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**IRRIGATION REVENUE REPORT,
BOMBAY PRESIDENCY, EXCLUDING SIND,
1917-18.**

PART I.

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

GENERAL REMARKS.

The following list includes all the works in operation (13 in number):—

Collectorate.	Number.	Names of Works.	Area of four months' crops which could be irrigated in normal years with a duty of the order of 120 acres for the monsoon season and 120 acres for the rabi season per cusec.	Whether Supply is reliable or dependant on local rain.	Storage Works completed or proposed.	Remarks.
		MAJOR WORKS.	Acres.			
		<i>Protective Works.</i>				
Ahmednagar	1	Pravara River Works —Pravara Right Bank Canal.	24,656	Dependent on local rain.	Storage work at Lake Arthur Hill in progress.	Ghat catchment.
Nasik	2	Girna Left Bank Canal.	Information not available.	Reliable	Chankapur Tank completed.	Do.
Nasik	3	Godavari Left Bank Canal.	21,136	Do.	Lake Beale completed.	Do.
Ahmednagar		Godavari Right Bank Canal.	35,600. These are projected figures subject to alteration.			
Poona	4	Nira Canal including Shetpal Tank.	100,000	Do.	Lake Whiting completed.	Do.
Sholapur	5	Mhaswad Tank	17,975	Dependent on local rain.	Completed	Deccan catchment.
		<i>Productive Works.</i>				
Ahmednagar	6	Hathmati Canal and Khari Cut.	24,000	Dependent on local rain.	No storage work. Bokh Reservoir and Chandola Tank Wasol Reservoir completed.	Forest and hilly catchment. Supply depends chiefly on the flow in the Hathmati and Khari Rivers, contents of the Bokh Reservoir and the Chandola Tank, and Wasol Reservoir.
West Khandesh	7	Lower Panjhra River Works.	6,173	Panjhra River supply not reliable.	Mukti Tank completed.	Ghat catchment for one part and Deccan catchment for the rest.
Nasik	11	Kedwa River Works. { Palkhed Canal, Ojhar Tambhat Wadati Canal.	7,528	Reliable	Waxhad Tank completed.	Ghat catchment.
			530			
			970			
Ahmednagar	12	Pravara River Works —Lakh Canal.	683	Reliable for monsoon and rabi.	Storage work at Lake Arthur Hill in progress.	Ghat catchment.
Poona	13	Mutha Canals including Matoba Tank.	42,000	Reliable	Lake Fife completed.	Do.
Sholapur	14	Ekrak Tank	13,070	Dependent on local rain.	Completed	Deccan catchment.
Solara	15	Krishna Canal	6,412	Reliable	Proposed	Ghat catchment.

Collectorate.	Number.	Names of Works.	Area of four months' crops which could be irrigated in normal years with a duty at the head of the canal of 150 acres for the monsoon season and 100 acres for the rabi season per cusec.	Whether Supply is reliable or dependent on local rain.	Storage Works completed or proposed.	Remarks.
		MINOR WORKS AND NAVIGATION.	Acres.			
	16	Wangrol Tank	2,400	Dependent on local rain.	Completed	Ordinary catchment on plain ground.
	17	Transa-Nagaram Tank.	800	Do.	Do.	Transa Tank has no independent catchment. Nagaram Tank has a catchment of 100 sq. miles. Both are fed by the Matar drainage channel which is not at all reliable.
Kaira	18	Savli Tank	2,000	Do.	Do.	Ordinary catchment on undulating ground.
	19	Saijal do.	2,000	Do.	Do.	Ordinary catchment on flat ground.
Panch Mahals	20	Futalao Tank	600	Do.	Do.	Hilly catchment.
	21	Hartala do.	978	Do.	Do.	Deccan catchment.
East Khandash.	22	Mhaswa do.	3,256	Do.	Do.	Do.
	23	Jamda Canals	42,000	Girna River supply not reliable.	Storage Tanks on the Girna, the Manad and the Panjan Rivers under construction. Water is issued from the Chankepur Tank which is available.	Ghat catchment for a small part and for the rest Deccan catchment.
Mask	24	Farsul Tank	3,400	Dependent on local rain.	Completed	Deccan catchment.
	25	Pravara River Works - Pravara Left Bank Canal.	6,252	Do.	Storage work at Lako Arthur Hill in progress.	Ghat catchment.
Ahmednagar	26	Bhatodi Tank	1,451	Do.	Completed	Deccan catchment.
	27	Kasurdi do.	150	Do.	Do.	Do.
Poona	28	Shirsuphal do.	1,320	Do.	Do.	Do.
	29	Bhadalvadi do.	1,500	Do.	Do.	Do.
	30	Karegaon do.	416	Do.	Do.	Hilly catchment.
Sholapur	31	Ashfi do.	3,528	Do.	Do.	Deccan catchment.
	32	Pathri do.	3,094	Do.	Do.	Hilly catchment.
	33	Rewari Canal	439	Do.	NIP	Deccan catchment.
	34	Upper Man River Works.	873	Do.	Pingli Tank completed.	Do.
Palara	35	Yerla River Irrigation Works.	1,192	Do.	Nehr do.	Do.
	36	Chikhli Canal	255	Do.	NIP	Do.
	37	Main Tank	455	Do.	Completed	Do. Supply from catchment is good.
Eijapur	38	Muchkundi Tank	760	Do.	Do.	Deccan catchment.
	39	Gadkeri do.	418	Do.	Do.	Supply reliable.
Bolgaun	40	Gokak Canal, 1st Section.	10,287	Reliable	Rabi only. Storage	Ghat catchment.
	41	Dambal Tank	631	Dependent on local rain.	Completed	Deccan catchment.
	42	Medleri do.	221	Do.	Do.	Do.
	43	Madag do.	1,418	Do.	Do.	Ghat and forest catchment—reliable.
Dharwar	44	Asundi do.	203	Do.	Do.	Deccan catchment.
	45	Mavinkop do.	617	Do.	Do.	Forest catchment reliable.
	46	Dharme Canal	For monsoon season 67-0 acres. For Rabi nil.	Do.	No storage works. But canal takes off from the river itself.	Ghat catchment.

Nos. 6, 7, 8, 47 and 48—Malsdevi, Budhibal, Nira Right Bank Canal, Victoria Tank, and the Ruki River Project—are not included as the works were not in operation in the year under report. No. 49—Gokak Canal, 2nd section—is in abeyance.

Interest Account.

2. The interest account to end of the year stands as follows:—

	Amount.				Amount.		
	Protective Works.	Productive Works.	Total.		Protective Works.	Productive Works.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Total interest charges to end of 1916-17 ...	1,44,90,592	1,81,10,015	3,26,01,507	Not revenue realized to end of 1916-17 ...	52,11,867	85,48,738	1,37,60,605
Do. during 1917-18 ...	13,63,706	4,42,737	1,80,443	Do. during 1917-18 ...	3,47,097	3,63,597	7,10,694
					55,58,964	89,12,335	1,44,71,299
Total end of 1917-18 ...	1,58,54,298	1,85,52,752	3,44,07,250	Balance net interest charges to end of 1917-18 ...	1,02,95,324	96,41,317	1,99,36,641
				Total ...	1,58,54,298	1,85,52,752	3,44,07,250

3. The gross revenue realized from all sources during the year, after deducting refunds of revenue (Rs. 2,071), was Rs. 15,42,347, of which Rs. 15,34,158 were direct and Rs. 8,689 indirect receipts. The net revenue actually realized was Rs. 7,65,534. The figures of gross and net revenue show decreases of Rs. 1,03,692 and Rs. 1,51,657, respectively, as compared with those of 1916-17.

4. The gross area under command was 1,262,012 acres and the area irrigable at present is 479,433 acres.

5. The financial results of the year by main heads were as follows:—

	Area irrigated.	Revenue realized.			Working expenses.	Net Revenue.
		Direct receipts.	Share of land revenue.	Total.		
		Rs.	Rs.	Rs.		
<i>Class I.—Works for which Capital and Revenue Accounts are kept.</i>						
Major Works.	Acres	Rs.	Rs.	Rs.	Rs.	Rs.
{ Protective Works	69,976	7,03,140	...	7,03,140	3,56,043	3,47,097
{ Productive Works	43,691	6,58,840	4,064	6,62,904	2,99,307	3,63,597
Total	113,667	13,61,980	4,064	13,66,044	6,55,350	7,10,694
Minor Works	35,741	1,72,178	4,625	1,76,803	1,21,963	54,840
Total Class I	149,408	15,34,158	8,689	15,42,847	7,77,313	7,65,534

The area shown as irrigated includes 10,774 acres on which a consolidated land and water assessment is levied. This is derived from old works on which expenditure on improvements only has been incurred.

6. The figures showing areas irrigated, revenue assessed and realized, and working expenses, as compared with the previous 10 years are as follows:—

Years.	Area irrigated.	Revenue.		Working expenses.
		Assessment.	Realization.	
		Rs.	Rs.	
1907-09	120,808	10,87,554	11,01,106	3,80,333
1908-09	142,928	10,99,014	10,67,329	3,89,423
1909-10	145,155	11,22,916	12,55,165	4,16,046
1910-11	129,556	10,95,369	12,51,247	4,39,524
1911-12	142,934	13,31,017	13,76,101	4,08,017
1912-13	197,365	15,83,169	14,13,527	5,09,099
1913-14	203,938	17,59,548	17,39,493	6,51,890
1914-15	159,730	16,05,516	16,98,838	7,50,066
1915-16	136,375	15,29,165	15,84,169	7,24,668
1916-17	110,169	15,03,154	16,46,539	7,29,348
Average for ten years	149,210	13,71,642	14,13,350	6,45,744
1917-18	139,628	17,75,653	15,42,847	7,77,313

The increase of 28,459 acres in the total area irrigated as compared with the previous year was distributed over the several classes of works as follows :—

	Acres.
Protective Works	6,950
Productive Works	16,480
Minor Works	5,029
Total	<u>28,459</u>

The variations in the areas irrigated may be remarked upon as follows :—

Deccan Irrigation Division.

The total area irrigated shows an increase of 14,997 acres as compared with the previous year, and this was partly due to extension of irrigation on the newly opened Godavari Canals and partly to the increase in demand for canal water owing to want of timely rainfall in the Nasik and Ahmednagar Districts.

Central Division.

There was an increase of 1,211 acres under Productive Works and 180 acres under Minor Works, making a total increase of 1,391 acres in the area irrigated during the year as compared with that of the preceding year. The area irrigated was, however, less than that irrigated during 1914-15 and 1915-16, and this was due to good rainfall during 1917-18.

Southern Division.

The total area irrigated shows an increase of 3,596 acres as compared with that of the previous year. The increase was due to unseasonable rainfall and extension of the area under perennial irrigation.

Northern Division.

The total area irrigated by first class works shows an increase of 8,478 acres as compared with that of the previous year. This was mainly due to larger areas irrigated under the Hathman and Khari Cut Canals.

Collections of revenue. 7. The state of the collections was as follows :—

	Rs.
Balance of demands unrealized at the commencement of the year	75,879
Demands of the year—	Rs.
Rabi, 1916-17	1,58,040
Kharif, 1917-18	11,41,086
Miscellaneous receipts	<u>3,90,721</u>
	16,89,847
Total	<u>17,65,726</u>
<i>Deduct—</i>	
Remissions	432
	<u>17,65,294</u>
Net total	17,65,294
Amount unrealized at the close of the year	2,29,065
Actual receipts for the year	15,36,229
<i>Add—</i>	
Share of Land Revenue	8,639
	<u>15,44,918</u>
Total	<u>15,44,918</u>
<i>Deduct—</i>	
Refunds of Revenue	2,071
Revenue realized as per paragraphs 3, 5 and 6	<u>15,42,847</u>

The remissions and refunds together amount to Rs. 2,503. The amount unrealized at the close of the year, viz., Rs. 2,29,065, is considerably more than that at the close of the last year: the total is made up as follows:—

	Rs.
1. Godavari Canals	66,978
2. Mutha Canals including Matoba tank	52,280
3. Hathmati and Khari Cut Canals	43,317
4. Krishna Canal	30,333
5. Dharma Canal	8,271
6. Ekruk tank	7,954
7. Kadwa river works	5,244
8. Nira Canal, including Shetphal tank	4,572
9. Chankapur tank	4,219
10. Gokak Canal	1,563
11. Jamda Canals	1,551
12. Lower Panjhra river works	1,028
13. Other works	1,755
Total	2,29,065

The Superintending Engineers state that large recoveries have been made since the close of the year and efforts are being made to recover the amounts still outstanding.

8. The total working expenses for the year amounted to Rs. 7,77,313 against Rs. 7,29,348 in the previous year, showing an increase of Rs. 47,965 distributed as follows:—

	1916-17.	1917-18.	Difference.
	Rs.	Rs.	Rs.
Major Works—			
Protective Works	8,48,810	3,56,043	7,233
Productive Works	2,68,472	2,99,307	30,835
Total	6,17,282	6,55,350	98,068
Minor Works and Navigation	1,12,066	1,21,963	9,897
Grand Total	7,29,348	7,77,313	47,965

The increases and decreases are explained by the Superintending Engineers as follows:—

Superintending Engineer, Deccan Irrigation Division.

The total working expenses for the year amounted to Rs. 5,82,419 against Rs. 5,60,792 in the previous year, showing an increase of Rs. 21,627 distributed as follows:—

	1916-17.	1917-18.	Difference.
	Rs.	Rs.	Rs.
Major Works—			
Protective Works	3,48,810	3,56,043	7,233
Productive Works	1,94,327	2,03,597	14,270
Total	5,43,137	5,64,640	21,503
Minor Works and Navigation	17,655	17,773	118
Grand Total	5,60,792	5,82,419	21,627

The excess is chiefly due to larger expenditure incurred under works and repairs.

Superintending Engineer, Central Division.

The total working expenses amounted to Rs. 65,502 against Rs. 49,686 in the previous year, showing an increase of Rs. 15,816. This increase is made

up of increases and decreases on certain works, the largest increase being on the Koregaon tank, due mainly to the expenditure incurred on improvements to the outlet.

Superintending Engineer, Southern Division.

The total working expenses for the year amounted to Rs. 54,068 against Rs. 52,515 of the previous year and Rs. 61,034 the average of the previous triennium.

Superintending Engineer, Northern Division.

The total working expenses for the year amounted to Rs. 75,324 against Rs. 66,355 of the previous year, showing an increase of Rs. 8,969.

9. The following table contrasts the charges under the principal heads with those of the two previous years :—

	1915-16.	1916-17.	1917-18.
	Rs.	Rs.	Rs.
Works	44,105	40,179	64,100
Repairs	3,54,451	3,45,531	3,58,325
Establishment	2,06,274	2,34,633	2,47,302
Tools and Plant	24,866	6,833	11,503
Total in the Public Works Department	6,29,696	6,28,591	6,81,129
Collection charges	65,684	67,875	61,399
Indirect charges	29,088	32,892	34,785
Total	7,24,668	7,29,343	7,77,313

The establishment charges divided between "Direction and Accounts" and "Executive" compare as follows with those of the previous year :—

	1916-17.	1917-18.	Difference.
	Rs.	Rs.	Rs.
Direction and Accounts	15,615	17,639	2,024
Executive	2,18,418	2,29,663	11,245
Total	2,34,033	2,47,302	13,269

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

Name of work.	Average incidence of water rate per acre.	Cost of measurement.		Working expenses total in the Public Works Department excluding indirect charges.	
		Total cost.	Per acre.	Per mile of main canal.	Per acre irrigated.
		Rs.	Rs.	Rs.	Rs.
Nira Canal, including Shetphal Tank	12-77	1,002	0 0 5½	1,043	8-23
Girna Left Bank Canal	6-05	275	0 1 8	1,728	6-62
Kadwa Canals	7-73	226	0 0 10	660	8-60
Godavari Canals	13-42	1,271	0 0 9	1,099	5-99
Mutha Canals, including Matoba Tank	16-44	800	0 0 11	1,923	12-27
Pravara Right Bank Canal	4-06	184	0 0 6½	524	7-49
Krishna Canal	20-11	600	0 2 6	481	5-00
Yerala River Irrigation Works	5-43	716	0 3 9	265	3-02
Rewari Canal	6-90	155	0 3 5	363	2-61
Upper Man River Works	5-11	127	0 2 4	122	2-62
Chikhli Canal	8-95	50	0 2 8	132	3-03
Gokak Canal	6-17	1,022	0 2 6	3,162	0-91
<i>Tanks.</i>					
Mhaswad Tank	5-58	814	0 0 10	208	2-23
Parsul Tank	4-95	150	0 2 2	Nil.	2-93
Maini Tank	4-78	827	0 2 10	301	1-59

11. The gross assessed revenue, direct and indirect, as shown in Statement IV-C accompanying the Irrigation Administration Report for 1917-18 was Rs. 17,75,865. If

Gross assessed revenue.

Rs. 11,869 being the loss of revenue on account of water supplied either gratis or at reduced rates to various institutions in Poona be added to the above amount, the total assessed revenue, both direct and indirect, of the year will be Rs. 17,87,734.

The details of the gross assessment were as follows:—

	Direct Revenue.			Indirect revenue.	Total.
	Water-rates.	Other receipts	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
Major Works—					
Protective Works	7,92,373	21,045	8,13,418	.....	8,13,418
Productive Works	4,49,113	3,27,080	7,76,693	4,064	7,50,757
Total	12,41,486	3,48,125	15,90,111	4,064	15,94,175
Minor Works	1,84,459	42,598	1,77,065	4,625	1,81,690
Grand Total	13,76,445	3,90,721	17,67,176	8,689	17,75,865

12. The net assessed revenue of the year, after deducting working expenses, including indirect and all other charges and neglecting the items amounting to Rs. 11,869 referred to in the preceding paragraph, was Rs. 9,98,552 as compared with Rs. 7,73,806 in 1916-17.

13. The following table shows percentage of the return earned on Capital and interest charges on some of the principal works in operation.

Name of work.	Total capital outlay (direct and indirect).	Accumulated areas of interest.	Total sum at charge (column 2 + column 3.)	Gross receipts (direct and indirect).	Working expenses (direct and indirect).	Net Revenue.	Percentage on sum at charge (column 4.)	Remarks.
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Nira Canal including Shotphal Tank.	65,27,589	22,47,628	87,75,217	4,26,097	1,39,384	2,86,713	3.27	
Girna Left Bank Canal ...	19,17,079	7,55,263	26,72,342	7,600	24,168	-16,568	...	
Kadwa River Works ...	10,84,191	10,36,380	20,70,571	27,862	18,764	8,598	0.42	
Godavari Canals ...	1,00,50,902	20,07,551	1,20,58,453	2,16,775	1,46,910	69,865	0.58	
Mutha Canals including Matoba Tank.	79,15,498	89,25,492	1,18,40,990	4,26,854	1,87,191	2,39,163	2.02	
Pravara Canals ...	75,81,249	10,64,440	86,45,689	13,635	23,949	-15,414	...	
Krishna Canal ...	9,44,459	6,01,310	15,45,769	51,971	17,518	84,453	2.23	
Yerla River Irrigation Works.	7,64,870	9,62,814	17,27,684	18,748	9,191	9,557	0.55	
Rewari Canal ...	59,811	26,930	86,741	6,579	1,885	4,694	5.41	
Upper Man River Works.	4,39,286	6,59,019	10,98,305	5,400	2,233	3,167	0.29	
Chikhli Canal ...	57,442	94,303	1,51,745	2,197	888	1,309	0.86	
Gokak Canal ...	9,69,256	9,872	9,78,928	47,225	13,745	33,480	3.43	
Tanks.								
Mhaswad Tank ...	20,96,016	23,40,839	44,36,854	39,133	16,632	22,501	0.51	
Parsul Tank ...	2,14,995	2,18,112	4,31,107	5,121	3,762	1,359	0.32	
Maini Tank ...	4,87,660	6,09,527	10,97,177	8,713	2,921	5,792	0.53	

14. The water-rates in force during the year are shown in Statement I-F accompanying the Irrigation Administration Report for 1917-18 in the remarks column of which the orders sanctioning them are quoted.

15. The average water-rates per acre of land actually irrigated were—

	1916-17.	1917-18.
	Rs.	Rs.
Protective Works	10.65	11.32
Productive Works	13.64	10.29
Minor Works	3.57	3.76

16. The water-rate assessments and other receipts compare with those of the previous year as under :—

	1916-17.	1917-18.
	Rs.	Rs.
Water-rates	11,58,233	13,76,455
Other Receipts—		
Plantations	12,264	13,970
Water-power	14,313	14,313
Water-supply to towns...	1,83,769	2,27,611
Miscellaneous	1,33,455	1,34,827
Total	3,40,801	3,90,721
Share of land revenue	9,120	8,639
Total	3,49,921	3,99,410
Grand Total	15,03,154	17,75,865

The above comparison shows increases under water-rates and other receipts and a decrease under share of land revenue.

17. The principal crop acreages irrigated during 1916-17 and 1917-18 were as follows :—

	1916-17.	1917-18.	Difference.
	Acrea.	Acrea.	Acrea.
Gardens and Orchards	2,950	3,465	+ 515
Sugarcane	23,013	25,615	+ 2,602
Wheat	14,634	14,355	- 279
Rice	8,622	12,959	+ 4,337
Maize	1,889	3,978	+ 2,089
Jowari	18,596	20,849	+ 2,253
Bajri	6,695	9,423	+ 2,728
Gram, etc.	8,185	10,991	+ 2,806
Groundnut	3,864	6,733	+ 2,869
Condiments	4,173	5,710	+ 1,537
Cotton	158	1,159	+ 1,001
Fodder	1,096	2,852	+ 1,756

The total estimated value of crops is shown as Rs. 1,93,60,733 against Rs. 1,44,11,685 in the previous year and Rs. 1,48,59,555 for the year 1915-16. But these estimated crop values must be regarded as only roughly approximate, there being no uniform method of estimating them.

18. In Statement I-E accompanying the Irrigation Administration Report for 1917-18 the duty of water on each work, as well as the basis on which the duties were calculated, etc., are shown. The results vary with the nature of the crops irrigated, perennial crops requiring much more water than cereals. To obtain a correct comparative result it is necessary to consider the area of each class of crop grown under the canals concerned. Statement G affords means for such a comparison.

DETAILED REPORTS BY LOCAL OFFICERS.

GUJARAT IRRIGATION DISTRICT.

MAJOR WORKS.

Works without storage and dependent on local rain.

(9) HATHMATI AND KHARI CUT CANALS.

19. The area irrigated, net assessment, average water rate and working expenses under these canals compare with the averages of the three preceding years as under :—

Year.	Kharif.		Rabi.		Total.		Average water rate assessed per acre.	Working expenses.
	Acres.	Rs.	Acres.	Rs.	Acres.	Rs.		
Average of 3 years	7,862	44,831	1,922	4,011	9,784	48,842	4.39	45,242
1917-18 ...	10,196	62,228	5,918	15,199	16,114	77,427	4.80	46,188

20. The miscellaneous revenue realized was Rs. 7,703 against Rs. 6,120 in the previous year. The increase is due to the better prices obtained and the large number of babul trees sold.

21. Remissions during the year amounted to Rs. 4,878 in the Kharif and Rs. 3 only in the Rabi season.

22. The gross assessed revenue amounted to Rs. 85,130 and exceeded the working expenses by Rs. 38,942, giving a return of 296 per cent. net on the capital outlay of Rs. 13,15,973 on the Hathmati and Khari Cut Canals combined.

When, however, the interest paid during the year, viz., Rs. 43,099, is taken into account, there is a loss which, on the basis of the actual realizations in revenue, works up to 4.25.

22A. The amount realized was Rs. 33,330 (against Rs. 34,614 for the last year) which though a little less than that of the last year, and much less than those of the years 1913-14 and 1914-15, viz., Rs. 1,27,989 and Rs. 1,20,302 respectively, may be considered satisfactory, as the heavy and continuous rainfall was not favourable to the demand for irrigation.

23. The rainfall gauged at Ahmednagar at the head of the Hathmati Canal was 46.29 inches and 1.76 inches respectively in the kharif and rabi seasons, while at Raipur at the head of the Khari Cut Canal it was 45.18 inches and 1.93 inches respectively.

MINOR WORKS AND NAVIGATION.

Works with storage tanks dependent on local rain.

24. The area irrigated, net assessment and working expenses under the Wangroli, Tranza Nagrama, Savli and Saiat and Futelao tanks compare with the average of those of the previous three years as under :—

Tank.	Year.	Kharif.		Rabi.		Total.		Working expenses.
		Acres.	Rs.	Acres.	Rs.	Acres.	Rs.	Rs.
Wangroli	Average of 3 years...	573	2,115	147	367	720	2,482	14,426
	1917-18...	83	328	200	730	283	1,058	9,432
Tranza Nagrama	Average of 3 years...	...	...	...	...	...	...	2,560
	1917-18...	...	...	30	59	30	59	4,595
Savli	Average of 3 years...	576	2,284	340	679	916	2,963	9,309
	1917-18...	91	363	29	78	120	441	6,188
Saiat	Average of 3 years...	250	987	53	212	303	1,199	16,530
	1917-18...	2	8	146	596	148	604	6,241
Futelao	Average of 2 years...	...	...	64	173	64	173	1,790
	1917-18...	...	...	45	90	45	90	2,828

(16) WANGROLI TANK.

25. The tank was replenished and the supply was utilized for irrigating mainly the rabi and hot weather crops. There was very little kharif crop (rice) irrigation owing to the favourable rainfall in that season.

26. The miscellaneous revenue amounted to Rs. 518 against Rs. 391 in the previous year. The increase was due to the large area of land let out for cultivation in the tank bed.

27. The remissions during the year amounted to rupee one only in the kharif season on account of Himayat realized along with land revenue.

28. The rainfall gauged in the tank catchment was 51.90 inches during the year under report.

(17) TRANZA NAGRAMA TANKS.

29. These tanks filled partly and the supply available was utilized for irrigating rabi crops to some extent.

30. The miscellaneous revenue amounted to Rs. 307 against Rs. 488 in the previous year.

31. No remissions were granted during the year.

32. The rainfall gauged at the Nagrama tank was 58.52 inches during the year and it was about the same at the Tranza tank.

(18) SAVLI TANK.

33. The tank was full and the supply was utilized in irrigating the kharif and rabi crops.

34. The miscellaneous revenue amounted to Rs. 235 against Rs. 548 in the previous year. On account of late rains in October the cultivation in the bed was retarded.

35. No remissions were granted.

36. The rainfall gauged at the tank was 52.90 inches during the year.

(19) SAJAT TANK.

37. The tank was full and the supply was utilized in irrigating rabi and hot weather crops mainly. There was very little kharif crop (rice) irrigation owing to excessive rainfall.

38. The miscellaneous revenue amounted to Rs. 292 against Rs. 723 in the previous year. On account of late rains cultivation in the bed was retarded.

39. No remissions were granted.

40. The rainfall gauged at the tank was 53.34 inches during the year.

(20) FUTEJAO TANK.

