.04	38.83
	1948-49 ..	6,04,498	3,27,413	14,26,949	13,28,628	57.42	35.51

The decrease in area irrigated during the year 1948-49 was due to less demand for food and fodder crops due to timely rainfall. The total area of sugarcane blocks was 8,002 acres while the area under two seasonal block was 5,558 acres during the year 1948-49 as compared with 8,005 acres and 5,668 acres respectively during the year 1947-48 and 7,733 acres and 5,676 acres, respectively during the year 1946-47. The remissions of Rs. 60,036 was sanctioned during the year 1948-49 against Rs. 4,809 and Rs. 65,699 during the previous two years, respectively. The cost of measuring establishment was equivalent to 18 pies per acre during 1948-49 against 15 pies and 13 pies for the previous two years respectively. The expenditure incurred on maintenance and repairs and to the Wilson dam and the two canals was Rs. 98,524 during the year 1948-49 against the corresponding expenditure of Rs. 1,08,703 and Rs. 4,14,220 during the previous two years respectively.

BHATODI TANK.

This is a small tank situated on the Mahakari River about 12 miles from Ahmednagar. It depends entirely on local rains for its supply. Due to silting the storage capacity of the tank has been reduced from 154 million cubic feet to about 40 million cubic feet. The first replenishment was received on 20th June 1948 which raised the water to 20'30 feet.

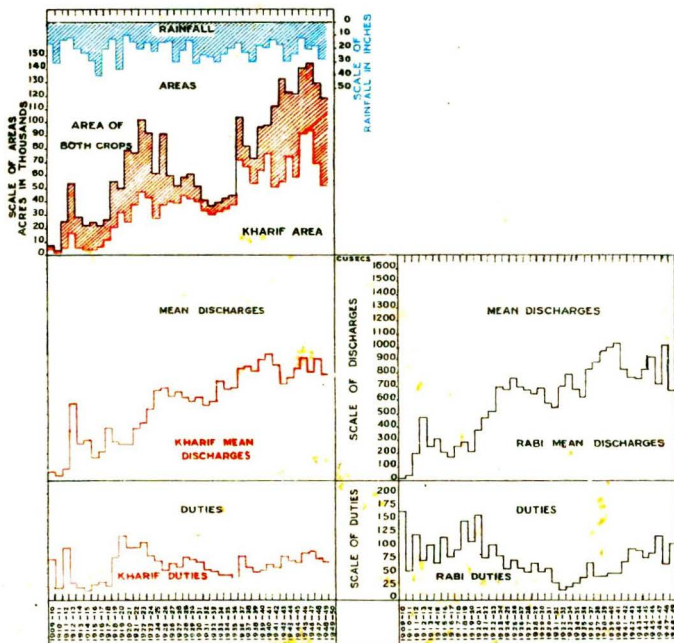
The following table gives the figures of area irrigated, revenue assessed etc. as compared with the average of the past 3 years :—

Name of work.	Area irrigated.		Water rates assessed.		Gross assessed revenue.		
	During the year.	Average.	During the year.	Average.	During the year.	Average.	
	Year.	Acres.	Acres.	Rs.	Rs.	Rs.	
Bhatodi Tank	1946-47 ..	713	729	3,630	2,684	945	5,706
	1947-48 ..	983	674	4,799	2,706	5,468	5,941
	1948-49 ..	873	743	3,264	3,199	5,361	5,385

AHMEDNAGAR DIVISION GODAVARI AND PRAVARA CANALS. COMBINED WORKING RECORD FROM 1909-10 TO 1948-49

NOTE:-

- (1) THE INTERCEPTS IN THE RED AREA SHOW THE RABI AREAS EACH YEAR.
- (2) THE AREAS SHOWN EXCLUDE THOSE OF THE LAKH CHANNEL TILL IT WAS AMALGAMATED WITH THE PRAVARA LEFT BANK CANAL IN 1925-26.
- (3) THE DISCHARGES ARE AVERAGE DISCHARGES AT HEAD CALCULATED ON THE TOTAL NUMBER OF DAYS OF THE SEASON CONCERNED.
- (4) THE DUTIES ARE CALCULATED ON THE ABOVE AREAS AND DISCHARGES.
- (5) THE RAINFALL IS AVERAGE RAINFALL OF ALL THE STATIONS ON THE CANALS.
- (6) THE DISCHARGES AND DUTIES FOR KHARIF AND RABI 1912-13 ARE FOR GODAVARI R.B. CANAL AND PRAVARA CANALS ONLY. FIGURES FOR GODAVARI L.B. CANAL ARE NOT AVAILABLE.



G. D. Z. H. PUNDA, 1952.

A. B. ...
10/6/52

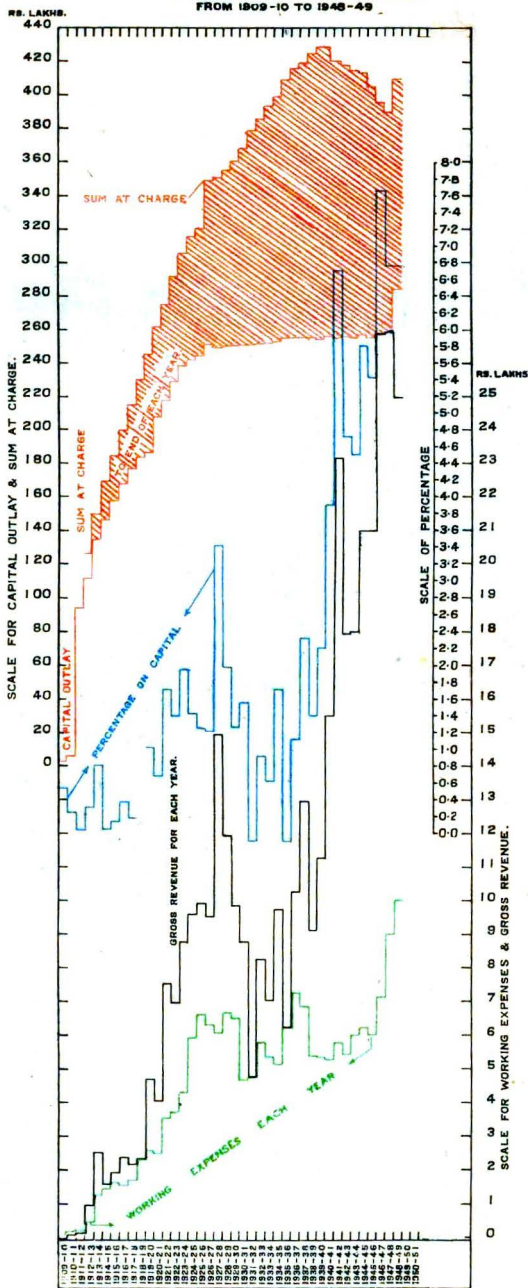
SUPERINTENDING ENGINEER
DECCAN IRRIGATION CIRCLE

R. S. ...
2/5/48

EXECUTIVE ENGINEER
AHMEDNAGAR DIVISION

AHMEDNAGAR DIVISION GODAVARI & PRAVARA CANALS COMBINED FINANCIAL RECORD

FROM 1909-10 TO 1946-49



THE INTERCEPT BETWEEN THE TWO RED LINES SHOWS ARREARS OF INTEREST UNPAID UP TO END OF EACH YEAR, WHICH BEING ADDED TO THE CAPITAL GIVES SUM AT CHARGE.
THE INTERCEPT BETWEEN THE GREEN & BLACK LINES SHOWS THE NET INCOME EACH YEAR.

N.B.

NAME OF CANAL	CONSTRUCTION COMMENCED IN	CANAL WAS OPENED IN
GODAVARI CANALS	1907	1911-1912
PRAVARA CANALS	1909	1909-1910

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SUPERINTENDING ENGINEER
DECCAN IRRIGATION CIRCLE,
POONA.

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EXECUTIVE ENGINEER,
AHMEDNAGAR DIVISION.

Name of work.	Working expenses.		Realisations.		Rainfall.		
	During the year.	Average.	During the year.	Average.	During the year.	Average.	
	Year.	Rs.	Rs.	Rs.	Inches.	Inches.	
Bhatodi Tank ..	1946-47 ..	3,029	2,686	2,181	2,636	23.86	23.87
	1947-48 ..	2,647	2,968	3,191	2,811	29.28	21.12
	1948-49 ..	3,348	3,040	4,646	2,886	20.94	21.08

There is no remarkable difference in areas irrigated of the year 1948-49 and the average of past three years.

No remissions were sanctioned during the years under report. The expenditure incurred on maintenance and repairs during 1948-49 amounted to Rs. 1,360 against the corresponding expenditure of Rs. 1,276 and Rs. 3,016 during the previous two years, respectively.

EASTERN CIRCLE.

SHOLAPUR DIVISION.

The area irrigated, the gross assessed revenue and the working expenses of the four irrigation works mentioned below, as compared with the average of the preceding three years, are given below :—

Name of work	Year.	Area irrigated.	Gross assessed revenue.	Working expenses.
		Acres.	Rs.	Rs.
Ekruk Tank ..	1946-47 ..	3	1,98,356	50,713
	Average ..	4,981	2,81,064	28,723
	1947-48 ..	2,443	2,50,433	65,759
	Average ..	2,961	2,68,433	37,705
	1948-49 ..	2,375	3,95,059	48,304
	Average ..	1,209	2,53,124	50,823
Ashfi Tank ..	1946-47 ..	2,802	24,981	14,990
	Average ..	4,850	26,564	11,154
	1947-48 ..	7,711	28,068	15,290
	Average ..	3,762	24,295	13,176
	1948-49 ..	7,068	43,858	11,481
	Average ..	4,910	26,565	6,154

Name of work	Year.	Area irrigated.	Gross assessed revenue.	Working expenses
		Acres.	Rs.	Rs.
Pathri Tank ..	1946-47 ..	1,792	18,173	6,095
	Average ..	1,489	13,599	4,562
	1947-48 ..	1,528	18,195	6,198
	Average ..	1,623	15,666	5,616
	1948-49 ..	1,541	27,562	20,459
	Average ..	1,575	16,985	14,555
Mhaewad Tank ..	1946-47 ..	7,559	33,974	63,355
	Average ..	8,189	40,721	54,291
	1947-48 ..	18,720	88,388	31,491
	Average ..	7,480	38,064	57,647
	1948-49 ..	13,649	62,334	67,251
	Average ..	10,630	53,309	63,439

EKRUK TANK.

The Ekruk Tank situated near Sholapur, which came into operation in the year 1872-73, is an artificial reservoir formed by the construction of a large earthen embankment 7,000 feet long and having a maximum height of 76 feet, with a storage capacity of 2,616.53 million cubic feet. It supplies water not only for irrigational purposes but also for water supply purposes to the town of Sholapur, the Mills in Sholapur and the Great Indian Peninsula Railway. Under unfavourable conditions of replenishment, which occur periodically, the supply available from the tank is not sufficient to meet all the demands. The question of providing an independent water supply scheme for Sholapur City and Mills in Sholapur from Bhima River is under consideration of Government.

On 1st April 1948, the level of water in the tank was 28.04 feet above the sill of the outlet. The water available in the tank was utilised for irrigation during Hot Weather and Kharif Seasons. The first replenishment of 783.79 million cubic feet was received on 9th August 1948 and the total replenishment of 2,942.08 million cubic feet was received in the tank and the waste weir overflowed from 29th September 1948 to 15th October 1948, 12th November 1948 to 19th November 1948 and 23rd November 1948 to 30th November 1948. Water was therefore, issued for irrigation during the Rabi Season. The area of 831 acres during the Kharif and 1,544 acres during Rabi Season was irrigated during the year 1948-49. The mean rainfall gauged in the catchment area was, 34.20 inches during 1948-49 as against 21.99 inches and 18.62 inches of the last two years.

ASHTI TANK.

On 1st April 1948, the level of water in the tank was Nil. The first replenishment of 91.49 million cubic feet was received in the tank on 27th June 1948. Some additional replenishment of 764.97 million cubic feet was received on 4th December 1948. The waste weir did not overflow during the year 1948-49. The area of 672 acres during the Kharif and 6,396 acres during the Rabi Season in the year 1948-49 was irrigated. The rainfall gauged was 24.71 inches in 1948-49 as against 24.59 and 20.69 inches, for the past two years, respectively.

PATHRI TANK.

The tank supplies water to the town of Barsi and Mill Industries as well as for irrigational purposes. On 1st April 1948, the level of water in the tank was 24.33 feet. Due to heavy rains in the months of July, August and September 1948 the tank went full on 8th July 1948 and the waste weir began to overflow upto 12th December 1948. The water available in the tank at the beginning of the Kharif Season was utilised for Kharif Irrigation during the year 1948-49 and the area of 174 acres was irrigated. The water available at the end of Kharif Season was utilised for Rabi Irrigation of the same year and the total area irrigated was 1,367 acres, after reserving water for water supply for Barsi Town. The average rainfall gauged at the two stations, in the catchment area of the tank, was 31.19 inches during 1948-49 as against 28.63 and 21.70 inches, for the past two years, respectively.

MHASWAD TANK.

The tank which is situated on the Eastern border of the Satara District is formed by the Earthen Dam built across the Man River. The dam is 9,000 feet long and 80 feet high at its highest point. The tank has a storage capacity of 2,602 million cubic feet and supplies water for irrigation of lands situated mostly in the Sholapur District. The tank is provided with a masonry overflow waste weir. The Project was commenced in 1876-77 and completed in 1888-89. There is only one canal taking off from the Left Bank of the Dam previously called Mhaswad Canal No. I and now termed as Mhaswad Canal, Part I. The designed discharge of the canal is 180.8 cusecs whereas the present actual discharge is about 146 cusecs. The Nira Right Bank Canal cuts across the Mhaswad Canal at Mile No. 15 and the old Mhaswad Canal has been remodelled to function as Branch No. III of Nira Right Bank Canal passing a discharge of 300 cusecs. The irrigation on this branch is being carried out with water available from the Mhaswad Tank but the supply is always insufficient to meet the full demand and hence water from Nira Right Bank Canal has to be obtained to meet the demand of irrigators if available.

On the 1st April 1948, the level of water in the tank was 8.40 feet above the sill of the outlet. The first replenishment of 439.20 million cubic feet was received in the tank on 8th July 1948. Some additional replenishment of 974.45 million cubic feet was received on 21st October 1948 and the waste weir overflowed on 20th October 1948. The water available in the tank was utilised for irrigation during Kharif Season. Some surplus water of 2,099

cusecs in Monsoon and 115 cusecs during Rabi Season was received from Nira Right Bank Canal and was utilised for irrigation during Kharif and Rabi Seasons of the year 1948-49. No sufficient water as per actual requirements was received from the Nira Right Bank Canal and hence areas applied for had to be reduced in view of the available supply of water. The area irrigated during Kharif and Rabi Seasons of the year 1948-49 was 6,761 and 6,888 acres respectively. The average rainfall gauged at 5 stations in the catchment area of Mhaswad Tank was 25.51 inches during 1948-49 as against 19.93 and 17.73 inches, for the last two years, respectively.

SATARA DIVISION.

The area irrigated, the gross assessed revenue and the working expenses of the six irrigation works mentioned below as compared with the average of the preceding three years, are given below:—

Name of work.	Area irrigated.		Gross assessed revenue. Working expenses.				
	During the year.	Average.	During the year.	Average.	During the year.	Average.	
	Year.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.
1. Krishna Canal	1946-47 ..	13,487	8,512	61,079	49,392	85,787	62,269
	1947-48 ..	9,170	9,815	71,405	50,043	1,26,216	77,239
	1948-49 ..	8,780	10,750	60,721	57,516	69,564	89,422
2. Rewadi Canal	1946-47 ..	1,095	778	5,433	4,058	3,564	7,128
	1947-48 ..	1,136	1,073	5,612	4,345	4,767	7,615
	1948-49 ..	943	1,086	5,115	5,244	27,539	6,277
3. Upper Man River Works.	1946-47 ..	1,155	839	5,467	4,189	12,453	10,636
	1947-48 ..	1,774	882	7,115	4,026	9,398	13,412
	1948-49 ..	1,133	1,036	5,699	4,535	17,868	15,410
4. Yerla River Irrigation Works.	1946-47 ..	4,984	4,321	22,962	24,243	19,974	11,515
	1947-48 ..	5,786	4,375	26,289	20,780	19,956	14,185
	1948-49 ..	5,135	4,925	26,533	22,920	30,653	17,112
5. Chikhali Canal	1946-47 ..	424	253	2,083	1,234	2,425	1,116
	1947-48 ..	324	262	1,754	1,219	2,564	1,685
	1948-49 ..	404	333	1,655	1,566	12,560	2,237
6. Maini Tank ..	1946-47 ..	2,397	2,064	10,219	6,592	7,368	45,827
	1947-48 ..	2,065	1,360	9,252	6,208	9,137	47,187
	1948-49 ..	1,762	1,677	8,930	7,406	11,031	32,480

KRISHNA CANAL.

The total rainfall gauged at Retre Budruk, which is situated in the centre of the canal tract was 31.18 inches in the year 1948-49 as compared with 27.99 inches and 46.95 inches for the past two years. The Krishna Canal takes off from the left bank of the weir built across the river Krishna near the village Khodashi about two miles from Karad. There is no tank and no storage capacity with the result that the irrigation depends upon the natural flow of the river during the season. The supply of water to this canal mainly depends on the rainfall at Mahableshwar from where the river Krishna starts. The perennial limit of the canal is extended upto Mile No. 20. No crops other than food and fodder were however allowed beyond Mile No. 16/4. The discharging capacity of the canal has been reduced owing to the accumulation of silt and due to bad condition of inlet and escapes. The work of removing silt to the extent of Rs. 8,670 was done during the year 1948-49. The area irrigated was 8,780 acres during 1948-49 as compared with 9,170 acres and 13,487 acres for the past two years, respectively.

REWADI CANAL.

The rainfall gauged at Rewadi, which is situated one mile below the bandhara, was 27.89 inches in 1948-49 as compared with 26.79 and 32.12 inches respectively for the past two years. The area of 943 acres was irrigated during the year 1948-49 as against 1,196 acres and 1,095 acres for the preceding two years. This decrease in the area irrigated during 1948-49 resulted in the decrease in revenue also.

UPPER MAN RIVER WORKS.

The tank was dry on 15th February 1948. It received first replenishment of 1.38 million cubic feet of water on 30th April 1948. The tank received second replenishment on 11th June 1948 with 1.66 million cubic feet of water. The subsequent replenishments received were not so note-worthy. The maximum level of water was on 20th October 1948 with contents of 103.82 million cubic feet of water and waste weir overflowed with height of 2 feet of water above the Waste-Weir. The area of 1,133 acres was irrigated during the year 1948-49 as compared with 1,774 and 1,155 acres, respectively for the last two years.

The rainfall gauged at Pingli was 26.48 inches as against 22.58 and 18.29 inches, respectively for the last two years.

YERLA RIVER IRRIGATION WORKS.

On 1st April 1948, the level of water in the tank was 13.10 feet with contents of 31.16 million cubic feet of water. The first replenishment was received on 13th June 1948 with 18.68 million cubic feet of water. The subsequent replenishments received, were not so note-worthy. The maximum level of water in the tank was on 21st November 1948 with contents of 489 million cubic feet and the waste weir overflowed with height of 6 inches above the waste weir. The total area irrigated during the year 1948-49 was 5,135 acres as compared with 5,786 and 4,984 acres for the previous two years, respectively.

The rainfall gauged at Nehr, which is near the tank, was 31.70 inches in 1948-49 as compared with 16.00 and 31.81 inches of the last two years, respectively.

MAINI TANK.

On 1st April 1948, the tank was dry. The tank received first replenishment of 22.64 million cubic feet on 6th June 1948. The tank received second replenishment on 17th June with contents of 20.20 million cubic feet of water. Subsequent replenishments were received in Monsoon and the contents on 22nd August 1948 in the tank, were 80 million cubic feet. The waste weir overflowed with 4 inches height above the waste weir.

The total rainfall gauged at Maini was 25.32 inches during the year 1948-49 as against 22.53 and 30.83 inches of the preceding two years respectively.

CHIKHLI CANAL.

The rainfall gauged at Chikhli was 17.30 inches during 1948-49 as compared with 20.50 and 23.20 inches of the preceding two years. The area of 404 acres was irrigated during the year 1948-49 as against the area of 324 and 424 acres, respectively of the preceding two years. Increase in the area irrigated during 1948-49 was due to propoganda of "Grow More Food" Campaign.

CENTRAL CIRCLE.

WEST KHANDESH DIVISION.

SHAHADA CHANNEL.