41. The tank was full. The supply was sufficient but the cultivators did not take water on account of good rainfall.

Some supply was, however, utilized for irrigating rabi crops.

42. The miscellaneous revenue amounted to Rs. 160 against Rs. 153 in the previous year.

43. No remissions were granted.

44. The rainfall gauged at the tank was 43.69 inches during the year.

POONA IRRIGATION DISTRICT.

Works with Ghat Storage.

(4) NIRA CANAL AND SHETPHAL TANK.

45. (a) The rainfall in the area commanded by the Canal during the year under report (January to October 1917) was on the whole good and seasonable although less than that during 1916-17. The discharge from the catchment of Lake Whiting, viz., 128 square miles, was 42,512 million cubic feet which is equivalent to a run-off of 142.96 inches.

46. The level of water in Lake Whiting on 31st March 1918 was 64.40 feet above the sill of the under-sluices against 66.50 feet in the previous year. The lowest depth reached was 54.95 feet on 12th June 1917, the corresponding contents being 1,279 million cubic feet.

47. Lake Whiting and the Vir Basin began to receive replenishment from 12th June 1917 and the draw off from the lake to replenish Vir Basin was therefore stopped on that date. The level in the lake steadily rose and reached the crest of waste weir (75.00 feet) on 23rd June and full supply level, viz., 83 feet above sill of under-sluices, on the 12th September. The full supply level was maintained until the 2nd December 1917, as the river discharge near Vir was sufficient for the requirements of the canal. The regular draw off for irrigation thus commenced on 3rd December 1917.

48. The average discharge at the head of the Nira Canal during 1917-18 was 302 cusecs.

49. Water in the Shetphal Tank reached its lowest level, viz., 30.50 above sill of outlet, on the 11th May 1917, but as there was a surplus supply in Lake Whiting owing to non-utilization of the supply in the rabi season of 1916-17 due to seasonable rainfall, it was let down to fill this tank in the hot weather of 1917-18. The full supply level, viz., 37 feet above sill of outlet, was reached on 29th August 1917, and this level was maintained with a few fluctuations upto 20th January 1918.

50. The following table shows the area irrigated, water rates levied, gross assessed revenue, working expenses, etc., for the year as compared with the average of the past three years:—

Area irrigated.		Assessment.		Gross Assessment.		Working expenses.		Realization.		Average rainfall of five stations.	
1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.
Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
34,451	46,407	4,39,769	4,85,516	4,50,190	4,97,931	1,39,364	1,58,691	4,26,097	5,45,817	82-10	80-99

51. The fall in area irrigated was due to less demand for water for rabi crops owing to seasonable rainfall.

52. The areas of sugarcane and other perennial crops on the Nira Canal and Shetphal Tank irrigated during 1917-18 and the last three years are given below:—

Year.	Area in acres.
1917-18	10,302
1916-17	8,879
1915-16	8,628
1914-15	7,121

53. The figure for the year under report is the highest on record due to an extra area of cane outside blocks being irrigated by the surplus supply in Lake Whiting referred to above.

54. The total area irrigated on the Nira Canal and Shetphal Tank during the year was 34,451 acres against 34,228 acres in 1916-17.

55. The refunds of revenue sanctioned during the year under report amounted to Rs. 483. There were no remissions.

56. The cost incurred on measuring 34,451 acres of irrigated area amounted to Rs. 1,002 which gives a rate of about 5½ pies per acre against 8½ pies per acre in 1916-17.

(8) Nira Right Bank Canal Project.

57. The Nira Right Bank Canal which is now under construction will, when completed, be the largest work in the Deccan. A dam 160 feet in height is under construction on the Yelwandi River, which will hold up 24,300 million cubic feet of water, and it is anticipated that ultimately 113,800 acres will be irrigated from it.

58. This project comprises the following works:—

- (1) Building a new dam at Ehatghar.
- (2) Constructing a canal on the right bank from Vir upto Piliv for a length of about 68 miles.

59. On account of continuous and late rains to the end of November 1917 and of the two outbreaks of plague, one in November 1917 and the other in February 1918, in the surrounding villages, the progress on the construction of the dam was hampered a great deal. However, efforts were made to carry out the works as far as possible and the progress made during the year is given below:—

The excavation for the foundation of the new dam and the waste weir was in progress and has been completed except in a total length of about 1,350 out of 4,400 feet.

The quantity of masonry work in the dam done during the year was 15½ lakhs of cubic feet, the total quantity upto end of March 1918 being about 38 lakhs or about 19 per cent. of the total estimated masonry in the dam. The dam will probably be completed in the year 1923.

The construction of the Gunjavni bridge was started in February 1917 and the masonry of all the piers and abutments was completed during the year. The arch work, approach roads, etc., are in progress.

The expenditure on the masonry in the dam and other works during the year was Rs. 6,34,152, the total outlay on works only upto 31st March 1918 being 35.5 lakhs or about 35 per cent. of the estimated cost as per revised project, now prepared by the Executive Engineer, Lake Whiting District.

RIGHT BANK CANAL.

60. The canal was originally designed to discharge 1,500 cusecs with 8 feet of water at its head and to be 109 miles in length. But later on it was found that the extra supply in Lake Whiting after the construction of the new dam would be fully utilised for irrigating lands commanded by the first 88 miles of this canal and about 12,800 acres commanded by the Nira Left Bank Canal. The length of the canal has therefore now been reduced to miles 88 and 1,560 feet, for which a new revised project is under preparation.

61. To facilitate the construction of the canal, two districts have been formed, viz., Lonand and Malsiras. The whole length of the canal, i.e., from 0 to 88 miles is under construction and the state of the progress of the works on the canal is as given below:—

Earthwork.

62. In almost all miles excavation work is practically completed except in 3 miles where the cutting is very deep and in very hard rock.

63. The embankment work in about 85 miles is very nearly completed except the nala gaps left for masonry works which will be filled up as soon as the masonry works are completed.

Masonry Works.

64. Eighteen culverts and 4 road-bridges have already been completed and 16 aqueducts, 40 culverts and 18 road-bridges are under construction out of the total number, viz., 20 aqueducts, 58 culverts and 33 road-bridges. The masonry works under "D-Regulators" are not yet taken in hand. A number of permanent buildings have already been constructed and a few are under construction.

65. The expenditure during the year on the works which were in progress was Rs. 6,71,105, the total expenditure upto 31st March 1918 being 66½ lakhs or about 46 per cent. of the estimated cost for works only as per revised project now under preparation.

(13) MUTHA CANALS INCLUDING MATOBA TANK.

66. The rainfall on the Mutha Canals during the year was 31.97 inches and that on Matoba Tank was 22.21 as compared with the last year's rainfall, viz., 29.15 and 26.13 inches respectively.

67. The run-off during 1917 from the catchment of Lake Fife, viz., 196 square miles, was 48,845 million cubic feet which is equivalent to a run-off of 107.27 inches.

68. On the 1st April 1917 the level of water in Lake Fife was 21.06 feet above sill of the canal-slucices. The water level was lowest on 11th June 1917, when the depth was 10.78 feet against 10.70 feet the lowest level during the previous year on the 14th June 1916. The lake began to receive replenishment on the 12th June 1917 and was filled to overflowing on 21st of the same month. The level of water was raised to full supply level, viz., 34 feet above the sill of outlet sluices on 7th November 1917 and the draw-off began on the 10th; but water again rose to the full supply level on 22nd November and was maintained at this level upto 25th November 1917. Regular draw-off commenced on 26th November 1917 instead of 11th November and the level went down to 22.14 feet on 31st March 1918.

69. The Matoba Tank dried up on the 26th May 1917 and received its first replenishment on 2nd June 1917. The tank began to overflow on 23rd September and continued to do so upto 7th October 1917. The level went down gradually and was only 16.41 feet above sill of outlets on 31st March 1918.

70. The following table shews the area irrigated, water rates assessed, gross assessed revenue, working expenses, etc., during the year, as compared with the average figures for the past three years :—

Area irrigated.		Assessment.		Gross Assessment.		Working expenses.		Realization.		Average rainfall of five stations.	
1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.
Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
13,796	11,408	2,26,718	2,04,482	4,65,499	3,85,553	1,87,191	1,53,233	4,26,854	3,94,575	47.04	50.00

71. The area under sugarcane during the year was 5,530 acres against 4,636 acres in 1916-17, 3,929 acres in 1915-16 and 4,256 acres in 1914-15. The sugarcane area during the year was the largest on record, as the surplus supply in the lake was used for irrigating an extra area of cane in the hot weather of 1917-18.

72. The total area of all perennial crops irrigated during the year is compared below with the figures for the past three years :—

Year.	Area in acres.
1914-15	5,234
1915-16	5,471
1916-17	5,981
1917-18	7,081

73. The increase in the gross assessed revenue is due to the increase in area under perennial crops and increased revenue derived from Poona Water Supply.

74. The revenue derived during the year from water supplied to the Poona Cantonment and City is compared below with the figures of the past three years :—

Year.	Revenue.	
	Cantonment.	City.
	Rs.	Rs.
1914-15	1,46,190	14,212
1915-16	1,53,330	11,609
1916-17	1,59,238	11,272
1917-18	1,82,745	24,500

75. The working expenses for the Poona Water Supply and the Mutha Canals proper for the year 1917-18 compare with the average of the past three years as under; the large increase being chiefly due to rise in the rates for chemicals used for clarifying raw water, and to the high cost of pipes, meter parts, coal, etc.

	1917-18.	Average of past three years.
	Rs.	Rs.
Poona Water Supply	1,24,741	80,169
Mutha Canals	62,450	73,034
Total	1,87,191	1,53,233

76. The average daily supply of filtered water delivered into the Poona Water Supply Mains for distribution during the year amounted to 1,847,290 gallons as against 1,655,364 gallons in 1916-17.

77. The loss of revenue on account of water supplied either gratis or at reduced rates to certain charitable and public institutions in the Poona Cantonment and suburban limits in accordance with Government Orders amounted to Rs. 11,869 during the year against Rs. 11,414 in 1916-17.

78. The actual cost of measuring the crops amounted to Rs. 800 and gives a rate of a little over 11 pies per acre for the year against 10 pies in 1916-17.

79. The refunds given during the year amounted to Rs. 130. The remissions for the year amounted to Rs. 147 against nil in 1916-17.

Storage Works dependent on local rain.

(27) KASURDI TANK.

80. The tank dried up on 16th April 1917 and began to receive replenishment on 22nd September 1917. The highest level, namely, 17.46 feet, was reached on 23rd September 1917. The tank overflowed four times during the year and dried up on the 16th March 1918, after water was issued for rabi irrigation.

(28) SHRESUPHAL TANK.

81. The tank did not dry up during 1917-18. The lowest depth reached was 20.41 feet above outlet sill on 21st August 1917, when it began to receive replenishment. The tank reached its full supply level, namely, 31 feet on 21st November 1917, and overflowed from that date to 7th December 1917. The depth of water in the tank on the 31st March 1918 was 27.21 feet.

(29) BHADALWADI TANK.

82. The tank did not dry up during 1917-18 and the lowest depth reached was 27.63 feet above outlet sill on 22nd August 1917, when it began to receive replenishment. The tank reached its full supply level, namely, 35 feet, on 22nd October 1917 and overflowed twice thereafter. The depth of water in the tank on the 31st March 1918 was 30.28 feet.

83. The following table shows the areas irrigated, water rates levied, gross assessed revenue, working expenses, etc., for the works named below during the year as compared with the average of the past three years:—

Name of Tank.	Area irrigated.		Assessment.		Gross Assessment.		Working expenses.		Realization.		Rainfall.	
	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.
	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
Kasurdi Tank	66	91	231	363	342	552	656	635	235	596	19.39	21.2
Shresuphal Tank	863	890	3,365	3,349	3,505	3,967	2,526	2,310	2,636	3,750	21.06	20.96
Bhadalwadi Tank	969	1,000	4,467	4,751	4,522	4,935	2,967	2,337	4,591	5,672	23.86	22.10

The fall in area was due to timely rainfall.

MALSIRAS DISTRICT.

Storage Work with Deccan Catchment.

(5) MHASVAD TANK.

84. For replenishment this tank depends upon the local rainfall in its large catchment of 480 square miles. On the 1st April 1917 the tank had 20.45 feet of water above the level of the sill of canal sluices, the corresponding contents being 2,017.23 million cubic feet. The tank received slight replenishment from 2nd to 12th June and as there was no rain for a long time the level of water began to fall as the irrigation proceeded and reached the minimum level 15.35 feet above sill of canal sluices on the 19th August 1917, when the contents of the tank were 1,301.78 million cubic feet. The tank received large replenishments on 21st August, 15th and 23rd September and 2nd November 1917. Water began to flow over the waste weir on 18th November 1917, when the maximum depth of water above the crest of the weir was 70 feet. Even after issuing water during the rabi season and also the hot weather season upto 31st March 1918, the level of water in the tank was 18.73 feet above the canal sluices, the corresponding contents being 1,760.15 million cubic feet.

85. The average rainfall recorded at five rain-gauge stations in the catchment of the tank from 1st June to 31st October 1917 was 14.57 inches or nearly 50 per cent. less than the average of the last year. The average for the whole year was 19.90 inches.

86. The following table shews the area irrigated, water rates levied, gross assessed revenue, working expenses, etc., during the year as compared with the average of the past three years:—

Area irrigated.		Assessment.		Gross Assessment.		Working expenses.		Realization.		Rainfall.	
1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.
Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
6,034	6,134	33,635	32,606	35,799	35,158	11,682	19,450	33,133	41,046	14.57	20.00

A larger area was irrigated during the kharif season during the year, but owing to timely rainfall the area of rabi crops irrigated was smaller.

87. The cost of measurement of crops during the year was 10 pies per acre against 8 pies per acre for the last year.

PRAVARA CANALS DISTRICT.

(a) Canals supplied by Ghat-fed river with Storage Works.

(3) GODAVARI CANALS PROJECT.

88. Lake Beale on the Darna river near Asvali Station on the G. I. P. Railway is the storage falling under this head. This storage supplements the Nandur Madhmeshwar Lake, from which the Godavari Right and Left Bank Canals take off.

LAKE BEALE (DARNA DAM).

89. The R. L. of the water surface in Lake Beale at the beginning of the monsoon was 1,854.80, i.e., 44.80 feet above the sill of sluices which is at R. L. 1,810.00. The first replenishment was received on 13th June 1917. Water flowed over the waste weir on 1st August 1917, the depth above sill of weir being 0.50 foot. The quantity of water available for irrigation was 8,652 million cubic feet, which represents the contents at R. L. 1,874.55. A discharge of 3,436 million cubic feet was let out to supplement the river supply during the year on requisition from the Pravara Canals District.

90. The area irrigated in the tank basin in the kharif and rabi seasons was 653 acres and the assessment derived therefrom amounted to Rs. 1,510, which is less by Rs. 417 than the last year's figure. The total gross assessed revenue from all sources amounted to Rs. 3,119 during the year under report against the last year's figure Rs. 3,615. The decrease in assessment is due to a smaller area in the lake basin being available for cultivation, owing to the high level of water in the lake due to the small demand for water from this storage for the Godavari Canals.

91. The run-off during 1917 from the catchment of Lake Beale (156 square miles) was 34,113 million cubic feet equivalent to a run-off of 94.13 inches and that for Nandur Madhmeshwar, viz., 1,650 square miles, was 64,071 million cubic feet equivalent to a run-off of 16.71 inches.

GODAVARI CANALS.

92. The Godavari Right and Left Bank Canals form part of the Godavari Irrigation Project, and are fed from Lake Beale reservoir on the Darna River in addition to the river supply. During the year the greater part of the last

10 miles of the Right Bank Canal was completed. On the Left Bank Canal distributary construction was brought practically to a close and the full length of the canal was in operation. The work remaining to be done on the Right Bank Canal consists of the finishing off of distributary construction and on the Left Bank Canal a few minor channels remain to be completed.

93. The designed discharges and full supply depths and gross areas commanded are as under :—

Name of Canal.	Discharge.		Full supply depth.		Gross area.
	At head.	At tail.	At head.	At tail.	
	Cusecs.	Cusecs.	Feet.	Feet.	Acres.
Godavari Right Bank Canal...	894.00	114.41	7	5	144,312
Godavari Left Bank Canal ...	223.00	85.00	6	3	89,050

94. The following table shows the areas irrigated, water rates levied, gross assessed revenue, working expenses, etc., for the canals during the year as compared with the average figures of the past three years :—

Name of Canal.	Area irrigated.		Assessment.		Gross Assessment.		Working expenses.		Realization.		Rainfall.	
	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.
	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
Godavari Right Bank Canal.	14,931	15,296	1,88,609	1,44,308	2,93,247	1,52,270	1,46,910	1,37,978	2,10,775	1,02,010	16.15	27.63
Godavari Left Bank Canal.	6,973	3,038	96,569	26,894							16.15	27.63

95. The increase in the areas and the revenue is mainly due to the extension of sugarcane on these new canals.

96. The refunds given during the year amounted to Rs. 18 only and there were no remissions.

97. The cost incurred during the year on the measurement of crops amounted to Rs. 1,271 which gives a rate of about 9 pies per acre against 8 pies for the last year.

Pravara River Works Project.

98. *Pravara River Works.*—This scheme consists of masonry dam 270 feet in height, now under construction across the Pravara River in the ghats at Bhandardara, which will impound approximately 10,831 million cubic feet of water. The pick-up weir is situated near the village of Ojhar about 53 miles below the reservoir (Lake Arthur Hill) whence the Pravara Left and Right Bank Canals take off. The estimated cost of the whole project as revised is Rs. 1,27,04,607 and the anticipated net revenue is Rs. 5,33,500, giving a return of a little over 4.2 per cent. on the capital cost.

99. During the year under review, the masonry in the dam has been raised from R.L. 2,289 to 2,317 except in a length of 165 feet in the centre portion of the dam, which has been raised only upto R.L. 2,307 in order to allow the flood discharge to pass over it and to avoid damage to the side foundations and sluices. The top of the dam when completed will be at R.L. 2447.63.

100. The quantity of masonry work done in the dam during the year is about 7 lakhs cubic feet, the total quantity upto 31st March 1918 being 62½ lakhs cubic feet or about 47 per cent. of the estimated quantity of masonry in the dam. It will take about 4 or 5 years more to complete the dam. Besides this the excavation for the waste weir and the flood embankment on the low saddle on the right bank of the Pravara river were in progress.

101. The total expenditure incurred during the year on this scheme was Rs. 6,16,345 as under:—

	Rs.
Lake Arthur Hill Dam	3,73,458
Pravara Right Bank Canal... ..	88,459
Pravara Left Bank Canal	2,06,428
Total ...	6,16,345

102. The total expenditure from the commencement of the work to 31st March 1918 was Rs. 59,08,513.

103. The canals will irrigate portions of the Sangamner, Rahuri, Kopargaon and Nevasa Talukas of the Ahmednagar District up to a total area of 75,000 acres.

(25) PRAVARA LEFT BANK CANAL.

104. The work of widening and extending the old canal, formerly known as the Ojhar Left Bank Canal, was started in 1910. The earth-work of the main canal is completed and only final dressing off remains. The masonry works on this canal are in full swing and making good progress. Some of them have almost been completed and the others are nearing completion.

105. This canal was only in operation for part of the monsoon months. It cannot be brought into full operation till the storage work at Bhandardara is completed.

106. The designed length of this canal is 48 miles.

(1) PRAVARA RIGHT BANK CANAL.

107. All the works on this canal are completed including the smaller distributaries. The construction of the tail branch and the Rahuri distributary is making satisfactory progress.

108. Water for perennial irrigation can at present only be given without guarantee and this condition confines perennial irrigation to fields that have wells to fall back upon. The canal is in operation upto 33 miles, but the supply of water is at present unreliable and inadequate and will remain so until water is available from Lake Arthur Hill at Bhandardara.

109. The designed discharges and full supply depths and gross areas commanded are as under:—

Name of Canal.	Discharge.		Full supply depth.		Gross area commanded.
	At head.	At tail.	At head.	At tail.	
	Cusecs.	Cusecs.	Feet.	Feet.	Acres.
Pravara Right Bank Canal	152.62	61.79	5	3	73,769
Pravara Left Bank Canal	530.00	89.00	8	8	1,11,637

110. The following table shews the area irrigated, water rates levied, gross assessed revenue, working expenses, etc., during the year as compared with the average of the past three years:—

Name of Canal.	Area irrigated.		Assessment.		Gross assessment.		Working expenses.		Realization.		Rainfall.	
	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.
	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
Pravara Right Bank Canal.	3,630	3,230	14,734	12,226	15,519	12,940	22,949	19,650	13,535	14,865	24.05	22.05
Pravara Left Bank Canal.	1,809	614	5,085	1,885	5,045	4,152	7,822	5,122	3,075	4,212	24.05	32.08

* Average of the past two years only, as in 1916-17 the Pravara Left Bank Canal was closed for widening and extension.

111. The increase in the areas and assessment was due to failure of timely rains and consequently a greater demand for canal water in both the kharif and rabi seasons.

112. No refunds or remissions were given during the year under report.

113. The cost incurred during the year on the measurement of crops amounted to Rs. 184 which gives a rate of 6½ pies against 7 pies for the last year.

(b) Works without storage but on a river with Ghat Catchment.

(12) LAKH CANAL.

114. This canal draws its supply from the Pravara River, just where it is crossed by the Dhond Manmad Railway line near Lakh village. Being situated below the Ojhar weir, it only receives such water as is not required by the Pravara Canals and the supply runs short after October.

115. In the year under report, however, the supply was sufficient for the rabi crops. The gross area under command is 29,913 acres and the designed discharge 127 cubic feet per second. This canal has not been a financial success and does not even pay its working expenses owing to poor supply and bad alignment: It is to be abandoned as soon as the Pravara Left Bank Canal is completed as the land under this canal is commanded by the latter.

116. The following table shows the area irrigated, water rates assessed, gross assessed revenue, working expenses, etc., during the year under report as compared with the average figures of the past three years.

Area irrigated.		Assessment.		Gross Assessment.		Working expenses.		Realisation.		Rainfall	
1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.
Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
841	450	1,256	920	2,185	1,861	2,842	3,149	1,808	2,386	26.29	26.35

117. The increase in the area and assessment during the year was due to larger demand for water in both kharif and rabi seasons, caused by want of timely rainfall.

118. The Lakh Canal is what is known as a single bank canal, cross drainage being dealt with by escapes on the canal.

119. The cost of measurement of crops during the year was 6 pies against 8 pies per acre for the last year.

NASIK IRRIGATION DISTRICT.

(a) Canals supplied by Ghat-fed river with storage work.

(2) CHANKAPUR TANK—GIRNA LEFT BANK CANAL.

120. The Chankapur Tank on the Girna River is the storage for the Girna Left Bank Canal. The tank has been in use since 1909-10. On 1st April 1917 the water level in the Chankapur Tank was R. L. 150.50, i.e., 75.50 feet above the sill of outlet (which is at R. L. 75.00). The level fell to R. L. 111.00 which was the lowest level reached during the year 1917-18 on 27th June 1917. The regular replenishment began to be received from 28th June 1917, and the level rose to R. L. 166.95 on 16th October 1917, i.e., nearly to the full supply level in the tank, which is at R. L. 167.00.

121. The natural supply of the river and its tributaries being extremely good, there was no demand on the storage reservoir for water required for the kharif crops under the Girna Left Bank Canal. The draw-off commenced on 10th January 1918. The supply was also used for feeding the existing bandharas on the Girna river. The tank supply actually not required for the irrigation on the Girna Left Bank Canal was let out to supplement the supply to the Jamda Canals in the East Khandesh District at the request of the

Executive Engineer of that District. The water level on the 31st March 1918 was 79.64 feet above the outlet sill representing a volume of 926.42 million cubic feet.

123. The run-off during the year from the catchment of Chankapur Tank, viz., 100 square miles was 7,392 million cubic feet equivalent to a run-off of 31.82 inches.

123. The following table shows the area irrigated, water rates levied, gross assessed revenue, working expenses, etc., during the year as compared with the average of the past three years.

Area irrigated.		Assessment.		Gross Assessment.		Working Expenses.		Realisation.		Rainfall.	
1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.
Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
3,473	1,930	17,537	11,428	17,839	11,695	24,168	17,497	7,600	13,158	61.59	65.69

124. There were neither remissions nor refunds during 1917-18.

125. The cost incurred on the measuring establishment amounted to Rs. 275 for an irrigated area of 3,473 acres which gives a rate of one anna and three pies per acre against one anna and eight pies for the last year.

126. The area irrigated in excess of the kayam bagayat area by the Dabhadi and Patna Bandharas on the Guna River was 75 acres and the assessment was Rs. 339 against the previous year's figures, 6 acres and Rs. 51 respectively.

(11) KADWA RIVER WORKS.

127. The Waghad Tank is situated on the Kolwan river and supplements the river supply to the Palkhed and Ojhar Tambat Canals, which are fed by the Kadwa river and also by the Kolwan river. On 1st April 1917 the Waghad Tank had 43.13 feet of water. The water level continued to fall until the 3rd July 1917, when the level was 31.02 feet above the sill (which is at R. L. 80.00). The tank began to receive regular replenishment from 5th July 1917, and the level rose to the waste weir sills on 23rd July 1917. The overflow continued upto 19th October 1917. The maximum depth of flood above the sill of the waste weir was 8.10 feet on 15th October 1917. At the end of the monsoon water was stored upto R. L. 127.90, i.e., nearly to the maximum full supply level. The tank supply was more than sufficient for the area under irrigation on the Kadwa Canals system. The regular draw-off for irrigation purposes commenced on 3rd January 1918. The water in the tank on 31st March 1918 was 40.75 feet above the sill level.

128. The following table shows the area irrigated, water rates levied, gross assessed revenue, working expenses, etc., of the year as compared with the average of the past three years.—

Name of Work.	Area irrigated.		Assessment.		Gross Assessment.		Working Expenses.		Realisation.		Mean rainfall of 2 stations.	
	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.
	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
Waghad Tank	...	...	...	...	660	669	2,905	2,188	550	545	68.04	68.08
Palkhed Canal	2,535	2,171	12,973	15,121	20,174	17,071	11,848	10,134	17,176	20,661		
Ojhar Tambat Canal	1,181	793	9,971	5,215	9,660	5,219	2,022	1,849	6,536	5,566		
Wadail Canal	662	202	6,157	1,278	6,837	1,850	1,920	1,221	2,066	1,287		

The increase in the areas irrigated was due to large demand for water caused by want of timely rainfall.

129. No remissions or refunds were sanctioned during the year under review.

130. The actual cost of measuring the crops amounted to Rs. 226 which gives a rate of 10 pies per acre against one anna and nine pies for the last year.

131. The run-off during the year 1917 from the catchment of the Waghad Tank, viz., 29 sq. miles was 3,156 million cubic feet, which is equivalent to a run-off of 46.80 inches.

(b) Storage works with Deccan Catchment.

(24) PARSUL TANK.

132. This is a small tank built on the Parsul River with a capacity at F. S. L. of 118.7 million cubic feet and depends solely on local rain for its supply, which is generally sufficient for the monsoon season and a part of the rabi season. The tank had a satisfactory supply throughout the year. The reconstruction of water courses and head regulator to Umrana Right Bank Canal having now been completed the distribution of water for the irrigation on this system is much improved.

133. On the 1st April 1917, the level of water was R. L. 1,863.53. The level thence fell down to R. L. 1,849.98, the lowest during the year under report, on 22nd August 1917. It received its first replenishment on 23rd August 1917.

134. Water flowed over the waste weir on the 15th October 1917, at R. L. 1,876.46, i.e., 35.08 feet above the outlet sill level, which is at R. L. 1,841.38 and the overflow continued for 23 days. Water was let out for irrigation purposes from 11th November 1917. The maximum depth of water flowing over the weir was 0.16 feet. The tank supply was sufficient throughout the year for irrigation on this system.

135. The run-off during the year 1917 from the catchment of the Parsul Tank, viz., 17.75 square miles was 176 million cubic feet equivalent to a run-off of 4.27 inches.

136. The following table shows the area irrigated, water rates levied, gross assessed revenue, working expenses, etc., of the year as compared with the average figures for the previous three years :—

Area irrigated.		Assessment.		Gross assessment.		Working Expenses.		Realisation.		Rainfall.	
1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.
Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
1,117	1,017	5,532	5,140	5,573	5,246	3,762	3,274	5,121	5,288	11.91	29.11

137. The increase in the area irrigated and the water rates assessed was due to greater demand for canal water owing to want of timely rainfall during both the kharif and rabi seasons.

138. No remissions or refunds were sanctioned during the year under report.

139. The actual cost of measuring the crops was Rs. 150 which gives a rate of two annas and two pies per acre against two annas and five pies per acre for the last year.

SHOLAPUR DISTRICT.

Storage Works with Deccan Catchment.

140. The area irrigated, gross assessed revenue and working expenses during the year for the four tanks with Deccan catchment, situated in the Sholapur District, are given below in comparison with the averages for the three preceding years.

Name of Tank.	Area irrigated.		Gross assessed revenue.		Working expenses.	
	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.	1917-18.	Average of past 3 years.
	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.
1. Ekruk	2,354	2,265	1,01,262	60,856	17,816	18,441
2. Koregaon	508	618	3,310	2,709	6,089	589
3. Ashti	2,356	2,899	18,957	20,426	6,151	6,600
4. Pathri	1,152	1,263	5,593	6,310	1,988	2,519

141. There was a slight decrease in the area irrigated compared with the average of the past three years in all cases, except Ekruk tank, due to seasonal rainfall and less demand for tank water. There was a slight increase in the case of Ekruk Tank due to larger area brought under sugarcane and to the issue of rabi water to non-leaseholders under the new orders. The increase in revenue on the same tank is due to the same causes and to the larger consumption of water by the Sholapur mills and Municipality. The increase in working expenses on the Koregaon Tank is due to the large expenditure under extensions and improvements which alone amounted to Rs. 4,053.

(14) ERKUK TANK.

142. At the commencement of the year there was a balance storage of 2,656.42 (million cubic feet) in the tank, corresponding to the level of 35.38 feet above the outlet of the perennial canal. Thereafter the water level went down gradually till it reached 32.70 feet on the 1st June 1917 representing a volume of 2,202.83 (million cubic feet). After slight fluctuations the water reached the level of 32.05 on the 18th of August 1917 representing a volume of 2,105.53 million cubic feet. Replenishments began then to arrive in the tank which overflowed on the 2nd September 1917 to the middle of December 1917. The maximum depths of water over the crests of the left and right bank waste weirs was 2.50 feet and 2.70 feet respectively on the 23rd October 1917. The mean rainfall gauged at the six stations in the catchment of 159 square miles from 1st June 1917 was 32.30 inches. The total replenishment received in the tank was 3,893.09 million cubic feet, the proportion of run off to rainfall being thus 32 per cent.

(30) KOREGAON TANK.

143. The tank had 9.74 feet of water over the gauge on the 1st April 1917, the corresponding storage being 58.50 million cubic feet. Thereafter the level of water fell gradually till it reached 6.34 feet on the 20th August 1917 representing a volume of 37.13 million cubic feet. Replenishments began then to be received and water flowed over to the waste weir from 29th September 1917 to 5th November 1917. The maximum depth of water over the waste weir was 2 feet on the 22nd October 1917. The rainfall gauged at Koregaon from 1st June 1917 to 31st October 1917 was 23.07 inches which gave a total replenishment of 163.98 million cubic feet, the proportion of run off to the total rainfall over the catchment of 7 square miles being 43 per cent.

(31) ASHTI TANK.

144. The level of water on the 1st April 1917 was 19.84 feet above the sill of outlet, representing a storage of 1,100.64 million cubic feet. The first replenishment was received at the beginning of June 1917 and further replenishments began to arrive in the middle of August 1917 and water flowed over the waste weir from 28th September 1917 to the 1st week of December 1917. Thereafter the level of water gradually fell to 19.35 feet (storage 19.35 million cubic feet) at the end of the year. The mean rainfall at the two stations in the catchment of 92 square miles was 25.31 inches, which gave a total replenishment of 1,048.95 million cubic feet, the proportion of run off to rainfall being 30 per cent. The maximum depth of water over the waste weir was 0.80 feet on the 23rd October 1917.

(32) PATHRI TANK.

145. At the commencement of the year there was 28.38 feet of water in the tank over the outlet, representing a storage of 318.80 million cubic feet. The inflow began in the middle of August 1917. The tank overflowed from 4th September 1917 to the last week of December 1917. The mean rainfall gauged at the two stations in the catchment of 27.50 square miles from 1st June 1917 to 31st October 1917 was 34.71 inches which gave a total replenishment of 865.80 million cubic feet, the proportion of run-off to rainfall being 40 per cent. The maximum depth of water on the crest of waste weir was 2 feet on the 22nd October 1917.

AHMEDNAGAR DISTRICT.

Storage works with Deccan Catchment.

(26) BHATODI TANK.

146. This is a small tank situated on the Mehekari River about 12 miles from Ahmednagar, having a capacity of 92.70 million cubic feet and depending solely on local rains for its supply, which generally suffices for monsoon and a part of the rabi season.

147. At the commencement of the year the tank water level was at R. L. 91.9 (nearly 22 feet above sill level). Owing to good rains the tank was practically full throughout the whole year. The highest level of water in the tank during the year was R. L. 94.60, viz., 24 $\frac{3}{4}$ feet above the sill (R. L. 70.00) or 5 $\frac{1}{2}$ feet below the top of dam (R. L. 100.00). This level was reached on 25th September 1917. Water flowed over the waste weir for the first time on 12th June 1917 and was flowing for 6 days. It overflowed the waste weir again on 23rd August 1917 and was flowing continuously till 22nd December 1917. After meeting the demands for the rabi season, the tank level on 31st March 1918 was at R. L. 91.20.

148. The rainfall during the year was 34.04 inches against 31.67 inches, the average of the preceding three years. The rains were sufficient and seasonable except for a break in the latter part of July and beginning of August which gave rise to demand for tank water in the kharif season, hence the slight increase in area irrigated.

149. The area irrigated, gross assessment and working expenses for the year are given below, and compared with the average of the three preceding years:—

Area irrigated.						Total gross assessment from all the sources.		Working expenses.	
Kharif,		Rabi.		Total.					
1917-18.	Average of the past 3 years.	1917-18.	Average of the past 3 years.	1917-18.	Average of the past 3 years.	1917-18.	Average of the past 3 years.	1917-18.	Average of the past 3 years.
Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.
139	106	641	812	780	918	6,971	7,931	5,600	3,296

EAST KHANDESH DISTRICT.

(a) Works without storage but on a river with Ghat Catchment.

(23) JAMDA CANALS.

150. The source of supply is the Girna river, supplemented from time to time by water from the Chankapur Tank in the Nasik District. On the 1st April 1917, the discharge of the Girna was 152.32 and on the 29th September 1917 the highest discharge was 290.09 cubic feet. There was no abnormal flood in the river. The maximum and minimum discharges in the Left Bank canal were 119.40 and 23.76 cusecs respectively, those in the Right Bank canal being 39.16 and 2.96 cusecs respectively.

151. The subjoined statement shows area irrigated compared with the average of the preceding three years, and the corresponding assessment and working expenses:—

Area irrigated.						Assessment.						Gross assessed Revenue.		Working expenses direct and indirect.	
Kharif.		Rabi.		Total.		Kharif.		Rabi.		Total.					
1917-18.	Average of the preceding 3 years.	1917-18.	Average of the preceding 3 years.	1917-18.	Average of the preceding 3 years.	1917-18.	Average of the preceding 3 years.	1917-18.	Average of the preceding 3 years.	1917-18.	Average of the preceding 3 years.	1917-18.	Average of the preceding 3 years.	1917-18.	Average of the preceding 3 years.
Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
558	653	925	956	1,484	1,639	6,007	5,263	8,805	2,577	6,519	7,840	14,657	10,785	14,970	10,569

152. The decrease in area is due to no demand for canal water for monsoon crops and less for rabi on account of seasonal rainfall. The increase of water rate is due to increased area under perennial crops. The increase in gross assessed revenue over the average of the past three years is due to unusual realization from sale of mango blossom, it being 300 per cent. over the average of the past three years.

153. The cost of measurements per acre irrigated was 6.17 pies against 6. pies of the previous year.

(b) Storage works with Deccan Catchment.

(21) HARTALA TANK.

154. On the 1st April 1917 the storage in the Hartala Tank was 89.09 million cubic feet which decreased to 65.36 million cubic feet on 6th June 1917 after which date replenishment began. The tank did not overflow this year owing to less rainfall, which was 36.04 inches against 46.36 of the previous year. The maximum storage was 124.30 million cubic feet against a full supply storage of 134.90 million cubic feet.

(22) MHASWA TANK.

155. The storage in the Mhaswa tank on the 1st April 1917 was 61.25 million cubic feet which decreased to 38.43 million cubic feet on 4th June 1917 after which date the tank received replenishment and ultimately overflowed from 14th September to 10th October 1917 with small and occasional variations in the levels. The storage by the end of the year decreased to 62.23 million cubic feet against full storage of 172.405 million cubic feet.

156. The area irrigated during the year on the Hartala and Mhaswa Tanks compared with the average of the three preceding years and corresponding assessment and working expenses are given below:—

Name of works.	Area irrigated.						Assessment.						Gross assessed revenue.		Working Expenses.	
	Kharif.		Rabi.		Total.		Kharif.		Rabi.		Total.					
	1917-18.	Average of the 3 preceding years.	1917-18.	Average of the 3 preceding years.	1917-18.	Average of the 3 preceding years.	1917-18.	Average of the 3 preceding years.	1917-18.	Average of the 3 preceding years.	1917-18.	Average of the 3 preceding years.	1917-18.	Average of the 3 preceding years.	1917-18.	Average of the 3 preceding years.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Hartala	28	15	73	53	101	68	240	69	157	109	397	197	2,541	766	1,020	646
Mhaswa	26	73	154	421	350	498	68	183	446	860	517	1,043	1,321	2,628	1,022	2,468

157. The increase in each head under the Hartala Tank is due to the growth of perennial crops such as sugarcane and plantain for the last 2 years, increase in area irrigated generally, and sale of 2,000 babul trees in the tank bed.

158. The decrease in the case of Mhaswa tank is due to no demand for canal water for monsoon and less demand for rabi crops, the rainfall being seasonal. The gross assessed revenue of the Mhaswa tank was below the average and is due to less receipts of revenue from sale of unsubmerged land in the bed of the tank as the tank was full.

159. The cost of crop measurements per acre irrigated on the Hartala Tank was 6'42 pies and on Mhaswa Tank 5'87 pies.

WEST KHANDESH DISTRICT.

Works depending on river supply from Ghat Catchment supplemented by a tank with a Deccan Catchment.

(10) LOWER PANJHRA RIVER WORKS.

160. The source of supply for these works is the natural flow in the Panjhra River which is supplemented by the Mukti tank storage, when the former falls short of requirement. On 1st April 1917 the Mukti tank had a storage of 274'66 million cubic feet of water. After meeting the needs of hot weather crops the storage in the tank came down to 228'64 million cubic feet. In this year the rains commenced rather early in June 1917. The first appreciable replenishment to the tank was received on 27th June 1917 raising its contents to 237'12 million cubic feet. The maximum capacity, viz., 324'28 million cubic feet was reached on 6th October 1917. The water began to flow over the waste weir from this date and continued doing so till nearly 8th November 1917. After serving the needs of **Kayam** as well as **jirayat** irrigation, the balance left in the tank at the end of the year was 253'61 million cubic feet.

161. The rainfall gauged in the tank area was 23'56 inches against an average of 25'72 inches in the preceding three years and was almost entirely confined to the Kharif season.

162. The following table shows the area irrigated during the year, the assessment and the working expenses, compared with the average corresponding figures of the past three years:—

	Area irrigated.						Assessment.						Revenue from other sources.		Working expenses.	
	Kharif.		Rabi.		Total.		Kharif.		Rabi.		Total.		1917-18.	Average of the past 3 years.	1917-18.	Average of the past 3 years.
	1917-18.	Average of the past 3 years.	1917-18.	Average of the past 3 years.	1917-18.	Average of the past 3 years.	1917-18.	Average of the past 3 years.	1917-18.	Average of the past 3 years.	1917-18.	Average of the past 3 years.				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
LOWER PANJHRA RIVER WORKS.																
Mukti Tank.																
Patasthal Lands.	1,195	1,530	619	982	1,814	1,819	6,231	7,779	2,118	872	8,349	8,351	...	...	...	...
Jirayat Lands.	64	131	816	672	870	803	480	188	3,314	2,736	3,794	3,224	2,220	1,967	2,827	8,053
Total ...	1,249	1,661	1,435	954	2,584	2,615	6,711	7,967	5,432	3,608	12,143	11,575	2,220	1,967	2,827	8,053

163. The area under patasthal is almost the same, but under dry crops land it is much higher than the previous year's as well as the average of the past three years. This is particularly due to larger demand of water during the rabi season.

164. The cost of measurements of land irrigated during the year amounted to Rs. 9-15-6 which gives a rate of one anna and seven pies per acre.

SATARA DISTRICT.

(a) Supply—River with Ghat Catchment.

(15) KRISHNA CANAL.

165. The improvements to the weir sanctioned by Government with a view to increasing the capacity of the pool have been postponed owing to the abnormal

increase in the prices of iron, etc., required for shutters. The expenditure upto end of 1917-1918 is Rs. 59,100.

166. The area irrigated during the year was 3,504 acres and the assessment was Rs. 70,489 as against 3,399 acres and Rs. 68,456 of the previous year and 3,465 acres and Rs. 63,799, the average of the previous three years. The increase in the area irrigated and the assessment is due to more demand for water on account of unseasonable rainfall during the year.

167. The working expenses including direct and indirect charges amounted to Rs. 17,518 or Rs. 5 per acre against Rs. 16,099 or Rs. 4.74 per acre of the previous year and Rs. 4.8, the average of the previous three years.

168. The operations of the year show a net profit of Rs. 55,640 against Rs. 55,476 of the previous year and 54,769, the average of the previous three years.

(b) Works with Deccan Catchment.

(33) REWARI CANAL.

169. This canal is in the Satara District. It takes off direct from the river Vasna without storage and is dependent on local rain for supply. The rainfall gauged at Rewari during the year was less than that of the previous year and the average of last ten years.

170. The area irrigated during the year was 721 acres and the assessment was Rs. 4,976 against 870 acres and Rs. 5,588 of the previous year and 1,007 acres and Rs. 5,779, the corresponding averages of previous three years. The working expenses, direct and indirect, amounted Rs. 1,885 against Rs. 1,862 of the previous year and Rs. 2,065, the average of the previous three years. The net profit of the year amounted to Rs. 3,897 compared with Rs. 4,237 of the previous year and Rs. 3,935, the average of previous three years.

(34) UPPER JAN RIVER WORKS.

171. This system consists of a tank at Pingli with canals on its right and left banks. The supply in the tank in the beginning of the year was less than that of the last year, viz., 67.76 million cubic feet. From 3rd June it began to receive replenishment. The highest level reached during the year was R. L. 2,368.39, which is equivalent to 115.49 million cubic feet. The tank did not fill during the year. There was however great demand for water which was distributed as far as possible to all the areas, which applied for it.

172. The area irrigated was 852 acres and the assessment was Rs. 4,354 as compared with 699 acres and Rs. 3,287 in the previous year and 844 acres and Rs. 3,662, the average figures of the previous three years.

173. The working expenses including direct and indirect charges amounted Rs. 2,233 against Rs. 3,067 in preceding year and Rs. 3,126 the average of the previous three years.

174. The operations of the year resulted in a net profit of Rs. 2,264 compared with Rs. 1,267 of the preceding year and Rs. 1,046, the average of the previous three years.

(35) YEELA RIVER IRRIGATION WORKS.

175. The level of water in the Nehr tank on the 1st April 1917 was at R. L. 2,661.34=334 million cubic feet. Replenishment began to be received from 3rd June 1917. The water reached a level of R. L. 2,665.82=451 million cubic feet and overflowed the weir from 25th October to 7th December 1917. Then the water began to fall as it was used for irrigation purposes till it reached R. L. 2,659.92=301 million cubic feet on 31st March 1918.

176. The area irrigated and the assessment were respectively 3,040 acres and Rs. 16,529 against 2,476 acres and Rs. 12,570 of the previous year and 3,530 acres and Rs. 16,041, the average figures of the previous three years.

177. Working expenses including direct and indirect charges amounted to Rs. 9,191 against Rs. 7,426 of the previous year and Rs. 15,692, the average of the previous three years.

178. The net profit of the year was Rs. 8,899 compared with Rs. 5,631 of the previous year and Rs. 1,318, the average of the previous three years.

(36) CHIKHLI CANAL.

179. The area irrigated and the assessment were 293 acres and Rs. 2,623 respectively against 193 acres and Rs. 2,095 of the previous year and 274 acres and Rs. 1,912, the average of the previous three years.

180. The working expenses including direct and indirect charges amounted to Rs. 888 against Rs. 782 of the previous year and Rs. 1,414, the average of the previous three years.

181. The operations of the year show a net profit of Rs. 1,762 against Rs. 2,606 of the previous year and Rs. 1,008, the average of the previous three years.

(37) MAINI TANK.

182. The level of water in the tank was at its lowest on 20th May 1917, when it was practically dry. The water commenced to rise thereafter till it reached the maximum level of the year, viz., R. L. 2,305.02.

183. The area irrigated and the assessment during the year were respectively 1,833 acres and Rs. 8,769 compared with 1,499 acres and Rs. 6,413 of the previous year and 1,677 acres and Rs. 6,921, the average of the past three years.

184. The working expenses direct and indirect amounted to Rs. 2,921 against Rs. 3,141 of the last year and Rs. 2,874, the average of the last three years.

185. The net profit of the year was Rs. 5,874 against Rs. 4,808 of the last year and Rs. 4,582, the average of the previous three years.

BIJAPUR DISTRICT.

Works with Deccan Catchment.

(38) MUCHKUNDI TANK.

186. The Muchkundi tank is the only first class work in the Bijapur District. The supply in the tank is not reliable owing to insufficient catchment and scanty rainfall. The result of the rainfall gauged during the year at Muchkundi has been given in a separate statement attached (*vide* paragraph below).

187. The water in the tank on 1st April 1917 was at R. L. 1,807.10. It went down to R. L. 1,803.82 on 17th August 1917. Thereafter some replenishments were received and the level of water reached R. L. 1,804.86 on 25th October 1917.

188. Water was allowed free for irrigation under the authority of Government Order No. A.I.—3685, dated 27th March 1914.

189. The working expenses amounted to Rs. 207 against Rs. 143 of last year and Rs. 247, the average of the previous three years.

190. The result of the year's operations was a net profit of Rs. 424 against Rs. 28 of the previous year and Rs. 734, the average of the previous three years. The profit of the year under report is entirely made up of receipts from canal produce such as sales of grass, etc.

BELGAUM DISTRICT.

Works with Ghat Catchment.

(39) GADIKERI TANK.

191. The management of this tank is in the hands of the Revenue Department.

192. The area irrigated during the year was 377 acres and the irrigation share of the consolidated assessment amounted to Rs. 2,061.

193. Working expenses, direct and indirect, were Rs. 344 against Rs. 339 of last year and Rs. 341, the average of previous three years.

194. The year's operations resulted in a net profit of Rs. 1,717 as compared with Rs. 1,722 of the last year and Rs. 1,720, the average of the previous three years.

(40) GOKAK CANAL, FIRST SECTION, AND STORAGE WORKS.

195. Water in the Dhupdal reservoir reached its lowest level on the 2nd June 1917, when it stood at 17.56 feet above the outlet sill. The maximum flood of the year occurred on the 27th July 1917 when the level of water rose to 2.14 feet above the crest of the weir (R. L. 2,008.06) representing a flow of 40,470 cubic feet per second and a run-off of .06 inch per hour from the whole catchment area (1,080 square miles).

196. The weir crest 2,985 feet in length was temporarily raised to a height of 2 feet, as usual, at a cost of Rs. 1,755 to impound an additional storage of 256 million cubic feet of water to meet the requirements of the mill at Gokak and the rabi irrigation.

197. The area irrigated during the year and the assessment thereon were respectively 6,541 acres and Rs. 33,786 against 4,236 acres and Rs. 24,610 of last year and 5,120 acres and Rs. 26,497, the average of the previous three years.

198. The working expenses including direct and indirect charges amounted to Rs. 13,745 against Rs. 11,186 of last year and Rs. 11,179, the average of the previous three years.

199. The net profit of the year was Rs. 38,691 as compared with Rs. 30,601 of last year and Rs. 34,906, the average of the previous three years.

DHARWAR IRRIGATION DISTRICT.

(a) Works with Deccan Catchment.

(41) DAMBAL TANK.

200. Owing to the good rainfall, the tank had a satisfactory supply of water during the year.

201. The unconsolidated area irrigated and the water rates assessed were 153 acres and Rs. 952 respectively against 106 acres and Rs. 398 of last year and 61 acres and Rs. 249, the average of the last three years. The average water rate was Rs. 6 per acre against 4.42 of the average of previous three years. The area under consolidated assessment was 144 acres and the irrigation share of the revenue was Rs. 916 giving the average water rate of Rs. 6.36.

202. Working expenses including direct and indirect charges amounted to Rs. 900 against Rs. 1,273 of last year, Rs. 1,111 the average of previous three years.

203. The net profit of the year was Rs. 1,311 against Rs. 688 of last year and Rs. 642, the average of the previous three years.

(42) MEDLERI TANK.

204. On the 1st April 1917 the water level in the tank was 10.65 feet above the outlet sill. From June to November the tank received replenishment and the highest flood level, viz., 2 feet above the waste weir crest was reached on the 19th November 1917. On 31st March there was 8.45 feet water above the outlet sill. The tank maintained a good supply of water throughout the year.

205. The area irrigated and the assessed revenue during the year were respectively 73 acres and Rs. 624 against 50 acres and Rs. 499 of last year and 5 acres and Rs. 498, the average of previous three years.

206. The working expenses amounted to Rs. 832 against Rs. 863 of last year and Rs. 988, the average of last three years.

207. The net profit of the year was Rs. 22. Last year there was a deficit of Rs. 38.

(44) ASUNDI TANK.

208. On the 1st April 1917 the water level in the tank was 4.57 feet above the actual bed of the tank. It began to receive replenishment from June till the highest flood level, viz., 1.90 feet above the waste weir was reached on the 20th November 1917. The supply of water in the tank throughout the year was satisfactory.

209. The area irrigated and the assessment were respectively 130 acres and Rs. 677 against 152 acres and Rs. 727 of the last year and 139 acres and Rs. 657, the average of the last three years.

210. The area irrigated under consolidated assessment was 190 acres and the irrigation share of revenue was Rs. 687 or Rs. 3.62 per acre.

211. The working expenses amounted to Rs. 920 against Rs. 1,132 of the last year and Rs. 1,205, the average of the previous three years.

212. The year's operations resulted in a net profit of Rs. 538 against Rs. 829 of the last year and Rs. 377, the average of the previous three years.

213. Continuous heavy rain and the outbreak of plague during the rabi season prevented the rayats from cultivating their lands; hence the decrease in the area irrigated against the average of past three years, but there was no corresponding decrease in the assessment mostly on account of high rated crops in the kharif season.

(b) Works with Ghat Catchment.

(43) MADAG TANK.

214. On the 1st April 1917 the water level in the tank was 3.91 feet above the outlet sill. The tank received several replenishments from June 1917 to January 1918 and the waste weir overflowed from 27th June 1917 to 18th March 1918. The water reached the highest flood level, i. e., 6.54 feet above the waste weir crest on the 4th September 1917. The water level on 31st March 1918 was 4.27 feet above the outlet sill.

215. The unconsolidated area irrigated and the water rates assessed during the year were respectively 587 acres and Rs. 2,422 against 570 acres and Rs. 2,352 of the last year and 539 acres and Rs. 2,125, the average of previous three years.

216. The working expenses amounted to Rs. 1,609 against Rs. 1,874 of the last year and Rs. 2,808 the average of previous three years. Deducting them from the gross assessment of the year the net profit is Rs. 1,066 as compared with Rs. 671 of the last year.

(46) DHARMA CANAL.

217. The only work of importance in progress during the year was the improvement of the Dharma Canal. It was commenced in 1910 and is expected to be completed during the next working season. The work when completed will be a great help in controlling the distribution of water and thereby preventing waste. This will improve the efficiency of the canal and increase the area under irrigation.

218. Water was admitted into the canal on the 29th June 1917 and the canal ceased to flow from 1st December 1917. The rainfall was not favourable for sowing operations. The distribution of water was well managed by the irrigation subordinates and there were no complaints from the rayats.

219. The area irrigated during the year at crop rates was 627 acres against 508 acres of the previous year. The assessment was Rs. 3,583 as compared with Rs. 2,201, the corresponding figure of the previous year.

220. The area assessed at consolidated rates was 7,861 acres and the irrigation share of revenue was Rs. 18,195.

221. The total revenue from all sources amounted to Rs. 21,788 against Rs. 20,480 of the previous year.

222. The working expenses amounted to Rs. 231 as compared with Rs. 1,158 of the last year.

(c) Works with Forest Catchment.

(45) MAVINKOP TANK.

223. There is no rain gauge situated in this catchment. The rainfall in this region being good, the supply of water in the tank was satisfactory throughout the year.

224. The whole of the irrigated area (388 acres) is assessed at consolidated rates. The irrigation share thereof during the year was Rs. 2,244.

225. Working expenses amounted to Rs. 644 against Rs. 2,170 of the last year and Rs. 1,223, the average of previous three years.

226. The operations of the year resulted in a net profit of Rs. 1,600 against Rs. 74 and Rs. 1,028, the corresponding figures of the last year and the average.