The channel is fed by the river Gomai, which has a perennial flow. The rainfall gauged at Shahada was 21.19 inches during the year 1948-49 as compared with 34.84 and 24.14 inches, respectively of the preceding two years. There was sufficient water in the Gomai river to meet the demand.

LOWER PANJHRA RIVER WORKS.

These works comprise of 8 bandharas and 9 channels situated between Dhulia and Betawad on the Panjhra river and the Mukti Tank, which is situated about 4 miles to the South-West of Dhulia. The channels obtains their supply from the river but when that supply is insufficient, it is supplemented by water obtained from the Mukti Tank.

On the 1st April 1948, the contents of the tank were 289.59 million cubic feet. They gradually diminished to 232.75 million cubic feet when the first replenishment was received and the contents increased to 299.33 million cubic feet. The maximum storage reached, was 347.09 million cubic feet on 15th August 1948. The year closed with a storage of 271.25 million cubic feet. The rainfall gauged within the catchment at Dahyana and Sadgaon was 16.03 inches in the year 1948-49 as compared with 18.74 and 37.75 inches, respectively of the past two years.

The subjoined table gives the area irrigated etc., during the year 1948-49 as compared with the average of the preceding three years :—

Name of work.	Area Irrigated.		Gross assessed revenue.		Working expenses.	
	1948-49.	Average.	1948-49.	Average.	1948-49.	Average.
	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.
Shahada Channel						
Patasthal ..	1,014	1,014	20,410	15,453	15,892	21,912
Jirayat ..	2,433	2,449				
Total ..	3,447	3,463				
Lower Panjhra River Works						
Patasthal ..	1,276	1,276	29,348	28,393	14,938	15,036
Jirayat ..	2,006	1,892				
Total ..	3,282	3,168				

EAST KHANDESH DIVISION.

JAMDA CANALS.

These canals receive their supply from the Girna river. The rainfall during the year 1948-49 was 47·09 inches as compared with 33·85 and 36·10 inches, respectively, of the preceding two years.

MHASWA TANK.

The tank derives its supply from local rains. On 1st April 1948, the storage of the tank amounted to 7·95 million cubic feet. The first replenishment was received on the 11th June 1948 when the contents increased to 6·47 million cubic feet. The maximum storage reached was 168·45 million cubic feet on 17th July 1948. The year closed with the storage of 11·29 million cubic feet on 31st March 1949. The rainfall gauged at the tank was 24·75 inches during 1948-49 as compared with 31·92 and 35·48 inches, respectively of the past two years. The area irrigated, gross assessed revenue and the working expenses as compared with the average of the past three years are given below :—

Name of work.	Area irrigated.		Gross assessed revenue.		Working expenses.		
	During the year.	Average.	During the year.	Average.	During the year.	Average.	
	Year.	Acres.	Acres.	Rs.	Rs.	Rs.	
Jamda canals ..	1946-47 ..	9,565	6,079	35,450	31,384	30,919	20,188
	1947-48 ..	6,418	7,350	33,208	32,268	21,985	25,421
	1948-49 ..	6,374	7,415	46,927	31,042	34,396	26,242
Mhaswa Tank ..	1946-47 ..	822	834	7,161	4,412	1,808	1,382
	1947-48 ..	718	821	3,797	5,356	4,937	1,714
	1948-49 ..	479	735	3,551	4,262	5,475	2,940

POONA EAST DIVISION.

SHRSUPHAL TANK.

On 1st April 1948, the level of water in the tank was 14.0 feet, the corresponding contents being 36.73 million cubic feet including silt deposit of 11.25 feet. This was utilised for hot weather irrigation. The tank was dry from 27th April 1948 to 7th May 1948. The first replenishment was received on the 8th May and the level of water rose to 13 feet, the corresponding contents being 30.44 million cubic feet including silt deposit. Due to rains the water level rose to 25.80 feet on 24th October 1948, the corresponding contents being 188.94 million cubic feet including the silt deposit of 20.58 million cubic feet. The highest level reached was 28.55 feet on 11th December 1948, the corresponding contents being 275.17 million cubic feet. The tank did not fill to its full supply level during the year 1948-49. The supply available was utilised for irrigation purposes during all the seasons of the year 1948-49.

The rainfall gauged in the year 1948-49 was 18.40 inches as compared with 10.30 and 8.20 inches, respectively of the past two years.

BHADALWADI TANK.

On 1st April 1948, the level of water in the tank was 31.95 feet, the corresponding contents being 148.44 million cubic feet including silt deposit of 23 feet i.e. 52.60 million cubic feet. The level gradually went down to 27.75 feet on 11th June 1948. The first replenishment was received on 12th June 1948 and the level of water rose to 30 feet, the corresponding contents being 124.07 million cubic feet including silt deposit. Due to good rains in September 1948, the tank began to overflow on 22nd September 1948. There was sufficient supply of water in the tank during the year 1948-49 which was utilised for irrigation during Kharif and Rabi seasons.

The total rainfall gauged during the year 1948-49 was 16.85 inches as compared with 14.30 inches for each of the preceding two years.

The following table gives the figures of the area irrigated, the gross assessed revenue, and the working expenses as compared with the average of the preceding three years :—

Name of work.	Area irrigated.		Gross assessed revenue.		Working expenses.		
	During the year.	Average.	During the year.	Average.	During the year.	Average.	
	Year.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.
Shirsuphal Tank	1946-47 ..	516	685	2,880	3,253	1,990	3,698
	1947-48 ..	1,110	659	5,026	3,226	5,206	3,408
	1948-49 ..	1,551	608	9,141	3,334	..	3,196
Bhadalwadi Tank	1946-47 ..	1,147	1,436	5,417	6,773	7,197	1,28,162
	1947-48 ..	1,858	1,244	8,443	6,082	4,790	1,29,262
	1948-49 ..	1,705	1,395	8,510	6,038	..	60,762

SOUTHERN CIRCLE.

BELGAUM DIVISION.

GADDIKERI TANK.

The lands under the command of the tank are all assessed at consolidated rates. The area irrigated and the irrigation share of land revenue assessed were 423 acres and Rs. 2,344 respectively.

DHARWAR DIVISION.

DAMBAL TANK.

On the 1st April 1948, the water level in the tank was at R. L. 140.85 *i.e.* 4.65 ft. above the silted bed of the tank. Thereafter the water gradually went down. The tank received its first replenishment on 27th April 1948 at R. L. 139.70. The water in the tank reached its highest level on 22nd October 1948 at R. L. 144.15 *i. e.* 7.95 feet above the silted bed of the tank. The water supply in the tank was adequate for the crops both during the Kharif and the Rabi seasons of the year 1948-49 to cope up with the demands of irrigators,

Part of the land dependent on this tank is assessed at water rates, the balance being assessed at consolidated rates. The total area irrigated and the assessment levied under water rates were 351 acres and Rs. 1,766 respectively during the year 1948-49 as compared with 486 and 370 acres and Rs. 1,542 and Rs. 807, respectively for the previous two years. The irrigated area under consolidated assessment and the irrigation share of land revenue were 144 acres and Rs. 920 respectively during 1948-49 as compared with 144 acres and Rs. 916, respectively during each of the previous two years. The total assessed revenue during the year 1948-49, was Rs. 4,640 against Rs. 4,433 and Rs. 2,673 for the previous two years, respectively.

MEDLERI TANK.

On the 1st April 1948, the water level in the tank was at R. L. 170.06 *i.e.* 5.96 feet above the sill of the outlet. The tank was replenished on 26th April 1948, at R. L. 171.00. The highest level of the tank reached on 28th June 1948 was at R. L. 175.60 *i. e.* 10.60 feet above the sill of the canal regulators. The water in the tank was sufficient to meet the demand of the irrigators throughout the year 1948-49.

The area irrigated and the assessment levied thereon in the year 1948-49 were 150 acres and Rs. 969 respectively as compared with 142 and 127 acres and Rs. 889 and Rs. 704, respectively for the previous two years. The increase in area irrigated and assessment during 1948-49 was due to encouragement given to food grain crops.

The gross assessed revenue during the year 1948-49 amounted to Rs. 1,305 as compared with Rs. 1,216 and Rs. 910 during the previous two years, respectively.

MADAG TANK.

On the 1st April 1948, the water level in the tank was at R. L. 1,877.50 *i.e.* 4.25 feet above the sill of the outlet. The tank received its first replenishment on 21st April 1948 and the highest level reached during the year was at R. L. 1,888.05 on 14th August 1948 *i.e.* 14.80 feet above the sill of the outlet and overflowed with the maximum depth of water 11'03 above the crest of the left side waste weir. The waste weir began to overflow from 9th May 1948 to end of the year. The water supply in the tank was quite adequate for both the seasons and always in excess of demand during the year 1948-49.

The area irrigated and the assessment levied thereon during 1948-49 were 658 acres and Rs. 2,853, respectively, as compared with 638 and 603 acres and Rs. 2,867 and Rs. 2,574, respectively, for the previous two years. The increase in both the area and assessment during the year 1948-49 was mainly due to more scope given to "Grow More Food" Campaign. The gross assessed revenue during the year 1948-49 amounted to Rs. 3,448 as compared with Rs. 3,214 and Rs. 3,152 during the previous two years, respectively.

ASUNDI TANK.

On the 1st April 1948, the water level in the tank was at R. L. 103.25 *i.e.* 4.25 feet above the sill of the outlet. The tank was empty from 22nd April 1948 to 1st May 1948 and received its first replenishment on 2nd May 1948. The water level on that day was at R. L. 102.50. The highest level reached during the year 1948-49 was at R. L. 108.25 *i.e.* 9.25 feet above the sill of the outlet on 30th November 1948. There was no overflow during the year 1948-49. The supply of water from the tank was found satisfactory during 1948-49 to meet the full requirement of the irrigators for Kharif and Rabi seasons in addition to 182 acres of land under consolidated assessment and 165 acres of Hot Weather application.

The lands under this tank are partly assessed at water rates and partly at consolidated rates. The area irrigated and the assessment levied thereon during 1948-49 under the former head (water rate) were 166 acres and Rs. 983, respectively, as compared with 316 and 123 acres and Rs. 2,458 and Rs. 846 respectively, during the previous two years. The decrease during 1948-49 was due to exclusion of hot weather area which will be included in the next Kharif season Demand Statement. The area irrigated under consolidated assessment was 182 acres during the year 1948-49 as compared with the same number of acres irrigated during each of the previous two years. The irrigation share of the revenue was Rs. 712 during each of the years 1946-47, 1947-48 and 1948-49. The gross assessed revenue during the year 1948-49 amounted to Rs. 1,695 against Rs. 3,248 and Rs. 1,650 for the previous two years, respectively.

DHARMA CANAL.

The canal gets its supply from the Dharma River and irrigates lands directly as well as through a number of tanks which are also fed by it. The canal was continuously flowing from 24th June 1948 to 15th November 1948

on which date it ceased to flow. The rainfall during the year 1948-49 was satisfactory with the result that the supply throughout the season was adequate. The crops all over the canal zone were in good condition during the year 1948-49.

The canal is old and is dependent on the rains for its supply. Out of the allotment of Rs. 28,000 sanctioned for the year 1948-49 for S. R. portion of the work, Rs. 17,000 were surrendered as the tenders were not likely to be sanctioned on account of high rates quoted by the contractors. Expenditure on S. R. work portion during the year 1948-49 was Rs. 8,365.

The lands commanded by this canal are assessed partly at water rates and partly at consolidated rates. The area irrigated and the assessment levied thereon under the former head (water rate) was 705 acres and Rs. 3,118 respectively during 1948-49 as compared with 639 and 646 acres and Rs. 2,748 and Rs. 3,149, respectively, during the previous two years.

The gross assessed revenue after deducting the amount of Rs. 23,156 (to be credited to the old work) amounted to Rs. 1,989 during 1948-49 against Rs. 23,222 and Rs. 2,020 during the previous two years, respectively. The area irrigated under the consolidated assessment and the irrigation share of land revenue thereon were 8,648 acres and Rs. 22,027 respectively during each of the years 1946-47 to 1948-49.

KANARA DIVISION.

MAVINKOP TANK.

The irrigation management of this tank has been entrusted to the Revenue Department. The supply of water in the tank during the year 1948-49 was adequate for irrigation. The area which is assessed at consolidated rates amounted to 527 acres and the irrigation share of land revenue was Rs. 2,013 during the year 1948-49 as against 508 and 493 acres and Rs. 1,811 and Rs. 2,013 for the previous two years, respectively. The gross assessed revenue during the year 1948-49 was Rs. 2,516 (i.e. Irrigation share Rs. 2,013 and Rs. 503 for land share) as compared with Rs. 2,264 and Rs. 2,013 during the previous two years, respectively.

BIJAPUR DIVISION.

MUCHKUNDI TANK.

The tank is solely dependent on local rains for its replenishment and the storage of water in the tank is uncertain owing to the scanty rainfall in the area. The rainfall recorded during the year 1948-49 was little more than the average of the past three years. There was no demand for water for irrigation purposes for Kharif season of the year 1948-49 as the irrigators did not care to take advantage of it. The tank bed was given on lease as an experiment, to the Joint Farming Society Limited, Bagalkot with the approval of Government, as per Government Letter (Public Works Department) No. 5594/36-I.B.(II), dated the 29th April 1949. The highest level of water during the year 1948-49 was at R. L. 1792.44 on the 18th November 1948.

KARNATAK IRRIGATION CIRCLE.**GOKAK CANAL.**

The Gokak Canal system is the only important irrigation work in this Circle and in the Belgaum Collectorate, with its reservoir formed by a masonry weir across the river Ghataprabha at Dhupdal. It consists of 16.13 miles of main and branch canals and 35.43 miles of distributaries. Total commanded area under the system is 18,668 acres with an irrigable area of 17,627 acres. The management of this Canal system has been transferred to this Circle from the Southern Circle in July 1948, when the Ghataprabha Left Bank Canal Division was opened in this Circle for the work of constructing the Ghataprabha Left Bank Canal—miles 0 to 44 from Dhupdal weir. The Dhupdal storage reservoir is mainly meant for irrigation, but a major quantity of water is supplied to the Gokak Mills Limited in accordance with the agreement between Government and the Company. The Company pays an amount of Rs. 14,313 annually to Government in two instalments, one in January and the other in July, for the water supplied to it from the Reservoir, subject to a rebate in the event of supply falling short of the quantity of water contracted for.

Water was supplied to Madras and Southern Mahratta Railway at the Hukeri Road Station and an amount of Rs. 1,464 was received from the Company at the rate of Rs. 122 per month for the year 1948-49. During the years 1946-47 and 1947-48, water was supplied to the Railway Company at a charge of Rs. 82-8-0 per month and the total amount recovered from the Railway Company on this account was Rs. 990 in each year.

On the 1st April 1948, the water level in the Reservoir was 18.90 feet and the lowest level reached was 17.10 feet on 14th June 1948. There was slight replenishment in the first week of May 1948. The tank received a full replenishment of 6.20 feet on 15th June 1948, raising the level to 23.30 feet when the water overflowed. The highest flood level during the Monsoon of 1948-49 was 25.60 feet on 22nd July 1948 and the maximum discharge corresponding to this height was 70,578 cusecs. In order to store water for irrigation during the Rabi season from the post-monsoon floods, the raising of the 4 feet temporary wooden crest except the top 2 feet of the 100 reserve bays was started on 9th October 1948 and completed on 2nd November 1948. The raising of top 2 feet of the bays was started on 3rd November 1948 and completed on 16th November 1948. On completing the raising of the temporary crest, the level reached the Full Supply Level on 19th November 1948 and with slight fall and rise, it was constant till 12th January 1949. The level, thereafter began to go down gradually and was 25.34 feet, 23.25 feet and 21.45 feet on 31st January 1949, 28th February 1949 and 31st March 1949, respectively.

According to Government Letter, Public Works Department, No. 3541/36-I.B.(II), dated 25th October 1948, Rabi irrigation for cane crop during 1948-49 was forbidden but the irrigators still took unauthorised waterings to sugarcane. The total unauthorised area under sugarcane was 377 acres and the amount of penalty amounted to Rs. 53,853, during the year 1948-49. The policy of restricting non-food crops like Chillies, Cotton, Tobacco, etc.

is being gradually enforced and food and fodder crops are being encouraged. The following table gives information regarding the area irrigated and revenue assessed as compared with the average of previous three years :—

	Area irrigated.		Gross assessed revenue.	
	During the year.	Average.	During the year.	Average.
	Acres.	Acres.	Rs.	Rs.
1946-47	15,885	13,959	87,131	71,058
1947-48	15,878	14,589	91,821	79,334
1948-49	16,124	15,423	78,310	91,120
			53,853 *	

* This figure represents the penal charges in respect of unauthorised sugarcane during Rabi 1948-49, the recovery of which is suspended at present and will be waived at the end of 1953 if the irrigators abide by the conditions of the agreement not to grow sugarcane in the canal zone till that date.

GHATAPRABHA LEFT BANK CANAL.

The plans and estimates for the Ghataprabha Left Bank Canal Project miles 0 to 44 from Dhupdal Weir have been sanctioned by Government and the preliminary arrangements such as construction of staff quarters, inlets for machinery required for the work, are in progress. This scheme, cost of which is about 5½ crores, is considered as a food and fodder scheme. This will only be a monsoon canal by itself and investigation of sites for the storage reservoir in the higher reaches of Ghataprabha, Tamraparni and Hiranyakeshi Rivers, has also been taken up.

SECTION II.

COMPRISING IRRIGATION WORKS FOR WHICH NEITHER CAPITAL NOR REVENUE ACCOUNTS ARE KEPT.

Detailed Reports by Local Officers.

NORTH GUJARAT CIRCLE.

AHMEDABAD DIVISION.

The only works now in charge of this Department are (1) Timba tank at Harsol, Taluka Prantij, (2) Goblej Tank at Goblej, Taluka Matar and (3) Galki tank at Sankhej, Taluka Mahemdabad, District Kaira.

The area irrigated and the revenue assessed under these tanks during the year 1948-49 are as under :—

Name of tank.	Area irrigated.		Assessment.
	Acres	Acres	Rs. a. p.
(1) Timba Tank	..	Nil	Nil
(2) Goblej Tank	..	8-7	24 9 0
(3) Galki Tank	..	Nil	Nil

The miscellaneous revenue derived from these tanks was Rs. 1,567 during the year 1948-49.

These tanks were maintained at a cost of Rs. 6,930 during 1948-49. Besides, an amount of Rs. 388 was spent for Special Repairs to Goblaj Tank at Goblaj, Taluka Matar, District Ahmedabad.

KAIRA AND PANCHMAHALS DIVISION.

SALAT TANK.

The rainfall gauged at the site of tank was 12.60 inches, in the year 1948-49 as compared with 20.81 and 32.58 inches, respectively for the previous two years. There was no irrigation due to less rain in the year 1948-49. The area irrigated during the year 1947-48 amounted to 128 acres against an area of 701 acres during the previous year. The assessment during 1947-48 amounted to Rs. 586 as compared with Rs. 2,711 for the previous year. The miscellaneous revenue realized during the year 1948-49 amounted to Rs. 1,044 against Rs. 375 and Rs. 1,826, respectively, of the previous two years. An expenditure of Rs. 3,048 was incurred towards silt clearance and jungle cutting in 1948-49. No remission was sanctioned.

MUVALIA TANK.

The rain fall gauged at site of tank was 28.79 inches in the year 1948-49 as compared with 16.24 inches during the previous year. It was filled upto full supply level only once in the year 1948-49. There was good demand of Canal water as there was little rain during the year 1948-49. The miscellaneous revenue realized during the year 1948-49 amounted to Rs. 1,367 against Rs. 1,308 and Rs. 589, respectively for the previous two years. The work of adopting measures for prevention of breach and failure was in progress during the year 1948-49 and an expenditure of Rs. 9,386 was incurred thereon. Besides, the work of removing silt from Left Bank Canal of Muvalia Tank was in progress and an expenditure of Rs. 4,993 was incurred thereon.

DECCAN IRRIGATION CIRCLE.

NIRA CANALS DIVISION.

RAKH TANK.

This tank is situated about five miles from Walha Railway Station of the Madras and Southern Mahratta Railway and is formed by an earthen dam constructed across a nalla near Rakh village in Purandhar taluka of the Poona District. The catchment area of the tank is 5.38 square miles and its capacity is only 34.2 M. Cft. The tank has two channels of a total length of three miles. The area under command of channel No. 1 which is on the Left Bank is 265 acres, and that on channel No. 2 is 321 acres. The main channel is designed to discharge 12.8 cusecs leaving sufficient margin for all losses in transit.