227. A statement of rainfall gauged at the site of the 1st class works in the Southern Division during the kharif and rabi seasons as compared with that of last year and the average of the previous ten years is given below.

Statement showing the rainfall gauged at the sites of First Class works in the Southern Division during the Kharif and Rabi seasons of 1917-18 as compared with the corresponding figures of rainfall of the previous year and the average of previous ten years.

Years.	Krishna Canal.	Rewari Canal.	Upper Man River works.	Yerla River Irrigation works.	Chikhli Canal.	Maini Tank.	Muchkundi Tank.	Gadikeri Tank.	Golak Canal 1st Section and Storage works.	Dambal Tank.	Medleri Tank.	Asundi Tank.	Madag Tank.	Dharma Canal.*	Remarks.	
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
1916-17	Kharif ..	17.67	23.63	14.66	22.59	19.53	28.75	19.79	No rain gauge.	11.70	7.78	11.86	10.87	16.11	59.24	*Gauged at Yekambi.
	Rabi ...	10.29	6.71	13.20	7.88	8.98	17.83	16.89		20.53	18.42	11.59	13.99	12.65	21.93	
	Total ...	27.96	30.34	27.86	30.47	28.51	46.58	36.67		32.23	26.20	23.94	24.86	28.76	38.17	
1917-18	Kharif ...	16.03	17.71	8.18	10.50	12.06	14.42	13.76	No rain gauge.	11.25	14.77	19.82	15.05	20.07	42.49	
	Rabi ...	6.42	4.54	5.80	7.17	5.86	5.87	4.50		8.95	10.23	8.42	10.96	9.17	81.15	
	Total ...	22.45	22.25	13.98	17.67	17.92	20.29	18.25		20.20	25.00	27.74	26.01	29.24	78.64	
Average of previous ten years ...	27.68	25.46	17.83	24.06	20.68	24.29	18.17		21.41	17.64	19.46	21.42	26.55	79.72		

PART II.

COMPRISING SECOND CLASS IRRIGATION WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT—AND AGRICULTURAL WORKS FOR WHICH NEITHER CAPITAL NOR REVENUE ACCOUNTS ARE KEPT.

GENERAL REMARKS.

228. The whole area of irrigation and revenue due from Second Class Irrigation Works in the Deccan and Gujarat as recorded in the register of these works is 280,785 acres and 9,35,028 rupees respectively with the exception of districts for which lists are not prepared. The figures will be modified when new or revised lists are issued.

229. Table I showing the area irrigated in the different districts in the Deccan and Gujarat and the consolidated revenue assessed during the year 1917-18 in respect of irrigation works on which expenditure has been incurred during the year:—

Collectorate.	Number of Works.	Area irrigated.	Revenue.			Remarks.
			Irrigation share.	Land share.	Total.	
		Acres.	Rs.	Rs.	Rs.	
(a) Ahmedabad ...	47	1,512	2,560	8,320	5,860	(a) Works in charge of the Executive Engineer, Gujarat Irrigation District.
(d) Kaira ...	51	7,031	*9,206	19,103	28,309	* Includes Rs. 30 on account of water rates—Direct Receipts.
(a) Panch Mahals ...	40	170	†1,187	190	1,377	† Includes Rs. 572 on account of water rates—Direct Receipts.
Sunat ...	2	91	*268	1,070	1,338	
Droach ...	...	...	...	...	...
West Khandesh ...	72	976	16,747	1,877	8,624	‡ Includes Rs. 431 on account of water rates—Direct Receipts.
East Khandesh ...	8	640	3,515	1,456	4,971	
(b) Nasik ...	45	7,640	65,767	14,127	79,894	(b) Works in charge of Executive Engineer, Nasik Irrigation District.
Ahmednagar ...	...	...	...	...	...
Poona ...	...	...	...	...	...	Two pats, viz. :—Sawargaon and Cerdani are struck off the list of second class Irrigation Works, vide Government Resolution (Public Works Department) No. 8337, dated 10th August 1916.
Satara ...	...	...	...	...	...
Solgaun ...	16	1,281	6,226	1,557	7,783	
Dharwar ...	71	10,370	33,739	6,696	48,435	
(c) Kanara ...	25	2,472	5,381	1,345	6,726	(c) Works in charge of the Executive Engineer, Dharwar Irrigation District.
Bijapur ...	1	621	2,059	1,933	3,997	
Ratnagiri ...	2	816	1,924	46	1,870	
Total ...	317	33,120	(a) 142,974	53,725	198,699	

	Rs.
(d) Direct receipts ...	1,023
Indirect receipts ...	1,41,941
	<u>1,42,974</u>

230. Table II.—Showing actual expenditure and receipts for the year 1917-18 on the irrigation works in the Deccan and Gujarat for which only Revenue accounts are kept referred to in Table I.

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Collectorate.	EXPENDITURE.								ACTUAL RECEIPTS.						
	Direct Charges.								Direct Receipts.			Indirect Receipts.	Grand Total Direct and Indirect Receipts.	Less Refunds of Revenue.	Gross Receipts Less Refunds.
	Extensions and Improvements.	Maintenance and Repairs.	Establishment.		Tools and Plant.	Total.	Share of Collection Charges.	Grand Total.	Water Rates from irrigation.	Miscellaneous.	Total Direct Receipts.	Share of consolidated Revenue.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
Ahmedabad	Rs. 20,800	Rs. 4,537	Rs.	Rs.	Rs.	Rs.	Rs. 256	Rs.	...	Rs. 10	Rs. 10	Rs. 2,560	Rs. 2,570	...	Rs. 2,570
Kaira	43,690	8,158	} 3,868	84,153	1,083	1,28,255	921	} 1,29,551	} 30	2,104	2,134	9,176	11,310	...	11,310
Panch Mahals	11,569	791													
Surat	.....	1,270	56	236	19	1,631	26	1,657	...	473	473	263	736	...	736
Broach	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
West Khandesh	5,505	2,905	351	1,349	117	9,627	653	10,280	431	...	431	6,316	6,747	...	6,747
East Khandesh	.....	524	23	148	8	703	851	1,054	...	...	.....	3,515	3,515	...	3,515
Nasik	1,896	22,756	1,091	9,646	1,510	36,099	6,577	43,276	...	...	.....	65,767	65,767	...	65,767
Ahmednagar	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Poona	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Satara	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....	.....
Belgaum	1,675	7,678	360	1,961	120	11,094	624	11,718	...	16	16	6,225	6,242	...	6,242
Dharwar	3,852	23,975	} 1,612	22,873	721	62,232	538	} 66,106	} ...	...	.....	88,739	88,739	...	88,739
Kanara	9,799													
Bijapur	.....	58	3	10	1	72	206	273	...	...	.....	2,059	2,059	...	2,059
Ratnagiri	.....	137	5	21	2	165	132	207	...	...	.....	1,324	1,324	...	1,324
Total	88,487	81,383	7,869	69,847	3,531	2,50,478	14,277	2,64,755	1,033	3,472	4,505	1,41,941	1,46,446	16	1,46,430

* Suspense Account.

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DETAILED REPORTS BY DISTRICT OFFICERS.

WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT. GUJARAT IRRIGATION AND SURAT AND BROACH DISTRICTS.

Khari Irrigation Sluices.

231. On account of insufficient rain at the source of the Khari river, there was no water in the river till the end of August. Attempts, however, were made to grow seedlings on rain water in June but they failed due to destruction by grass hoppers. Seedlings were then grown in July on local rain in some places. In the Kalambandhi villages of Bherai, Naika and in the land of Nawagam at the 6th sluice, many cultivators, however, sowed cotton. This did well till the end of August but the heavy rain and the floods in the Khari river subsequently damaged it. In all the other villages of the Khari sluices, rice was transplanted. The crop was damaged in some low-lying rice areas due to breaches which occurred in the Khari and Kharola river banks on account of excessive rain.

232. The outturn was consequently poor and remission had to be granted to a large extent.

233. The sluices were maintained at a cost of Rs. 3,506 and Rs. 1,439 were spent on improvements, such as constructing super-passages, girder bridges on the Khari and Kharola rivers at Pinglaj and raising the cart track from Navagam to Bherai.

234. All the small tanks were full till the end of the kharif season and the water was used for rabi as well as hot weather Jowari crops.

235. The remissions granted by the Collector owing to damage on account of excessive rainfall during the year, amounted to Rs. 18,102.

236. The following table compares the area irrigated and the assessment levied with the average of the previous three years;—

	Average of 3 years ending 1916-17.		1917-18.	
	Area.	* Revenue after deducting remissions.	Area.	* Revenue after deducting remissions.
	Acres.	Rs.	Acres.	Rs.
I.—Irrigation above the Kalambandi villages	691	2,966	652	3,470
II.—Irrigation from tanks fed by the River Khari	199	423	198	467
III.—Irrigation from the Khari Sluices proper (i. e., 10 Kalambandi villages)	6,179	26,024	46,141	24,201
	7,068	29,418	6,991	23,138

* Note (1).—The revenue is consolidated and exclusive of Inamdar's shares.

† Note (2).—The reduction in the area irrigated under the head "III—Irrigation from the Khari Sluices proper" is chiefly due to the abandonment of land assessed to himayat by some people at the time of the Revision survey and also to 121 acres of land having been taken up in the Goblaj Tank. The decrease in revenue under this head is due to more remissions having been granted owing to damage on account of excessive rainfall during the year, as compared with the average of the three preceding years.

237. The assessment under the Khari Sluices proper, i. e., of the "Kalambandi-villages" being consolidated, the average rates per acre for land and water, respectively, were as under:—

	Irrigation share.	Land share.	Total consolidated.
	Rs. a. p.	Rs. a. p.	Rs. a. p.
Government land	1 14 4	4 3 0	6 1 4
Alienated land	0 9 9	1 3 5	1 13 2

Second Class Tanks.

238. During the year, 148 old tanks, viz., 47 in Ahmedabad (inclusive of 3 Talukadari) 57 in Kaira, 41 in Panch Mahals and 3 in the Surat and Broach

Districts, were either repaired or improved at a total cost of Rs. 90,616. Out of the above works, 85 were completed, while repairs to the remainder were in progress.

239. The area irrigated and the revenue derived from the old irrigation tanks and bunds are as under:—

District.	Area Irrigated.	Revenue.		
		Irrigation share.	Land share.	Total Not consolidated assessment.
	Arees.	Rs.	Rs.	Rs.
Ahmedabad	18,530	23,772	90,216	63,988
Kaira	1,926	3,473	4,277	7,750
Panch Mahals	170	615	190	805
Surat	2,099	3,708	19,552	22,260
Broach	845	1,736	4,033	5,774
Total	18,570	33,304	57,273	90,577

POONA IRRIGATION DISTRICT.

240. The following table gives the area irrigated, the consolidated assessed revenue and the irrigation share thereof for the six irrigation works in the Poona Collectorate for which only revenue accounts are kept for the year 1917-18.

Name of work.	Area irrigated.		Net consolidated revenue.		
			Irrigation share.	Land share.	Total.
	A.	G.	Rs. s. p.	Rs. s. p.	Rs. s. p.
Dam at Kasur	25	28	166 11 6	.....	166 11 6
Dam at Vadaj	150	93	829 5 11	.....	829 5 11
Dam at Agar	53	18	140 0 0	111 4 0	651 4 0
Dam at Narayanganj	427	17	3,008 14 6	1,146 5 8	4,150 3 9
Tank at Patas	14	99	22 4 0	8 10 0	90 14 0
Vadhana tank and channel	14	99	22 4 0	8 10 0	90 14 0
Total	672	15	4,561 3 11	1,266 3 3	5,827 7 2

N. B.— Increase in assessment is due to second revision settlement.

241. No expenditure was incurred during the year under report on any of the above works.

242. The following table shows the average area irrigated during the past three years and the revenue assessed on the works compared with the figures of the year under report:—

Period.	Area irrigated.		Irrigation share of revenue
	Arees.	Rs.	
For the year 1917-18	672	4,561	
Average of past 3 years	683	3,793	

NASIK IRRIGATION DISTRICT.

243. The area irrigated and the revenue derived from lands irrigated by bandharas in the Nasik Collectorate, for which only revenue accounts are kept, were as shown below:—

Area irrigated.	Net consolidated revenue.		
	Irrigation share.	Land share.	Total.
Arees.	Rs.	Rs.	Rs.
23,175	1,86,044	51,217	2,37,261

244. The remissions granted by the Revenue Department during the year under report on account of short supply to certain thals amounted to Rs. 2,916 against Rs. 3,482 for the last year.

245. The expenditure during the year on these works was Rs. 24,452 exclusive of charges for establishment and tools and plant. This figure is exclusive of Rs. 7,704 which represents Inamdar's contribution towards Deothan and other bandharas.

246. The water supply in general was satisfactory on account of copious rainfall with the result that on the average the harvest was extremely good.

247. The following table shews the average area irrigated during the past three years and the revenue assessed on the works as compared with the figures of the year under report.

Period.	Area irrigated.		Irrigation share of revenue.
	Acres.		Rs.
For the year 1917-18	28,175		1,86,044
Average of past 3 years	29,439		1,75,959

EAST KHANDESH DISTRICT.

248. The area irrigated and the revenue derived from each of the old second class irrigation works are shown below:—

Number, name of work.	Area irrigated in acres.	Revenue.		Total.
		Irrigation share.	Land share.	
		Rs.	Rs.	
1. Patonda Channel	198	782	306	1,088
2. Toli Channel	70	553	151	700
3. Amalner Channel	372	2,175	999	3,174
Total	640	3,515	1,456	4,971

249. The gross revenue, excluding land share, was Rs. 3,515 as compared with Rs. 3,529 for the previous year.

250. The outlay on these works was Rs. 680 against 949 for previous year.

				Rs.
Maintenance and Repairs	...	...	...	524
Establishment	...	...	...	148
Tools and Plant	...	...	...	8
Total	...	...	...	680

251. This expenditure was mainly incurred in executing certain special repairs to the Patonda, the Toli and the Amalner bandharas and channels.

WEST KHANDESH DISTRICT.

252. The area irrigated and revenue derived from the old second class irrigation works are shown below:—

Year.	Area irrigated.	Revenue.		Total.
		Irrigation share.	Land share.	
		Rs.	Rs.	
1917-18	8896	58,882	14,110	72,442
Average of the previous 3 years	8934	57,569	14,008	71,577

253. These figures are exclusive of old irrigation on the Lower Panjhra River Works. The outlay on these works was Rs. 9,275 as detailed below against Rs. 11,680 the average of the previous three years.

Description.	Expenditure.	
	1917-18.	Average of the previous three years.
Extensions and Improvements	5,505	Rs. 1,427
Maintenance and repairs	2,305	8,427
Establishment	1,398	1,697
Tools and Plant	117	123
Total	9,275	11,680

254. The old works on the Lower Panjhra River consist of the following old bandharas and channels which are repaired from the annual provision of Rs. 3,000 made for Maintenance and Repairs of Lower Panjhra River works under "42 Major Works."

Dhulia	Bandhara and channel.	
Nimkhedi	do.	do.
Japi	do.	do.
Nahalod	do.	do.
Kaottha	do.	do.
Betawad	do.	do.
Mandal	do.	do.
Mudhi	do.	do.

255. Expenditure, as noted against each of the following works, was incurred during the year.

		Rs.
1.	Improvements to Natawad Bandhara	2,396
2.	do. Dhanora do.	1,373
3.	do. Datarti do.	1,719
4.	Repairs to Shenpur bandhara and channel	409
5.	do. Datarti do. do.	314
6.	Extending weir across Lendi Nalla on Lower Kusumba channel	67
7.	Special Repairs to bandhara on Nagzari Nalla near Deobhana.	299
8.	Repairs to Shahada bandhara on Gomi river	320
9.	Repairs to Upper Dusana bandhara and channel	589

Items Nos. 3, 4 and 5 out of the above 9 works are completed and the rest are in progress except item 6, which is stopped until some more experience of the changing nature of the current is gained.

256. The area irrigated under the **Shahada channel** was 82 acres as compared with 198 acres, the average of the last three years.

BELGAUM DISTRICT.

257. The total number of second class tanks irrigating over 50 acres each in this District is 67 with an irrigated area of 9,916 acres paying a consolidated assessment of Rs. 41,319 of which the irrigation share is Rs. 33,053.

258. A sum of Rs. 7,678, which includes Rs. 398 paid as compensation for land taken up for the tanks, was spent during the year on repairs to some of these tanks.

DHARWAR IRRIGATION DISTRICT.

259. During the year the expenditure incurred on repairs to the Second class tanks in the Dharwar and Kanara Collectorates was Rs. 33,174.

260. The area under command of the large second class tanks, *i. e.*, tanks irrigating more than 50 acres and assessed at consolidated rates was 63,981 acres. During the year under report 61,910 acres were irrigated against 61,777 acres

of the previous year and the consolidated assessment was Rs. 2,16,023. No remissions on account of water rates were granted by the Collector. The irrigation share was Rs. 1,72,814. In addition to the above, a revenue of Rs. 1,552 was realized during the year partly by the Revenue Department and partly by the Public Works Department from the miscellaneous sources such as water rates and sales of canal produce such as grass, fruits, etc.

261. The total revenue under these tanks amounted to Rs. 1,74,465 and the net profit, after deducting the working expenses of Rs. 79,605, was Rs. 94,860.

BIJAPUR DISTRICT.

262. There are altogether 12 second class tanks in this District. The lands under these tanks are assessed at consolidated rates. The total area irrigated during the year was 970 acres and the consolidated assessment was Rs. 6,682 of which Rs. 3,881 was irrigation share.

RATNAGIRI DISTRICT.

263. There are only four irrigation works in the Ratnagiri Collectorate which irrigated 1,229 acres during the year. The consolidated assessment and the irrigation share were Rs. 7,176 and Rs. 4,572 respectively.

264. During the year under report an expenditure of Rs. 123 was incurred in carrying out ordinary repairs to two of these tanks.

SATARA DISTRICT.

265. There are only two second class works in this District, viz., the bhandaras at Boregaon and Sap. The total area irrigated by these works which are assessed at consolidated rates is 163 acres. During the year only 115 acres were irrigated and the irrigation share of the Revenue was Rs. 1,030.

AGRICULTURAL WORKS.

WORKS FOR WHICH NEITHER CAPITAL NOR REVENUE ACCOUNTS ARE KEPT.

GUJARAT IRRIGATION AND SURAT AND BROACH DISTRICTS.

266. All the drainage channels in the Surat and Broach and Gujarat Irrigation Districts worked satisfactorily and were maintained at a cost of Rs. 4,949 and Rs. 5,979 respectively and the reclamation works in the former at a cost of Rs. 4,111.

POONA IRRIGATION DISTRICT.

KHAMGAON TANK.

267. This partially completed tank did not dry during 1917-18 and overflowed twice,—once from 13th October 1917 to 30th October 1917 and again from 1st November 1917 to 8th November 1917. The maximum depth passing over the waste weir was 1 foot.

268. The total area irrigated during the year was 106 acres—67 acres in the kharif and 39 acres in the rabi—and the gross assessed revenue was Rs. 548. The corresponding figures for the last year were 59 acres—35 in the kharif and 23 acres in the rabi—and the gross assessed revenue Rs. 340.

NASIK IRRIGATION DISTRICT.

KHIRDI SATHE TANK.

269. This tank has been transferred for management to the Irrigation Department from 15th June 1917, and is classified as an Agricultural work—(Work for which neither Capital nor Revenue Accounts are kept.)

270. At the commencement of the year under report the level of water in the tank was R. L. 228.51 i.e., 13.25 feet above the sill of outlet. The water level gradually went down and the lowest level was reached on 21st September 1917 when it was R. L. 222.75. The outlet was closed and water then began to rise from 22nd September 1917. The highest level reached was R. L. 232.58 on 21st October 1917. Although the tank did not fill this year, the stored water supply was just sufficient for the irrigation under the tank.

271. During the year under report, the total area irrigated was 253 acres, of which 63 acres was irrigated in the kharif and 190 acres in the rabi season and the gross assessed revenue was Rs. 1,551 only.

SHOLAPUR DISTRICT.

WADSHITNE TANK.

272. The storage in the tank was 170.97 M. C. ft. at the beginning of the year, corresponding to the level of 17.33 feet above the outlet. Sufficient replenishment to fill the tank was received between 21st August 1917 and 17th October 1917 on which latter date the water began to flow over the waste weir and continued doing so till about the middle of December 1917. The storage remained almost unused as there was no demand for water owing to timely rainfall. The rainfall gauged at the two stations in the catchment of 14.5 square miles was 23.82 inches (mean) from the 1st June 1917 to 31st October 1917. This gave a total replenishment of 234.62 M.c. ft. the proportion of runoff to rainfall being 29 per cent.

273. There was less demand for water during the year and hence the area irrigated was 116 acres against 187 acres, the average of the preceding triennium. The decrease was due to timely rainfall.

274. The gross assessed revenue amounted to Rs. 650 against Rs. 1,216, the average of the preceding three years.

275. The expenditure incurred during the year on maintenance and repairs, etc., was Rs. 753 against Rs. 940, the average of the preceding three years.

WEST KHANDESH DISTRICT.

TALWADA TANK.

276. At the commencement of the official year the tank had a storage of 33.20 M.c. ft. of water which was utilised for serving the needs of the hot weather crops. When this was done the contents of the tank were reduced to 26.00 M.c. ft. on 7th June 1917. The first replenishment received on 8th June 1917, increased the storage to 29.31 M.c. ft. Further replenishments were very rapid and the maximum storage reached during the year was 100.63 M.c. ft. on 25th November 1917. This was really a satisfactory supply but as the rainfall was sufficient, viz., 21.98 inches (slightly less than the average of preceding 3 years), there was not much demand for tank water, in consequence of which there was a fall in irrigation.

277. The area irrigated was 200 acres and the Revenue assessed was Rs. 805 against 273 acres and Rs. 1,095 respectively of the previous three years' average.

BELGAUM DISTRICT.

278. A sum of Rs. 1,547 was spent during the year on rebuilding the damaged portion of the bundhara across the Badchi nalla in the Athni Taluka. The work was completed during the year at a total cost of Rs. 2,415 against the estimated amount of Rs. 2,364.

Revenue Report of Irrigation Works in the
Bombay Presidency excluding Sind for
1917-18—Review of

GOVERNMENT OF BOMBAY.

PUBLIC WORKS DEPARTMENT.

Resolution No. W. I.—10331.

Bombay Castle, 29th July 1919.

Read Government Circular Memorandum No. W. I.—9049-M., dated 14th September 1918.

Letter from the Superintending Engineer, Central Division, No. 5466, dated 30th September 1918.

Submits the Irrigation Revenue Report for his Division for 1917-18 in parts I and II and states that the general remarks will follow.

Read letter from the Superintending Engineer, Central Division, No. 5554, dated 4th October 1918.

Letter from the Superintending Engineer, Deccan Irrigation Division, No. 7153, dated 23rd October 1918.

Forwards the Irrigation Revenue Report for his Division for 1917-18 and states that the remaining information will follow.

Letter from the Superintending Engineer, Southern Division, No. 4573, dated 28th October 1918.

Submits the Irrigation Revenue Report for his Division for 1917-18 together with certain statistical statements and makes remarks.

Letter from the Superintending Engineer, Deccan Irrigation Division, No. 7465, dated 6th November 1918.

In continuation of his letter No. 7153, dated 23rd October 1918, submits the general remarks in connection with the Irrigation Revenue Report for his Division.

Letter from the Superintending Engineer, Northern Division, No. 7958, dated 30th November 1918.

Submits the Irrigation Revenue Report for his Division for 1917-18 in parts I and II together with certain statistical statements and makes remarks.

Letter from the Superintending Engineer, Central Division, No. D.—1391, dated 22nd December 1918.

With reference to the correspondence ending with Government memorandum (expeditor) No. I.—12273, dated 18th December 1918, forwards the general remarks in connection with the Irrigation Revenue Report for his Division for 1917-18.

Read Government memorandum to the Superintending Engineer, Deccan Irrigation Division, No. I.—1516, dated 7th February 1919.

Letter from the Superintending Engineer, Deccan Irrigation Division, No. 892, dated 8th February 1919.

With reference to Government memorandum No. I.—11943, dated 7th December 1918, submits detailed descriptive reports of the important irrigation works under construction in his Division and makes remarks.

Memorandum from the Superintending Engineer, Deccan Irrigation Division, No. 922, dated 8th February 1919.

Read letter from the Superintending Engineer, Central Division, No. 2309, dated 7th April 1919.

RESOLUTION.—The Irrigation Works dealt with in this report are of three kinds, *viz.* :—

(i) Tanks and canals for which Capital and Revenue Accounts are kept, commonly called First Class Works;

(ii) Small tanks and bandharas for which only Revenue Accounts are kept and known as Second Class Works; and

(iii) Petty tanks, irrigation and drainage channels for which neither Capital nor Revenue Accounts are kept, which are called Agricultural Works.

The First Class Works are described in detail in Part I of this report. The Second Class and Agricultural Works are small and numerous and a brief general account thereof is given in Part II.

2. The total capital outlay on the First Class Irrigation Works up to the end of 1917-18 was Rs. 6,46,01,254 and the net revenue realized was Rs. 7,65,534. During the year under review the direct and indirect capital expenditure on these works amounted to Rs. 26,94,422 of which a little over Rs. 17½ lakhs were spent on the Nira Right Bank Canal and Rs. 8½ lakhs on the Pravara River project. The progress made on these works has been detailed in paragraphs 59—64 and 99—100, respectively, of this report.

3. Excluding an area of 10,774 acres on which a consolidated assessment is levied, the area irrigated was 138,628 acres as against 110,169 acres of the previous year, showing an increase of 28,459 acres. The major portion of this increase occurred in the Northern and Deccan Irrigation Divisions and was partly due to the extension of irrigation on the Hathmati and Khari Cut system and the newly opened Godavari Canals and partly to the larger demand for canal water owing to want of timely rainfall in the Nasik and Ahmednagar Districts.

4. With the increase of irrigation there was a corresponding rise in the gross assessed revenue, which amounted to Rs. 17,75,865 against Rs. 15,03,154 of the previous year. When compared with the average of the previous ten years, the assessed revenue shows an increase of Rs. 4,04,223.

5. The unrealized balance at the close of the year amounted to Rs. 2,29,065, showing an increase of Rs. 1,54,432 over the previous year's figure. By far the largest amount was outstanding in the Deccan Irrigation Division and the balance was nearly equally divided between the Northern and Southern Divisions, the Central Division being responsible for less than Rs. 10,000. Some of the arrears have since been recovered and it is hoped that the steps taken by the local officers will result in the prompt recovery of the balance still outstanding.

6. The working expenses show an increase of Rs. 47,965 on the figure for the year 1916-17 (Rs. 7,29,348).

7. The resulting net revenue for the year was—

	Rs.
(i) on the basis of assessment ...	9,98,552
(ii) on the basis of realization ...	7,65,534

as compared with Rs. 7,73,806 and 9,17,191, respectively, during the previous year.