The total area irrigated during the year 1948-49 was 71 acres against 15 acres and 26 acres, respectively for the last two years. The revenue assessed

during 1948-49 was Rs. 394 against Rs. 72 and Rs. 149 respectively, for the previous two years. The increase is due to more demand for food and fodder crops on the tank.

POONA IRRIGATION AND RESEARCH DIVISION.

EFFLUENT IRRIGATION ON THE MUTHA RIGHT BANK CANAL.

The average discharge of effluent pumped during the year 1948-49 was 10.56 cusecs against 11.83 cusecs and 10.13 cusecs of the previous two years. The whole discharge was utilised for irrigation. Total area irrigated in 1948-49 was 3,407 acres against 4,425 acres and 4,191 acres, respectively, during the previous two years. The assessed revenue during 1948-49 amounted to Rs. 51,690 against Rs. 67,273 and Rs. 56,020 of the previous two years. The rate for the supply of effluent for sugarcane was Rs. 100 per acre for the years from 1946-47 to 1948-49.

BANDHARAS (POONA DISTRICT).

Bandharas are small weirs built across streams so that the water level may be raised sufficiently to command the lands to be irrigated. The following table gives the area irrigated and the consolidated assessed revenue on the bandharas in the Haveli Taluka of the Poona Collectorate during the year 1948-49 as compared with the corresponding figures for the previous two years :—

Particulars.	Area irrigated.	Consolidated revenue.		
		Irrigation share.	Land revenue.	Total.
	Acres.	Rs.	Rs.	Rs.
1946-47	29	73	174	247
1947-48	29	73	174	247
1948-49	29	73	174	247

KHAMGAON TANK.

The tank which is situated in mile 43 of the Mutha Right Bank Canal is only partially completed. It receives replenishment during the monsoon through the Mutha Right Bank Canal Distributary No. 17. The tank was raised by 6 feet increasing its capacity to 36 M. Cft. in the year 1944. The area irrigated and the gross assessed revenue during the year 1948-49 was 573 acres and Rs. 1,787, respectively against the corresponding figures of 635 acres and Rs. 2,904 and 564 acres and Rs. 2,113 respectively, for the previous two years.

NASIK IRRIGATION DIVISION.

BANDHARAS (NASIK DISTRICT).

There are numerous bandharas situated in this District. There are in all 295 such bandharas in the District. The expenditure incurred on repairs to bandharas (58 in number) during the year 1948-49 amounted to Rs. 26,799 as compared with Rs. 25,972 and Rs. 23,552 for the previous two years.

KHIRDI SATHE TANK.

As per Government Resolution, Public Works Department, No. 810/36 of 23rd October 1946 the Khirdi Sathe Tank was taken over from the Central Circle in December 1946.

There is no surety of supply of water to last for full year and hence perennial irrigation is allowed by sanctioning water applications for each season. The irrigators maintain the perennial crops on storage water as far as available and then maintain on well water upto maturity when storage was found to be insufficient. Lucerne and fruit trees are also allowed in small areas. On 1st April 1948, water level was 12 feet with corresponding contents of 31.39 M. Cft. The first replenishment was received on 15th June 1948 and the tank filled upto 18.40 feet on 29th November 1948. The first draw off for irrigation purposes commenced on 6th December 1948 with a quantity of 1.25 cusecs. The total rainfall in the catchment was 27.43 inches during 1948-49. The total area irrigated during the year 1948-49 was 748 acres as compared with 887 acres and 798 acres, respectively for the previous two years. The assessment in the year 1948-49 amounted to Rs. 5,925 against Rs. 6,194 and Rs. 4,322, respectively for the previous two years.

AHMEDNAGAR DIVISION.

VISAPUR TANK.

The Visapur Tank dam which is situated about 2 miles from the Visapur Railway Station on Dhond Manmad Railway line is built across the Hanga river, a tributary of the Bhima river. It was started as a famine relief work in 1896 and was subsequently completed in successive stages by Criminal Tribes and convict labour by June 1927. The earthen Dam which is 7,440 feet long and 84 feet high forms a lake having a gross capacity of 1,510 M. Cft. The estimated cost of the whole scheme was Rs. 41 lakhs of which a sum of Rs. 21 lakhs was spent on the Dam and head works and the balance on the construction of the canal, distributaries and minors which aggregate 46 miles in length. The total area under command is 95,000 acres of which 26,000 acres are irrigated. The catchment area of the tank is 159 square miles in extent and it has a capacity of 1,510 M. Cft. Irrigation from this tank was first started during the Rabi season of 1929-30. Owing to an increased demand for water due to the starting of sugar factory on the Chimbla Distributary, the Waste Weir was raised by 2 feet in March 1934 to increase the Storage in the tank by 130.20 M. Cft.

On the 1st April 1948, the level of water in the tank was 31.70 feet above the sill of the outlet, the contents being 784 M. Cft. The lowest level of

26.8 feet was reached on 5th June 1948, the corresponding contents being 524 M. Cft. Replenishment was received in the tank on 6th June 1948 and the level went to 27.15 feet, the corresponding contents being 538 M. Cft. The highest level of 41.90 feet was reached on 23rd November 1948, the corresponding contents being 1,546 M. Cft. The tank overflowed during the year 1948-49.

The following table gives the figures of area irrigated, revenue assessed etc. during the year 1948-49 as compared with the corresponding figures for the previous two years :—

Year.	Area irrigated.	Water rates assessed.	Gross assessed revenue.
	Acres.	Rs.	Rs.
1948-49	6,838	37,715	40,903
1947-48	5,898	42,470	47,756
1946-47	2,131	12,977	21,037

The rainfall during the year 1948-49 was 31.5 inches against 17.15 inches and 20.26 inches, respectively of the previous two years. The expenditure incurred on maintenance and repairs during the year 1948-49 amounted to Rs. 13,461 as compared with Rs. 9,414 for the previous year.

EASTERN CIRCLE.

The area irrigated and the gross assessed revenue on small tanks and ban-dharas during the year 1948-49 was 4,235 acres and Rs. 16,287, respectively.

SHOLAPUR DIVISION.

KOREGAON TANK.

The classification of this tank has been changed from the head "XVII-Irrigation Works - Works for which Capital and Revenue Accounts are kept" to the head "18-A-Civil-Irrigation Works- Works for which neither Capital nor Revenue Accounts are kept" from the year 1948-49 *vide* Government Letter, Public Works Department, No. 5354/36, dated 10th March 1948.

On 1st April, 1948, the level of water in the tank was 4.13 feet. The tank received its first replenishment of 21.25 million cubic feet on 8th June, 1948 and the level of water rose to 7.90 feet. The tank was full by the additional replenishment received on account of rainfall during July and August 1948 and the waste weir overflowed on 17th December 1948. There was very little demand for Kharif due to good rainfall and water available in the tank was used for irrigation during Rabi Season. The area of 32 acres and 761 acres was irrigated during Kharif and Rabi Seasons respectively during the year 1948-49. The average rainfall gauged at Koregaon during 1948-49 was 31.95 inches as against 21.31 inches, the average of the past three years.

WADSHIVNE TANK.

On 1st April 1948, the level of water in the tank was 4'33 feet. The first replenishment of 35'60 million cubic feet was received on 7th June 1948. The total replenishment received in the tank was 203'25 million cubic feet during 1948-49. The tank was full on 20th September 1948 and the waste weir overflowed from 30th September, 1948 to 11th December, 1948. There being no demand for water during Kharif Season, no Kharif irrigation was possible. Water available in the tank was used for Rabi irrigation and the area of 1,452 acres was irrigated during the year 1948-49 as compared with 1,459 and 508 acres, respectively, for the previous two years. The average rainfall gauged at Stations viz. Ken and Wadshivane was 36'70 inches during 1948-49 as against 26'45 and 15'08 inches of the past two years, respectively.

GHERDI TANK.

This minor irrigation tank is formed by an earthen dam across the nalla Purupa near Gherdi village about 3 miles upstream. The dam is 1,400 feet in length and 46 feet in height. The gross storage of the tank is 102'85 million cubic feet but only 86 million cubic feet of water is available for irrigation. The tank is provided with left bank canal of 4 miles 1 furlong and 220 feet in length and a distributory 2 miles, 2 furlongs and 370 feet in continuation of the canal. The designed discharge of the canal is 8 cusecs from head to tail to irrigate 1,020 acres when the tank is full.

On 1st April 1948, the level of water in the tank was 10'56 feet. The water available in the tank was used for irrigation. The area irrigated during the year 1948-49 was 709 acres as compared with 839 and 848 acres, respectively, for the previous two years. The rainfall during the year 1948-49 was 21'95 inches.

HOTGI TANK.

The work is still in progress. First 3 miles of the canal functioned during the year 1948-49. The area of 356 acres was irrigated during the year 1948-49 as compared with 38 and 102 acres, respectively for the last two years. The rainfall during the year 1948-49 was 25'63 inches.

WAKI BANDHARA.

The area irrigated and the gross assessed revenue on this bandhara during the year 1948-49 were 47 acres and Rs. 61, respectively, as compared with 31 and 34 acres and Rs. 29-14-0 and Rs. 37, respectively for the previous two years.

PAREWADI AND SANGHVI TANKS.

These works are in progress. Irrigation on these two works was started from the Rabi Season of 1947-48 and the area of 329 acres and 211 acres, respectively was irrigated during the year under report.

SATARA DIVISION.

WAKESHWAR CANAL.

The area irrigated during the year 1948-49 was 340 acres. The gross assessed revenue was Rs. 805.

CENTRAL CIRCLE.

The area irrigated and the irrigation share of land revenue on old bandharas and channels in the East and West Khandesh Divisions during 1948-49 were 8,778 acres and Rs. 64,838, respectively, as compared with 8,844 and 8,813 acres and Rs. 60,407 and Rs. 64,838, respectively for the previous two years.

EAST AND WEST KHANDESH DIVISIONS.

OLD WORKS.

The old bandharas and channels are grouped as under :—

- (1) The Girna river group.
- (2) The Bori river group.
- (3) The Upper Panzra river group.
- (4) The Kan river group.
- (5) The Burai river group.

The subjoined table shows the area irrigated and the revenue derived from these works as compared with the average of the preceding three years :—

	Area irrigated.		Revenue				Total.	
	During the year.	Average	Irrigation share.		Land share.		During the year.	Average.
			During the year.	Average.	During the year.	Average.		
	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
1946-47..	8,813	8,806	64,838	64,439	13,483	13,594	78,321	78,033
1947-48..	8,844	8,811	60,407	64,392	12,693	13,496	73,100	77,888
1948-49..	8,778	8,880	64,838	63,110	13,483	13,234	78,321	76,344

No expenditure was incurred on these bandharas during the year 1948-49. An expenditure of Rs. 600 was incurred on river and rain gauge operations during the year 1948-49.

SOUTHERN CIRCLE.

BELGAUM DIVISION.

There are approximately 525 second class tanks situated in the Belgaum Division. During the year 1948-49, repairs to 29 tanks were carried out at a cost of Rs. 28,262 and in addition to this, an expenditure of Rs. 1,100 was incurred on the work of surveying old tanks. The area irrigated during

the year 1948-49 was 13,678 acres as compared with 9,496 and 27,491 acres for the previous two years, respectively. The irrigation share of land revenue during the year 1948-49 amounted to Rs. 1,24,540 against Rs. 1,23,306 and Rs. 1,23,307 for the previous two years. The total direct and indirect receipts during 1948-49 amounted to Rs. 1,54,144 as compared with Rs. 1,54,133 and Rs. 1,54,134 during the previous two years, respectively.

DHARWAR DIVISION.

There are about 2,931 second class irrigation tanks. During the year 1948-49, an expenditure of Rs. 55,518 was incurred on repairs to about 116 tanks and a sum of Rs. 5,697 was spent on survey work. The area irrigated during the year 1948-49 was 83,334 acres as compared with 8,334 and 8,330 acres for the previous two years, respectively. The irrigation share of land revenue thereon during 1948-49 amounted to Rs. 2,10,811 against Rs. 2,14,666 and Rs. 2,05,924 for the previous two years, respectively. The total direct and indirect receipts were Rs. 2,10,984 during the year 1948-49 as compared with Rs. 2,14,923 and Rs. 2,06,237 of the previous two years, respectively. The remission granted during the year 1948-49 was Rs. 6,393 against Rs. 3,215 and Rs. 8,491 for the last two years.

KANARA DIVISION.

In this Division, there are about 198 second class irrigation tanks. During the year 1948-49, an expenditure of Rs. 31,620 was incurred on repairs to 44 tanks and a sum of Rs. 3,839 was spent on surveying irrigation tanks and preparing projects for their improvements. The area irrigated during 1948-49 was 33,324 acres as compared with 33,492 and 34,526 acres, respectively, for the last two years. The irrigation share of land revenue during 1948-49 amounted to Rs. 66,522 against Rs. 89,304 and Rs. 99,554 for the previous two years, respectively. The remission granted in the year 1948-49 amounted to Rs. 2,866 as compared with Rs. 14,942 and Rs. 2,767, respectively, for the last two years.

RATNAGIRI DIVISION.

There are only 4 second class irrigation tanks in this Division. The area irrigated was 1,379 acres during each of the years from 1946-47 to 1948-49 and the irrigation share of land revenue thereon amounted to Rs. 7,655 in each year.

BIJAPUR DIVISION.

NANDARGI TANK.

The control and management of the tank has been transferred to the Public Works Department under Government Resolution (Revenue Department) No. 1747/39, dated the 19th January 1944 and the tank has been classified as first class irrigation work under Government Letter (Public Works Department) No. 1657/36-I, dated the 6th November 1944. The rainfall recorded during the year 1948-49 was 23.29 inches, as compared with 13.24 and 17.52 inches for the previous two years, respectively. The water supply

was quite adequate for all the seasons of the year 1948-49. There was no demand for water during Kharif season due to favourable and timely rains. The area irrigated and the assessment thereon were 304 acres and Rs. 1,527 respectively as against 594 acres and Rs. 2,820 respectively, of the previous year. The highest level of water reached during the year 1948-49 was at R. L. 208'60 or 21'60 feet above the sill of the outlet on the 12th October 1948, and it continued to remain there till the 12th December 1948. Although the tank has been notified as a First Class Irrigation work, it has been classified under the head 18-Irrigation (Public Works Department) and hence it has been included under Second Class Irrigation tanks.

SECTION III.

POONA IRRIGATION AND RESEARCH DIVISION.

In the Deccan, when a large perennial canal is opened, widespread water-logging is liable to ensue. Some of this water-logging extends rapidly into the valleys and unless steps are taken to arrest and set it right, the damage consisting mainly of salt efflorescence becomes permanent. The seriousness of the menace was realised as early as 1888 and the controversy regarding the relative effect of channel losses and wasteful irrigation and the best method to adopt to safeguard the land, became yearly more acute. Various experiments were carried out at the instance of the Agriculture Department but by 1913 it was clear that all the methods tried then had failed. It was eventually decided to open a Special Irrigation Division in order that the question of canal development, especially as regards safe guarding the soil, might form the subject matter of investigation. In June 1916, the Division (now called the Poona Irrigation and Research Division) was formed and the work entrusted to it, was the contouring of the commanded areas; the carrying out of a careful survey and classification of the surface and sub-soil, the selection and making out of definite areas suitable for "Blocks" for perennial and other crops; the designing of the drainage works required, and the study of the question of the reclamation of waste lands and acres damaged by water-logging, the salt efflorescence and the growth of useful timber in such tracts and along the main canal. In short research and investigation into all the problems relating to irrigation by means of actual experiment, has been the sphere of work of the Special Irrigation Division which is now called Poona Irrigation and Research Division.

The investigation coming within this sphere may be broadly grouped under four heads viz.,

- (i) Irrigation management ;
- (ii) Irrigation requirements or the inter section of agricultural requirements and irrigation limitations ;
- (iii) Soil Physics of irrigated tracts ; and
- (iv) Drainage and reclamation.

The work done by this Division may be classified as under :—

- (i) Sub-soil survey and observation of sub-soil water levels,
- (ii) Sub-soil drainage construction,
- (iii) Drainage Scheme for allotted factory areas,
- (iv) Agricultural Research.

The summary of the work done by this Division during the year 1948-49 is given below :—

(1) SUB-SOIL SURVEY AND OBSERVATION OF SUB-SOIL WATER LEVELS :

The biennial observation of damage to lands on Nira Right Bank Canal and Godavari Canals were completed. The damage on the Nira Right Bank Canal has a tendency to decrease on account of drainage construction in factory areas and clearing up some of the nallas and also due to the efforts made by the cultivators, for bringing the slightly affected damage lands under cultivation ; while the damage on the Godavari Canals is on the increase due to plantation of cane, by sugar factories and the drainage schemes required in the area not being taken in hand in non-factory areas and also due to percolation of canal in the upper reaches. The figures of damage for the last three years' period are as under :—

Name of Canal.	Year.	Water logged area.	Salt affected area.	Total damaged area.	Remarks.
		Acres ¹	Acres.	Acres.	
Nira Right Bank Canal ..	1943-44 ..	2,711	7,327	10,038	Tendency to reduce
	1945-46 ..	3,269	6,643	9,912	
	1947-48	2,832	6,878	9,710	
Godavari Left Bank Canal	1943-44 ..	1,432	7,623	9,055	Increase
	1945-46 ..	2,060	6,237	8,297	
	1947-48 ..	1,912	7,914	9,826	
Godavari Right Bank Canal.	1943-44 ..	3,903	14,305	18,208	Increase
	1945-46 ..	3,036	15,319	18,355	
	1947-48 ..	5,282	13,994	19,276	

The work of well observations and damage classification on Nira Left Bank Canal and Pravara Canals is in progress. As for Girna and Kadwa Canals, it has been decided that the well observation and damage classification work should be done once in 6 years.

(2) IRRIGATION AND BLOCKS.

The work of revising the Cross limits on Nira Right and Left Bank Canals has been done for revision of blocks for the new block period for 1949-55.

Individual inspection of lands regarding damage and soil suitability for fruit gardens and exchanges, for which applications were received, were carried out during the year 1948-49.

(3) SUB-SOIL DRAINAGE CONSTRUCTION.

Detailed observations were made in the areas, served by the Drainage Schemes already constructed. The improvements so far in the damaged areas are shown below :—

S. No.	Drainage Scheme.	Canal.	Damage at start.	Damage still persisting.	Year after construction.	Remarks.
1	Culvert 28 ..	Nira Left Bank Canal	160	19	25 88%	Improvement.
2	Culvert 29 ..	Nira Left Bank Canal	163	31	25 81%	"
3	Malegaon Drainage Scheme.	Do.	705	250	19 65%	"
4	Distributary 24-25 ..	Do.	155	2	26 99%	"
5	Distributary 26-C ..	Do.	41	22	10 46%	"
6	H. M. K. Part I ..	Do.	353	210	17 41%	"
7	Douch Drainage Scheme.	Godavari Right Bank Canal,	409	Not observed.		
8	Kopargaon Drainage Scheme.	Ghataprabha Left Bank Canal,	465	93	22 80%	"
9	Deolali Drainage Scheme.	Pravara Right Bank Canal,	816	Not observed 11%		
10	Culvert 29 ..	Godavari Right Bank Canal,	985	286	12 71%	Improvement.
11	Sonewadi Drainage Scheme	Do.	678	Not observed. 3%		

(4) DRAINAGE SCHEME IN THE ALLOTTED FACTORY AREAS :

- (a) Considerable number of drainage schemes had already been constructed in the allotted factory areas and plans and estimates for the extension of areas in various sugar factories have already been prepared and sanctioned and some project works are in progress. There was difficulty in getting through the land acquisition proposals and the same can now be expedited as Special Land Acquisition Officers are now working in almost all the districts concerned. Better progress can be seen next year.
- (b) *Drainage Schemes in the Non-factory areas* : In addition to the above Drainage Schemes in factory areas survey and preparation of plans and estimates were in progress in non-factory areas as under :—

Name of Canal	Drainage Scheme	Remarks
Godavari Canals	1. D. 6 and 7 area on Ghataprabha Left Bank Canal (Takali Brahman-gaon).	Since sanctioned by Government vide Government Resolution, Public Works Department, No. 8531/36 of 9th October 1948.

Name of Canal	Drainage Scheme	Remarks
	2. Culvert No. 30 of Ghataprabha Right Bank Canal (Jeur Kanheri).	
Pravara Canals	1. D. 10 and 11 of Pravara Left Bank Canal (Matapur Drainage Scheme).	Do. Government Resolution, Public Works Department, No. 8952/36 of 17th December 1948.
	2. Undirgaon nalla on N. B. of Pravara Left Bank Canal.	
Nira Canals	1. D. 4, 4A area of Nira Left Bank Canal.	
	2. D. 2 and 3 area of Nira Left Bank Canal Nimbut Drainage Scheme.	
	3. Malsiras nala of Nira Right Bank Canal.	
	4. Natapura Nala of do.	
Girna Canal	D. 3 area	Since approved by Government ^{vide} Government Resolution, Public Works Department, No. 5183/36, dated 31st December 1948.
Kadwa River works	Drainage Scheme in Shirasgaon area under Palkhed Canal.	

The Government has decided that the execution of drainage projects in non-factory areas should be taken up in right earnest as a measure in the furtherance of "Grow More Food Campaign." Accordingly Drainage Schemes in non-factory areas are being taken up for execution during 1949-50. New Sub-division is being formed for surveys and construction works of Drainage Schemes.

RESEARCH WORKS.

Research study on the following items were continued during the year 1948-49 and report on the data collected already appears in the annual report of May 1949 on 'Irrigation and Allied Research'.

- (1) Hydrology :
(a) On floods and flood damage.
(b) Silt load in rivers.
(c) Evaporation losses.
(d) Quantity of water in storages in hot weather.
(e) Suitability of drainage water for irrigation.
- (2) Hydraulic works : On silting of reservoirs in Ahmednagar and Sholapur Districts.
- (3) Soil Science :
(a) On comparative study of soil materials in difficult zones in the Bombay State.
(b) Hydraulic gradients.
(c) Moment of sub-soil water tables and flow gradient.
- (4) Water utilization :
(a) On vegetables and food crops on sewage irrigation.
(b) Perennial crops under varying logs 'N' contained in sewage irrigation.
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STATEMENT

Statement of Area irrigated by Irrigation Works in the Province

No.	Name of Work	Area irrigated		
		Kharif	Rabi	Total
1	2	3	4	5
	WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT	Rs.	Rs.	Rs.
	PRODUCTIVE			
1	Gadikeri Tank	*423	...	*423
2	Mavinkop Tank... ..	*493	...	*493
3	Ekrnk Tank	{ (560) 3	{ (454) 3	{ (1,014) 3
4	Shahada Channel... ..	{ 560 (906) 1,055	{ 454 (1,807) 1,866	{ 1,014 (2,713) 2,921
	Total, Productive ...	1,618 *916	2,320 ...	3,938 *916
	UNPRODUCTIVE			
5	Hathmati and Khari Cut Canals ...	{ +3,034 86,572	1,727 ...	4,761 6,572
6	Wangroli Tank	889	459	1,348
7	Savli Tank	2,372	32	2,403
8	Tranza-Nagrama Tanks	1	...	1
9	Futelao Tank	7	337	344
10	Nira Left Bank Canal	{ (24,010) 54,655	{ (54,301) 16,585	{ (78,311) 71,240
	Shetphal Tank	{ (2,505) 3,223	{ (4,440) 2,336	{ (6,945) 5,559
11	Nira Right Bank Canal	{ (41,236) 56,746	{ (42,448) 36,393	{ (83,684) 83,139
12	Mutha Canals	{ (16,293) 17,223	{ (6,900) 4,715	{ (23,193) 21,938
	Matoba Tank (e)	{ (1,020) 1,967	{ (1,911) 269	{ (2,931) 2,236
13	Shirsuphal Tank	{	{ (490) 516	{ (490) 516
14	Bhadalwadi Tank	{ (71) 71	{ (1,009) 1,076	{ (1,080) 1,147

I-E

of Bombay during the year 1946-1947

in acres				Average Discharges, Cubic Feet per Second			
Flow	Lift	Double cropped		At Head		Utilized	
		Area irrigated	Percentage of Total Area	Kharif	Rabi	Kharif	Rabi
6	7	8	9	10	11	12	13
*423	...	...	...	...	...	...	...
*493	...	...	...	...	...	...	...
3	...	...	...	17.44	27.83	17.44	27.83
1,014 } 2,921 }	...	199	5.65	11.75	24.84	11.75	24.84
3,938 *916	...	199	...	...	...	...	...
+4,746 6,341	15 231	...	...	†137 41	74 5	†104 41	74 5
1,343	5	...	...	56.02	38.99	56.02	38.99
2,403	...	...	...	123.19	1.05	123.19	1.05
1	...	...	...	...	...	...	...
344	...	...	...	3.00	25.00	3.00	25.00
70,860	380	1,509	2.11	198	438	92	282
5,559	...	11	0.20	9	20	9	20
82,692	447	2,111	2.53	251	583	155	391
21,690	248	104	0.05	156	111	113	73
2,236	...	7	...	7	8	7	8
516	...	...	...	...	8.04	...	8.04
1,147	...	...	...	7.44	12.11	7.44	12.11

STATEMENT

No.	Name of Work	Area irrigated per Cubic Foot per Second			
		Discharged at Head		Utilized	
		Kharif	Rabi	Kharif	Rabi
1	2	14	15	16	17
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT					
PRODUCTIVE					
1	Gadikeri Tank ... ..	...	...	...	...
2	Mavinkop Tank ... ..	...	...	...	...
3	Ekrak Tank	84	81	84	81
4	Shahada Channel	83	60	83	60
	Total Productive ...	...	...	...	...
UNPRODUCTIVE					
5	Hathmati and Khari Cut Canals ...	22.09 154	23.35 ...	29.09 154	23.35 ...
6	Wangroli Tank	15.88	11.77	15.88	11.77
7	Savli Tank	19.25	30.95	19.25	30.95
8	Tranza-Nagrama Tanks ... ..	...	...	...	...
9	Potelao Tank	2.33	13.5	2.33	13.5
10	Nira Left Bank Canal	121	124	261	193
	Shetphal Tank	78	222	278	222
11	Nira Right Bank Canal	164	73	266	108
12	Mutha Canals	104	62	144	95
	Matoba Tank (e)	46	239	46	239
13	Shirsuphal Tank ... ..	...	60	...	60
14	Bhadalwadi Tank	90	83	90	83

STATEMENT

No.	Name of Work.	Area irrigated		
		Kharif	Rabi	Total
1	2	3	4	5
15	Godavari Right Bank Canal ...	(17,354)	(20,071)	(37,424)
		26,572	13,382	39,95
15	Godavari Left Bank Canal ...	(14,412)	(12,906)	(27,318)
		18,875	9,059	27,934
16	Chankapur Tank—Girna Canal ...	(8,361)	(9,541)	(17,902)
		11,600	7,666	19,266
17	Kadwa River Works	Palkhed Canal... (1,135)	(949)	(2,084)
		Ojhar Tambat Canal. (1,945)	1,034	2,979
		Wadali Canal (1,086)	(692)	(1,778)
		1,694	655	2,349
17	Kadwa River Works	(693)	(293)	(986)
		1,008	282	1,290.
18	Pravara River Works	Pravara Right Bank Canal ... (9,604)	(15,034)	(24,638)
		13,512	13,435)	26,947
18	Pravara River Works	Pravara Left Bank Canal ... (28,628)	(36,764)	(65,392)
		34,828	26,659	61,487
19	Bhatodi Tank (e) ...	(222)	(375)	(597)
19	Bhatodi Tank (e) ...	237	476	713
		(526)	(5,293)	(5,819)
20	Mbaswad Tank ...	600	6,959	7,559
21	Parsul Tank (b) ...	...	...	...
22	Koregaon Tank ...	...	(579)	(579)
		...	691	691
23	Ashti Tank ...	...	(2,324)	(2,324)
		...	2,802	2,802
24	Pathri Tank ...	(259)	(1,205)	(1,464)
		365	1,427	1,792
25	Jamda Canals ...	(1,754)	(5,217)	(6,971)
		2,465	6,100	8,565
26	Mbaswa Tank ...	...	(763)	(763)
		...	822	822
27	Lower Panjhra River Works ...	(1,191)	(85)	(1,276)
		1,191	85	1,276
		(216)	(1,610)	1,826
		216	1,674	1,900
28	Krishna Canal... ..	(2,146)	(4,285)	(6,431)
		7,849	5,638	13,487

I—E—contd.

in acres				Average Discharges, Cubic Feet per Second			
Flow	Lift	Double cropped		At Head		Utilized	
		Area irrigated	Percentage of Total Area	Kharif	Rabi	Khaif	Rabi
6	7	8	9	10	11	12	13
37,636	2,318	724	1'80	187	192	130	112
23,996	3,938	1,125	4'00	132	106	06	72
19,266	...	495	2.50	102	119	80	95
2,964	15	18	0.60	19	16	19	16
2,349	...	10	0'45	8	11	8	11
1,282	8	8	0'65	6	8	6	8
26,649	301	825	3'10	93	107	89	105
59,513	1,974	944	1'50	390	339	386	337
713	...	...	...	14	20	11	14
7,550	9	...	...	9.00	73'00	9'00	73'00
...
699	2	...	...	...	2'63	...	2'63
2,802	...	...	...	...	4'42	...	4'42
1,789	3	...	...	0'87	6'62	0'87	6'62
8,565	...	...	...	61	95	61	95
822	...	...	...	...	9'46	...	9'46
1,276 } 1,900 }	...	...	...	0'68	1'44	0.68	1.44
11,642	1,845	...	...	33'27	75'30	33.27	75.30

STATEMENT

No.	Name of Work	Area irrigated per Cubic Foot per Second				
		Discharged at Head		Utilized		
		Kharif	Rabi	Kharif	Rabi	
1	2	14	15	16	17	
15	Godavari Right Bank Canal...	93	105	134	179	
	Godavari Left Bank Canal ...	109	122	136	179	
16	Chankapur Tank-Girna Canal ...	82	80	105	100	
17	Kadwa River Works	Palkhed Canal ...	60	59	60	59
		Ojbar Canal Tambat	136	63	136	63
		Wadali Canal ...	116	37	116	37
18	Pravara River Works	Pravara Right Bank Canal.	103	140	108	143
		Pravara Left Bank Canal.	73	108	74	109
19	Bhatodi Tank (e) ...	16	19	20	27	
20	Mhaswad Tank ...	58	72	58	72	
22	Parsul Tank (b) ...	...	...	...	...
22	Koregaon Tank ...	...	220	...	220
23	Ashi Tank ...	...	526	...	526
24	Pathri Tank ...	298	182	298	182	
25	Jamda Canals ...	29	55	29	55	
26	Mhaswa Tank ...	...	81	...	81
27	Lower Panjhra River Works ...	2,069	1,177	2,069	1,177	
28	Krishna Canal ...	86	66	86	66	

STATEMENT

No.	Name of Work.	Area irrigated		
		Kharif	Rabi	Total
1	2	3	4	5
29	Revari Canal	{ (165) 194	(535) 901	(700) 1,095
30	Upper Man River Works	{ (40) 43	(627) 1,112	(667) 1,155
31	Yerla River Irrigation Works	{ (205) 511	(2,048) 4,473	(2,253) 4,984
32	Chikbli Canal	{ (4) 5	(347) 419	(351) 424
33	Maini Tank	{ (185) 864	(865) 1,533	1,150 2,397
34	Gokak Canal—First Section and Storage Works... ..	9,600	6,285	15,885
35	Muchkundi Tank ... ..	...	...	...
36	Dambal Tank	{ 331 * 144	39	370 * 144
37	Medleri Tank	120	7	127
38	Madag Tank... ..	443	160	603
39	Asundi Tank	28	95 * 182	123 * 182
40	Dharma Canal	{ 646 * 8,648	... ...	646 * 8,648
	Total, Unproductive... {	2,82,512 * 8,792	1,68,315 * 182	4,50,827 * 8,974
	Grand Total, Productive and... Unproductive {	2,84,130 * 9,708	1,70,635 *182	4,54,765 *9,890

1-E

in acres				Average Discharges, Cubic Feet per Second			
Flow	Lift	Double cropped		At Head		Utilized	
		Area irrigated	Percentage of Total Area	Kharif	Rabi	Kharif	Rabi
6	7	8	9	10	11	12	13
1,095	...	...	...	1:24	2:60	1.24	2.60
1,148	7	...	...	0:45	3:07	0.45	3.07
4,930	54	...	...	...	17:43	...	17.43
415	9	...	...	0:28	3:31	0.28	3.31
2,371	26	...	...	...	5:24	...	5.24
15,674	211	...	...	63:18	62:72	63.18	62.72
...
370 } *144 }	...	...	...	0:59	1:57	0.59	1.57
127	...	...	...	0:45	1:48	0.45	1.48
603	...	...	...	11:95	22:61	11.95	22.61
121 } *182 }	2	...	...	0:47	3:08	0.47	3.08
646 } *8,646 }	...	...	...	50:62	16:56	50.62	16.56
4,38,778 *8,974	12,049 ...	7,891	...	...	...	...	...
4,42,716 } *9,890 }	12,049	8,090	...	...	...	...	...

STATEMENT

No.	Name of Work	Area irrigated per Cubic Foot per Second			
		Discharged at Head		Utilized	
		Kharif	Rabi	Kharif	Rabi
1	2	14	15	16	17
29	Revari Canal	133	206	133	206
30	Upper Man River Works	88	204	88	204
31	Yerla River Irrigation Works ... ..	...	123	...	123
32	Chikhli Canal	14	138	14	138
33	Maini Tank ... ..	...	186	...	186
34	Gokak Canal—First Section and Storage Works.	141'00	132'00	141'00	132'00
35	Muchkundi Tank ... ..	...	...	...	...
36	Dambal Tank	479'79	68'42	479'82	68'42
37	Medleri Tank	266'66	4'73	266'66	4'73
38	Madag Tank	37'07	7'07	37'07	7'07
39	Asundi Tank	59'57	89'93	59'57	89'83
40	Dharma Canal	183'6	...	183'6	...
	Total, Unproductive ... ..	...	...	...	...
	Grand Total, Productive and Unproductive ... ..	...	...	...	...

1—E—contd.

Base to which the Duties of Water are calculated		Remarks
Kharif	Rabi	
18	19	20
Do.	Do.	
Do.	Do.	
Do.	Do.	
Do.	Do.	
Do.	Do.	
Do.	Do.	
Do.	Do.	
16th January to 15th October	16th October to 15th January	
Do.	Do.	
§Do.	§Do.	
Do.	Do.	
Do.	Do.	
...	...	
...	...	

STATEMENT

Statement of Area irrigated by Irrigation Works in the Province

No.	Name of Work	Area irrigated		
		Kharif	Rabi	Total
1	2	3	4	5
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.				
PRODUCTIVE				
1	Gadikeri Tank	* 423	...	* 423
2	Mavinkop Tank	* 508	...	* 508
3	Ekrak Tank ... ..	...	2,443	2,443
4	Shahada Channel	1,522 (1,504)	1,768 (1,052)	3,290 (3,156)
	Total, Productive ...	1,522 * 931	4,211 ...	5,733 * 931
UNPRODUCTIVE				
5	Hathmati and Khari Cut Canals, ...	1,602 1,474	597 ...	2,199 1,474
6	Wangroli Tank	1,155	53	1,208
7	Savli Tank	593	2	595
8	Tranza-Nagrama Tanks ... ..	...	4	4
9	Futelao Tank	50	22	72
10	Nira Left Bank Canal	(24,599)	(85,496)	(80,095)
		52,138	16,512	68,650
	Shethphal Tank	2,363	(4,341)	(6,704)
		4,260	2,284	(6,544)
11	Nira Right Bank Canal	(32,909) 39,080	(47,269) 32,278	(80,178) 71,358
12	Mutha Canals	(14,501)	(6,003)	(20,564)
		15,317	4,345	19,662
	Matoba Tank	(2,261) 2,371	(2,381) 254	(4,642) 2,625
13	Shirsophal Tank ... ..	...	1,110 (1,040)	1,110 (1,040)
14	Bhadalwadi Tank	647 (623)	1,211 (1,164)	1,858 (1,787)

I—E.

of Bombay during the year 1947-48

in acres				Average Discharges, Cubic Feet per Second			
Flow	Lift	Double cropped		At Head		Utilized	
		Area Irrigated	Percentage of Total Area	Kharif	Rabi	Kharif	Rabi
6	7	8	9	10	11	12	13
* 423	...	...	...	...	...	...	...
* 508	...	...	...	...	...	...	...
2,425	18	...	...	...	10'28	...	10'28
3,290 (3,156)	...	148	4'5	17'0 %	29'04	17'09	29'04
5,715	18	...	...	...	...	...	...
* 931	...	...	...	...	...	...	...
2,192	7	...	...	+ 84	74	+ 64	74
1,067	407	...	...	12	2	12	2
1,207	1	...	...	60'01	5'45	60'01	5'45
592	3	...	...	32'14	...	32'14	...
...	4	...	...	...	...	...	...
72	...	...	...	10'20	2'00	10'00	2'00
67,801	849	1,130	1'41	384	536	254	394
6,526	18	18	0'27	21	52	21	32
70,922	436	1,478	1'84	482	693	371	486
19,211	451	102	0'5	166	111	126	76
2,625	...	27	1'0	2	8	2	8
1,110	...	...	...	...	10'30	...	10'30
1,858	...	...	...	9'74	11'23	9'74	11'23

STATEMENT

No.	Name of Work	Area irrigated per Cubic Foot per Second			
		Discharged at Head		Utilized	
		Kharif	Rabi	Kharif	Rabi
1	2	14	15	16	17
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT— <i>contd.</i>					
PRODUCTIVE— <i>contd.</i>					
1	Gadikeri Tank ... ..	...	...	...	...
2	Mavinkop Tank ... ..	...	...	...	...
3	Ekrak Tank ... ..	...	209'2	...	209'2
4	Shabada Channel ... ..	...	...	...	...
	Total, Productive ...	...	..	...	...
UNPRODUCTIVE— <i>contd.</i>					
5	Hathmati and Khari Cut Canals ...	18'78 123'00	8'00 ...	24'65 123'00	8'00 ...
6	Wangroli Tank	19'21	8'6	17'21	8'6
7	Savli Tank	35'75	...	35'75	..
8	Tranza-Nagrama Tanks ... ..	...	...	...	...
9	Futelao Tank	5'00	11'0	5'00	11'00
	{ Nira Left Bank Canal	64	104	97	141
10	{ Shethphal Tank	113	136	113	136
11	{ Nira Right Bank Canal	68	68	89	97
	{ Mutha Canals	87	54	115	80
12	{ Matoba Tank	1,130	297	1,130	297
13	Shirsuphal Tank ... ..	...	101	...	101
14	Bhadlwadi Tank	64	104	64	104

I—E—contd.

Base to which the Duties of Water are calculated		Remarks
Kharif	Rabi	
18	19	20
...	...	* Area under consolidated assessment. + Including 24 acres of Hot Season. × 84 - 64 = 20 causes of Water was brought down for Irrigation under the K. C. C. in a Bokh and Bhujhwa channel.
15th February 1947 to 14th October 1947 do.	15th October 1947 to 14th February 1948 do.	
...	...	In the Central and Eastern Circle the figures in brackets show the area actually irrigated and those without brackets show the areas assessed. In Central Circle duties have been calculated in the areas actually irrigated during the period.
15th February 1947 to 14th October 1947 do.	15th October 1947 to 14th February 1948 do.	
...	...	In the Deccan Irrigation Circle, the figures in brackets in cols. 3 and 4 represent the area actually irrigated during the respective Seasons and duties as shown in cols. 14 to 17 have been calculated in these figures. In the Rabi Season in addition to pure Rabi crops, perennial and 8 months crops are also irrigated to obtain correct duties. Therefore, these crops are added to the rabi area.
15th February 1947 to 14th October 1947 do.	15th October 1947 to 14th February 1948 do.	
...	...	(a) In respect of Bhatodi and Matoba tanks, the Canal was closed for a number of days during Kharif and Rabi seasons. The actual number of days on which the channel was in flow has therefore been taken into account for the purpose of calculating average discharge and duties.
15th February 1947 to 14th October 1947 do.	15th October 1947 to 14th February 1948 do.	
...	...	— Fixed as 1st November to end of February Vide G. L. (P. W. D.) No. 3999/36 I dated 24th July 1943.
15th February 1947 to 14th October 1947 do.	15th October 1947 to 14th February 1948 do.	