8. The statement embodied in paragraph 13 of the report exhibits the financial results of the more important irrigation works in operation in the Presidency proper. The Gokak and the Nira Left Bank Canals show a return of more than 3 per cent. on the total sum at charge. The Mutha Canal, one of the largest irrigation works in the Deccan, shows a return of just over 2 per cent.

9. The present figures show that the total area under irrigation from Second Class Irrigation Works in the Deccan and Gujarat is 280,785 acres and the revenue obtained Rs. 9,35,028. During the year a sum of Rs. 2,64,755 was spent on the improvement and repair of 317 works out of an approximate total on the list of 8,900.

10. The Irrigation officers and all concerned with the distribution of water should be thanked for their efficient management of the works.

11. Copies of the report and of this review should be forwarded to the Government of India. Copies should also be sent to the India Office.

V. F. BARKER,

Acting Under Secretary to Government,
Irrigation and Railways.

G. R. No. W. I.—10331, P. W. D., dated 29th July 1919.

To

- *The Revenue Department, Secretariat.
- *The Financial Department, Secretariat.
- *The Commissioner in Sind.
- *The Commissioner, N. D.
- *The Commissioner, C. D.
- *The Commissioner, S. D.
- *The Director of Agriculture.
- *The Settlement Commissioner and Director of Land Records.
- *The Chief Engineer in Sind.
- *All Superintending Engineers of Divisions.
- *The Accountant General, Bombay.
- *All Executive Engineers in charge of Irrigation Works in the Deccan and Gujarat.
- †The Government of India.
- †The Secretary, Revenue and Statistics Departments, India Office.
- †The Secretary, Public Works Department, India Office.
- †The Registrar and Superintendent of Records, India Office.

* With copies of the Report.

† By letter.

Class A.

Exd. J. P. R.

No.

of 1919.

Copy forwarded for information and guidance to

IRRIGATION REVENUE REPORT

OF THE

BOMBAY PRESIDENCY

(EXCLUDING SIND)

1918-19

[For official use only.]

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**IRRIGATION REVENUE REPORT,
BOMBAY PRESIDENCY, EXCLUDING SIND,
1918-19.**

PART I.

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

GENERAL REMARKS.

The following list includes all the works in
operation (43 in number):—

Collectorate.	Num-ber.	Names of Works.	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 season and 120 acres for the rabi season per cusec.	Whether Supply is reliable or dependent on local rain.	Storage Works completed or proposed.	Remarks.
		MAJOR WORKS.	Acres:			
		<i>Protective Works.</i>				
Ahmednagar	1	Pravara River Works—Pravara Right Bank Canal.	24,656 for completed canal.	Dependent on local rain.	Storage work at Lake Arthur Hill in progress.	Ghat catchment.
Nasik	2	Girna Left Bank Canal.	Information not available.	Reliable	Chankapur Tank completed.	Do.
Nasik	3	Godavari Left Bank Canal.	21,135	Do.	Lake Beale completed.	Do.
Ahmednagar		Godavari Right Bank Canal.	85,600. These are projected figures subject to alteration.			
Poona	4	Nira Canal including Shetpal Tank.	100,000	Do.	Lake Whiting completed.	Do.
Sholapur	5	Mhaswad Tank	17,975	Dependent on local rain.	Completed	Deccan catchment.
		<i>Productive Works.</i>				
Ahmedabad	9	Hathmati Canal and Khari Cut.	24,000	Dependent on local rain.	No storage work: Bokh Reservoir and Chandola Tank and Wasai Reservoir completed.	Forest and hilly catchment. Supply depends chiefly on the flow in the Hathmati and Kbari Rivers, contents of the Bokh Reservoir and the Chandola Tank, and Wasai Reservoir.
West Khandesh	10	Lower Panjhra River Works.	8,173	Panjhra River supply not reliable.	Mukti Tank completed.	Ghat catchment for one part and Deccan catchment for the rest.
Nasik	11	Kadwa River Works. { Palkhed Canal. Ojhar Tambat Canal. Wadali Canal.	7,223	Reliable	Waghad Tank completed.	Ghat catchment.
			550			
			970			
Ahmednagar	12	Pravara River Works—Lekh Canal.	593	Reliable for monsoon and rabi.	Storage work at Lake Arthur Hill in progress.	Ghat catchment.
Poona	13	Mutha Canals including Matoba Tank.	49,000	Reliable	Lake Fife completed.	Do.
Sholapur	14	Ekruk Tank	13,070	Dependent on local rain.	Completed	Deccan catchment.
Satara	15	Krishna Canal	6,412	Reliable	Proposed	Ghat catchment.

Collectorate.	Number.	Names of Works.	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 season and 120 acres for the rabi season per cusec.	Whether Supply is reliable or dependent on local rain.	Storage Works completed or proposed.	Remarks.
		MINOR WORKS AND NAVIGATION.	Acres.			
Kaira	16	Wangroli Tank	3,400	Dependent on local rain.	Completed	Ordinary catchment on plain ground.
	17	Tranra-Nagrama Tank.	800	Do.	Do.	The Tranra Tank has no independent catchment. The Nagrama Tank has a catchment of 150 sq. miles. Both are fed by the Matar Drainage channel which is not at all reliable.
	18	Savli Tank	3,000	Do.	Do.	Ordinary catchment on undulating ground.
	19	Selat do.	2,000	Do.	Do.	Ordinary catchment on flat ground.
	Panch Mahals	20	Futela Tank	800	Do.	Do.	Hilly catchment.
East Khandesh.	21	Hartala do.	978	Do.	Do.	Deccan catchment.
	22	Mhaswa do.	3,256	Do.	Do.	Do.
	23	Jamda Canals	42,000	Girna River supply not reliable.	Storage Tanks on the Girna, the Manad and the Panjan Rivers under contemplation. Water is issued from the Chankapur Tank when available.	Ghat catchment for a small part and for the rest Deccan catchment.
Kaik	24	Parsul Tank	3,400	Dependent on local rain.	Completed	Deccan catchment.
Ahmednagar	25	Pravara River Works --Pravara Bank Canal.	6,852	Do.	Storage work at Lake Arthur Hill in progress.	Ghat catchment.
	26	Bhatodi Tank	1,461	Do.	Completed	Deccan catchment.
Poona	27	Kasurdi do.	150	Do.	Do.	Do.
	28	Shirsuphal do.	1,350	Do.	Do.	Do.
Sholapur	29	Bhadalvadi do.	1,800	Do.	Do.	Do.
	30	Koregaon do.	416	Do.	Do.	Hilly catchment.
	31	Ashi do.	3,369	Do.	Do.	Deccan catchment.
	32	Pathri do.	3,094	Do.	Do.	Hilly catchment.
Satara	33	Bewari Canal	438	Do.	Nil	Deccan catchment.
	34	Upper Man River Works.	373	Do.	Pingli Tank completed.	Do.
	35	Yerla River Irrigation Works.	1,182	Do.	Kehr do.	Do.
	36	Chikhli Canal	355	Do.	Nil	Do.
Bijapur	37	Maini Tank	455	Do.	Completed	Do. Supply from catchment is good.
	38	Muchkundi Tank	750	Do.	Do.	Deccan catchment.
Belgaum	39	Gadikeri do.	418	Do.	Do.	Supply reliable.
	40	Golak Canal, 1st Section.	10,387	Reliable	Rali only.	Storage Ghat catchment.
Dharwar	41	Dambal Tank	531	Dependent on local rain.	Completed	Deccan catchment.
	42	Medleri do.	231	Do.	Do.	Do.
	43	Madag do.	1,418	Do.	Do.	Ghat and forest catchment--reliable.
	44	Asundi do.	203	Do.	Do.	Deccan catchment.
	45	Mavinkop do.	617	Do.	Do.	Forest catchment reliable.
	46	Dharma Canal	For monsoon season 6,500 acres. For Rabi nil.	Do.	No storage works, but canal takes off from the river itself.	Ghat catchment.

No. 4, 7, 8, 47 and 48--Maladevi, Budhihal, Nira Right Bank Canal, Victoria Tank, and the Suki River Project--are not included as the works were not in operation in the year under report. No. 49--Golak Canal, 2nd Section--is in abeyance.

Interest Account.

2. The interest account to the end of the year stands as follows :—

	Amount.				Amount.		
	Protective Works.	Productive Works.	Total.		Protective Works.	Productive Works.	Total.
	Rs.	Rs.	Rs.		Rs.	Rs.	Rs.
Total interest charges to end of 1917-18 ...	1,58,54,298	1,85,63,562	3,44,07,960	Net revenue realized to end of 1917-18 ...	55,58,964	69,12,335	1,44,71,299
Do. during 1918-19 ...	14,58,913	4,04,559	18,63,472	Do. during 1918-19 ...	95,343	2,90,222	3,85,565
					56,54,307	92,02,557	1,48,56,864
				Balance net interest charges to end of 1918-19 ...	1,16,58,904	97,55,954	2,14,14,858
Total end of 1918-19 ...	1,73,13,211	1,89,68,511	3,62,71,722	Total ...	1,73,13,211	1,89,68,511	3,62,71,722

3. The gross revenue realized from all sources during the year, after deducting refunds of revenue (Rs. 570), was Rs. 12,72,404, of which Rs. 12,62,362 were direct and Rs. 10,042 indirect receipts. The net revenue actually realized was Rs. 4,27,129. The figures of gross and net revenue show decreases of Rs. 2,70,443 and Rs. 3,38,405, respectively, as compared with those of 1917-18.

4. The gross area under command was 1,261,952 acres and the area irrigable at present is 479,433 acres.

5. The financial results of the year by main heads were as follows :—

	Area irrigated.	Revenue realized.			Working expenses.	Net Revenue.
		Direct receipts.	Share of land revenue.	Total.		
		Rs.	Rs.	Rs.		
<i>Class I.—Works for which Capital and Revenue Accounts are kept.</i>						
	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.
Major Works. { Protective Works ...	1,22,043	4,94,625	...	4,94,625	3,99,282	95,343
{ Productive Works ...	41,194	6,04,963	3,758	6,08,721	3,18,499	2,90,222
Total ...	1,63,237	10,99,588	3,758	11,03,346	7,17,781	3,85,565
Minor Works ...	50,766	1,62,774	6,284	1,69,058	1,27,494	41,564
Total, Class I ...	2,14,003	12,62,362	10,042	12,72,404	8,45,275	4,27,129

The area shown as irrigated includes 10,963 acres on which a consolidated land and water assessment is levied. This is derived from old works on which expenditure on improvements only has been incurred.

6. The figures showing areas irrigated, revenue assessed and realized, and working expenses, as compared with those of the previous ten years are as follows :—

Years.	Area irrigated.	Revenue.		Working expenses.
		Assessment.	Realization.	
		Rs.	Rs.	
1908-09 ...	142,928	10,99,014	10,67,329	3,89,423
1909-10 ...	145,155	11,22,916	12,55,165	4,16,046
1910-11 ...	123,356	10,95,369	12,51,247	4,38,524
1911-12 ...	142,934	18,31,017	13,76,101	4,68,047
1912-13 ...	197,965	15,83,168	14,13,527	5,09,099
1913-14 ...	203,338	17,59,548	17,39,483	6,51,890
1914-15 ...	159,730	16,05,516	16,98,838	7,50,066
1915-16 ...	136,375	15,29,165	15,84,169	7,24,668
1916-17 ...	110,169	15,03,154	16,46,539	7,29,348
1917-18 ...	138,628	17,75,865	15,42,847	7,77,313
Average for ten years ...	149,998	14,40,473	14,57,524	5,85,442
1918-19 ...	203,040	22,94,781	12,72,404	8,45,275

The increase of 64,412 acres in the total area irrigated as compared with the previous year is made up as under :—

	Acres.
Protective Works	52,073
Productive Works	- 2,497
Minor Works	14,836
Total	<u>64,412</u>

The variations in the areas irrigated may be remarked upon as follows :—

Deccan Irrigation Division.

The total area irrigated shows an increase of 56,939 acres as compared with the previous year, and this was due to the very keen demand for canal water, chiefly during the rabi season owing to scanty rainfall.

Central Division.

There was an increase of 2,250 acres under Productive Works and 9,177 acres under Minor Works, making a total increase of 11,427 acres in the area irrigated during the year as compared with that of the preceding year. The increase was due to the failure of rains throughout the Division and the consequent great demand for canal water.

Southern Division.

The total area irrigated shows an increase of 8,720 acres as compared with that of the previous year. The increase was due to the low rainfall and the consequent heavy demand for water for irrigation.

Northern Division.

The total area irrigated by first class works shows a decrease of 12,702 acres as compared with that of the previous year. This was mainly due to smaller areas irrigated on the Hathmati and Khari Cut Canals owing to insufficient supply of water due to scanty rainfall.

Collections of revenue. 7. The state of the collections was as follows :—

	Rs.
Balance of demands unrealized at the commencement of the year	2,80,615
Demands of the year—	Rs.
Rabi, 1917-18	2,41,069
Kharif, 1918-19	13,68,844
Miscellaneous receipts	<u>4,44,435</u>
	20,54,348
Total	<u>22,84,963</u>
<i>Deduct—</i>	
Remissions	2,131
	<u>22,82,832</u>
Net total	22,82,832
Amount unrealized at the close of the year	10,19,900
Actual receipts for the year	12,62,932
<i>Add—</i>	
Share of Land Revenue	10,042
Total	<u>12,72,974</u>
<i>Deduct—</i>	
Refunds of Revenue	570
Revenue realized as per paragraphs 3, 5 and 6	<u>12,72,404</u>

The remissions and refunds together amount to Rs. 2,701. The amount unrealized at the close of the year, viz., Rs. 10,19,900, is considerably more than that at the close of the last year, viz., Rs. 2,29,065. By far the largest amounts were outstanding in the Deccan Irrigation and Southern Divisions. These heavy arrears were due chiefly to the delay of over a month in the preparation of the assessment papers for the kharif season on account of the prevalence of the influenza epidemic in September and October 1918. The total is made up as follows :—

			Rs.
1. Nira canal and Shetphal tank	...	...	3,43,141
2. Godavari canals	...	...	2,66,757
3. Mutha canal and Matoba tank	...	...	2,14,753
4. Krishna canal	...	...	74,206
5. Hathmati and Khari cut canals	...	...	29,966
6. Mhaswad tank	...	...	15,832
7. Jamda canals	...	...	13,704
8. Yerla river irrigation works	...	...	8,243
9. Ekruk tank	...	...	7,801
10. Kadwa river works	...	...	4,941
11. Gokak canal 1st section and storage works	...	...	4,185
12. Dharma Canal	...	...	4,088
13. Pravara river canal	...	...	3,276
14. Wangroli tank	...	...	2,771
15. Upper Man river works	...	...	2,415
16. Bhadalwadi tank	...	...	2,370
17. Madag tank	...	...	2,210
18. Bhatodi tank	...	...	2,125
19. Other works	...	...	12,116
Total			10,19,900

The Superintending Engineers state that steps are being taken to recover the amounts unrealized.

8. The total working expenses for the year amounted to Rs. 8,45,275 against Rs. 7,77,313 in the previous year, showing an increase of Rs. 67,962 distributed as follows :—

				1917-18.	1918-19.	Difference.
				Rs.	Rs.	Rs.
Major Works—						
Protective Works	...	...	...	3,56,043	3,99,282	43,239
Productive Works	...	...	...	2,99,307	3,18,499	19,192
Total			...	6,55,350	7,17,781	62,431
Minor Works and Navigation	...	...	...	1,21,963	1,27,494	5,531
Grand Total			...	7,77,313	8,45,275	67,962

The increases and decreases are explained by the Superintending Engineers as follows :—

Superintending Engineer, Deccan Irrigation Division.

The total working expenses for the year amounted to Rs. 6,70,922 against Rs. 5,82,419 in the previous year, showing an increase of Rs. 88,503 distributed as follows :—

				1917-18.	1918-19.	Difference.
				Rs.	Rs.	Rs.
Major Works—						
Protective Works	...	...	...	3,56,043	3,99,282	43,239
Productive Works	...	...	...	2,08,597	2,45,496	36,899
Total			...	5,64,640	6,44,778	80,138
Minor Works and Navigation	...	...	...	17,779	26,144	8,365
Grand Total			...	5,82,419	6,70,922	88,503

The excess is chiefly due to larger expenditure incurred under works, repairs and establishment.

Superintending Engineer, Central Division.

The total working expenses during the year were less than those of the previous year by Rs. 3,237.

Superintending Engineer, Southern Division.

The total working expenses for the year amounted to Rs. 57,365 against Rs. 54,068 of the previous year and Rs. 53,932 the average of the previous triennium.

Superintending Engineer, Northern Division.

The total working expenses for the year amounted to Rs. 54,721 against Rs. 75,324 of the previous year, showing a decrease of Rs. 20,603.

9. The following table contrasts the charges under the principal heads with those of the two previous years :—

	1916-17.	1917-18.	1918-19.
	Rs.	Rs.	Rs.
Works	40,179	64,100	67,266
Repairs	3,45,581	3,59,225	3,80,010
Establishment	2,84,033	2,47,302	2,99,627
Tools and Plant	8,838	11,502	9,398
Total in the Public Works Department	6,28,581	6,81,129	7,56,221
Collection charges	67,875	61,999	47,123
Indirect charges	82,892	84,785	71,031
Total	7,29,348	7,77,313	8,45,275

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

Name of work.	Average incidence of water rate per acre.	Cost of measurement.		Working expenses total in the Public Works Department excluding indirect charges.	
		Total cost.	Per acre.	Per mile of main canal.	Per acre irrigated.
<i>Canals.</i>					
Nira canal, including Shetphal tank	11-60	Rs. 2,369	Rs. a. p. 0 0 8	Rs. 1,008	Rs. 1-97
Girna Left Bank Canal	4-68	440	0 1 7	1,639	4-78
Kadwa canals	8-48	158	0 0 6	1,103	5-67
Godavari canals	11-15	2,863	0 1 0	1,498	8-84
Mutha canals, including Matoba tank	16-66	1,200	0 1 1	2,252	11-61
Pravara Right Bank Canal	2-50	184½	0 0 5	869	4-00
Krishna canal	10-43	845	0 1 9	438	1-90
Yerla river irrigation works	5-04	637	0 2 3	280	2-09
Rewari canal	5-49	124	0 4 3	854	4-03
Upper Man river works	5-01	130	0 2 2	125	3-07
Chikhli canal	5-92	25	0 2 3	121	4-52
Gokak canal	5-13	1,000	0 1 9	2,878	1-31
<i>Tanks.</i>					
Mhaswad tank	5-27	623½	0 1 0-5	284	1-97
Parsul tank	2-67	50	0 1 5	N.L.	4-85
Maini tank	3-98	294	0 2 1	665	2-31

11. The gross assessed revenue, direct and indirect, as shown in Statement IV-C accompanying the Irrigation Administration Report for 1918-19 was Rs. 22,94,781. If

Gross assessed revenue.

Rs. 11,799 being the loss of revenue on account of water supplied either gratis or at reduced rates to various institutions in Poona be added to the above amount, the total assessed revenue, both direct and indirect, of the year will be Rs. 23,06,580.

The details of the gross assessment were as follows :—

	Direct Revenue.			Indirect revenue.	Total.
	Water-rates.	Other receipts	Total.		
	Rs.	Rs.	Rs.	Rs.	Rs.
Major Works—					
Protective Works	12,28,832	25,743	12,54,575	.....	12,54,575
Productive Works	4,29,143	3,73,235	8,02,378	3,758	8,06,136
Total	16,57,975	3,98,978	20,56,953	3,758	20,60,711
Minor Works	1,82,329	45,457	2,27,786	6,284	2,34,070
Grand Total	18,40,304	4,44,435	22,84,739	10,042	22,94,781

12. The net assessed revenue of the year, after deducting working expenses, including indirect and all other charges and neglecting the items amounting to Rs. 11,799 referred to in the preceding paragraph, was Rs. 14,49,506 as compared with Rs. 9,98,552 in 1917-18.

13. The following table shows percentage of the return earned on Capital outlay on some of the principal works in operation.

Name of work.	Total capital outlay (direct and indirect).	Gross receipts (direct and indirect).	Working expenses (direct and indirect).	Net Revenue.	Percentage on Capital outlay (column 2.)	Remarks.
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.		
Nira canal including Shetphal tank	65,87,833	2,16,183	1,24,978	91,810	1.40	
Girna Left Bank Canal	19,37,205	20,422	23,676	- 3,254	...	
Kadwa river works	10,34,191	44,820	30,135	14,685	1.42	
Godavari canals	1,00,94,775	2,12,021	1,98,979	13,042	0.13	
Mutha canals including Matoba tank	65,34,144	3,55,980	2,12,238	1,43,742	2.20	
Pravara canals	83,79,130	15,243	30,-65	- 15,822	...	
Krishna canal	9,44,459	31,038	15,437	15,591	1.65	
Yerla river irrigation works	7,64,870	10,215	9,344	871	0.11	
Rewari canal	59,811	3,897	1,861	2,036	3.40	
Upper Man river works	4,39,286	1,776	3,409	- 1,633	...	
Chikhli canal	57,442	838	738	50	0.09	
Gokak canal	9,69,256	52,785	11,779	41,006	4.23	
Tanks.						
Mhaswad tank	20,96,016	80,751	21,384	9,367	0.45	
Parsul tank	2,14,995	4,874	3,131	1,743	0.81	
Maini tank	4,87,650	7,627	5,226	2,401	0.49	
Ekruk tank	13,40,386	1,15,064	21,994	93,070	6.94	

14. The water-rates in force during the year are shown in Statement I-F accompanying the Irrigation Administration Report for 1918-19, in the remarks column of which the orders sanctioning them are quoted:

15. The average water-rates per acre of land actually irrigated were—

	1917-18.	1918-19.
	Rs.	Rs.
Protective works	11.32	10.07
Productive works	10.29	10.90
Minor works	3.76	4.38

16. The water-rate assessments and other receipts compare with those of the previous year as under :—

	1917-18.	1918-19.
	Rs.	Rs.
Water-rates	13,76,455	18,40,804
Other Receipts—		
Plantations	13,970	9,046
Water-power	14,813	14,313
Water-supply to towns...	2,27,611	2,92,051
Miscellaneous	1,34,827	1,29,025
Total	3,90,721	4,44,435
Share of land revenue	8,689	10,042
Total	3,99,410	4,54,477
Grand Total	17,75,865	22,94,781

17. The principal crop acreages irrigated during 1917-18 and 1918-19 were as follows :—

	1917-18.	1918-19.	Difference.
	Acres.	Acres.	Acres.
Gardens and Orchards	8,466	8,894	+ 428
Sugarcane	28,616	29,742	+ 1,126
Wheat	14,365	31,614	+ 17,249
Rice	12,959	3,847	- 9,112
Maize	3,978	6,509	+ 2,531
Jowari	20,849	43,536	+ 22,687
Bajri	9,423	25,706	+ 16,283
Gram, etc.	10,991	13,022	+ 2,031
Groundnut	5,738	11,654	+ 5,916
Condiments	5,710	5,809	+ 99
Cotton	1,159	4,324	+ 3,165
Podder	2,852	7,063	+ 4,211

The total estimated value of crops is shown as Rs. 3,19,36,821 against Rs. 1,93,80,733 in the previous year and Rs. 1,44,11,685 for the year 1916-17. But these estimated crop values must be regarded as only roughly approximate, there being no uniform method of estimating them.

18. In Statement I-E accompanying the Irrigation Administration Report for 1918-19 the duty of water on each work, as well as the basis on which the duties were calculated, etc., are shown. The results vary with the nature of the crops irrigated, perennial crops requiring much more water than cereals. To obtain a correct comparative result it is necessary to consider the area of each class of crop grown under the canals concerned. Statement G affords means for such a comparison.

DETAILED REPORTS BY LOCAL OFFICERS.

GUJARAT IRRIGATION DISTRICT.

MAJOR WORKS.

Works without storage and dependent on local rain.

(9) HATHMATI AND KHARI CUT CANALS.

19. The area irrigated, net assessment, average water rate and working expenses under these canals compare with the average of those of the three preceding years as under :—

Year.	Kharif.		Rabi.		Total.		Average water rate assessed per acre.	Working expenses.
	Acre.	Rs.	Acre.	Rs.	Acre.	Rs.		
Average of 3 years	5,722	32,813	2,267	5,524	7,989	88,337	4.30	43,232
1918-19	2,587	8,309	261	498	2,848	8,807	3.09	30,798

20. The miscellaneous revenue realized was Rs. 5,222 against Rs. 7,703 in the previous year. The decrease is due to the very small number of babul trees sold during the year.

21. The Remissions granted during the year amounted to Rs. 295.

22. The gross assessed revenue amounted to Rs. 14,029 and fell short of the working expenses by Rs. 16,769. This means a loss of 1.27 per cent. on the capital cost exclusive of interest and a loss of 4.5 per cent. including interest.

22A. The realizations amounted to Rs. 41,884 (against Rs. 33,330 for the last year) which though much less than those of the years 1913-14 and 1914-15, may be considered to be satisfactory, as there was almost a total failure of grain and other crops and scarcity throughout the Northern Gujarat owing to the rainfall being much below the average.

23. The rainfall gauged at Ahmednagar at the head of the Hathmati canal was 10.17 inches and 0.28 inch, respectively, in the kharif and rabi seasons, while at Raipur at the head of the Khari Cut Canal it was 8.46 inches and *nil* respectively.

MINOR WORKS AND NAVIGATION.

Works with storage tanks dependent on local rain.

24. The area irrigated, net assessment and working expenses under the Wangroli, Tranza-Nagrama, Savli, Saiat and Futelao tanks compare with the average of those of the previous three years as under :—

Tank.	Year.	Kharif.		Rabi.		Total.		Working expenses.
		Acre.	Rs.	Acre.	Rs.	Acre.	Rs.	
Wangroli...	Average of 3 years...	178	693	203	569	381	1,267	10,296
	1918-19	784	2,395	...	...	784	2,395	8,997
Tranza-Nagrama	Average of 3 years...	...	...	10	20	10	20	3,208
	1918-19	...	...	...	...	...	...	2,703
Savli	Average of 3 years...	232	921	314	634	547	1,555	6,750
	1918-19	281	1,387	...	...	281	1,387	8,519
Saiat	Average of 3 years...	1	3	49	199	49	201	6,997
	1918-19	107	603	...	...	107	608	4,854
Futelao	Average of 3 years...	...	...	53	145	53	145	2,309
	1918-19	18	85	...	...	18	35	2,907

(16) WANGROLI TANK.

25. The tank filled partially and the water was utilized in irrigating mainly the kharif crop and some hot weather crops. This year there was a large increase in the kharif irrigation due to scanty rainfall and careful distribution of the water available. There was no rabi irrigation owing to want of water.

26. The miscellaneous revenue amounted to Rs. 233 against Rs. 518 in the previous year. The decrease was due to scanty rainfall consequent on which the cultivation in the tank bed was restricted.

27. No remissions were granted during the year under report.

28. The rainfall gauged in the tank catchment was 8.31 inches during the year.

(17) TRANZA-NAGRAMA TANKS.