STATEMENT

No.	Name of Work	Area Irrigated			
		Kharif	Rabi	Total	
1	2	3	4	5	
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT— <i>contd.</i> UNPRODUCTIVE— <i>contd.</i>					
15	{ Godavari Right Bank Canal	(15,138)	(17,693)	(32,831)	
	{ Godavari Left Bank Canal	21,809	10,137	31,946	
		(18,757)	(10,321)	(24,027)	
		17,623	5,782	23,405	
16	Chankapur Tank—Girna Canal	(7,525)	(9,757)	(17,282)	
		10,205	1,905	17,310	
17	Kadwa River Works {	Palkhed Canal	(1,443)	(890)	2,333
		Ojbar Tambat Canal,	2,120	883	3,003
		Wadali Canal	(1,098)	(852)	(1,950)
			1,332	674	2,006
			(711)	(453)	(1,164)
		847	372	1,219	
18	Pravara River Works {	Parvara Right Bank Canal	(8,975)	(13,184)	(22,159)
		Pravara Left Bank Canal	12,503	10,243	22,751
			(31,741)	(30,178)	(61,919)
		37,603	19,382	56,985	
19	Bhatodi Tank	(278)	(638)	916	
		297	686	983	
20	Mhaswad Tank	9,383	9,337	19,720	
		(4,765)	(6,796)	(11,561)	
21	Parsul Tank	(551)	(1,252)	(1,803)	
		893	1,187	2,080	
22	Koregaon Tank ... ..	...	720	720
		...	(645)	(645)	
23	Ashti Tank	1,574	6,137	7,711	
		(1,171)	(5,171)	(6,342)	
24	Pathri Tank	160	1,368	1,528	
		(135)	(1,212)	(1,347)	
25	Jamda Canals	1,304	5,114	6,418	
		(997)	(3,723)	(4,720)	
26	Mhaswa Tank ... ..	...	718	718
		...	(651)	(651)	
27	Lower Panjra River Works	{ 1,435	{ 1,999	{ 3,434	
		{ (1,425)	{ (1,901)	{ (3,326)	
28	Krishna Canal	5,429	3,741	9,170	
		(3,504)	(3,227)	(6,731)	

I-E-contd.

in acres				Average Discharges, Cubic Feet per second			
Flw	Lift	Double cropped		At Head		Utilized	
		Area Irrigated	Percentage of total area	Kharif	Rabi	Kharif	Rabi
6	7	8	9	10	11	12	13
29,435	2,511	650	2.0	186	203	125	144
19,729	3,676	849	3.9	127	140	109	113
17,310	...	1,512	8.7	101	130	78	105
2,998	5	76	2.5	22	27	22	27
1,995	11	51	2.5	10	10	10	10
1,211	8	13	1.0	9	10	9	10
22,450	301	1,003	4.4	101	129	65	103
55,005	1,980	2,324	4.1	476	567	467	567
983	...	...	...	12	12	12	12
18,711	9	...	...	132	118	132	118
2,080	...	605	29	2	7	2	7
715	5	...	...	...	3.5	...	3.5
7,711	...	...	...	5	20	5	20
1,526	2	...	...	6.94	11.75	0.94	11.75
6,418	...	...	...	59	75	59	75
718	...	...	...	...	8.83	...	8.83
3,434	...	840	24%	0.63	0.83	0.63	0.83
7,872	1,298	...	...	37.23	54.11	37.23	54.11

STATEMENT

No.	Name of Work	Area irrigated per Cubic Foot per Second			
		Discharged at Head		Utilized	
		Kharif	Rabi	Kharif	Rabi
1	2	14	15	16	17
	WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT— <i>contd.</i> UNPRODUCTIVE— <i>contd.</i>				
15	{ Godavari Right Bank Canal	81	87	121	123
	{ Godavari Left Bank Canal	108	74	126	90
16	Chankapur Tank—Girna Canal	75	75	97	93
17	{ Kadwa River Works } Palkhed Canal	66	33	66	33
	{ Ojhar Canal, Tambat	110	85	110	85
	{ Wadali Canal	79	45	29	45
18	{ Pravara River Works } Pravara Right Bank Canal.	89	102	106	128
	{ Pravara Left Bank Canal.	67	63	68	53
19	Bhatodi Tank	23	53	23	53
20	Mhaswad Tank	36.1	57.6	36.1	57.6
21	Parsul Tank	276	179	276	179
22	Koregaon Tank ... ..	...	184	...	184
23	Ashti Tank	234.2	258.5	234.2	258.5
24	Pathri Tank	143.6	103.1	143.6	103.1
25	Janda Canal	17	50	17	50
26	Mhaswa Tank ... ..	...	74	...	74
27	Lower Panjhra River Works	2,397	2,817	2,397	2,817
28	Krishna Canal	115	74	115	74

I-E-contd.

Base to which the Duties of Water are calculated		Remarks
Kharif	Rabi	
18	15	20
15th February 1947 to 14th October 1947	15 October 1947 to 14th February 1948	
do.	do.	
do.	do.	
do.	do.	
do.	do.	
do.	do.	
do.	do.	
do.	do.	
do.	do.	
15th February 1947 to 14th October 1947	15 October 1947 to 14th February 1948	
do.	do.	
15th February 1947 to 14th October 1947	15th October 1947 to 14th February 1948	
do.	do.	
do.	do.	
do.	do.	
15th February 1947 to 14th October 1947	15th October 1947 to 14th February 1948	
do.	do.	
15th February 1947 to 14th October 1947	15th October 1947 to 14th February 1948	

STATEMENT

No.	Name of Work.	Area Irrigated		
		Khariif	Rabi	Total
1	2	3	4	5
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT—contd				
<i>UNPRODUCTIVE—concl'd.</i>				
29	Revāri Canal	279 (210)	857 (745)	1,136 (955)
30	Upper Man River Works	709 (590)	995 (865)	1,704 (1,155)
31	Yerla River Irrigation Works	1,080 (604)	4,706 (4,126)	5,786 (4,730)
32	Chikhli Canal	223 (93)	101 (96)	323 (189)
33	Maini Tank	530 (184)	1,535 (1,348)	2,065 (1,532)
34	Gokak Canal—First Section and Storage Works	8,983	6,895	15,878
35	Muchkundi Tank	9	22	31
36	Dambal Tank	360 * 144 }	126	4,867 * 144
97	Medleri Tank	137	5	142
38	Madag Tank	464	174	638
39	Asundi Tank	57	259 * 182 }	316 * 182 }
40	Dharma Canal	639 * 8648 }	639 a 1,648	639 8,648
	Total, Unproductive	2,56,674 8,792	1,59,937 * 182	4,16,611 8,974
	Grand Total, Productive and Unproductive	2,58,196 * 9,723	1,64,148 * 182	4,22,344 * 9,905

I-E--concl.

in acres				Average Discharges, Cubic Feet per. Second			
Flow	Lift	Double cropped		At Head		Utilized	
		Area irrigated	Percentage to total area	Kharif	Rabi	Kharif	Rabi
6	7	8	9	10	12	12	13
1,136	...	...	...	3'22	5'32	3'22	5'32
1,157	17	...	...	1'63	2'44	1'63	2'44
5,934	52	...	...	2'25	28'4	2'25	28'4
317	7	...	...	'49	2'15	'49	2'15
2,044	21	...	...	'73	3'76	'73	3'76
15,642	236	...	...	86'00	96'00	86'00	96'00
...
486	...	...	...	1'93	4'19	1'93	4'19
140	2	...	...	1'05	2'44	1'05	2'44
638	...	...	...	11'20	21'14	11'20	21'14
313	3	...	...	1'25	3'92	1'25	3'92
639	...	...	...	36'21	3'68	36'21	3'68
4,04,291 *8,974	12,320	9,883	...	...	...	...	...
4,10,006 *9,905	12,338 ...	9,883...	...	...	...	...	...

STATEMENT

No.	Name of Work	Area irrigated per Cubic Foot per Second			
		Discharged at Head		Utilized	
		Kharif	Rabi	Kharif	Rabi
1	2	14	15	16	17
	WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT— <i>concd</i>				
	UNPRODUCTIVE— <i>concd</i>				
29	Revari Canal	67'08	141	97'08	141
30	Upper Man River Works	362	355	362	355
31	Yerla River Irrigation Works	268	145	268	145
32	Cbikhli Canal	190	45	190	45
33	Maini Tank	252	358	252	358
34	Gokak Canal—First Section and Storage Works	95	86	95	86
35	Muchkundi Tank ... ..	...	...	...	...
36	Damhai Tank	261'14	30'07	261'14	30 07
37	Medleri Tank	130 48	2'05	130 48	2'05
38	Madag Tank	41'07	8'14	41'07	8'14
39	Asundli Tank	45'60	112 27	45'60	112'27
40	Dharma Canal	256'48	...	256'49	...
	Total, Unproductive ...	...	...	...	...
	Grand Total, Productive and... Unproductive.	...	...	...	...

I—E—concl.

Base to which the Duties of Water are calculated		Remarks
Kharif	Rabi	
18	19	20
15th February 1947 to 14th October 1947	15th October 1947 to 14th February 1948	
do.	do.	
do.	do.	
do.	do.	
do.	do.	
15th June 1947 to 14th October 1947	15th October 1947 to 14th February 1948	
15th February 1947 to 14th October 1947	15th October 1947 to 14th February 1948	
16th February 1947 to 14th October 1947	15th October 1947 to 14th February 1948	
do.	do.	
do. †	do. †	
do.	do.	
do.	do.	
...	...	
...	...	

STATEMENT

Statement of Area irrigated by Irrigation Works in the Province of Bombay

No.	Name of Work	Area irrigated			
		Kharif	Rabi	Total	
1	2	3	4	5	
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT					
PRODUCTIVE					
1	Gad kerī Tank	423*	...	423*	
2	Mavinkop Tank	527*	...	527*	
3	Ekrak Tank	831 (726)	1,544 (1,249)	2,375 (1,975)	
4	Shabada Channel	1,334 (1,254)	2,113 (1,963)	3,447 (3,217)	
	Total, Productive ...	950* 2,165	3,657	*950 5,822	
UNPRODUCTIVE					
5	Hathmati and Khari Cut Canals	H { K {	276* ...	190 ...	466 ...
6	Wangroli Tank	555	...	515	
7	Savli Tank	531	...	551	
8	Tranza-Nagrama Tanks ... ..	...	...	...
9	Futelao Tank	8	223	231	
10	{ Nira Left Bank Canal	{ (41,777)	{ (54,400)	{ (96,177) }	
	{ Shetphal Tank	{ 52,851	{ 20,405	{ 73,256 }	
11	{ Nira Right Bank Canal	{ (37,352)	{ (54,496)	{ (91,848) }	
	{ Mutha Canals	{ 47,681	{ 39,373	{ 87,054 }	
12	{ Matoba Tank	{ (12,355)	{ (6,657)	{ (19,012) }	
	{ Shirsuphal Tank	{ 13,415	{ 3,875	{ 17,290 }	
	{	{ (1,671)	{ 2,363 }	{ (4,034) }	
	{	{ 2,171	{ 84 }	{ 2,255 }	
13	Shirsuphal Tank	613 (613)	938 (871)	1,551 (1,484)	
14	Bhadalwadi Tank	568 (568)	1,137 (947)	1,705 (1,515)	
15	{ Lake Beale-Darna Dam	{ (11,535)	{ (13,597)	{ (25,132) }	
	{ Godavari Right Bank Canal	{ 18,108	{ 5,909	{ 24,017 }	
	{ Godavari Left Bank Canal	{ (9,401)	{ (9,939)	{ (19,340) }	
	{	{ 14,745	{ 4,089	{ 18,834 }	

I-E--contd.

during the year 1948-1949

in acres				Average Discharges, Cubic Feet per Second			
Flow	Lift	Double cropped		At Head		Utilized	
		Area irrigated	Percentage of Total Area	Kharif	Rabi	Kharif	Rabi
6	7	8	9	10	11	12	13
*423	...	...	...	...	...	...	...
*527	...	...	...	...	...	...	...
2,364	11	...	...	4'30	10'2	14'30	122
3,447	...	48	2	20'54	38.49	20'54	38'49
950*	...	...	...	...	...	...	...
5,811	11	48	...	...	...	...	...
402	64	...	...	20	6	14	6
...
512	3	...	...	30'40	...	30'40	...
498	53	...	...	33'35	...	33'35	...
...
231	...	...	...	10'00	25'00	10'00	25'00
72,946	310	311	0'42	416	453	336	429
86,422	632	1,306	1'5	461	504	434	418
17,022	268	193	1'0	151	195	110	67
2,255	...	20	1'0	6	5	6	5
1,551	...	...	...	10'71	10'57	9'50	9'00
1,705	...	...	...	6'36	9'38	5'56	8'05
21,437	2,580	450	1'8	191	167	121	102
16,153	2,681	771	4'9	132	106	106	82

STATEMENT

No.	Name of Work	Area irrigated per Cubic Foot per Second			
		Discharged at Head		Utilized	
		Kharif	Rabi	Kharif	Rabi
1	2	14	15	16	17
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT					
PRODUCTIVE					
1	Gadikeri Tank ... ..	...	...	...	...
2	Mavinkop Tank ... ..	...	...	...	...
3	Ekrak Tank	51	122	51	10
4	Shahada Channel	61	51	61	51
	Total, Productive ...	...	...	...	...
UNPRODUCTIVE					
5	Hathmati and Kbari Cut Canals	H { 7	31'6	10	31'6
6	Wangroli Tank	K { 16'94	..	16'94	...
7	Savli Tank ... ..	...	16'52	16'52	...
8	Trauza-Nagrama Tanks ... ..	...	...	...	...
9	Futelao Tank ... ..	...	1'00	9'00	1'00
10	{ Nira Left Bank Canal ... ..	...	100	120	125
	{ Shetpbal Tank ... ..	...	...	...	127
11	Nira Right Bank Canal ... ..	...	81	108	86
	{ Mutha Canals ... ..	...	82	63	112
12	{ Matoba Tank ... ..	...	273	473	278
	...	...	...	...	473
13	Shirsaphal Tank ... ..	...	57	82	64
14	Bhadalwadi Tank ... ..	...	89	101	102
	{ Lake Beale-Darna Dam ... ..	...	...	...	...
15	{ Godavari Right Bank Canal ... ..	...	60	81	95
	{ Godavari Left Bank Canal ... ..	...	71	94	89
	...	...	...	...	133
	...	...	...	...	121

STATEMENT

No.	Name of Work	Area irrigated		
		Kharif	Rabi	Total
1	2	3	4	5
16	Chanakapur Tank—Girna Canal ...	(6,172) 10,991	(8,474) 7,877	(14,646) 18,868
	{ Waghad Tank...			
	{ Palkhed Canal ...	(1,537) 1,500	(1,440) 702	(2,977) 2,202
17	Kadwa River Works	(894) 1,063	(892) 665	(1,786) 1,728
	{ Ojbar Tambat Canal ...			
	{ Wadali Canal ...	(418) 611	(415) 214	(833) 825
18	Pravara River Works	(7,496) 12,705	(12,001) 4,812	(19,497) 17,517
	{ Pravara Right ² Bank Canal ...			
	{ Pravara Left Bank Canal ...	(24,828) 34,024	(29,649) 17,518	(54,477) 51,542
19	Bhatodi Tank (b) ...	(271) 290	(544) 583	(815) 873
20	Mhaswad Tank ...	6,761 (4,131)	6,888 (3,971)	13,649 (8,102)
21	Parsul Tank (b) ...	(722) 689	(992) 955	(1,714) 1,644
22	Ashii Tank ...	672(479) ...	6,396 (4,528)	7,068 (5,004)
23	Pathri Tank ...	174(126) ...	1,367 (1,060)	1,541(1,186)
24	Jamda Canals ...	2,042(1,554) ...	4,332 (3,521)	6,374(5,081)
25	Mhaswa Tank ...	...	479 (468)	479(468)
26	Lower Panjora River Works ...	1,461(1,452)	1,821 (1,732)	3,282(3,184)
27	Krishna Canal ...	7,968(4,597)	812 (813)	8,780(5,410)
28	Revati Canal ...	240(186)	703 (510)	943(696)
29	Upper Man River Works ...	158(121)	975 (850)	1,133(971)
30	Yerla River Irrigation Works ...	841(682)	3,294 (3,609)	5,135(4,291)
31	Chikhli Canal ...	249(199)	155 (125)	404(324)
32	Maini Tank ...	303(163)	1,459 (1,295)	1,762(1,458)
33	Gokak Canal—First Section and Storage Works.	9,452	6,672	16,124

I-E—contd.

in acres				Average Discharges, Cubic Feet per Second			
Flow	Lift	Double cropped		At Head		Utilized	
		Area irrigated	Percentage of Total Area	Kharif	Rabi	Kharif	Rabi
6	7	8	9	10	11	12	13
18,868	...	752	4'0	92	111	74	89
2,202	...	41	1'8	19	17	19	17
1,717	11	51	3'0	8	9	8	9
813	12	12	1'4	7	4	7	4
17,209	308	1,011	5'8	95	76	94	73
50,603	939	2,518	4'9	363	323	356	317
873	...	...	...	9	11	9	11
13,642	7	...	...	83	83	83	83
1,644	...	685	4'6	3'60	5'90	3'60	5'90
7,068	...	...	...	3'20	20	3'20	20
1,541	...	...	...	68	7'19	68	7'19
6,374	...	...	...	58	90	58	90
479	...	...	...	1'63	8'71	...	8'71
3,282	...	667	52	0'71	0'71	0'71	0'71
7,523	1,257	...	...	29'88	61'41	29'88	61'41
943	...	...	...	2'58	6'05	2'58	6'05
1,127	6	...	...	77	6'13	77	6'13
5,071	64	...	...	3'08	16'56	3'08	16'56
393	11	...	...	1'01	1'02	1'01	1'02
1,745	17	...	...	1'34	4'77	1'34	4'77
15,896	228	...	...	104'00	98'00	104'00	98'00

STATEMENT

No.	Name of Work.	Area irrigated per Cubic Foot per Second			
		Discharged at Head		Utilized	
		Kharif	Rabi	Kharif	Rabi
1	2	14	15	16	17
16	Chankapur Tank—Girna Canal ...	67	76	83	95
	{ Waghad Tank ...	...	...	...	...
	{ Palkhed Canal ...	81	85	81	85
17	Kadwa River Works { Ojhar Tambar Canal ...	112	99	112	99
	{ Wadali Canal ...	60	104	60	104
	{ Pravara Right Bank Canal ...	79	158	80	164
18	Pravara River Works { Pravara Bank Canal Left ...	68	92	69	94
19	Bhatodi Tank (b) ...	30	49	30	49
20	Mhaswad Tank ...	50	48	50	48
21	Parsul Tank (b) ...	201	168	201	168
22	Ashti Tank ...	150	226	150	226
23	Pathri Tank ...	185	147	185	147
24	Jamda Canals ...	27	39	27	39
25	Mhaswa Tank ...	...	55	...	55
26	Lower Panjhra River Works ...	2,045	2,439	2,045	2,439
27	Krishna Canal ...	154	13	154	13
28	Revani Canal ...	72	84	72	84
29	Upper Man River Works ...	157	139	157	139
30	Yerla River Irrigation Works ...	221	219	221	219
31	Chikhli Canal ...	197	122	197	122
32	Maini Tank ...	121	271	121	271
33	Gokak Canal—First Section and Storage Works.	85	75	85	75

STATEMENT

No.	Name of Work.	Area irrigated		
		Kharif	Rabi	Total
1	2	3	4	5
34	Muckkundi Tank ...	...	...	...
35	Dambal Tank ...	321 } *144 }	... 20	351 144*
36	Medleri Tank ...	149	1	150
37	Madag Tank ...	507	151	658
38	Asundi Tank ...	1*6	150 } *182 }	166 } *182 }
39	Dharma Canal ...	705 } *8,648 }	... ...	705 *8,048
	Total, Unproductive ... {	2,45,404 *8,792	1,46,224 *182	3,91,628 *8,974
	Grand Total, Productive and Unproductive ... {	2,47,569 *9,742	1,49,881 *182	3,97,450 *9,924

1-E—contd.

in acres				Average Discharges, Cubic-Feet per Second			
Flow	Lift	Double cropped.		At Head		Utilized	
		Area irrigated	Percentage of Total Area	Kharif	Rabi	Kharif	Rabi
6	7	8	9	10	11	12	13
...	...	...	...	4'65	4'85	4'65	4'85
351	...	...	...	1'42	1'03	1'42	1'03
150	...	...	...	10'74	15'44	10'74	15'44
658	..	...	...	1'63	3'80	1'63	3'80
161	5	...	...	41'70	22'49	41'70	22'49
705	...	...	...	...	...	...	...
3,82,172 *8,974	9,456	8,788	...	...	...	...	...
3,87,983 *9,924	9,467	8,836	...	...	...	...	...

STATEMENT

No.	Name of Work	Area irrigated per Cubic Foot per Second			
		Discharged at Head		Utilized	
		Kharif	Rabi	Kharif	Rabi
1	2	14	15	16	17
34	Muchkundi Tank	102'15	4'12	102'15	4'12
35	Dambal Tank	104'93	0'97	104'93	0'97
36	Medleri Tank	47'20	9'78	47'20	9'78
37	Madag Tank	9'83	87'37	9'83	87'37
38	Asundi Tank	224'29	...	224'29	...
39	Dharma Canal ... ..	...	...	...	...
	Total, Unproductive ...	...	...	...	...
	Grand Total, Productive and Unproductive ...	...	...	...	...