29. These tanks were empty owing to scanty rainfall and there was consequently no revenue. Some rabi cultivation was, however, done in the tank bed but the assessment is to be recovered in the year 1919-20.

30. The rainfall gauged at the Nagrama tank was 4.17 inches during the year and it was about the same at the Tranza tank.

(18) SAVLI TANK.

31. The tank filled partly and the supply was utilized in irrigating kharif and hot weather crops mainly rice, sundhia, juwari and fodder. There was no rabi irrigation during the year.

32. The miscellaneous revenue amounted to Rs. 115 against Rs. 235 in the previous year. Owing to scanty rainfall, there was no moisture in the tank bed and the cultivation therein was restricted.

33. No remissions were granted.

34. The rainfall gauged at the tank was 6.73 inches during the year.

(19) SAJAT TANK.

35. The tank filled partially and the storage was utilized in irrigating fodder crops. There was no rabi irrigation.

36. The miscellaneous revenue amounted to Rs. 148 against Rs. 292 in the previous year. The assessment of about Rs. 438 for the land let out for cultivation in the tank bed during the year under report still remains to be recovered, as the cultivators refuse to pay it, on the plea that their crops failed.

37. No remissions were granted during the year.

38. The rainfall gauged at the tank was 8.34 inches during the year.

(20) FUTELAO TANK.

39. Due to the scarcity of rain the tank did not fill and with the little water which was received, about 18 acres of land were irrigated in the kharif season which yielded a revenue of Rs. 35 only, there being no rabi irrigation under the circumstances stated above.

40. The miscellaneous revenue amounted to Rs. 107 against Rs. 160 in the previous year.

41. No remissions were granted.

42. The rainfall gauged at the tank was 12.34 inches during the year.

POONA IRRIGATION DISTRICT.

Works with Ghat Storage.

(4) NIRA CANAL AND SHETPHAL TANK.

43. The rainfall in the catchment of Lake Whiting as well as in the area commanded by the canal during the year under report (January to October 1918) was abnormally low, being less than half of the normal figure. The discharge from the catchment of Lake Whiting, viz., 128 square miles, was 17,622 million cubic feet which is equivalent to a run-off of 59.26 inches.

44. The level of water in Lake Whiting on 31st March 1919 was 45.20 feet above the sill of the under-sluices against 64.40 feet on the same date in the previous year. The lowest depth reached during the year was 53.45 feet on 20th May 1918, the corresponding contents being 1,145 million cubic feet.

45. The level in the lake began to rise from the 21st May 1918 but the replenishment received was so small during the months of May and June that upto 5th July, the level of water was below 60 feet. As there was also no appreciable replenishment in the Vir Basin, water continued to be drawn from the lake upto 20th July. The water level began to rise steadily from 21st July and reached the crest of waste-weir (75.00 feet) on 26th July. The full supply level of 83 feet was reached on the 9th September and was maintained for a period of only five days during the year under report. Owing to abnormally low rainfall the discharge of the Nira river fell rapidly and was found to be insufficient to meet the requirements of irrigation on 13th September when the lake had to be drawn upon. During the previous nine years the earliest date of draw-off was 4th October in 1911 and the latest 11th December in 1916.

46. The average discharge at the head of the Nira canal during the year was 3.1 cusecs.

47. Water in the Shetphal tank reached its lowest level, viz., 29.55 feet above the sill of outlet on the 23rd June 1918 when it began to receive replenishment from the Nira canal. The full supply level, viz., 37 feet, above sill of outlet was reached on 6th October 1918 and the water remained at this level only for four days. After this date the supply from the canal ceased and water being required for rabi irrigation, the level steadily fell.

48. The following table shows the area irrigated, water rates levied, gross assessed revenue, working expenses, etc., for the year as compared with the average of the past three years:—

Area irrigated.		Assesment.		Gross assessment.		Working expenses.		Realization.		Average rainfall of five stations.	
1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.
Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
54,642	39,846	6,33,805	4,00,172	6,40,393	4,69,825	1,24,378	1,49,991	2,16,188	4,91,814	16.85	33.27

49. The increase in the area irrigated was due to the very keen demand for canal water during both the monsoon and rabi seasons owing to the abnormally low rainfall.

50. The areas of sugarcane and other perennial crops on the Nira canal and Shetphal tank irrigated during 1918-19 and the last three years are given below:—

Year.	Area in acres.				
1918-19	11,736
1917-18	10,302
1916-17	8,879
1915-16	8,628

51. The figure for the year under report is the highest on record. The increase in area was due to a large surplus supply being available at the end of the rabi season of 1917-18, which enabled larger areas being sanctioned in the hot weather of 1918.

52. The total area irrigated on the Nira canal and Shetphal tank during the year was 54,642 acres against 34,451 acres in 1917-18.

53. The refunds of revenue given during the year under report amounted to Rs. 17 and the remissions sanctioned amounted to Rs. 157.

54. The cost incurred on measuring 54,642 acres of irrigated area amounted to Rs. 2,369 which gives a rate of over 8 pies per acre against 5½ pies per acre in 1917-18.

(8) NIRA RIGHT BANK CANAL PROJECT.

55. The canal which is now under construction will, when completed, be the largest work in the Deccan. A dam 160 feet in height is under construction on the Yelwandi river, which will hold up 24,300 million cubic feet of water, and it is anticipated that ultimately 1,13,800 acres will be irrigated from it.

56. The project comprises the following works :—

- (1) Building a new dam at Bhatghar.
- (2) Constructing a canal 109 miles long on the right bank.

LAKE WHITING (BHATGHAR) DAM.

57. The total quantity of masonry laid during the year was about 18 lakhs of cubic feet, the total quantity laid upto the end of March 1919 being about 56½ lakhs of cubic feet or about 28 per cent. of the total estimated masonry in the dam. The dam will probably be completed in the year 1928.

The construction of the Gunjawani bridge, which was started in 1917 was completed during the year under report.

RIGHT BANK CANAL.

58. The canal is designed to discharge 1,500 cusecs with 8 feet of water at its head and to be 109 miles in length.

59. To facilitate the construction of the canal, two districts have been formed, *viz.*, Lonand and Malsiras. The length of the canal from 0 to 88 miles is at present under construction and the state of the progress of the works on the canal is as given below :—

Earthwork.

60. Embankment in the whole length of 88 miles is very nearly completed except in the gaps left for the construction of masonry work. Excavation is also practically completed except in three miles where the cutting is in hard rock and very deep.

Masonry Works.

61. Out of the total number of 20 aqueducts, 88 culverts and 38 road-bridges on this canal, 1 aqueduct, 26 culverts and 11 road-bridges have been completed to end of 1918-19. During the year under report, 1 aqueduct, 8 culverts and 7 road-bridges were completed and 18 aqueducts, 34 culverts and 12 road-bridges were in progress. The masonry works under D-Regulators have not yet been taken in hand. A number of permanent buildings required in connection with the project have already been completed and a few are under construction.

General.

62. The expenditure on the dam and other works in the Lake Whiting District during the year was Rs. 7,36,014 and on construction works of the Right Bank Canal Rs. 6, 60,796. The total outlay on works only upto 31st March 1919 is about 42·85 lakhs on the dam and 73·08 lakhs of rupees on the canal.

(13) MUTHA CANALS INCLUDING MATOBA TANK.

63. The rainfall on the Mutha canals during the year was 14·58 inches and that on the Matoba tank was 5·13 inches as compared with the last year's rainfall, *viz.*, 31·97 and 22·21 inches, respectively.

64. The run-off during 1918 from the catchment of Lake Fife, *viz.*, 196 square miles, was 17,357 million cubic feet, which is equivalent to a run-off of 38·12 inches.

65. On the 1st of April 1918, the level of water in Lake Fife was 22·10 feet above sill of the canal sluices. The lowest water level was reached on 29th May 1918, when the depth was 14·22 feet against 10·78 feet, the lowest level in

the previous year on the 11th June 1917. The lake began to receive replenishment on 30th May 1918 and was filled to crest of waste-weir on 6th July 1918. The monsoon commenced favourably but proved a failure in the latter part of the season. The highest level reached was 32.90 feet on 31st August 1918 against the full supply level of 34 feet and the draw-off commenced the very next day, viz., 1st September 1918. The river discharge was also small. As a result of this combination of circumstances, the depth of water in Lake Fife on 31st March 1919 was only 12.83 feet against 22.14 feet during the previous year.

66. The discharge in the Matcha channel ceased on 30th April 1918 and the tank entirely dried up on 12th May and remained so upto 26th July 1918. A small replenishment was received on 27th July but water was available for irrigation only on 4th August 1918. The maximum level reached was 23 feet on the 5th of September against the full supply level of 29 feet. The tank finally dried up on 6th January 1919.

67. The following table shows the area irrigated, water rates assessed, gross assessed revenue, working expenses, etc., during the year as compared with the average figures for the past three years:—

Area irrigated.		Assessment.		Gross assessment.		Working expenses.		Realization.		Average rainfall of five stations.	
1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.
Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
17,213*	11,907	2,87,196	2,16,216	5,69,968	4,17,666	2,12,298	1,72,809	3,55,980	4,06,804	20.16	47.23

* Includes 28 acres and Rs. 52 indirectly irrigated and revenue derived therefrom.

68. The area actually under sugarcane during the year was 5,059 acres against 5,530 acres in 1917-18, 4,636 acres in 1916-17 and 3,929 acres in 1915-16.

69. The total area of all perennial crops irrigated during the year is compared below with the figures for the past three years:—

Year.	Area in acres.
1915-16	5,471
1916-17	5,981
1917-18	7,081
1918-19	6,882

70. The area of all crops irrigated during the year was the highest on record. The increase was due to a larger area of monsoon and rabi crops having been irrigated during the year owing to deficient rainfall. The increase in assessment was chiefly due to enhanced water rates sanctioned by Government. The increase in gross assessment was partly due to the above cause as well as to larger receipts from the Poona Water Supply.

71. The revenue derived during the year from water supplied to the Poona Cantonment and City is compared below with the figures of the past three years:—

Year.	Revenue.	
	Cantonment.	City.
	Rs.	Rs.
1915-16	1,53,330	11,609
1916-17	1,59,238	11,272
1917-18	1,82,745	24,500
1918-19	2,18,346	44,759

72. The working expenses for the Poona Water Supply and the Mutha Canals Proper for the year 1918-19 compare with the average of the past three years as under:—

	1918-19.	Average of past 3 years.
	Rs.	Rs.
Poona Water Supply	1,25,718	99,843
Mutha Canals	86,525	72,466
	2,12,233	1,72,309

73. The average daily supply of filtered water delivered into the Poona Water Supply mains for distribution during the year amounted to 2,124,812 gallons as against 1,847,290 gallons in 1917-18.

74. The loss of revenue on account of water supplied either gratis or at reduced rates to certain charitable and public institutions in the Poona Cantonment and suburban limits in accordance with Government orders amounted to Rs. 11,799 against Rs. 11,869 in 1917-18.

75. The actual cost of measuring the crops amounted to Rs. 1,200 and this gives a rate of 13 pies per acre for the year against 11 pies in 1917-18.

76. The refunds given during the year amounted to Rs. 172. The remissions for the year amounted to Rs. 493.

Storage Works dependent on local rain.

(27) KASURDI TANK.

77. The tank was dry upto 15th May 1918 when it received replenishment. It again dried on 3rd June, received another small replenishment on 20th June 1918 and finally became dry on 1st July 1918. There was practically no irrigation on it during the year. The highest level reached was 14.90 feet against 17.46 feet, the full supply level in 1917. The tank did not overflow during the year under report.

(28) SHIRSUPHAL TANK.

78. The lowest level, viz., 24.80 feet, was reached on 22nd May 1918 when the tank began to receive replenishment. The highest level reached during the year was 28.50 feet on 25th May 1918 against the full supply level of 31 feet. The supply in the tank was issued for monsoon and rabi irrigation and the tank finally dried up on 15th March 1919.

(29) BHADALWADI TANK.

79. The lowest level reached was 27.98 feet on 21st May 1918, when a little replenishment was received. The highest level reached was 29.40 feet on 24th May 1918 against the full supply level, viz., 35 feet. Water was issued for monsoon irrigation and the level went down to 18.65 feet on 14th September 1918. Further replenishment was received on the 15th September 1918 and the level rose to 25.15 feet on the 18th idem. The level again began to rise on 3rd October and reached 27.09 feet on 7th October 1918. The available supply was issued for rabi irrigation and the tank finally dried up on 23rd December 1918.

80. The following table shows the areas irrigated, water rates levied, gross assessed revenue, working expenses, etc., for these works during the year as compared with the average of the past three years:—

Name of Tank.	Area irrigated.		Assessment.		Gross assessment.		Working expenses.		Realization.		Rainfall.	
	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.
	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
Kasurdi	7	27	60	511	60	435	120	653	263	637	3.14	2.60
Shirsuphal	1,625	863	6,900	3,332	7,322	3,731	2,236	2,626	4,917	2,804	9.66	2.57
Bhadalwadi	1,330	1,016	7,178	4,296	7,425	4,406	2,791	2,556	3,907	5,127	14.43	24.42

The increase in area and assessment for the Shirsuphal and Bhadalwadi tanks during the year was due to scarcity of rainfall and consequent increase in the demand for tank water for irrigation.

MALSIRAS DISTRICT,

Storage Work with Deccan Catchment.

(5) MHASVAD TANK.

81. For replenishment this tank depends upon the local rainfall in its large catchment of 480 square miles. The depth of water in the tank on

1st April 1918 was 18.71 feet above the sill of canal sluices, the corresponding contents being 1,757.25 million cubic feet. Water was used for irrigation in the hot weather and the depth reached the minimum, viz., 16 feet with contents 1,385.84 million cubic feet, on 20th May 1918. The first replenishment was received on 21st May 1918 and the maximum depth reached was 20 feet with a supply of 1,948.37 million cubic feet. The depth was practically steady till about 1st June 1918 when it again commenced to fall. Replenishments were received chiefly during the months of May and September 1918. On 1st October 1918, the depth of water in the tank had gone down to R. L. 15.70 feet with the contents 1,346.45 million cubic feet and this was the only supply available for rabi irrigation.

82. The average rainfall recorded at five rain-gauge stations in the catchment of the tank from 1st June to 31st October 1918 was 5.09 inches, as compared with the average rainfall, viz., 14.57 inches of the last year.

83. The following table shows the area irrigated, water rates levied, gross assessed revenue, working expenses, etc., during the year as compared with the average of the past three years:—

Area irrigated.		Assessment.		Gross assessment.		Working expenses.		Realization.		Rainfall.	
1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.
Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
9,577	6,062	50,517	33,329	57,161	36,793	21,385	18,085	30,766	41,735	10.70	20.32

The increase in area and assessment was due to keener demand for water caused by low rainfall. The increase in gross assessment was partly due to the revenue realised by letting out land in the basin of the tank for cultivation.

84. The cost of measurement of crops during the year was 12½ pies per acre against 10 pies for the last year.

PRAVARA CANALS DISTRICT.

(a) Canals supplied by Ghat-fed river with storage works.

(3) GODAVARI CANALS PROJECT.

85. Lake Beale on the Darna river near Asvali station on the G. I. P. Railway is the storage falling under this head. This storage supplements the Nandur Madhmeshwar Lake, from which the Godavari Right and Left Bank Canals take off.

LAKE BEALE (DARNA DAM).

86. The lowest R. L. of the water in Lake Beale at the commencement of the monsoon was 36.40 feet above the sill of sluices on 21st June 1918 when the first replenishment was received. The lake filled to overflowing on 5th August 1918. The quantity of water available for irrigation was 8,819 million cubic feet, which represents the contents for a depth of 65 feet. The draw-off from the lake commenced on 24th October 1918. Fifteen acres of rabi crops were irrigated from the leakage water passing through the upper sluice gates. This was the first year in which water was issued directly for irrigation in the vicinity of the dam.

87. The area irrigated in the tank basin in the kharif and rabi seasons was 352 acres and the assessment derived therefrom amounted to Rs. 909 which is less by Rs. 601 than the last year's figure. The total gross assessed revenue from all sources amounted to Rs. 2,086 during the year under report against the last year's figure Rs. 3,119. The decrease in assessment was due to a smaller area in the lake basin having become available for cultivation during the year.

88. The run-off during 1918 from the catchment of Lake Beale (156 square miles) was 9,663 million cubic feet equivalent to a run-off of 26.65 inches and that from the catchment of Nandur Madhmeshwar lake, viz., 1,650 square miles, was 28,871 million cubic feet equivalent to a run-off of 7.53 inches.

GODAVARI CANALS.

89. The Godavari Right and Left Bank Canals form part of the Godavari Irrigation Project and are fed from Lake Beale reservoir on the Darna river which supplements the river supply. The whole lengths of both the Godavari Right and Left Bank Canals, viz., 70½ and 48 miles, respectively, and all distributaries thereunder which have already been completed were in operation during the year under report.

90. The designed discharges and full supply depths and gross area commanded are as under:—

Name of Canal.	Discharge.		Full supply depth.		Gross area.
	At head.	At tail.	At head.	At tail.	
	Cusecs.	Cusecs.	Feet.	Feet.	Acres.
Godavari Right Bank Canal...	384.00	114.41	7	5	144,510
Godavari Left Bank Canal ...	228.00	35.00	6	3	88,050

91. The following table shows the area irrigated, water rates levied, gross assessed revenue, working expenses, etc., for the canals during the year as compared with the average figures of the past three years:—

Name of Canal.	Area irrigated.		Assessment.		Gross assessment.		Working expenses.		Realization.		Rainfall.	
	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.
	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
Godavari Right Bank Canal.	22,320	15,494	2,86,492	1,60,718	5,6,547	2,94,442	1,98,979	1,44,743	2,18,021	2,12,107	8.15	25.67
Godavari Left Bank Canal.	17,614	4,388	2,08,203	62,621							8.15	25.10

92. The increase in the area irrigated and revenue was mainly due to keener demand for canal water caused by the scarcity of rainfall during the year under report.

93. The expenditure incurred during the year on the measurement of crops amounted to Rs. 2,868 which gives a rate of one anna per acre against 9 pies per acre for the last year.

PRAVARA RIVER WORKS PROJECT.

94. *Pravara River Works.*—This scheme consists of two canals and a very high masonry dam 270 feet in height, now under construction across the Pravara river in the western ghats at Bhandardara which will impound approximately 10,831 million cubic feet of water upto a height of 260 feet only for the present. The pick-up weir is situated near the village of Ojhar about 53 miles below the reservoir (Lake Arthur Hill) whence the Pravara Left and Right Bank Canals take off. The estimated cost of the whole project as revised is Rs. 1,27,04,607 and the anticipated net revenue is Rs. 5,33,500, giving a return of a little over 4.2 per cent. on the capital cost.

95. During the year under report, the masonry of the dam was raised from R. L. 2,307 to R. L. 2,333 throughout its length. A gap of 200 feet is left in the centre of the dam at R. L. 2,333 to allow the floods to pass over the central portion. Flank walls were raised on both banks for about half the width of the dam to a level 13 to 15 feet higher than the centre portion with cross walls upto the downstream face.

96. The quantity of masonry done in the dam during the year was about 12 lakhs cubic feet against 7 lakhs for the last year. This satisfactory result was due to the introduction of the scheme of selling cheap grain to the labour employed on the work. The total quantity of the work carried out up to the end of March 1919 was about 74½ lakhs cubic feet or about 56 per cent. of the total estimated masonry in the dam. The dam will probably be completed in 1923. Besides this, the excavation for the waste-weir and the flood embankment on the low saddle on the right bank of the Pravara river were in progress.

97. The total expenditure on works only during the year on this scheme was Rs. 6,15,215 as under:—

	Rs.
(1) Lake Arthur Hill Dam	4,33,958
(2) Pravara Right Bank Canal	20,741
(3) Pravara Left Bank Canal	1,60,516

98. The total expenditure on works from the commencement of the work to 31st March 1919 was Rs. 65,23,728.

99. The canals will irrigate a total area of about 75,000 acres in the Sangamner, Rahuri, Kopargaon and Nevasa Talukas of the Ahmednagar District.

(25) PRAVARA LEFT BANK CANAL.

100. The work of widening and extending the old canal, formerly known as the Ojhar Left Bank Canal, was started in 1910 and the earthwork and all the masonry works on the main canal have been completed. Continuous progress on the construction of the distributary system is maintained and the canal will be ready in all respects for all classes of irrigation by the time an adequate supply of water is available from the Bhandardara Storage under construction. The designed length of this canal is 48 miles.

(1) PRAVARA RIGHT BANK CANAL.

101. All the works on this canal have been completed including the distributaries. The construction of the tail channel and the Rahuri distributaries is nearing completion. Water for perennial irrigation can at present only be given without guarantee and this condition confines perennial irrigation to fields that have wells to fall back upon. The whole length of the canal, viz., 33 miles; was in operation, but the supply of water was inadequate and will remain so until water is available from Lake Arthur Hill at Bhandardara.

102. The designed discharges and full supply depths and gross areas commanded for the two canals are as under:—

Name of Canal.	Discharge.		Full supply.		Gross area commanded.
	At head.	At tail.	At head.	At tail.	
	Cusecs.	Cusecs.	Feet.	Feet.	Acres.
Pravara Right Bank Canal	152.62	81.79	5	3	73,763
Pravara Left Bank Canal	530.00	39.00	8	3	111,637

103. The following table shows the area irrigated, water rates levied, gross assessed revenue, working expenses, etc., during the year as compared with the averages of the past three years:—

Name of Canal.	Area irrigated.		Assessment.		Gross Assessment.		Working expenses.		Realization.		Rainfall.	
	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.
	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
Pravara Right Bank Canal.	7,064	3,201	17,731	12,901	18,434	13,758	80,865	22,956	15,243	14,973	12.91	31.66
Pravara Left Bank Canal.	2,235	1,510*	4,527	4,390*	5,068	5,085	16,366	6,833	7,461	4,040	12.91	31.66

* Note.—Represents average of the past two years, as in 1916-17 the Pravara Left Bank Canal was closed for widening and extension.

104. The increase in the area and assessment was due to keener demand for water caused by scarcity of rainfall during the year under report.

105. No refunds or remissions were given during the year under report.

106. The cost incurred during the year on the measurement of crops amounted to Rs. 315½ which gives a rate of 6½ pies per acre against 6½ pies per acre for the last year.

(b) Works without storage but on a river with Ghat Catchment.

(12) LAKH CANAL.

107. This canal draws its supply from the Pravara River, just where it is crossed by the Dhond Manmad Railway line near Lakh village. The canal is dependent on the flow in the Pravara river and receives such water as is not required by the Pravara canals and the supply runs short after October. The water supply is usually insufficient to meet the demands of the irrigators after October and such proved to be the case this year. Had water been available the areas irrigated would probably have been quadrupled. The gross area under command is 29,913 acres and the designed discharge 127 cubic feet per second. This canal has not been a financial success and does not even pay its working expenses owing to poor supply and bad alignment. It is to be abandoned immediately on the completion of the Pravara Left Bank Canal which commands the land under the former. This canal is a single bank canal, cross drainage being dealt with by escapes.

108. The following table shows the area irrigated, water rates assessed, gross assessed revenue, working expenses, etc., during the year under report as compared with the average figures of the past three years:—

Area irrigated.		Assessment.		Gross Assessment.		Working expenses.		Realization.		Rainfall.	
1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.
Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
963	576	1,673	1,010	2,277	1,965	3,123	2,668	2,166	2,021	14.29	28.28

109. The increase in the area and assessment during the year was due to scarcity of rainfall.

110. The cost of measurement of crops during the year was 9 pies against 6 pies per acre for the last year.

NASIK IRRIGATION DISTRICT.

(a) Canals supplied by Ghat-fed river with storage work.

(2) CHANKAPUR TANK—GIRNA LEFT BANK CANAL.

111. The Chankapur Tank on the Girna River is the storage for the Girna Left Bank Canal. The tank has been in use since 1909-10. On 1st April 1918, the depth of water in the Chankapur tank above the sill of outlet was 79.44 feet. The contents of the tank at this level are 918.68 million cubic feet. The depth fell to 38.30 feet which was the lowest reached during the year 1918-19 on 5th July 1918, the corresponding contents being 152.34 million cubic feet. Regular replenishment began to be received from 6th July 1918 and the depth rose on 25th August to 90.60 feet which is only 1.40 feet lower than the full supply depth.

112. The waste weir gates were opened only once during the season owing to the peculiar character of the year as regards rainfall. There was a keen demand for canal water and the draw-off commenced on 2nd November 1918.

The supply was also used for feeding the existing bandharas on the Girna river. The tank supply actually not required for irrigation on the Girna Left Bank Canal was let out to supplement the supply to the Jamda Canals in the East Khandesh District at the request of the Executive Engineer of that district. The depth of water in the tank on 31st March 1919 was 72.26 feet, the corresponding contents being 677.68 million cubic feet.

113. The **run-off** during the year from the catchment of Chankapur tank, *viz.*, 100 square miles, was 1,346 million cubic feet equivalent to a run-off of 5.79 inches.

114. The following table shows the **area irrigated, water rates levied, gross assessed revenue, working expenses, etc.**, during the year as compared with the average of the past three years:—

Area irrigated.		Assessment.		Gross Assessment.		Working Expenses.		Realization.		Mean rainfall of two stations.	
1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.
Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches	Inches.
4,495	2,340	21,017	12,420	21,147	12,668	23,676	20,082	20,422	10,451	32.80	57.43

115. The **refunds** given during the year amounted to Rs. 4 only and there were no **remissions**.

116. The **cost of measuring the irrigated area** of 4,495 acres was Rs. 440 which gives a rate of one anna and seven pies against one anna and three pies per acre for the last year.

117. The area irrigated in excess of the Kayam Bagayat area by the Dabhadhi and Patna bandharas on the Girna river was 48 acres and the assessment was Rs. 254 against the previous year's figures 75 acres and Rs. 339 respectively.

(11) KADWA RIVER WORKS.

118. The Waghad tank is situated on the Kolwan river and supplements the river supply to the Palkhed and Ojhar Tambat canals, which are fed by the Kadwa river and its tributary the Kolwan river. On 1st April 1918, the Waghad tank contained 40.70 feet of water representing 398.14 million cubic feet. The water level continued to fall until 29th June 1918, when the level was 28.70 feet above the sill of outlet, the corresponding contents being 179.12 million cubic feet. The tank began to receive regular replenishment from 1st July 1918 and the level rose to the waste weir sill on 4th August 1918. The overflow continued up to 24th August 1918, the maximum depth of flood above the sill of the waste weir being 7.30 feet on 21st August 1918. The automatic waste-weir gates were finally closed with canvas strips on 20th September 1918, water being stored upto R. L. 124.30 or 44.30 above the sill of outlet representing a storage of 490.80 million cubic feet. The tank supply was very carefully distributed and thus made to suffice for the irrigation on this system. The regular draw-off for irrigation commenced on 8th October 1918. The depth of water in the tank on 31st March 1919 was 16 feet representing a volume of 54.91 million cubic feet. There was a very keen demand for canal water during both the seasons owing to scarcity of rainfall.

119. The **run-off** during the year 1918 from the catchment of the Waghad tank, *viz.*, 29 square miles, was 1,675 million cubic feet, which is equivalent to a run-off of 24.86 inches.

120. No **remissions** or **refunds** were given during 1918-19.

121. The following table shows the **area irrigated, water rates levied, gross assessed revenue, working expenses, etc.**, for the

under-mentioned canals during the year as compared with the average of past three years :—

Name of Work.	Area irrigated.		Assessment.		Gross Assessment.		Working Expenses.		Realization.		Mean rainfall of 2 stations.	
	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.
	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
Waghad Tank ...	...	...	...	...	728	537	5,306	3,176	729	543		
Falkhad Canal ...	2,470	2,168	20,748	16,178	23,319	18,150	20,431	10,067	24,177	18,708		
Ojhar Tambat Canal.	980	937	9,133	6,381	9,268	7,063	1,950	1,925	11,325	6,327	30.72	62.23
Wadali Canal ...	1,245	856	2,313	2,598	9,660	2,731	2,448	1,516	6,590	2,097		

The increase in the area irrigated under this system as well as under the Girna Left Bank Canal (*vide supra*) during the year under report was due to larger demand for water caused by the absence of rainfall during both the seasons, and the figures of revenue are record ones in the history of these canals.

122. The actual cost of measuring the crops amounted to Rs. 153 which gives a rate of 6 pies per acre against 10 pies for the previous year.

(b) Storage Works with Deccan Catchment.

(24) PARSUL TANK.

123. This is a small tank built on the Parsul river with a capacity at full supply level of 118.7 million cubic feet and depends solely on local rain for its supply which is generally sufficient for the monsoon season and a part of the rabi season. The tank was completely dry from June 1918 owing to there being no run-off whatsoever during the year under report.

124. The small area irrigated during the rabi season was fed by the flow in tributary nalas of the Parsul river below Umrana village.

125. The following table shows the area irrigated, water rates levied, gross assessed revenue, working expenses, etc., of the year as compared with the average figures for the previous three years :—

Area irrigated.		Assessment.		Gross assessment.		Working Expenses.		Realization.		Rainfall.	
1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.
Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Inches.	Inches.
555	1,061	1,530	5,201	1,621	5,308	3,131	3,943	4,674	5,494	3.77	18.09

126. No remissions or refunds were sanctioned during the year under report:

127. The actual cost of measuring the crops was Rs. 50 for an irrigated area of 555 acres which gives a rate of one anna and five pies per acre against two annas and two pies per acre for the last year.

SHOLAPUR DISTRICT.

Storage Works with Deccan Catchment.

128. The area irrigated, gross assessed revenue and working expenses during the year for the four tanks with Deccan catchment situated

in the Sholapur District are given below in comparison with the averages for the three preceding years—

Name of Tank.	Area irrigated.		Gross assessed revenue.		Working expenses.	
	During 1918-19.	Average of past 3 years.	During 1918-19.	Average of past 3 years.	During 1918-19.	Average of past 3 years.
	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.
1. Ekruk	4,804	2,250	1,23,387	89,502	21,994	14,567
2. Koregaon	250	518	1,819	3,013	5,088	2,640
3. Ashti	5,698	2,601	36,272	17,878	6,134	6,361
4. Pathri	1,436	1,171	6,934	5,944	1,789	2,484

129. Except in the case of the Koregaon tank there was an increase in the area irrigated and gross revenue assessed as compared with the average of the past three years. This was due to a general failure of rain and the greater demand for canal water. The decrease under Koregaon tank was due to insufficient storage and consequent inability to meet the ordinary full demands. Water was issued freely to some lease-holders for fodder and food crops under the Ekruk tank.

(14) EKCRUK TANK.

130. At the beginning of the year there was a storage of 2,631.17 million cubic feet in the tank, corresponding to the level of 35.35 feet above the outlet of the perennial canal. The water level then went down gradually till it reached the level of 33.67 feet on 15th May 1918, representing a volume of 2,353.56 million cubic feet. Replenishment of about 1.70 feet was received between 15th and 31st May 1918 and again 1 foot between 20th and 29th September 1918. Thereafter, the tank level went down gradually until it reached 24.82 feet over the lowest outlet on the 31st March 1919, the corresponding contents being 1,219.46 million cubic feet. The waste-weir did not overflow this year. The mean rainfall gauged at the six stations in the tank catchment of 159 square miles from 1st June 1918 was 8.41 inches. The total replenishment received in the tank was 252.93 million cubic feet, and the proportion of run-off to rainfall was 8 per cent. only.

(30) KOREGAON TANK.

131. The tank had 9.51 feet of water over the sill on the 1st April 1918; the corresponding storage being 56.62 million cubic feet. The water level then fell gradually. Replenishment of 14 million cubic feet only was received in the middle of September 1918 and the tank became dry on the 1st December 1918. The rainfall gauged at Koregaon from 1st June 1918 to 31st October 1918 was 7.99 inches which gave only 14 million cubic feet of replenishment, the proportion of run off to rainfall over the catchment of 7 square miles being thus 11 per cent.

(31) ASHTI TANK.

132. The water level on the 1st April 1918 was 19.08 feet above the sill, representing a storage of 1,021.77 million cubic feet. The first replenishment was received in May 1918 and the second in about the middle of September 1918. The total replenishment received during the year was 284.30 million cubic feet. The water level then gradually fell to 11.92 feet at the end of the year. The mean rainfall at the two stations in the catchment of 92 square miles was 11.79 inches, giving a replenishment of 284.30 million cubic feet, the proportion of run-off to rainfall being therefore 11 per cent. The waste-weir did not overflow this year.

(32) PATHRI TANK.

133. The water level was 28.27 feet above the sill on the 1st April 1918, representing a storage of 315.99 million cubic feet. Replenishment of 49.66 million cubic feet only was received in September 1918. The tank

level gradually fell to 15.90 feet at the end of the year. The waste-weir did not overflow in this case also. The mean rainfall gauged at the two stations in the catchment of 27.50 square miles from 1st June 1918 to 31st October 1918 was 8.60 inches which gave a total replenishment of 49.66 million cubic feet; the proportion of run-off to rainfall was thus 9 per cent.

AHMEDNAGAR DISTRICT.

Storage Works with Deccan Catchment.

(26) BHATODI TANK.

134. The tank is a small one situated on the Mehekari river about 12 miles from Ahmednagar, having a capacity of 92.70 million cubic feet and depending solely on local rain for its supply, which generally suffices for the monsoon and a part of the rabi season. The total rainfall during the year was 14.93 inches only as against 34.96 inches, the average of the past triennium. Owing to scanty rainfall there was, naturally, a great demand for the supply of water from the tank which could not be fully met owing to insufficient storage, particularly in the rabi season. The water level in the tank on 1st June 1918 was 92.60 and the tank was dry on 20th December 1918. The waste weir did not come into operation at all during the year. There were famine conditions prevailing in this district due to deficiency of rainfall.

135. The area irrigated, gross assessment and working expenses are given below in comparison with the averages of the preceding three years:—

Area irrigated.						Total gross assessment from all sources.		Working expenses.	
Kharif.		Rabi.		Total.		1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.
1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.	1918-19.	Average of past 3 years.				
1	2	3	4	5	6	7	8	9	10
Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.
431	56	909	812	1,340	868	11,906	7,663.	3,554	4,170

EAST KHANDESH DISTRICT.

(a) Works without storage but on a river with Ghat Catchment.

(23) JAMDA CANALS.

136. The source of supply is the Girna river, supplemented from time to time by water from the Chankapur tank. On the 1st April 1918, the discharge of the river Girna which feeds the Jamda canals was 113.88 cusecs and the next highest discharge during the year under report was 100.50 cusecs on 20th June 1918.

137. The subjoined statement shows the area irrigated compared with the average of the preceding three years, and the corresponding assessment and working expenses:—

Area irrigated.						Assessment.						Gross assessed revenue.		Working expenses direct and indirect.	
Kharif.		Rabi.		Total.		Kharif.		Rabi.		Total.		1918-19.	Average of the 3 preceding years.	1918-19.	Average of the 3 preceding years.
1918-19.	Average of the 3 preceding years.	1918-19.	Average of the 3 preceding years.	1918-19.	Average of the 3 preceding years.	1918-19.	Average of the 3 preceding years.	1918-19.	Average of the 3 preceding years.	1918-19.	Average of the 3 preceding years.				
Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
4,547	626	1,296	941	5,843	1,637	13,711	5,573	4,892	2,713	18,543	6,284	19,802	12,307	12,348	12,270

133. It will be seen that there were considerable increases under area irrigated and assessed revenue. On the other hand there was a slight decrease under working expenses.

139. The cost of crop measurements per acre irrigated was 5.47 pies as against 6.17 of the previous year.

140. It is interesting to note that the cultivation of sugarcane has appreciably increased on this system during the past 5 years. It is essential to have a storage reservoir to make these canals remunerative.

(b) Storage Works with Deccan Catchment.

(21) HARTALA TANK.

141. On the 1st April 1918 the storage in the Hartala tank was 75.37 million cubic feet which decreased to 40.50 million cubic feet on 29th June 1918 after which date replenishment began to arrive. The maximum contents were 43.65 million cubic feet on 6th July 1918 and the tank dried up on 1st February 1919 at a time when canal water was most needed for the maturity of rabi and 8 months' crops. The rainfall was 13.26 inches during the year as against 36.04 inches of the previous year. The year's low rainfall has had a very depressing effect on the irrigation under the tank especially on the growing of sugarcane which had gradually increased during recent years. It will again take some time to revive the confidence of the people about the sufficiency of canal water for hot weather and perennial crops and to set matters right.

(22) MHASWA TANK.

142. The storage in the Mhaswa tank on the 1st April 1918 was 83.57 million cubic feet which decreased to 60.27 million cubic feet on 23rd May 1918 when the tank received some replenishment. The tank did not overflow during the year and dried up soon after the 20th February 1919. The rainfall during the year was 16.74 inches against 30.98 inches during the previous year.

143. The area irrigated during the year on the Hartala and Mhaswa tanks compared with the average of the three preceding years and corresponding assessment and working expenses are given in the statement below: -

Name of Tank.	Area irrigated.						Assessment.						Gross assessed revenue.		Working expenses.	
	Kharif.		Rabi.		Total.		Kharif.		Rabi.		Total.		1918-19.	Average of the 3 preceding years.	1918-19.	Average of the 3 preceding years.
	1918-19.	Average of the 3 preceding years.	1918-19.	Average of the 3 preceding years.	1918-19.	Average of the 3 preceding years.	1918-19.	Average of the 3 preceding years.	1918-19.	Average of the 3 preceding years.	1918-19.	Average of the 3 preceding years.				
	9	8	4	5	6	7	8	9	10	11	12	13	14	15	16	17
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Hartala ...	197	21	164	63	361	84	644	164	355	131	999	295	2,439	1,233	4,247	1,061
Mhaswa ...	296	66	374	361	670	427	669	166	875	785	1,564	951	2,862	2,637	1,931	2,080

144. The increase in the area irrigated and gross assessed revenue over the average of the preceding three years is due to the unexpected and extraordinary demand for canal water that was experienced in both the monsoon and rabi seasons owing to the persistent holding off of the rains in the middle of July and August, when water was most needed to mature the monsoon crops.

145. The increase in working expenses of the Hartala tank is due to the expenditure of Rs. 2,763 incurred on the Public Works Department Store during the year against Rs. 375, the outlay of the previous year.

146. The cost of crop measurements per acre irrigated on the Hartala and Mhaswa tanks was 15.31 and 12.78 pies respectively.

WEST KHANDESH DISTRICT.

Works depending on river supply from Ghat Catchment supplemented by a tank with a Deccan Catchment.

(10) LOWER PANJHRA RIVER WORKS.

147. The source of supply of these works is the river Panjhra, which is supplemented by the Mukti tank storage, when the former falls short of requirements. The year commenced with a storage of 252·82 million cubic feet of water in the Mukti tank, which after meeting the requirements of hot weather crops dwindled to 214·13 million cubic feet on 14th June 1918. Owing to the scanty rainfall during the year, viz., about 8·40 inches in the tank area practically no replenishment was received during the whole rainy season. The storage in the tank diminished day by day and the tank ran dry during the month of March 1919.

148. The following table shows the area irrigated during the year, the assessment and the working expenses, compared with the average of the past three years:—

	Area irrigated.						Assessment.						Revenue from other sources.		Working expenses.	
	Kharif.		Rabi.		Total.		Kharif.		Rabi.		Total.		13	14	15	16
	1018-19.	Average of the past 3 years.	1018-19.	Average of the past 3 years.	1018-19.	Average of the past 3 years.	1018-19.	Average of the past 3 years.	1018-19.	Average of the past 3 years.	1018-19.	Average of the past 3 years.				
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16
LOWER PANJHRA RIVER WORKS.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Mukti Tank.																
Patasthal Lands.	1,197	1,337	617	415	1,814	1,613	6,231	7,141	2,118	1,909	8,349	8,350	—	—	—	—
Jirayat Lands.	330	145	370	723	700	67	1,475	623	2,547	2,036	4,265	2,559	2,450	2,065	4,235	7,810
Total	1,527	1,542	987	1,137	2,514	2,679	7,706	7,764	4,665	4,145	12,674	11,909	2,450	2,065	4,235	7,810

149. The total area under patasthal was almost the same, but under dry crop land it was less than that of the previous year, as well as the average of the past three years due to scanty rainfall and the consequent insufficient water supply in the Mukti tank during the year under report.

150. The slight increase in "revenue from other sources" was due to unauthorised cultivation by several irrigators who were consequently charged double.

151. The cost of measurements of land irrigated during the year amounted to Rs. 2-11-3 which gives a rate of two annas and one pie per acre.

SATARA DISTRICT.

Supply—River with Ghat Catchment.

(15) KRISHNA CANAL.

152. The improvements proposed to the weir with a view to increase the storage capacity were postponed owing to the abnormal increase in the prices of iron, etc., required for the work.

153. The area irrigated during the year was 8,127 acres and assessment Rs. 84,774 as against 3,504 acres and Rs. 70,489 of the previous year and 3,442 acres and Rs. 70,049, the average of the previous three years. Though the irrigated area is more than double that of the last year, the increase in assessment is only Rs. 14,285, which is not commensurate with the increase in the area irrigated, the reason being that the increase is mostly made up of

four months monsoon crops which are assessed at low rates. The total failure of rainfall during the year under report accounts for the increase in both the irrigated area and the assessment.

154. The working expenses including direct and indirect charges amounted to Rs. 15,437 or Rs. 1.90 per acre against Rs. 17,518 or Rs. 5 per acre of the previous year and Rs. 4.7 the average of the past triennium.

155. The operations of the year showed a net profit of Rs. 69,928 against Rs. 55,640 of the previous year and Rs. 59,797, the average of the previous three years.

156. The monsoon having failed the water in the canal dwindled to almost nothing towards the end of the year. The supply in the river at Umbraj as gauged in the beginning of April 1918 was 61 cusecs. It increased suddenly to 3,933 cusecs on 15th May 1918 and reached its maximum on the 22nd August 1918 when it measured 20,305 cusecs. The supply began to fall off gradually during the following months with the result that it was found to be 35 cusecs at the end of December 1918 and only 6.44 cusecs at the end of March 1919. On the last day of the year, however, *i. e.*, on the 31st March 1919 the tank received some replenishment.

Works with Deccan Catchment.

(33) REWARI CANAL.

157. This canal takes off direct from the river Vasna. It has no storage and is dependent on the local rains for its supply. The rainfall gauged at Rewari during the year was much less than that of the previous year and the average of the last ten years.

158. The supply of water at the canal head as gauged in April 1918 was 4.68 cusecs and it ceased to flow in May.

159. The area irrigated during the year was 461 acres and the assessment Rs. 2,534 against 721 acres and Rs. 4,976 of the previous year and 847 acres and Rs. 5,501, the corresponding averages of the previous three years. The net profit of the year after deducting the working expenses both direct and indirect amounting to Rs. 1,861 was only Rs. 906 against Rs. 3,897 of the previous year and Rs. 4,093, the average of the previous triennium.

(34) UPPER MAN RIVER WORKS.

160. This system consists of a tank at Pingli with canals on its right and left banks. The supply in the tank at the beginning of the year was very scanty being only 42.46 million cubic feet. This supply gradually decreased till the tank went dry on 22nd May 1918. The first replenishment of 24.44 million cubic feet of water was received on 22nd May 1918 and the second of 37.67 million cubic feet on the 25th May 1918. This was the maximum quantity of water in the tank during the whole year. From the above date the level of water began to fall owing to the draw-off for irrigation till 31st December 1918 when the tank again went dry.

161. The area irrigated and the assessment of the year were 1,109 acres and Rs. 5,573, respectively, against 852 acres and Rs. 4,354 of the previous year and 809 acres and Rs. 3,769, the corresponding averages of the previous three years.

162. The working expenses amounted to Rs. 3,409 against Rs. 2,233 of the previous year and Rs. 2,415, the average of the past three years.

163. The operations of the year resulted in a net profit of Rs. 2,318 against Rs. 2,264 of the previous year and Rs. 2,415, the average of the past three years.

(35) YERLA RIVER IRRIGATION WORKS.

164. This is one of the canals in the Satara District having a storage reservoir. The system consists of the Nehr tank having a canal $8\frac{1}{2}$ miles

in length starting from the right bank of the river Yerla and two other canals known as the Yerla right bank and the Yerla left bank canals which take off from a pick-up-weir across the river at Khatgun.

165. The level of water in the Nehr tank at the beginning of the year was at R. L. 2,659.92 and contained 301 million cubic feet of water. This quantity was used for irrigation purposes till the tank almost went dry on 29th March 1919. Only very small replenishments were received in the months of May and September 1918. The balance of water at the end of the year, that is, on 31st March 1919 was at R. L. 2,639.8 equal to 28 million cubic feet and making allowance for silt deposit the volume of water available was very little or practically *nil* as against 301 million cubic feet on the same date of the previous year.

166. The area irrigated and the assessment were respectively 4,496 acres and Rs. 22,636 against 3,010 acres and Rs. 16,529 of the previous year and 3,173 acres and Rs. 15,452, the average figures of the past three years.

167. The working expenses including the direct and indirect charges amounted to Rs. 9,344 against Rs. 9,191 of the previous year and Rs. 9,985, the average of the previous three years.

168. The net profit of the year was Rs. 13,800 against Rs. 8,899 of the previous year and Rs. 6,744, the average of the previous three years.

(36) CHIKHLI CANAL.

169. This canal is without a storage and takes off direct from the river. In the year under report the river owing to absence of rain was dry from 16th August 1918 to the end of the year with the exception of some days in the month of November 1918, when some rain fell in the catchment and a freshet occurred. The supply in the river as gauged in April 1918 was practically *nil*. The river began to flow from 8th May 1918 and reached its maximum in the middle of May 1918 when it measured 134 cusecs. The supply decreased suddenly and stood at 2 cusecs on 27th June 1918. The supply went on decreasing until the river became dry on the 16th August 1918.

170. The area irrigated and the assessment were respectively 174 acres and Rs. 1,068 against 293 acres and Rs. 2,623 of the previous year and 239 acres and Rs. 2,152, the average of the previous three years.

171. The working expenses including direct and indirect charges amounted to Rs. 788 against Rs. 888 of the last year and Rs. 842, the average of the previous three years.

172. The operations of the year showed a net profit of Rs. 280 against Rs. 1,762 of the last year and Rs. 1,805, the average of the previous three years.

(37) MAINI TANK.

173. The Maini tank canal derives its supply from a large nalla that falls into the river Yerla in the southern portion of the Khatao taluka. The water supply in the tank at the beginning of the year was 22.33 million cubic feet. It began to decrease gradually till the level of water in the tank went down to R. L. 2,295.07 with a supply of 7.91 million cubic feet. Then the tank received some replenishment and the supply increased to 114.90 million cubic feet on 31st May 1918.

174. The area irrigated and the assessment during the year were 2,276 acres and Rs. 9,055 against 1,833 acres and Rs. 8,769 of the previous year and 1,692 acres and Rs. 7,445, the average of the previous three years.

175. The working expenses direct and indirect amounted to Rs. 5,226 against Rs. 2,921 of the previous year and Rs. 2,959, the average of the previous three years.

176. The net profit of the year was Rs. 4,000 against Rs. 5,874 of the last year and Rs. 5,032, the average of the previous triennium.

BIJAPUR DISTRICT.**Deccan Catchment.****(38) MUCHKUNDI TANK.**

177. The Muchkundi tank is the only first class work in the Bijapur District. The supply in the tank is not reliable owing to insufficient catchment and scanty rainfall.

178. During the year under report there were no applications for water for non-perennial crops though under Government Resolution No. A.I.—3685, dated 27th March 1914 water is allowed free of charge for such crops. Consequently no water rates were realized.

179. The miscellaneous receipts from grazing rights and leasing the bed of the tank for cultivation, etc., amounted to Rs. 3,009.

180. The working expenses during the year amounted to Rs. 1,868 against Rs. 207 of the previous year and Rs. 222, the average of the previous three years.

181. The result of the year's operations was a net profit of Rs. 1,141 against Rs. 424 of the last year and Rs. 549, the average of the previous three years.

BELGAUM DISTRICT.**Ghat Catchment.****(39) GADIKERI TANK.**

182. The management of this tank is in the hands of the Revenue Department.

183. The area irrigated during the year was 377 acres and the irrigation share of the consolidated assessment amounted to Rs. 2,061.

184. The working expenses amounted to Rs. 413 against Rs. 344 of the previous year and Rs. 342, the average of the previous three years.

185. The year's operations resulted in a net profit of Rs. 1,648 as compared with Rs. 1,717 of the previous year and Rs. 1,719, the average of the previous three years.

(40) GOKAK CANAL, FIRST SECTION, AND STORAGE WORKS.**(Ghat catchment.)**

186. This canal is the most important of the first class Minor works in the Southern Division. The Irrigation system consists of a masonry weir across the Ghataprabha river at Dhupdal in the Belgaum District with a short length of canal taking off from the reservoir.

187. The Dhupdal reservoir reached its lowest level on the 15th May 1918, when it stood at 18 feet above the outlet sill. The tank thereafter received replenishment. Owing to the scanty rainfall during the year the flow in the river was not very large for any length of time. The maximum level reached was 24.20 feet on the 18th August 1918 when 2.14 feet of water passed over the permanent crest of the weir which is at R. L. 2,008.06. This flood is estimated at 40,470 cusecs which is equal to a run-off of .06 inch per hour from the whole catchment area which is 1,080 square miles.

188. The weir crest 2,985 feet in length was temporarily raised by 2 feet at a cost of Rs. 1,296 to impound additional storage of water. In spite of scanty rainfall full storage upto the crest of the raised weir was obtained. Generally this level is maintained nearly for two months but in the year under report owing to scanty rainfall and consequent low discharges in the river it could not continue even for a week.

189. The area irrigated and the assessment during the year were 9,035 acres and Rs. 46,686 against 6,541 acres and Rs. 33,786 of the previous year and 5,148 acres and Rs. 27,567, the average of the previous three years.

190. The working expenses including direct and indirect charges amounted to Rs. 11,779 against Rs. 13,745 of last year and Rs. 11,976, the average of the previous three years.

191. The net profit of the year was Rs. 54,758 against Rs. 38,691 of the previous year and Rs. 33,564, the average of the last three years.

DHARWAR IRRIGATION DISTRICT.

Works with Deccan Catchment.

(41) DAMBAL TANK.

192. In spite of poor rainfall during the year, the tank filled twice and the storage was more than sufficient to admit of extra irrigation under the tank and at the same time to keep in reserve a sufficient quantity for the area under consolidated assessment.

193. The area (not under consolidated assessment) irrigated and the water rates assessed were respectively 230 acres and Rs. 1,066 against 153 acres and Rs. 952 of the previous year and 111 acres and Rs. 558, the average of the previous three years. The area under consolidated assessment was 144 acres and the irrigation share of revenue was Rs. 916.

194. The working expenses during the year were Rs. 2,273 against Rs. 900 of the previous year and Rs. 1,144, the average of the previous three years. The increase is due to the expenditure on account of special repairs, etc., carried out to the tank during the year.

195. The net profit of the year was Rs. 379 against Rs. 1,311 of the previous year and Rs. 739, the average of the previous three years.

(42) MEDLERI TANK.

196. On the 1st April 1918 the water level in the tank was 7.35 above the outlet sill. The tank did not receive much replenishment during the monsoon and the waste-weir did not overflow but still a sufficient supply of water was maintained throughout the year.

197. The unconsolidated area irrigated and the water rates assessed were respectively 55 acres and Rs. 682 against 73 acres and Rs. 624 of the previous year and 65 acres and Rs. 551, the average of the previous three years.

198. The working expenses were Rs. 602 against Rs. 832 of the previous year and Rs. 871, the average of the previous three years.

199. The net profit of the year was Rs. 667 against Rs. 22 of the last year.

(44) ASUNDI TANK.

200. On the 1st April 1918 the water level in the tank was 4.78 feet above the actual bed of the tank. The tank did not receive much replenishment during the monsoon nor did the waste-weir overflow although it maintained a continuous and sufficient supply of water throughout the year.

201. The unconsolidated area irrigated and the water rates assessed during the year were respectively 139 acres and Rs. 711 against 130 acres and Rs. 676 of the last year and 137 acres and Rs. 686, the average of the previous three years. The area irrigated under consolidated assessment was 190 acres and the irrigation share of revenue was Rs. 687.

202. The working expenses during the year were Rs. 612 against Rs. 920 of the last year and Rs. 1,059, the average of the previous three years.

203. The operations of the year resulted in a net profit of Rs. 1,723 against Rs. 538 of the last year and Rs. 537, the average of the previous three years.



Ghat Catchment.

(43) MADAG TANK.

204. On the 1st April 1918 the water level in the tank was 4.50 feet above the sill of the outlet. The tank received its first replenishment on the 12th May 1918 and the water level gradually rose until the waste-weir overflowed on the 21st May 1918. The water supply in the tank was sufficient throughout the year for irrigation of the lands under it.

205. The unconsolidated area irrigated and the water rates assessed during the year were respectively 896 acres and Rs. 2,552 against Rs. 587 acres and Rs. 2,422 of the previous year and 557 acres and Rs. 2,272, the average of the previous three years.

206. The working expenses including the direct and indirect charges were Rs. 1,211 against Rs. 1,609 of the last year and Rs. 1,822, the average of the previous three years.

207. The net profit of the year was Rs. 1,713 against Rs. 1,066 of the last year and Rs. 768, the average of the previous three years.

Forest Catchment.

(45) MAVINKOP TANK.