I-E—contd.

Base to which the Duties of water are calculated		Remarks
Kharif	Rabi	
18	19	20
15th February to 14th October	15th October to 14h February	
Do.	Do.	
Do. X	Do. X	
Do.	Do.	
Do.	Do.	
Do.	Do.	
...	..	
...	...	

STATEMENT

Statement showing water-rates per acre in force during

No.	Name of Work	Water-Rates			
		Irrigation in blocks	Perennial	Two Seasonal	Monsoon, four months
1	2	3	4	5	6
		Rs.	Rs.	Rs.	Rs.
	Works for which Capital and Revenue Accounts are kept				
	PRODUCTIVE				
	SOUTHERN CIRCLE				
1	Gadikari Tank*	...	...	...	...
2	Mavinkop Tank *	...	...	...	...
	CENTRAL CIRCLE				
3	Ekruk Tank a	...	{ A 35 B 17	8	3
4	Shahada Channel a	...	{ A 28 B 14	8	3
	UNPRODUCTIVE				
	NORTHERN CIRCLE				
5	{ Hathmati Canal a 1	...	(b3)	...	{ D 3 E 1
	{ Khari Cut Canal a 1	...	(b3)	...	{ D 5 E 1
6	Wangroli Tank a 2	...	...	...	D 5 F 2½
7	Savli Tank a 2	...	...	...	D 5 F 4
8	Tranza Nagrama Tanks a 2	...	...	...	D 4 F 2 E 2½
9	Futelao Tank a 2	...	...	...	F 2 D 4
	DECCAN IRRIGATION CIRCLE				
10	{ Nira Left Bank Canal { (Shetphal Tank (d)	25	J 85½ M 60 C 1 80 B 30	10	4
11	Nira Right Bank Canal (d)...	25	J 85½ M 60 C 1 80 B 30	10	4

I-F

1946-47 on Irrigation Works in the Bombay State

Water-Rates			Single Watering (Post Seasonal)	Occupier's rate	Owner's rate	Water Advantage
Rabi, four months	Hot Weather	Miscellaneous				
7	8	9	10	11	12	13
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
...	...	...	...	Nil	Nil	Nil
...	"	"	"
5	7	...	(e) 2	"	"	"
5	6	...	(e) 2	"	"	"
3	6	...	2	"	"	"
5	6	...	1 ** 2	"	"	"
4 G 3	(g) 6	...	1½	"	"	"
4 G 3	(g) 6	...	1½	"	"	"
4 G 3	(g) 6	...	1	"	"	"
G (9) a ^b (2)	5 (g) 2	...	a ^b 1	"	"	"
6	9	(b4) 5	(b ⁷) 2	"	"	"
6	9	(b4) 5	(b ⁵) 2	"	"	"

STATEMENT

No.	Name of Work	Water-Rates			
		Irrigation in blocks	Perennial	Two Seasonal	Monsoon, four months
1	2	3	4	5	6
		Rs.	Rs.	Rs.	Rs.
12	Mutha Canals and Matoba Tank (d)— Sugarcane under the Mutha Canals within the Poona City and suburban Muni- cipal and Catchment limits or within one mile of those limits	66	...	...	...
	On all remaining land com- manded by both the canals.	...	60	10	4
	Pan gardens	...	85½	...	...
	Perennial crops other than ugarcanes and pan gardens.	...	30	...	...
	Matoba Tank	...	60	...	...
13	Godavari Right Bank Canal (d) Godavari Left Bank Canal (d)	25	M 60 B 30 C1 80 J 85½	10	4
14	Chankapur Tank - Girna Canal (d)	25	M 60 B 30 C1 80 J 85½	10	4
15	Kadwa River Works (d)- Palkhed Canal. Ojhar-Tambat Canal Wadah Canal	...	M 80 B 30	10	4
16	Pravara Canals (d)	25	M 60 B 30 C1 80 J 85½	10	4
17.	Bhatodi Tank (d)	...	M 37 B 18½	10	4
18	Parsul Tank (a ³) CENTRAL CIRCLE	28	14	8	3
19	Shirsuphal Tank a	...	A 28 B 14	8	3
20	Bhadalwadi Tank a				
21	Koregaon Tank a				
22	Ashti Tank a				
23	Pathri Tank a	...	A 28 B 14	8	3
24	Mhaswad Tank a				

I-F—contd.

Water-Rates			Single Watering (Post Seasonal)	Occupier's rate	Owner's Rate	Water Advantage
Rabi, four months	Hot Weather	Miscellaneous				
7	8	9	10	11	12	13
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
...	...	...	...	Nil	Nil	Nil
6	9	(b4) 5	(b5) 2	"	"	"
...	"	"	"
...	"	"	"
...	"	"	"
6	9	(b4) 5	(b5) 2	"	"	"
6	9	(b4) 5	(b5) 2	"	"	"
6	9	(b4) 5	(b5) 2	"	"	"
6	9	(b4) 5	(b5) 2	"	"	"
6	7½	(b4) 5	(b5) 2	"	"	"
5	6	(b4) 4	(b5) 2	"	"	"
5	6	...	(e) 2	"	"	"
5	6	...	(e) 2	"	"	"

STATEMENT

No.	Name of Work	Water-Rates			
		Irrigation in blocks	Perennial	Two Seasonal	Monsoon, four months
1	2	3	4	5	6
		Rs.	Rs.	Rs.	Rs.
25	Jamda Canal a	...	A 28 B 13	7	3
26	Mhaswa Tank a	...	A 12 B 9	5	2
27	Lower Panjhra River Works a	...	A 28 B 14	8	3
28	Krishna Canal a	...	A 32 B 16	8	3
29	Revari Canal a	}	...	8	3
30	Upper Man River Works a				
31	Yerla River Irrigation Works a/				
32	Chikhali Canal a				
33	Maini Tank a				
SOUTHERN CIRCLE					
34	Gokak Canal, 1st section and storage works (u).	...	(b1) 40 (b2) 25 (a7) (b6)	8½	3½ (a8)
35	Muchkundi Tank (s)	...	(b1) 10 (b2) 5	...	2
36	Damhal Tank (w)	...	(b1) 14	(y) 6 (z) 7½	(m) 4
37	Medleri Tank (w)	}	...	(y) 6 (z) 7½	(m) 4
38	Madag Tank (w)				
39	Asundi Tank (w)				
40	Dharma Canal (a9)	...	...	...	(o) 4½

I-F—concl.

Water-Rates			Single Watering (Post Seasonal)	Occupier's rate	Owner's rate	Water Advantage
Rabi, four months	Hot Weather	Miscellaneous				
7	8	9	10.	11	12	13
Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
4	6	...	(e) 2	Nil	Nil.	Nil
3	4	...	(e) 1	"	"	"
5	6	...	(e) 2	"	"	"
5	8	...	(e) 2	"	"	"
5	6	...	(e) 2	"	"	"
5½	15	...	2½	"	"	"
2	5	...	1	"	"	"
(n) 4½	(1) 7	...	(j) 1 (k) 2	"	"	"
(n) 4½	(1) 7	...	(j) 1 (k) 2	"	"	"
...	...	...	(j) 1 (k) 2	"	"	"

- NOTE :—(1) The rate to be charged in the case of lift irrigation from canal shall be $\frac{1}{4}$ th or $\frac{1}{2}$ of the flow rate of Rs. 60 per annum according to contrivances viz., power pump or moat by bullock respectively whereas uniform rates of half the flow rate is charged for lift irrigation from notified channels irrespective of the contrivance used for lifting water vide G. R., P. W. D., No. 929/36, dated the 18th May 1945.
- (2) Double or treble the ordinary rates are charged as penal rates for taking water without permission or treble the Seasonal crop rate for each unauthorized watering.
- (3) Leakage or percolation rates are the same as ordinary rates.
- (4) Water rates for sugarcane or nalla drains or river lifts are covered by G. R., P. W. D., No. 7667/36, dated the 14th January 1946.
- (5) The supply of water to road sides trees is charged as under :—
 Monsoon - Re. 1 per 100 Nos.
 Rabi - Rs. 2-8-0 per 100 Nos.
 Hot Weather - Rs. 3-8-0 per 100 Nos.
 The whole year - Rs. 7 per 100 Nos.
 Minimum charge is Re. 1.
- (6) In the case of Madag Tank the period of cold weather season which was fixed for 4 months from 1st November to end of February for 3 years only, has been fixed as a permanent measure vide G. L., P. W. D., No. 3994/36-I, dated the 24th July 1943.
- (7) In the Deccan Irrigation Circle, the following concessional water rates were in force during 1948-49 vide G. R., P. W. D., No. 5854/36-I of 4th April 1942 :—
- | | | | |
|---|-----|-----|-----------------|
| (i) Monsoon | ... | ... | Re. 1 per acre. |
| (ii) Early sowing of Rabi crops after 15th August provided no water is taken after 15th October | ... | ... | Re. 1 per acre. |
| (iii) Wheat crop as per G.C.M., P.W.D., No. 5854/36 of 10th August 1942... | ... | ... | Rs. 3 per acre. |
| (iv) Rice | ... | ... | Rs. 4 per acre. |
| (v) Follow on crop after rice to be charged at an additional rate of Re. 1 per acre vide G. L., P. W. D., No. 5854/36 of 26th October 1944. | | | |
| (vi) Rabi-fodder and fodder crops at Rs. 3 per acre for which at least one watering is taken before the 30th September. | | | |

* Lands wholly assessed at consolidated rates.

** For single watering for crops for which no application for irrigation throughout the season was received.

- A - For Sugarcane and pan gardens.
 B - For perennial crops other than sugarcane.
 C - For Bhusar seasonal.
 C1- For sugarcane on Form VII.
 D - For Rice.
 E - For crops other than rice.
 F - For other Kharif Crops.
 G - For wheat
 G1- For Cane Block.
 H - For ordinary crops other than wheat.
 J - For Pan garden.
 M - For Sugarcane.

- (d) - Rates sanctioned in G. R. No. 929/36 of 18th May 1945 dated the 31st May 1945.
- (e) - Single watering rate applied to one pre-seasonal or post seasonal watering in the case of sanctioned Rabi and Hot weather crops and one post-seasonal watering in the case of two seasonal crops. If more than one such watering is taken, the full seasonal rates shall be charged unless specifically ordered otherwise. The single watering rate is applicable only for sanctioned seasonal irrigation.

- (g) - Concessional rate of Rs. 3 for which crop, sanctioned vide G. R., P. W. D., No. 5854/36-I, dated 20th April 1944.
- (j) - From the 15th June to 14th October.
- (k) - From 15th October to 15th June.
- (l) - From 15th February to 14th June.
- (m) - From 15th June to 14th October or 15th July to 30th November.
- (n) - From 15th October to 14th February.
- (o) - For four months from 15th June to 14th October or 15th July to 14th November.
- (s) - In force up to 14th February 1947 vide G. R. No. 5594/36, dated the 17th November 1944.
- (u) - In force up to 14th February 1949 vide G. R. No. 1604/36, dated the 30th April 1945.
- (v) - Rates sanctioned in G. R. No. 3994/36, dated the 2nd March 1944, to be in force up to 14th February 1950.
- (y) - For 8 months from 15th June to 14th February.
- (z) - For 8 months from 15th October to 14th June or 1st August to 31st March.
- a - Rates to be in force up to 14th February 1950 vide G. R. No. 929/36, dated 31st May 1945.
- a1 - Rates sanctioned in G. R. No. 4572/36, dated 16th February 1944 for a period of three years up to 14th February 1948 and to be further continued for a period of three years i. e. up to 14th February 1951 or as long as the present food crisis lasts whichever is shorter vide G. R., P. W. D. No. 4752/36, dated the 27th November 1946.
- a2 - Rates continued up to 14th February 1951 vide G. R. No. 3494/36-II, dated 4th June 1947.
- a3 - Rates sanctioned in G. R. No. 929/36, dated the 31st May 1945.
- a5 - For restorative crops grown after rice.
- a6 - In either Kharif or Rabi season.
- a7 - In the case of pomegranates (perennial 8 months) if water is supplied during the period from 15th June to 31st December it should be charged for at the rate of Rs. 8 per acre.
- a8 - When "San" is grown along with maize, the water rates for this mixed crop should be Rs. 2-8-0 per acre. When 'san' is grown for manurial purposes only the water rate therefor should be Re. 1 per acre.
- a9 - Rates sanctioned in G. R. No. 4995/36, of 12th July 1944, are to be in force up to 31st March 1950.
- (b1) - Rate for perennial 12 months.
- (b2) - Rate for perennial 8 months from 15th June to 14th February.
- (b3) - Single seasonal rates are charged as for crops other than rice during which water is taken.
- (b4) - Pre-seasonal water after 1st May.
- (b5) - Post-seasonal except monsoon crop.
- (b6) - In the case of pomegranates (perennial eight months), if water is supplied during the period from 15th June to 31st December it shall be charged for at the rate of Rs. 9-8-0 per acre. But when sown as a mixed crop with any kharif crop in the monsoon season shall be charged the monsoon season rate plus the single watering rate for post-seasonal watering that may be required in the cold weather season.

STATEMENT

Statement showing water-rates per acre in force during

No.	Name of Work	Water-Rates			
		Irrigation in blocks	Perennial	Two Seasonal	Monsoon, four months
1	2	3	4	5	6
		Rs.	Rs.	Rs.	Rs.
	Works for which Capital and Revenue Accounts are kept				
	PRODUCTIVE				
	SOUTHERN CIRCLE				
1	Gadikari Tank*	...	...	...	...
2	Mavinkop Tank*	...	...	...	...
	EASTERN CIRCLE				
3	Ekruk Tank a	...	M 35 B 17½	C 8 B 9½	C 3 B 3½
	CENTRAL CIRCLE				
4	Shahada Channel a	...	A 28 B 14	8	3
	UNPRODUCTIVE				
	NORTH GUJARAT CIRCLE				
5	Hathmati Canal a ²	...	(b ³)	...	D 3
	Khari Cut Canal a ²	...	(b ³)	...	D 5 E 1
6	Wangroli Tank a ²	...	(b ³)	...	F 2½
7	Savli Tank a ²	...	(b ³)	...	F 4
8	Tranza Nagrama Tanks a ²	...	(b ³)	...	F 2
9	Futelao Tank a ²	...	(b ³)	...	F 3
	DECCAN IRRIGATION CIRCLE				
10	Nira Left Bank Canal Sheiphal Tank (d)	G 1 25	J 85½ M 60 C 1 80 B 30	10	4

I-F

1947-48 on Irrigation Works in the Bombay State.

Water-Rates			Single Watering (Post Seasonal)	Occupier's rate	Owner's Rate	Water Advantage
Rabi, four months	Hot Weather	Miscellaneous				
7	8	9	10	11	12	13
Rs.	Rs.	Rs.	Rs.			
...	...	...	...	Nil	Nil	Nil
...	"	"	"
C 5 B 6	C 7 B 8	...	2	"	"	"
5	6	...	(e) 2	"	"	"
3	6	...	2	"	"	"
5	6	...	1 **2	"	"	"
4 G 3	(g) 6	D 5	1½	"	"	"
4 G 3	(g) 6	D.5	1½	"	"	"
4 G 3	(g) 6	D.4	1"	"	"	"
G 2 H 3 a ^b 2 (b4)	(g) 5	D.4	a ^b 1	"	"	"
6	9	5	2	"	"	"
			...	•		

STATEMENT

No.	Name of Work	Water-Rates			
		Irrigation in blocks	Perennial	Two Seasonal	Morsoon, four months
1	2	3	4	5	6
		Rs.	Rs.	Rs.	Rs.
11	Nira Right Bank Canal (d)	G ¹ 25	J 85½ M 60 C ¹ 80 B 30	10	4
12	Mutha Canals and Matoba Tank (d)— Sugarcane under the Mutha Canals within the Poona City and suburban Municipal and Cantonment limits or within one mile of those limits. On all..... 3. On all remaining land commanded by both the canals, Pan gardens. Perennial crops other than sugarcane and pan gardens. Matoba Tank.	... ... ... ... ...	66 M 60 J 85½ B 30 60	... 10 ... ... ...	... 4
13	Godavari Right Bank Canal(d) Godavari Left Bank Canal (d)	G ¹ 25	M 60 B 30 C ¹ 80 J 85½	10	4
14	Chankapur Tank-Girna Canal (d)	G ¹ 25	M 60 B 30 C ¹ 80 J 85½	10	4
15	Kadwa River Works (d) Falkhed Canal Ojhar-Tambat Canal Wadali Canal	...	M 80 B 30	10	4
16	Pravara Canals (d)	G ¹ 25	M 60 B 30 C ¹ 80 J 85½	10	4
17	Bhatodi Tank (d)	...	M 37 B 18½	10	4
18	Parsul Tank (d)	G ¹ 28	14	8	3
CENTRAL CIRCLE					
19	Shirsuphal Tank a	}	A 28 B 14	8	3
20	Bhadalvadi Tank a				
EASTERN CIRCLE					
21	Jamda Canala	...	A 28 B 13	7	3

I-F—Contd!

Water-Rates			Single Watering (Post Seasonal)	Occupier's rate	Owner's Rate	Water Advantage
Rabi; four months	Hot Weather	Miscellaneous				
7	8	9	10	11	12	13
Rs.	Rs.	Rs.	Rs.			
6	9	5	2	Nil	Nil	Nil
...	"	"	"
6	8	5	2	"	"	"
...	"	"	"
...	"	"	"
6	9	5	2	"	"	"
6	8	5	2	"	"	"
6	9	5	2	"	"	"
6	9	5	2	"	"	"
6	7½	5	2	"	"	"
8	6	4	2	"	"	"
5	6	...	(e) 2	"	"	"
4	6	...	(e) 2	0 3/4	"	"

STATEMENT

No.	Name of Work	Water-Rates							
		Irrigation in blocks	Perennial	Two Seasonal	Monsoon, four months				
1	2	3	4	5	6				
		Rs.	Rs.	Rs.	Rs.				
22	Mhaswa Tank a	...	A 12 B 9	5	2				
23	Lower Panjhra River Works a	...	A 28 B 14	8	3				
24	Koregaon Tank a	}	M 28 B 14	8	B & C 3				
25	Ashti Tank a								
26	Pathri Tank a								
27	Mhaswad Tank a								
28	Krishna Canal a	...	M 32 B 16	8	B & C 3				
29	Revari Canal a	}			...				
30	Upper Man River Works a								
31	Yerla River Irrigation Works a								
32	Chikhli Canal a	...	M 28 B 14	8	B & C 3				
33	Maini Tank a	}							
SOUTHERN CIRCLE									
34	Gokak Canal, 1st section and storage works (u)					...	(b ¹) 40 (b ²) 25 (a ⁷)	8½	3½ (as)
35	Muchkundi Tank (s)					...	(b ¹) 10 (b ²) 5	...	2
36	Dambal Tank (w)					...	(x) 14	(y) 6 (z) 7½	(m) 4
37	Medleri Tank (w)					}	(x) 14	(y) 6 (z) 7½	(m) 4
38	Madag Tank (w)								
39	Asundi Tank (w)								
40	Dharma Canal (w)					(o) 4½

1-F-Contd.

Rabi, four months	Water-Rates		Single Watering (Post Seasonal)	Occupier's rate	Owner's Rate	Water Advantage
	Hot Weather	Miscellaneous				
7	8	9	10	11	12	13
Rs.	Rs.	Rs.	Rs.			
3	4	...	(e) 1	Nil	Nil	Nil
5	6	...	(e) 2	"	"	"
B & C 5	B & C 6	...	2	"	"	"
B & C 5	B & C 8	...	2	"	"	"
B & C 5	B & C 6	...	2	"	"	"
5½	15	...	2½	"	"	"
2	5	...	1	"	"	"
(n) 4½	(1) 7	...	(j) 1 (k) 2	"	"	"
(n) 4½	(1) 7	...	(j) 1 (k) 2	"	"	"
F...	...	...	(j) 1 (k) 2	"	"	"

- NOTE :—(1) The rate to be charged in the case of lift irrigation from canal shall be $\frac{1}{4}$ th or $\frac{1}{2}$ of the flow rate of Rs. 60 per acre according to contrivances viz., power pump or moat by bullock respectively whereas uniform rates of half the flow rate is charged for lift irrigation from notified channels irrespective of the contrivance used for lifting water vide G. R., P. W. D., No. 929/36, dated the 18-5-1945.
- (2) Double or treble the ordinary rates are charged as penal rates for taking water without permission, or treble the seasonal crop rate for each unauthorised watering.
- (3) Leakage or percolation rates are the same as ordinary rates.
- (4) Water rates for sugarcane or nalla drains or river lifts are covered by G. R. P. W. D., No. 7,667/36, dated the 14-1-1946.
- (5) The supply of water to road sides trees is charged as under :—
 Monsoon - Re. 1 per 100 Nos.
 Rabi - Rs. 2-8-0 per 100 Nos.
 Hot Weather - Rs. 3-8-0 per 100 Nos.
 The whole year - Rs. 7 per 100 Nos
 Minimum charge is Re. 1.
- (6) The concessional rates in the Central Circle sanctioned for food and fodder crops were allowed to be continued during 1947-48.
- (7) In the case of Madag Tank the period of cold weather fixed for 4 months from 1st November to end of February for 3 years only, has been fixed as a permanent measure vide, G. L., P. W. D. No. 3,994/36 I, dated the 24-7-1943.
- (8) In the Deccan Irrigation Circle, the following concessional water rates were in force during 1947-48 vide G. R., P. W. D., No. 5854/36-I of 4th April 1942 :—
- | | | | |
|---|-----|-----|-----------------|
| (i) Monsoon | ... | ... | Re. 1 per acre. |
| (ii) Early sowing of Rabi crops after 15th August provided no water is taken after 15th October | ... | ... | Re. 1 per acre. |
| (iii) Wheat crop as per G. C. M., P. W. D., No. 5,854/36 of 10th August 1942 | ... | ... | Rs. 3 per acre. |
| (iv) Rice | ... | ... | Rs. 4 per acre. |
- (v) Follow on crop after rice to be charged at an additional rate of Re. 1 per acre vide G. L., P. W. D., No. 5854/36 of 26th October 1944.

* Lands wholly assessed at consolidated rates.

** For single watering for crops for which no application for irrigation throughout the season was received.

A - For Sugarcane and pan gardens.

B - For perennial crops other than sugarcane.

C - For Bhusar seasonal.

C1- For Sugarcane on Form VII.

D - For Rice.

E - For crops other than rice.

F - For other Kharif Crops.

G - For wheat.

G1- For Cane Block.

H - For ordinary crops other than wheat.

J - For Pan garden.

M - For Sugarcane.

(d) - Rates sanctioned in G. R. No. 929/36 of 18th May 1945 to be in force up to 14th February 1950 vide G. R. No. 929/36-I, dated the 31st May 1945.

(e) - Single watering rate applied to one pre-seasonal or post seasonal watering in the case of sanctioned Rabi and Hot weather crops and one post-seasonal watering in the case of two seasonal crops. If more than one such watering is taken, the full seasonal rates shall be charged unless specifically ordered otherwise. The single watering rate is applicable only for sanctioned seasonal irrigation.

- (g) - Concessional rate of Rs. 3 for which crop sanctioned *vide* G. R., P. W. D., No. 5854/36-I, dated 20th April 1944.
- (j) - From the 15th June to 14th October.
- (k) - From 15th October to 15th June.
- (l) - From 15th February to 14th June.
- (m) - From 15th June to 14th October or 15th July to 30th November.
- (n) - From 15th October to 14th February.
- (o) - For four months from 15th June to 14th October or 15th July to 14th November.
- (s) - In force up to 14th February 1949 *vide* G. R. No. 5594/36, dated the 27th November, 1946.
- (u) - In force up to end of February 1949 *vide* G. R. No. 1604/36, dated the 30th April 1945.
- (w) - Rates sanctioned in G. R. No. 3994/36, dated the 2nd March 1944, to be in force up to 14th February 1950.
- (x) - For perennial twelve months (15th February to 14th February).
- (y) - For 8 months from 15th June to 14th February.
- (z) - For 8 months from 15th October to 14th June or 1st August to 31st March.
- a - Rates to be in force up to 14th February 1950 *vide* G. R. No. 929/36, dated 31st May 1945.
- a2 - Rates continued up to 14th February 1951 *vide* G. R. No. 3494/36-II, dated 4th June 1947.
- a5 - For restorative crops grown after rice.
- a6 - In Either kharif or Rabi season.
- a7 - In the case of pomegranates (perennial 8 months) if water is supplied during the period from, 15th June to 31st December it should be charged for at the rate of Rs. 9-8-0 per acre.
- a8 - When " San " is grown along with maize the water rates for this mixed crop should be Rs. 2-8-0 per acre. When ' san ' is grown for manurial purposes only the water rates therefor should be Re. 1 per acre. Tur when sown as a mixed crop with any kharif crops in the monsoon season, shall be charged the monsoon season rate plus the single watering rate for post-seasonal watering that may be required in the cold weather season.
- a9 - Rates sanctioned in G. R. No. 4996/36, of 12th July 1944, are to be in force upto 31st March, 1950.
- (b1) - Rates for perennial 12 months,
- (b2) - Rates for perennial 8 months.
- (b3) - Single seasonal rates are charged *vide* G. R. No. 3343/27, dated 5th October 1929.
- (b4) - Concessional rate of Rs. 2 for wheat crop sanctioned in G. L., P. W. D. No. 5854/36-I, dated the 20th January 1944.

STATEMENT

Statement showing water-rates per acre in force during

No.	Name of Work	Water-Rates			
		Irrigation in blocks	Perennial	Two Seasonal	Monsoon, four months
1	2	3	4	5	6
		Rs.	Rs.	Rs.	Rs.
	Works for which Capital and Revenue Accounts are kept				
	PRODUCTIVE				
	SOUTHERN CIRCLE				
1	Gadhikari Tank*	...	...	...	...
2	Mavinkop Tank*	...	...	...	...
	CENTRAL CIRCLE				
3	Ekrak Tank a	...	{ A 35 B 17½ }	{ C 8 B 9 }	{ C 3 B 3½ }
4	Shahada Channel a	...	{ A 28 B 14 }	8	3
	UNPRODUCTIVE				
	NORTH GUJARATH CIRCLE				
5	{ Hatmati Canal a ² Khari Cut Canal a ²	...	(b ³)	...	D 3 { D 5 E 1 }
6	Wangroli Tank a ²	...	(b ³)	F 2½	F 2½
7	Savli Tank a ²	...	(b ³)	...	F 4
8	Tranza Nagrama Tank a ²	...	(b ³)	...	F 2
9	Futelao Tank a ²	...	(b ³)	...	F 2
	DECCAN IRRIGATION CIRCLE				
10	{ Nira Left Bank Canal Shetphal Tank (d)	G ¹ 25	J 85½ M 60 C 80 B 30	10	4
11	Nira Right Bank Canal (d)	G ¹ 25	J 85½ M 60 C 1 80 B 30	10	4

I-F

1948-49 on Irrigation Works in the Bombay State

Water-Rates			Single Watering (Post-Seasonal)	Occupier's rate	Owner's Rate	Water Advantage
Rabi, four months	Hot Weather	Miscellaneous				
7	8	9	10	11	12	13
Rs.	Rs.	Rs.	Rs.			
...	...	...	... ..	Nil	Nil	Nil
...	"	"	"
C 5 B 6	C 7 B 8	...	2	"	"	"
5	6	...	(e)2	"	"	"
3	6	...	2	"	"	"
5	6	...	{ 1 **2	"	"	"
4 G 3	(g) 6	D 5	1½	"	"	"
4 G 3	(g) 6	D 5	1½	"	"	"
4 G 3	(g) 6	D 4	1	"	"	"
{ G 2 H. 3 a 5 2 }	(g) 5	D 4	a 6 1'	"	"	"
6	9	5	2	"	"	"
6	9	5	2	"	"	"

STATEMENT

No.	Name of Work	Water-Rates			
		Irrigation in blocks	Perennial	Two Seasonal	Monsoon, four months
1	2	3	4	5	6
		Rs.	Rs.	Rs.	Rs.
12	Mutha Canals and Matoba Tank (d)	...	66	...	...
	Sugarcane under the Mutha Canals within the Poona City and suburban Municipal and Cantonment limits or within one mile of those limits.	...			
	On all remaining land commanded by both the canals.	...	M 60	10	4
	Pan gardens	...	J 85½	...	...
	Perennial crops other than sugarcane and pan gardens.	...	B 30	...	...
	Matoba Tank	...	60	...	...
13	Godavari Right Bank Canal (d)	G ¹ 25	M 60	10	4
	Godavari Left Bank Canal (d)		B 30 C1 80 J 85½		
14	Chankapur Tank Girna Canal (d)	G ¹ 25	M 60 B 30 C1 80 J 85½	10	4
15	Kadwa River Works (d) Palkhed Canal. Ojhar-Tambat Canal. Wadali Canal.	...	M 80 B 30	10	4
16	Pravara Canal (d)	G ¹ 25	M 60 B 30 C1 80 J 85½	10	4
17	Bhatodi Tank. (d)	...	M 37 B 18½	10	4
18	Farsul Tank (d)	G ¹ 28	14	8	3
CENTRAL CIRCLE					
19	Shirsuphal Tank a	}	A 28	8	3
20	Bhadalvadi Tank a		B 14		
21	Ashti Tank a	}	...	8	3
22	Pathri Tank a		A 28 B 14		
23	Mhaswad Tank a		...		
24	Jamda Canal a	...	A 28 B 13	7	3

I-F—contd.

Water-Rates			Single Watering (Post Seasonal)	Occupier's rate	Owner's Rate	Water Advantage
Rabi, four months	Hot Weather	Miscellaneous				
7	8	9	10	11	12	13
Rs.	Rs.	Rs.	Rs.			
...	...	...	...	Nil.	Nil.	Nil.
6	9	5	2	"	"	"
...	"	"	"
...	"	"	"
...	"	"	"
6	9	5	2	"	"	"
6	9	5	2	"	"	"
6	9	5	2	"	"	"
6	9	5	2	"	"	"
6	7½	5	2	"	"	"
5	6	4	2	"	"	"
5	6	...	(e) 2	Nil	Nil	Nil.
5	6	...	2	"	"	"
4	6	...	(e) 2	"	"	"

STATEMENT

No.	Name of Work	Water-Rates				
		Irrigation in blocks	Perennial	Two Seasonal	Monsoon, four months	
1	2	3	4	5	6	
		Rs.	Rs.	Rs.	Rs.	
25	Mhaswa Tank a	...	A 12 B 9	5	2	
26	Lower Panjhra River Works a	...	A 28 B 14	8	3	
27	Krishna Canal a	...	A 32 B 16	8	5	
28	Revari Canal a	}				
29	Upper Man River Works a					
30	Yerla River Irrigation Works a		...	A 28 B 14	8	3
31	Chikhali Canal a					
32	Maini Tank a					
	KARNATAK IRRIGATION CIRCLE					
33	Gokak Canal, 1st section and storage works (u)	...	(b ¹) 40 (b ²) 25 (a ⁷)	8½	3½ (a ³)	
	SOUTHERN CIRCLE					
34	Muchkundi Tank (a)	...	(b ¹) 10 (b ²) 5	...	2	
35	Dambal Tank (w)	...	(x) 14	(y) 6 (z) 7½	(m) 4	
36	Medleri Tank (w)	}				
37	Madax Tank (w)		...	(x) 14	(y) 6 (z) 7½	(m) 4
38	Asundi Tank (w)					
39	Dharma Canal (a ⁹)	...	...	...

I-F—concl.

Water-Rates			Single Watering (Post Seasonal)	Occupier's rate	Owner's Rate	Water Advantage
Rabi, four months	Hot Weather	Miscellaneous				
7	8	9	10	11	12	13
Rs.	Rs.	Rs.	Rs.			
3	4	...	(e) 1	Nil	Nil	Nil
5	6	...	(e) 2	"	"	"
5	8	...	2	"	"	"
5	6	...	2	"	"	"
5½	15	...	2½	"	"	"
2	5	...	1	"	"	"
(a) 4½	(1) 7	...	(j) 1 (k) 2	"	"	"
(a) 4½	(1) 7	...	(j) 1 (k) 2	"	"	"
...	...	...	(j) 1 (k) 2	"	"	"

- NOTE :—(1) The rate to be charged in the case of lift irrigation from canal shall be $\frac{1}{4}$ th or $\frac{1}{2}$ of the flow rate of Rs. 60 per annum according to contrivances viz., power pump or mat by bullock respectively whereas uniform rates of half the flow rate is charged for lift irrigation from notified channels irrespective of the contrivance used for lifting water vide G. R., P. W. D., No. 929/36, dated the 18th May 1945.
- (2) Double or the ordinary rates are charged as penal rates for taking water without permission.
- (3) Leakage or percolation rates are the same as ordinary rates.
- (4) Water rates for sugarcane or nalla drains or river lifts are covered by G. R., P. W. D., No. 7657/36, dated the 14th January 1946.
- (5) The supply of water to road sides trees is charged as under:—
 Mousooa—Rs. 1 per 100 Nos.
 Rabi —Rs. 2-8-0 per 100 Nos.
 Hot Weather — Rs. 3-8-0 per 100 Nos,
 The whole year — Rs. 7 per 100 Nos.
 Minimum charge is Re. 1.
- (6) The concessional rates in the Central Circle sanctioned for food and fodder crops were allowed to be continued vide G. L., P. W. D., No. 929/36-X-I. B. (I), dated the 2nd January 1948.
- (7) In the case of Madag Tank the period of cold weather fixed for 4 months from 1st November to end of February for 3 years only, has been fixed as a permanent measure vide, G. L., P. W. D., No. 3994/36-I, dated the 24th July 1943.
- (8) In the Deccan Irrigation Circle, the following concessional water rates were in force during 1948-49 vide G. R., P. W. D., No. 5854/36-I of 4th April 1942 :—
- | | | |
|---|---|-----------------------------|
| (i) Monsoon | ... .. | Re. 1 per acre. |
| (ii) Early sowing of Rabi crops after 15th August provided no water is taken after 15th October | ... .. | Re. $\frac{1}{2}$ per acre. |
| (iii) Wheat crop as per G. C. M., P. W. D., No. 5854/36 of 10th August 1942. | ... .. | Rs. 3 per acre. |
| (iv) Rice | ... .. | Rs. 4 per acre. |
| (v) Follow on crop after rice to be charged at an additional rate of Re. 1 per acre | vide G. L., P. W. D., No. 5854/36 of 26th October 1944. | |

*² Lands wholly assessed at consolidated rates.

^{} For single watering for crops for which no application for irrigation throughout the season was received.

- A - For Sugarcane and pan gardens.
 B - For perennial crops other than sugarcane.
 C - For Bhusar seasonal.
 C1- For Sugarcane on Form VII.
 D - For Rice.
 E - For crops other than rice.
 F - For other Kharif Crops.
 G - For wheat.
 G1- For Cane Block.
 H - For ordinary crops other than wheat.

- J - For Pan garden.
- M - For sugarcane.
- (d) - Rates sanctioned in G. R. No. 929/36 of 18th May 1945 to be in force up to 14th February 1950 vide G. R. No. 929/36-I, dated the 31st May 1945.
- (e) - Single watering rate applied to one pre-seasonal or post seasonal watering in the case of sanctioned Rabi and Hict weather crops and one post-seasonal watering in the case of two seasonal crops. If more than one such watering is taken, the full seasonal rates shall be charged unless specifically ordered otherwise. The single watering rate is applicable only for sanctioned seasonal irrigation.
- (g) - Concessional rate of Rs. 3 for wheat crop sanctioned vide G. R., P. W. D., No. 5854/36-I, dated 28th April 1944.
- (j) - From the 15th June to 14th October.
- (k) - From 15th October to 15th June.
- (l) - From 15th February to 14th June.
- (m) - From 15th June to 14th October or 15th July to 30th November.
- (n) - From 15th October to 14th February.
- (o) - For four months from 15th June to 14th October or 15th July to 14th November.
- (s) - In force up to 14th February 1951 vide G. R. No. 5594/36, dated the 2nd September 1948.
- (u) - In force up to end of February 1949 vide G.R. No. 1604/36, dated the 13th April 1945.
- (w) - Rates sanctioned in G. R. No. 3994/36, dated the 2nd March 1944, to be in force up to 14th February 1950.
- (x) - For perennial twelve months (15th February to 14th February).
- (y) - For 8 months from 15th June to 14th February.
- (z) - For 8 months from 15th October to 14th June or 1st August to 31st March.
- a - Rates to be in force up to 14th February 1950 vide G. R. No. 929/36, dated 31st May 1945.
- a2 - Rates continued up to 14th February 1951 vide G. R. No. 3494/36-II, dated 4th June 1947.
- a5 - For restorative crops grown after rice.
- a6 - In either kharif or Rabi season.
- a7 - In the case of pomegranates (perennial 8 months) if water is supplied during the period from 15th June to 31st December it should be charged for at the rate of Rs. 9-8-0 per acre.
- a8 - When "San" is grown along with maize the water rates for this mixed crop for the monsoon season should be Rs. 2-8-0 per acre. When "San" is grown for manurial purposes only the water rates therefore should be Re. 1 per acre. Tur when sown as a mixed crop with any kharif crops in the monsoon season, shall be charged the monsoon season rate plus the single watering rate for post seasonal watering that may be required in the cold weather season. These concessional rates are to continue until further orders vide G. R. No. 1604/36, dated 30th April 1945.
- a9 - Rates sanctioned in G. R. No. 4996/36, of 12th July 1944, are to be in force up to 31st March 1950.
- (b1) - Rates for perennial 12 months.
- (b2) - Rates for perennial 8 months.
- (b3) - Single seasonal rates are charged vide G. R. No. 3343/27, dated 5th October 1929.

Statement showing expenditure on establishment in the Roads and Buildings and on the total outlay on works and repairs

Year.	Expenditure on Establishment in the							
	50—Civil Works—Provincial.	81—Civil Works.	50—Civil Works—Central.	81—Military Works.	Deposit Work.	Total Establishment charged.	Percentage on the total outlay on works and repairs in the Roads and Buildings Branch	68—Construction of Irrigation, Navigation, Embankment and Drainage Works
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.		Rs.
1921-22 ...	29,06,955	...	1,98,683	45,258	2,84,992	34,35,888	19.26	11,53,734
1922-23 ...	20,14,640	8,34,450	1,78,163	71,481	77,143	31,75,877	20.79	14,20,751
1923-24 ...	15,34,488	8,10,645	67,892	38,560	6,88,354	31,89,939	19.88	21,87,793
1924-25 ...	16,89,892	12,25,632	1,19,721	27,862	2,52,556	33,15,663	19.67	29,10,785
1925-26 ...	18,89,417	12,05,078	1,01,876	69,049	2,58,535	35,23,955	20.66	32,21,647
1926-27 ...	25,30,236	5,97,486	1,68,896	5,842	3,94,389	36,96,939	23.76	35,56,959
1927-28 ...	21,99,448	5,59,107	1,49,132	5,042	2,97,270	32,09,999	24.96	36,98,956
1928-29 ...	22,40,393	6,56,713	2,29,540	2,240	2,56,180	33,85,066	25.03	39,04,670
1929-30 ...	22,45,450	7,33,867	1,56,773	3,638	2,34,897	33,74,625	25.26	42,76,873
1930-31 ...	25,51,711	1,80,139	1,72,163	2,415	85,444	29,91,872	32.35	42,88,966
1931-32 ...	25,93,104	2,31,929	1,22,799	3,182	44,132	29,96,146	38.70	40,37,972
1932-33 ...	21,74,603	71,981	85,143	3,334	17,156	25,52,217	39.79	28,70,427
1933-34 ...	22,73,946	31,807	71,866	3,810	30,502	24,11,930	37.97	17,60,090
1934-35 ...	21,88,729	38,278	62,472	2,693	47,694	23,39,866	35.82	15,39,830
1935-36 ...	20,51,807	808	89,984	1,539	54,593	21,98,731	35.75	1,37,301
1936-37 ...	23,14,593	619	61,859	1,124	57,679	24,35,874	31.66	74,021
1937-38 ...	22,61,828	699	58,352	998	47,319	23,47,689	24.46	68,679
1938-39 ...	20,85,355	...	10,113	769	65,701	21,61,938	25.28	53,922
1939-40 ...	19,38,566	...	17,245	810	63,725	20,09,191	23.37	37,362
			-11,702*	547*				
1940-41 ...	17,79,944	66,927	...	...	79,566	19,26,437	22.98	52,969
1941-42 ...	17,06,360	1,25,314	...	...	28,924	18,60,598	15.41	26,714
1942-43 ...	16,15,325	1,23,070	...	...	25,566	17,63,901	13.15	4,851
1943-44 ...	19,50,549	54,204	...	...	55,187	20,59,940	19.06	4,697
1944-45 ...	26,11,951	4,59,745	...	...	26,044	32,19,061	20.00	4,332
1945-46 ...	27,09,660	3,35,986	...	...	20,022	33,54,781	15.87	9,257

*Represents the difference between the Establishment charges debited on the basis of estimated

NOTE.—The percentage of the establishment charges on the cost of works and repairs in the (column 8). The reason is largely that the establishment charges in the Irrigation Branch include certain canal systems which has no connection with the execution of works and repairs, and that management including the control and distribution of water, which is debited in the accounts charges debited in the accounts to "revenue management" are deducted from the total cost of be so divergent. The increase in the rate per cent. in the R. & B. Branch is mainly due to same ratio in which expenditure on works is reduced. A mere over all percentage on expenditure

The figures from the year 1921-22 to 1934-35 pertain both to the Province of Bombay and Sind.