208. There is no rain-gauge situated in this catchment. There was in the tank 8.5 feet of water above the sill level of the outlet at the beginning of April 1918. As there was no rainfall there was no replenishment during the year. The water available in the tank was used for irrigation purposes during the monsoon and as the consumption was great, the water level went down rapidly until the end of November 1918 when very little water was left in the tank. There was no water available for the cultivation of sugar-cane which is usually grown from December 1918 to March 1919.

209. The whole of the irrigated area (577 acres) is assessed at consolidated rates and the irrigation share was Rs. 2,279.

210. The working expenses amounted to Rs. 528 against Rs. 644 of the previous year and Rs. 1,212, the average of the previous three years.

211. Deducting the working expenses from the gross revenue of the year, viz., Rs. 2,279 the net profit of the year was Rs. 1,751 against Rs. 1,600 of the previous year and Rs. 1,032, the average of the past three years.

Ghat Catchment.

(46) DHARMA CANAL.

212. The only work of importance in progress in the Dharwar Irrigation District during the year was the improvement to the Dharma Canal. It was commenced in 1910. With the exception of a few outlets the work has been completed. The work of constructing outlets is now in progress. When the whole work is completed the efficiency of the canal and the area under irrigation are expected to increase.

213. Water was admitted into the canal on the 24th June 1918 and the canal ceased to flow on the 1st December 1918. Owing to unfavourable monsoon there was not sufficient water available for irrigation.

214. The area irrigated during the year at crop rates was 16 acres against 627 acres of the previous year. The assessment was Rs. 83 as compared with Rs. 3,582, the corresponding figure of the previous year.

215. The area assessed at consolidated rates was 7,861 acres and the irrigation share of the revenue was Rs. 18,195.

216. The total revenue from all sources amounted to Rs. 18,278 against Rs. 21,788 of the previous year.

217. The working expenses during the year were Rs. 2,014 as compared with Rs. 231, the corresponding figure of the previous year.

218. Statement showing the rainfall gauged at the sites of the First Class works in the Southern Division during the Kharif and Rabi seasons of 1918-19 as compared with the corresponding figures of rainfall of the previous year and the averages of the previous ten years.

Years.	Krishna Canal.	Rewari Canal.	Upper Mau River Canal.	Yerla River Irrigation works.	Chikhli Canal.	Maini Tank.	Muchkundi Tank.	Gadikeri Tank.	Gokak Canal 1st Section and Storage works.	Dambal Tank.	Medleri Tank.	Asundi Tank.	Madag Tank.	Dharma Canal.	Remarks.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16		
1917-19	Kharif ...	16.03	17.71	8.18	10.50	12.06	13.75	No rain gauge.	11.25	14.77	19.92	16.05	20.07	42.49			
	Rabi ...	6.42	4.54	5.80	7.17	5.86	5.87		4.50	8.95	10.23	8.42	10.96	9.17		81.15	
	Total ...	22.45	22.25	13.98	17.67	17.92	20.29		18.25	20.20	25.00	27.74	26.01	29.24		73.64	
1918-19	Kharif ...	8.29	11.44	8.18	9.08	11.47	9.65		13.98	8.31	12.53	10.64	12.78	19.55		40.57	
	Rabi ...	3.22	2.72	2.25	1.16	3.97	2.23		2.20	5.17	2.52	7.2	1.45	2.45		8.05	
	Total ...	11.51	14.16	10.43	10.24	15.44	11.88		16.16	13.48	15.05	11.86	14.23	22.00		48.62	
Average of previous ten years ...	27.68	25.40	17.81	24.06	20.68	24.29	18.17		21.41	17.64	19.46	21.42	26.55	79.72			

PART II.

COMPRISING SECOND CLASS IRRIGATION WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT—AND AGRICULTURAL WORKS FOR WHICH NEITHER CAPITAL NOR REVENUE ACCOUNTS ARE KEPT.

GENERAL REMARKS.

219. The whole area of irrigation and revenue due from Second Class Irrigation Works in the Deccan and Gujarat as recorded in the register of these works is 289,230 acres and 9,59,440 rupees, respectively, with the exception of districts for which lists have not yet been prepared. The figures will be modified when new or revised lists are issued.

220. The following table shows the area irrigated in the different districts in the Deccan and Gujarat and the consolidated revenue assessed during the year 1918-19 in respect of irrigation works on which expenditure has been incurred during the year:—

TABLE I.

Collectorate.	Number of Works.	Area irrigated.	Revenue.			Remarks.	
			Irrigation share.	Land share.	Total.		
		Acres.	Rs.	Rs.	Rs.		
(a) Ahmedabad ...	35	31	71	99	170	(a) Works in charge of the Executive Engineer, Gujarat Irrigation District. * Includes Rs. 17 on account of 'water rates'—Direct Receipts. † Includes Rs. 596 on account of 'water rates'—Direct Receipts.	
(a) Kaira ...	44	6,423	*6,591	13,109	19,700		
(a) Panch Mahals ...	34	170	†1,201	190	1,391		
Surat ...	20	872	2,139	9,143	11,282		
Broach ...	4	114	207	718	925		
West Khandesh ...	6	434	†2,398	1,350	3,748		
East Khandesh ...	1	129	782	306	1,088		
(b) Nasik ...	42	6,355	42,522	12,338	54,910		(b) Works in charge of the Executive Engineer, Nasik Irrigation District.
Poona ...	1	427	3,004	1,146	4,150		
Satara ...	...	...	...	...	...
Belgaum ...	24	1,952	6,502	1,503	8,005		
Dharwar ...	90	7,523	26,250	6,562	33,312		
(c) Kanara ...	27	2,332	5,075	1,269	6,344	(c) Works in charge of the Executive Engineer, Dharwar Irrigation District.	
Bijapur ...	1	621	2,059	1,938	3,997		
Ratnagiri ...	1	136	535	19	554		
Total ...	330	27,519	(d) 99,336	49,740	149,076		

	Rs.
(d) Direct receipts ...	973
Indirect receipts ...	98,363
	<u>99,336</u>

221. Table II.—Showing the actual expenditure and receipts for the year 1918-19 on the irrigation works in the Deccan and Gujarat for which only Revenue accounts are kept referred to in Table I.

Collectorate.	EXPENDITURE.							ACTUAL RECEIPTS.						
	Direct Charges.							Direct Receipts.			Indirect Receipts.	Grand Total, Direct and Indirect Receipts.	Less Refunds of Revenue.	Gross Receipts Less Refunds.
	Extensions and Improvements.	Maintenance and Repairs.	* Establish-ment.	Tools and Plant.	Total.	Share of Collection Charges.	Grand Total.	Water Rates from Irrigation.	Miscellaneous.	Total Direct Receipts.	Share of consolidated Revenue.			
2	3	4	5	6	7	8	9	10	11	12	13	14	15	
Ahmedabad	Rs. 7,854	Rs. 8,919	Rs.	Rs.	Rs.	Rs. 7	Rs.	Rs.	48	48	Rs. 71	Rs. 114	Rs.	Rs. 114
Kaira	20,352	9,868	9,074	557	79,585	659	80,324	17	1,573	1,590	6,574	8,164	...	8,164
Panch Mahals	12,790	1,621	...	...	...	128	...	586	270	856	615	1,471	11	1,400
Surat	.....	9,513	1,598	98	14,009	214	14,244	...	...	.....	2,139	2,139	...	2,139
Brosch	.....	2,700	...	...	...	21	...	...	...	.....	207	207	...	207
West Khandesh	1,430	1,304	277	77	2,988	221	3,209	870	...	870	2,028	2,808	...	2,808
East Khandesh	.....	1	55	.....	50	78	134	...	...	.....	782	782	...	782
Nasik	678	18,505	4,450	412 (a) 74	24,117	4,252	28,369	...	...	.....	42,522	42,522	...	42,522
Poona	.....	278	64	6	348	300	648	...	...	.....	3,004	3,004	...	3,004
Satara	.....	.....	...	...	...	...	.....	...	...	.....	.....	.....	...	...
Belgaum	304	10,108	2,149	248	12,807	665	13,472	...	144	144	6,502	6,646	...	6,646
Dharwar	932	20,551	8,340	904 (a) 495	30,189	2,626	32,815	...	6	6	26,250	26,256	...	26,256
Kanara	.....	8,907	...	...	...	508	...	...	...	.....	5,075	5,075	...	5,075
Bijapur	.....	1,062	219	25	1,306	206	1,512	...	1,405	1,405	2,059	3,464	...	3,464
Ratnagiri	.....	66	14	2	82	54	136	...	...	.....	535	535	...	535
Total	53,438	1,02,801	26,210	2,349 (a) 569	1,85,437	9,934	1,95,371	973	3,441	4,414	96,363	1,02,777	11	1,02,766

* The distribution between "Direction" and "Executive" is not given here as the distribution is made *pro rata* according to Superintending Engineers' Circles as per Government of India, Financial Department, No. 1764-A., dated 1st November 1918.

(a) Surplus Account.

DETAILED REPORTS BY DISTRICT OFFICERS.

WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT. GUJARAT IRRIGATION AND SURAT AND BROACH DISTRICTS.

Khari Irrigation Sluices.

222. The rainfall of 30th June in the catchment round "Himatuagar" increased the discharge at Raipur from 17 to 60 cusecs which was all let down to the Khari Sluices for 8 days. The flow, however, did not even reach Lali on account of absorption on the way. The water was, therefore, diverted into the Khari Cut and taken to the Chandola tank. The rainfall during the year was only 5 inches and there was, therefore, no flood in the Khari river and no cultivation on the Khari sluices during the whole season. The overflow of the floods in the Sabarmati river, however, covered the Naika and some of the Chanindra lands and resulted in the cultivation of jowari. The cotton crop which was already sown also benefited.

223. The sluices were maintained in good repair at a cost of Rs. 3,528 and Rs. 631 were spent on some improvements in the way of providing crossings over nullahs and rivers.

224. The remissions granted owing to the failure of crops on account of scanty rainfall during the year amounted to Rs. 22,423.

225. The following table compares the area irrigated and the assessment levied with the average of the previous three years:—

	Average of 3 years ending 1917-18.		1918-19.	
	Area.	*Revenue after deducting remissions.	Area.	*Revenue after deducting remissions.
	Acres.	Rs.	Acres.	Rs.
I.—Irrigation above the Kalambandi villages	653	2,669	...††
II.—Irrigation from tanks fed by the river Khari	198	420	198	215
III.—Irrigation from the Khari sluices proper (i. e., 10 Kalambandi villages)	6,159	19,838	6,213	19,436
	7,010	22,927	6,411	19,651

* Note (1).—The revenue is consolidated and exclusive of Inamdar's shares.

† Note (2).—There being no rain during the year under report, land was not cultivated and hence no revenue was realized.

Note (3).—The decrease in revenue under all the three heads is due to greater remissions having been granted owing to failure of crops on account of scanty rainfall during the year, as compared with the average of the three preceding years.

226. The assessment under the Khari sluices proper, i. e., of the "Kalambandi villages" being consolidated, the average rates per acre for land and water respectively were as under:—

	Irrigation share.	Land share.	Total consolidated.
	Rs. a. p.	Rs. a. p.	Rs. a. p.
Government land	1 12 10	3 9 8	5 6 6
Alienated land	0 4 6	0 8 7	0 13 1

Second Class Tanks.

227. During the year, 138 old tanks, viz., 35 in Ahmedabad, 45 in Kaira, 34 in Panch Mahals and 24 in the Surat and Broach District, were either repaired or improved at a total cost of Rs. 82,229. Out of the above works, 80 were completed, while repairs to the remainder were in progress.

228. The area irrigated and the revenue derived from the old irrigation tanks and bunds are as under:—

District.	Area Irrigated	Revenue		
		Irrigation share.	Land share.	Total Net consolidated assessment.
	Acres.	Rs.	Rs.	Rs.
Ahmedabad	2,211	6,211	10,219	16,430
Kaira	2,451	5,253	8,133	13,386
Panch Mahals	170	434	190	624
Surat	1,416	2,551	10,308	12,859
Broach	9	64	210	274
Total	6,268	14,555	29,056	43,611

POONA IRRIGATION DISTRICT.

229. The following table gives the area irrigated, the consolidated assessed revenue and the irrigation share thereof for the second-class irrigation works in the Poona Collectorate for which only revenue accounts are kept, for the year 1918-19.

Area irrigated.	Net consolidated revenue.		
	Irrigation share.	Land share.	Total.
Acres.	Rs.	Rs.	Rs.
518	3,607	1,955	5,572

230. The expenditure during the year incurred on special repairs to Mina bandhara at Narayangaon was Rs. 273 exclusive of charges for establishment and tools and plant. No expenditure was incurred during the year under report on any other work.

231. The following table shows the average area irrigated during the past three years and the revenue assessed on the works compared with the figures of the year under report:—

Period.	Area irrigated.	Irrigation share of revenue.
For the year 1918-19	518	3,607
Average of past 3 years	677	4,147

NASIK IRRIGATION DISTRICT.

232. The following table gives the area irrigated, the consolidated assessed revenue, and the irrigation share thereof for bandharas in the Nasik Collectorate, for which only revenue accounts are kept:—

Area irrigated.	Net consolidated revenue.		
	Irrigation share.	Land share.	Total.
Acres.	Rs.	Rs.	Rs.
22,681	1,93,051	45,952	1,37,099

232A. The remissions granted by the Revenue Department during the year under report on account of inadequate water-supply amounted to Rs. 73,359 against Rs. 2,916 for the last year.

233. The expenditure during the year on these works was Rs. 19,181 exclusive of charges for establishment and tools and plant. This figure is exclusive of Rs. 710 which represents Inamdar's contribution towards Deotban and other bandharas.

234. The water supply in general throughout the district was inadequate from the bandharas on account of failure of rainfall.

235. The following table shows the average area irrigated and the revenue assessed on the works during the past three years as compared with the figures of the year under report:—

Period.	Area irrigated.	Irrigation share of revenue.
	Acres.	Rs.
For the year 1918-19	22,681	1,23,031
Average of past 3 years	28,315	1,80,877

EAST KHANDESH DISTRICT.

236. The area irrigated and revenue derived from each of the old second class works are shown below:—

Number, name of work.	Area irrigated in acres.	Revenue.		Total.
		Irrigation share.	Land share.	
		Rs.	Rs.	Rs.
1. Patonda channel	145	782	806	1,088
2. Toli channel	70	558	151	709
3. Amalner bandhara and channel	372	2,175	999	3,174
Total	587	3,515	1,456	4,971

237. The gross revenue, excluding land share, was the same as that of the previous year, viz., Rs. 3,515.

238. There was practically no outlay on these works except the working expenses which were Rs. 55 only.

WEST KHANDESH DISTRICT.

239. The area irrigated and revenue derived from the old second class works are shown below:—

Year.	Area irrigated.	Revenue.		Total.
		Irrigation share.	Land share.	
	Acres.	Rs.	Rs.	Rs.
1918-19	8,297	54,028	15,196	69,154
Average of the past 3 years	8,885	53,816	14,159	72,975

240. These figures are exclusive of old irrigation on the Lower Panjhra River Works. The outlay on these works was Rs. 2,688 as detailed below against Rs. 9,119 the average of the previous three years.

Description.	Expenditure.	
	1918-19.	Average of the previous three years.
	Rs.	Rs.
Extensions and Improvements	1,430	2,553
Maintenance and repairs	1,204	5,138
Establishment	54	1,328
Tools and Plant	.....	100
Total	2,688	9,119

241. The old works on the Lower Panjira river consist of the following old bandharas and channels, which are repaired from the annual provision of Rs. 3,000 made for Maintenance and Repairs under 42 Major Works:—

Dhola	Kotha
Nimadedi	Belawad
Jari	Mandal
Nahled	Mulli

242. An expenditure of Rs. 516 was incurred on providing scour sluices to Mandal bandhara and channel. Expenditure as noted against each of the following second class works was also incurred during the year:—

	Rs.
1. Improvements to Narawad bandhara	1,034
2. Do. Dharera do.	375
3. Special repairs to bandhara on Nagzari Nala near Deethana	308
4. Repairs to Shahada bandhara on Gomai river	107
5. Repairs to Upper Dasana bandhara and channel	482

243. The area irrigated under the Shahada channel during the year was 1,628 acres, an exceptionally large area as compared with 164 acres, the average of the past three years. This was due to the failure of the rains and the consequent keen demand for water.

244. The channel was maintained and repaired at a cost of Rs. 295 only during the year under report.

BELGAUM DISTRICT.

245. The area irrigated by second class tanks was 14,337 acres. The consolidated assessment was Rs. 67,723 of which Rs. 54,277 represented the irrigation share.

246. A sum of Rs. 10,077 which includes Rs. 570 paid as compensation for land taken up for the tanks was spent during the year on repairs to some of these tanks.

DHARWAR IRRIGATION DISTRICT.

247. During the year the expenditure incurred on repairs to the second class tanks in the Dharwar and Kanara Collectorates was Rs. 39,453.

248. The area under command of the tanks irrigating more than 50 acres each and assessed at consolidated rates was 63,950 acres. During the year under report 62,229 acres were irrigated against 61,910 of the previous year and the consolidated assessment was Rs. 2,17,287. Out of this amount remission of Rs. 74,964 was granted by the Collector of Dharwar on account of inadequate supply of water for crops. The net consolidated revenue was therefore Rs. 1,42,323 of which the irrigation share was Rs. 1,13,841. In addition to this revenue of Rs. 585 was realized during the year partly by the Revenue Department and partly by the Public Works Department from miscellaneous sources, such as water rates and sales of canal produce, viz., grass, fruits, etc.

249. The total revenue under these tanks amounted to Rs. 1,14,429 and the net profit, after deducting the working expenses of Rs. 61,616, was Rs. 52,813.

ELJAPUR DISTRICT.

250. There are in all 14 second class tanks in this district. The lands under these tanks are assessed at consolidated rates. The total area irrigated was 1,219 acres and the assessment was Rs. 6,486 of which Rs. 3,692 represented the irrigation share.

RATNAGIRI DISTRICT.

251. The area irrigated by the three irrigation tanks in this district was 857 acres. The consolidated assessment and the irrigation share were Rs. 5,363 and Rs. 3,322 respectively.

252. Ordinary repairs were carried out during the year to the Varad tank in the Malwan taluka and the total expenditure incurred thereon was Rs. 66 only.

SATARA DISTRICT.

253. There are only two second class works in this district, viz., the bhandaras at Boregaon and Sap. During the year only 115 acres were irrigated and the irrigation share of the revenue was Rs. 1,030.

AGRICULTURAL WORKS.

WORKS FOR WHICH NEITHER CAPITAL NOR REVENUE ACCOUNTS ARE KEPT.

SURAT AND BROACH AND GUJARAT IRRIGATION DISTRICTS.

254. All the drainage channels in the Surat and Broach and Gujarat Irrigation Districts worked satisfactorily and were maintained at a cost of Rs. 5,082 and Rs. 7,321 respectively and the reclamation works in the former at a cost of Rs. 3,411.

POONA IRRIGATION DISTRICT.

KHAMGAON TANK.

255. This partially completed tank received a very meagre replenishment during the year owing to low rainfall and did not fill, as it could not be replenished from the Mutha Right Bank Canal in which there was not enough water even to fill Matoba tank.

256. The total area irrigated during the year was 11 acres in the kharif season only and the gross assessed revenue was Rs. 68; the corresponding figures for the last year were 106 acres and the gross assessed revenue Rs. 548.

NASIK IRRIGATION DISTRICT.

KHIRDI SATHI TANK.

257. The tank has been transferred for management to the Irrigation Department from 15th June 1917.

258. At the commencement of the year under report, the level of water in the tank was R. L. 227.92, i.e., 12.92 feet above the sill of outlet. The water level gradually went down and the lowest level was reached on 19th June 1918, when it was R. L. 222.58. The highest level reached was R. L. 226.75 on 29th June 1918. The tank did not fill during the year under report and in consequence the tank supply was not sufficient for rabi irrigation under this system.

259. During the year under report, the total area irrigated was 229 acres—201 acres in the kharif and 28 acres in the rabi season—and the gross assessed revenue was Rs. 2,040.

SHOLAPUR DISTRICT.

WADSHIVNE TANK.

260. The storage in the tank was 157.50 million cubic feet on 1st April 1918, corresponding to the level of 16.58 feet above the outlet. The first replenishment was received in May and the second in September 1918. The tank did not overflow this year. The rainfall gauged at the two stations in the catchment of 14.5 square miles was 7.43 inches which gave a total replenishment of 35.81 million cubic feet, the proportion of runoff to rainfall being thus 14 per cent.

261. The area irrigated during the year was 936 acres against 110 acres, the average of the last three years. The increase is due to the failure of the monsoon.

262. The gross assessed revenue for the year under report was Rs. 4,801 against Rs. 661, the average of the last three years' figures.

263. The expenditure incurred during the year on maintenance and repairs, etc., was Rs. 733 against Rs. 732, the average of the preceding three years.

WEST KHANDESH DISTRICT.

TALWADA TANK.

264. At the commencement of the official year the tank had 61.16 million cubic feet of water. After supplying the water to hot weather crops the contents of the tank were reduced to 34.93 on 15th June 1918. Practically no replenishment was received in the tank during the year owing to scanty rainfall. The water level went below the outlet sill on 3rd December 1918.

265. The area irrigated was 469 acres and the revenue assessed was Rs. 1,412 against 281 acres and Rs. 1,128 respectively, the average of the previous three years. The increase was due to abnormal demand for water owing to scanty rainfall.

Revenue Report of Irrigation Works in the
Bombay Presidency excluding Sind for
1918-19—Review of

GOVERNMENT OF BOMBAY.

PUBLIC WORKS DEPARTMENT.

Resolution No. W. I.—3060.

Bombay Castle, 1st March 1920.

Letter from the Superintending Engineer, Central Division, No. 6207, dated 12th October 1919.

Submits the Irrigation Revenue Report for his Division for 1918-19 in parts I and II and states that the general remarks will follow.

Memorandum from the Superintending Engineer, Deccan Irrigation Division, No. 7231, dated 17th October 1919.

Forwards the Irrigation Revenue Report for his Division for 1918-19 and states that the general remarks will follow.

Letter from the Superintending Engineer, Southern Division, No. 5055, dated 17th October 1919.

Submits the Irrigation Revenue Report for his Division for 1918-19 together with certain statistical statements and makes remarks.

• Read memorandum from the Superintending Engineer, Deccan Irrigation Division, No. 7582, dated 29th October 1919.

Read letter from the Superintending Engineer, Northern Division, No. 7725, dated 30th October 1919.

Letter from the Superintending Engineer, Deccan Irrigation Division, No. 7637, dated 1st November 1919.

In continuation of his memorandum No. 7231, dated 17th October 1919, submits the general remarks in connection with the Irrigation Revenue Report for his Division and makes remarks.

Letter from the Superintending Engineer, Northern Division, No. 8303, dated 21st November 1919.

Submits the Irrigation Revenue Report for his Division for 1918-19 in parts I and II together with a statistical statement and makes remarks.

Letter from the Superintending Engineer, Central Division, No. D-781, dated 1st December 1919.

With reference to the correspondence ending with Government Memorandum (expeditor) No. I—15545, dated 28th November 1919, forwards the general remarks in connection with the Irrigation Revenue Report for his Division for 1918-19.

Read letter from the Superintending Engineer, Northern Division, No. 8578, dated 1st December 1919.

Letter from the Superintending Engineer, Central Division, No. D-822, dated 20th December 1919.

With reference to Government Memorandum No. I—16199, dated 10th December 1919, reports that the revenue receipts on account of water supply to towns in his Division during 1918-19 were Rs. 28,946.

Letter from the Accountant General, Bombay, No. BK-23-1-2554, dated 6th January 1920.

Forwards two statistical tables in connection with part II of the Irrigation Revenue Report, 1918-19, and reports the figures of the total area under irrigation and total revenue due from second class works in the Deccan and Gujarat.

RESOLUTION.—The Irrigation works dealt with in this report are of three kinds, *viz.*:—

(i) Tanks and canals for which Capital and Revenue Accounts are kept, commonly called First Class Works;

(ii) Small tanks and bandharas for which only Revenue Accounts are kept and known as Second Class Works; and

(iii) Petty tanks, irrigation and drainage channels for which neither Capital nor Revenue Accounts are kept, which are called Agricultural Works.

The First Class Works are described in detail in Part I of this report. The Second Class and Agricultural Works are small and numerous and a brief general account thereof is given in Part II.

2. The total capital outlay on the First Class Irrigation Works up to the end of 1918-19 was Rs. 6,59,52,260. During the year under review a sum of Rs. 18½ lakhs was spent on the Nira Right Bank Canal and nearly Rs. 8 lakhs on the Pravara River project the two large protective irrigation works under construction in the Deccan. The progress made on these works has been detailed in paragraphs 55—62 and 94—101, respectively, of this report.

3. Excluding an area of 10,963 acres on which a consolidated assessment is levied, the area irrigated was 203,040 as against 138,628 acres of the previous year, showing an increase of 64,412 acres. This increase occurred chiefly in the Deccan Irrigation, Central and Southern Divisions and was due to the keen demand for canal water owing to the scanty rainfall of the year.

4. With the increase of irrigation there was a corresponding rise in the gross assessed revenue, which amounted to Rs. 22,94,781 against Rs. 17,75,865 of the previous year. When compared with the average of the previous ten years the assessed revenue shows an increase of more than Rs. 8½ lakhs.

5. The unrealized balance at the close of the year amounted to Rs. 10,19,900 showing an increase of Rs. 7,90,835 over the previous year's figure. The prevalence of the influenza epidemic during the year was the main cause of these heavy arrears. Although some of these arrears have since been recovered, the balance outstanding is still large and every endeavour should be made by local officers to effect its prompt recovery.

6. The working expenses amounted to Rs. 8,45,275 showing an increase of Rs. 67,962 on the figure for the year 1917-18 (Rs. 7,77,313):

7. The resulting net revenue for the year was:—

	Rs.
(i) On the basis of assessment	14,49,506
(ii) On the basis of realization	4,27,129

as compared with Rs. 9,98,552 and 7,65,534 respectively, during the previous year.

8. The statement embodied in paragraph 13 of the report exhibits the financial results, based on actual figures, of the more important irrigation works in operation in the Presidency proper. The Gokak canal and the Ekruk Tank show a return of more than 4 per cent. on the capital outlay. The Mutha, Nira and Godavari canals yielded only 2.2, 1.4 and 0.13 per cent. respectively, during the year. On the basis of the *assessment* figures, however, the returns from these three important canals are much more satisfactory, being 4.8, 7.9 and 3.2 respectively, on the capital outlay.

9. The present figures show that the total area under irrigation from Second Class Irrigation Works in the Deccan and Gujarat is 289,230 acres and the revenue obtained Rs. 9,59,440. During the year a sum of Rs. 1,95,371 was spent on the improvement and repair of 330 works out of an approximate total on the list of 9,845.

10. The Governor in Council desires to thank the Irrigation officers and all those concerned with the distribution of water for their efficient management of the works.

11. Copies of the report and of this review should be forwarded to the Government of India. Copies should also be sent to the India Office.

V. F. BARKER,
Acting Under Secretary to Government,
Irrigation and Railways.