*Minus expenditure due to the write off of previous year's expenditure on which

the Irrigation Branches of the P. W. D. from the year 1921-22 to 1945-46 and the percentage during that period in both the Branches.

Roads and Buildings and Irrigation Branches.								Total	Percentage
XVII— Works for which capital accounts are kept.	18—Other Revenue Expendi- ture financ- ed from Ordinary Revenue.	XLI— Receipts from Electricity schemes— Hydro- Electric Scheme.	53— Capital Outlay on Elec- tricity schemes— Hydro- Electric Scheme.	Deposit Works	Total Establish- ment charges.	Percentage on the total outlay on works and repairs in the Irrigation	Establish- ment charges in the Roads and Buildings and Irrigation Branches.	of works and repairs in Roads and Buildings and Irrigation Branches	
10	11	12	13	14	15	16	17	18	
Rs.	Rs.			Rs.	Rs.		Rs.		
13,85,960	6,68,651	...	...	2,770	32,11,115	33'59	66,47,003	24'26
13,44,901	5,34,327	...	...	1,993	33,01,972	32'22	64,77,849	25'38
14,43,222	4,32,013	...	...	2,056	40,65,084	33'89	72,55,023	25'87
17,37,724	5,26,361	...	...	492	51,75,362	28'73	84,91,025	24'35
17,99,343	5,19,228	...	...	2,681	55,42,899	21'62	90,66,854	21'23
18,08,385	5,94,989	...	...	3,207	59,63,540	30'56	96,60,479	27'54
19,20,773	7,80,312	...	...	3,847	64,03,888	26'00	96,13,887	25'64
21,35,939	6,16,601	...	...	2,750	66,59,960	25'51	1,00,45,026	25'35
21,08,302	6,18,312	...	...	1,012	69,54,499	23'26	1,03,29,124	23'88
18,31,149	5,99,621	...	...	1,734	67,21,470	21'60	97,13,342	24'06
16,34,011	5,18,627	...	...	86	61,90,696	22'40	91,86,842	25'97
23,53,971	4,01,329	...	...	680	56,26,407	28'54	81,78,624	31'30
29,83,531	5,14,407	...	...	48,960	53,06,988	40'41	77,18,918	39'61
30,94,255	4,55,037	...	...	441	50,90,563	42'89	74,30,429	40'38
8,66,476	1,73,501	...	...	61	11,77,339	89'46	33,76,070	45'21
8,24,868	1,63,507	...	...	620	10,63,016	83'73	34,98,890	39'04
7,70,784	1,27,039	...	...	73	9,66,575	82'27	33,14,264	30'77
8,22,086	1,39,881	...	...	...	10,15,889	92'85	31,77,827	32'95
7,77,209	1,14,778	1,442	89,598	317	10,20,686	82'62	30,29,877	30'82	
7,96,162	43,795	3,749	4,452	1,109	9,02,236	107'88	28,28,673	30'68	
7,47,287	42,317	1,884	1,091	1,380	8,20,673	88'78	26,81,271	20'63	
7,62,592	45,736	2,234	2,21	-56*	8,15,538	104'51	25,79,439	18'17	
7,12,336	47,375	2,269	...	24	7,66,701	86'75	28,26,641	24'18	
9,72,069	89,995	1,721	82	223	10,68,422	74'94	42,87,483	24'47	
2,37,183	1,15,532	2,782	...	1,201	13,65,955	88'08	47,20,729	20'81	

figures and those on the basis of actuals to end of March final kept under suspense.

Irrigation Branch (column 16) is generally higher than that in the Roads and Buildings Branch the cost of Special Revenue Establishment employed entirely on "revenue management" work on these charges also include cost of part of the time of Irrigation establishment spent on revenue to "revenue management" and not to execution of works and repairs. If these establishment establishment in the Irrigation Branch the percentage on the cost of works and repairs will not decrease in outlay on "works" and "repairs". Establishment charges cannot be reduced in the on works is inaccurate.

establishment charges were levied.

Statement showing expenditure on establishment under (1) Roads and Buildings (2) Electrical and (3) Irrigation Branches of the Public Works Department for the years 1946-47 to 1948-49 and the percentage thereof on the total outlay on works and repairs in all branches.

	Year		
	1946-47	1947-48	1948-49
<i>Establishment charges in the Roads and Buildings Branch.</i>	Rs.	Rs.	Rs.
(a) 50-Civil Works-State ...	47,37,693	50,66,002	47,68,734
(b) 81-Civil Works ...	1,27,563	4,40,687	12,98,465
(c) Deposit Works ...	15,033	10,922	13,376
Total establishment charges ...	48,80,289	55,17,611	60,80,575
Percentage on total outlay on works and repairs in the Roads and Buildings Branch.	29.54	30.86	21.63
<i>Establishment charges in the Electrical Branch.</i>			
(a) 52-A-Other Revenue Expenditure on Electricity Schemes.	96,224	67,200	41,402
(b) 53-Capital Outlay on Electricity Schemes.	190	295	726
(c) 81-A-Capital Outlay on Electricity Schemes.	3,30,768	6,05,423	8,76,914
(d) XLI-Receipt from Electricity Schemes.	17,083	17,895	5,607
Total establishment charges ...	4,44,265	6,90,813	9,24,649
Percentage on the total outlay on works and repairs in Electrical branch.	193.64	42.05	25.49
<i>Establishment charges in the Irrigation Branch.</i>			
(a) XVII-Irrigation Works for which Capital accounts are kept.	13,90,083	15,02,281	20,26,797
(b) 18-Other Revenue expenditure financed from Ordinary Revenues.	2,04,606	1,67,149	3,59,705
(c) 68-Construction of Irrigation, Navigation, Embankment and Drainage Works.	22,735	68,134	6,83,787
(d) Deposit Works.	2,564	176	854
Total establishment charges ...	16,19,988	17,37,740	30,71,143
Percentage on total outlay on works and repairs in the Irrigation Branch.	119.45	94.33	61.72
Total establishment charges in (i) Roads and Buildings (ii) Electrical and (iii) Irrigation Branches.	69,44,542	79,46,164	1,00,76,367
Percentage on the total outlay on works and repairs in (i) Roads and Buildings (ii) Electrical and (iii) Irrigation Branches.	38.36	37.19	27.45

Statement Showing the maximum and minimum levels and contents etc. of the Major Irrigation works for the years 1946-47, 1947-48 and 1948-49.

S. No.	Name of work.	Year under review.	Maximum level and contents and the date on which maximum level was reached.	Minimum level and contents and the date on which minimum level was reached before replenishment.	Whether the tank filled to Full Supply Level etc. and date on which F.S.L. was reached.
1	2	3	4	5	6
<i>North Gujarat Circle</i>					
1	Hathmati and Khari Cut Canals.	1946-47	...	...	...
		1947-48	...	...	...
		1948-49	...	...	...
2	Wangroli Tank ...	1946-47	...	...	Tank was filled.
		1947-48	...	...	Tank was partially filled.
		1948-49	...	...	Do.
3	Savli Tank ...	1946-47	...	...	Tank was filled.
		1947-48	...	...	Tank was partially filled.
		1948-49	...	...	Do.
4	Tranza Nagrama Tanks	1946-47	...	...	Tanks did not fill.
		1947-48	...	...	Tanks were not filled.
		1948-49	...	...	Do.
5	Futelao Tank ...	1946-47	...	...	Filled to F. S. L.
		1947-48	...	...	Tank was partially filled.
		1948-49	...	...	Do.
<i>Deccan Irrigation Circle</i>					
6	Nira R. B. Canal (Lake Whiting)	1946-47	143 ft.	36.80 ft.	Filled to F. S. L. on 13-8-1946.
			24198 Mcft. (13-8-1946)	347 Mcft. (19-6-1946)	
		1947-48	143 ft. (6-9-1947)	66.8 ft.	Do. on 6-9-1947.
				2576 Mcft. (2-7-1947)	
1948-49	136.10 ft. (27-11-1948)	58 ft.	Not filled to F. S. L.		
			1551 Mcft. (8-7-1948)		

S. No.	Name of work.	Year under review.	Maximum level and contents and the date on which maximum level was reached.	Minimum level and contents and the date on which minimum level was reached before replenishment.	Whether the tank filled to Full Supply Level etc. and date on which F. S. L. was reached.
1	2	3	4	5	6
7	Nira Left Bank Canal (Shetpbal Tank)	1946-47	37 ft.	17'90 ft.	Filled to F. S. L. on 18-9-1946.
			... (18-9-1946).	109 Mcft. (5-7-1946)	
		1947-48	37 ft.	26'40 ft.		Do. on 29-8-1947.
			(29-8-1947)	258 Mcft. (20-7-1947)	
		1948-49	37'5 ft.	13'80 ft.	Do on 26-8-1948.
			(26-8-1948)	67 Mcft. (17-6-1948)	
8	Mutha Canals and Matoba Tank (Lake Fife)	1946-47	34 ft.	17'95 ft.	Filled to F. S. L. on 20-6-1946.
			3091 Mcft. (20-6-1946)	1181 Mcft. (1-4-1946)	
		1947-48	34 ft.	9'25 ft.		F.S.L. was maintained upto 21-10-1947.
			3091 Mcft. (4-7-1947)	505 Mcft. (3-7-47)	
		1948-49	29'90 ft.	9'40 ft.	Not filled to F. S. L.
			184 Mcft. (23-9-1948)	514 Mcft. (14-6-1948)	
9	Godavari Canals (Lake Beale)	1946-47	1874'40 ft.	1824 ft.	...
			7573 Mcft. (20-10-1946)	351 Mcft. (20-6-1946)	
		1947-48	1874'45 ft.	1846 ft.	...
			7573 Mcft. (18-11-1947)	1699 Mcft. (10-7-47)	
		1948-49	64'15 ft.	28'60 ft.	...
			7,470 Mcft. (2-1-1949)	1083 Mcft. (11-6-1948)	
10	Chankapur Tank Girna Canal.	1946-47	90'30 ft.	72'4 ft.	...
			1441 Mcft. (19-3-1947)	681 Mcft. (16-6-1946)	
		1947-48	92'00 ft.	70'5 ft.	...
			1548 Mcft. (22-11-1947)	629 Mcft. (14-7-1947)	
		1948-49	92'00 ft.	58'20 ft.	...
			1548 Mcft. (1-12-1948)	386 Mcft. (13-6-1948)	

S. No.	Name of work.	Year under review.	Maximum level and contents and the date on which maximum level was reached.	Minimum level and contents and the date on which minimum level was reached before replenishment.	Whether the tank filled to Full Supply Level etc. and date on which F. S. L. was reached.
1	2	3	4	5	6
11	Kadwa Canals ...	1946-47	1130 ft. 260 Mcft. (1-4-1946)	95 ft.. 60 Mcft. (19-6-1946)	...
		1947-48	...	...	...
		1948-49	127.50 ft. 589 Mcft. (6-1-1949)	97.20 ft. 57 Mcft. (13-6-1948)	...
12	Parsul Tank ...	1946-47	22.05 ft. 53.50 Mcft. (31-3-1947)	6.00 ft. Nil (1-4-1946)	Filled to F. S. L. on 8-7-1946.
		1947-48	R. L. 1852'08 16.48 Mcft. (31-3-1948)	...	Do. on 29-9-1947.
		1948-49	...	...	Do. on 2-8-1948.
		1946-47	267.50 ft. ... (8-8-1946)	147.40 ft. 862 Mcft. (19-6-1946)	F. S. L. reached on 31-7-1946.
13	Pravara River Works ... (Lake Arthur Hills)	1947-48	267.20 ft. ... (29-9-1947)	173.1 ft. 1727 Mcft. (10-7-1947)	Do. on 30-8-1947.
		1948-49	266.50 ft. ... (1-9-1948)	151.9 ft. 288 Mcft. (13-6-1948)	Do. on 26-8-1948.
		1946-47	93.50 ft. (17-6-1946)	...	Filled to F. S. L. on 17-6-1946.
		1947-48	R. L. 22.50 (7-6-1947)	...	...
14	Bhatodl Tank ...	1948-49	...	...	...
		<i>Eastern and Central Circles</i>			
		1946-47	20.29 ft. (1-4-1946)	...	Not filled to F. S. L.
15	Ekruk Tank ...	1947-48	...	...	Do.
		1948-49	...	...	Waste weir over- flowed.

S. No.	Name of work.	Year under review.	Maximum level and contents and the date on which maximum level was reached.	Minimum level and contents and the date on which minimum level was reached before replenishment.	Whether the tank filled to Full Supply Level etc. and date on which F. S. L. was reached.
1	2	3	4	5	6
16	Ashū Tank	1946-47	69.19 Mcft. (8-9-1946)	Dry on 1-4-1946	Waste weir did not overflow.
		1947-48	...	Dry on 1-4-1947	...
		1948-49	...	Dry on 1-4-1948	Waste weir did not overflow.
17	Pathri Tank	1946-47	...	21.10 ft. (1-4-1946)	Waste weir did not overflow.
		1947-48	...	19.93 ft.	...
		1948-49	...	24.33 ft. (1-4-1948)	Waste weir overflowed.
		
18	Mhaswad Tank	1946-47	...	Dry on 1-4-1946	Not filled to F. S. L.
		1947-48	24 ft. (16-8-1947)	17.05 ft. (1-4-1947)	Waste weir overflowed on 16-8-47.
		1948-49	...	8.40 ft. (1-4-1948)	Waste weir overflowed on 20-10-1948.
19	Krishna Canal	1946-47	...	...	...
		1947-48	...	...	...
		1948-49	...	...	...
20	Rewadi Canal	1946-47	...	...	...
		1947-48	...	...	...
		1948-49	...	...	...
21	Upper Man River Works (Pingli Tank).	1946-47	103.82 Mcft. (13-11-1946)	Dry upto 9-6-46	Waste weir overflowed.
		1947-48	103.82 Mcft. (13-11-1947)	...	Do.
		1948-49	103.82 Mcft. (20-10-1948)	Dry on 15-2-48	Do.
22	Yerla River Irrigation Works. (Nehr Tank).	1946-47	32.5 ft. (24-6-1946)	Dry upto 4-6-46	Waste weir overflowed on 24-6-46.
		1947-48	489 Mcft. (9-10-1947)	...	Waste weir overflowed.
		1948-49	489 Mcft. (21-11-1948)	13.10 ft.	Do.
		...	31.16 Mcft. (1-4-1948)	...	...

S. No.	Name of work.	Year under review.	Maximum level and contents and the date on which maximum level was reached.	Minimum level and contents and the date on which minimum level was reached before replenishment.	Whether the tank filled to Full Supply Level etc. and date on which F. S. L. was reached.
1	2	3	4	5	6
23	Maini Tank ...	1946-47. 1947-48 1948-49	... ... 80 Mcft. (22-8-1948)	Dry upto 28-4-46 Dry on 23-1-48 Dry on 1-4-48	F. S. L. was reached. ... Waste weir over-flowed.
24	Chikhali Canal ...	1946-47 1947-48 1948-49	.........	.........	.........
25	Shahada Channel ...	1946-47 1947-48 1948-49	.........	.........	.........
26	Lower Panjhra River Works,	1946-47 1947-48 1948-49	320'03 Mcft. (12-9-1946) 320'03 Mcft. (10-8-1947) 347'09 Mcft. (15-8-1948)	208 Mcft. (14-6-1946) 221'32 Mcft. (14-7-1947) 232'75 Mcft. ..	... ... ... ... ...
27	Jamda Canals ...	1946-47 1947-48 1948-49	.........	.........	.........
28	Mhaswa Tank ...	1946-47 1947-48 1948-49	164'61 Mcft. (2-8-1946) 161 Mcft. (29-9-1947) 168'45 Mcft. (17-7-1948)	3'34 Mcft. (1-4-1946) 7'95 Mcft. (1-4-1947) 7'95 Mcft. (1-4-1948)	... ... ... ... ...
29	Shirsuphal Tank ...	1946-47 1947-48 1948-49	17'10 ft. 61'00 Mcft. (September 1946) 25'70 ft. 200'01 Mcft. (30-9-1947) 28'55 ft. 275'17 Mcft. (11-12-1948)	Dry upto 6-9-46 Dry upto 8-8-47 Dry on 27-4-48	... ... ... ... Not filled to F. S. L.

S. No.	Name of works.	Year under review.	Maximum level and contents and the date on which maximum level was reached.	Minimum level and contents and the date on which minimum level was reached before replenishment.	Whether the tank filled to Full Supply Level etc. and date on which F. S. L. was reached.
1	2	3	4	5	6
30	Bhadalwadi Tank ...	1946-47	32'60 ft.	Dry upto 18-6-46	...
			157'16 Mcft. (3-10-1946)		
		1947-48	...	24'70 ft.	Tank overflowed on 17-8-1947.
				62'08 Mcft. (1-4-1947)	
		1948-49	...	27'75 ft. (11-6-1948)	Tank overflowed on 22-9-1948.
	<i>Southern Circle</i>				
31	Gaddikari Tank ...	1946-47	...	...	...
		1947-48	...	...	...
		1948-49	...	...	...
32	Dambal Tank ...	1946-47	R. L. 146'80 (4-10-1946)	Dry upto 20-4-46	...
		1947-48	R. L. 145'15 (11-11-1947)	R. L. 138'00 (6-8-1947)	...
		1948-49	R. L. 144'15 (22-10-1948)	R. L. 139'70 (27-4-1948)	...
33	Medleri Tank ...	1946-47	R. L. 180'30 (17-11-1946)	Dry on 1-4-1946	...
		1947-48	R. L. 180'25 (16-8-1947)	R. L. 173'94 (1-4-1947)	...
		1948-49	R. L. 175'60 (28-6-1948)	R. L. 170'06 (1-4-1948)	...
34	Madag Tank ...	1946-47	R. L. 1885'80 (.....)	R. L. 1875'00 (1-4-1946)	...
		1947-48	R. L. 1885'75 (20-7-1947)	R. L. 1877'09 (1-4-1947)	Waste weir overflowed from 18-7-1947.
		1948-49	R. L. 1888'05 (14-8-1948)	R. L. 1877'50 (1-4-1948)	Waste weir overflowed from 9-5-1948.
35	Asundi Tank ...	1946-47	R. L. 107'40 (11-10-1946)	Dry on 1-4-1946	...
		1947-48	R. L. 108'38 (19-10-1947)	Dry from 30-4-47 to 9-5-1947.	...
		1948-49	R. L. 108'25 (30-11-1948)	Dry from 22-4-48 to 1-5-1948.	...

S. No.	Name of works.	Year under review.	Maximum level and contents and the date on which maximum level was reached.	Minimum level and contents and the date on which minimum level was reached before replenishment.	Whether the tank filled to Full Supply Level etc. and date on which F. S. L. was reached.
1	2	3	4	5	6
36	Dharma Canal ...	1946-47	...	Ceased to flow on 30-11-1946.	...
		1947-48	...	Ceased to flow on 10-11-1947.	...
		1948-49	...	Ceased to flow on 15-11-1948.	...
37	Mavinkop Tank ...	1946-47	...	...	...
		1947-48	...	...	...
		1948-49	...	...	...
38	Muchkundi Tank ...	1946-47	R. L. 1790.27 (27-7-1946)	R. L. 1788.94 (31-5-1946)	...
		1947-48	R. L. 1797.94 (22-8-1947)	...	...
		1948-49	R. L. 1792.44 (18-11-1948)	...	...
	<i>Karnatak Irrigation Circle</i>				
39	Gokak Canal ...	1946-47	3.34 ft. over crest (30-7-1946)	17.50 ft. (21-4-1946)	Filled to F. S. L.
		1947-48	3.34 ft. over crest (18-7-1947)	19.43 ft. (17-5-1947)	Weir overflowed from 2-7-1947.
		1948-49	25.60 ft. (22-7-1948)	17.10 ft. (14-6-1948)	F. S. L. reached on 19-11-1948.