
ANNUAL IRRIGATION REVENUE REPORT,

SIND,

1917-18.

INDEX.

	Page.
Letter from the Superintending Engineer, Indus Right Bank Division	1
General review of the results for the Indus Right Bank Division	3—19
Letter from the Superintending Engineer, Indus Left Bank Division	21
General review of the results for the Indus Left Bank Division	23—40
Endorsement by the Chief Engineer in Sind	40
Table I.—Area of cultivation and consolidated revenue for 1917-18, Government land and comparison with the average of the previous three years showing increases or decreases under heads kharif, rabi and irrigation share of net consolidated assessment.	42—45
Table II.—Area of cultivation and canal revenue for 1917-18 and five previous years	46
Table III.—Area of cultivation and canal revenue, direct and indirect, for the year 1917-18.	47 & 48
Table IV.—Area of Jagir cultivation in Sind and Foreign lands in Khelat, the assessment for 1917-18, total for collection, actual realizations and balances outstanding at the end of the year	49 & 50
Table V.—Revenue expenditure on new works, maintenance and repairs and revenue collection charges in the Civil Department and the establishment charges of the Public Works Department for 1917-18	51—53
Table VI.—Cultivation, canal revenue and expenditure for 1917-18 as contrasted with the average of the previous three years	54 & 55
Table VII.—Statement showing receipts from the sale of occupancy rights	56—59
Table VIII.—Abstract of crop return for five years ending 1917-18, for Government, Jagir and Foreign lands	60—67
Table IX.—Rainfall in the Province of Sind for 1917-18	68
Memorandum showing amount of loss to canals on account of difference between assessments to water rates on Jagir lands in Sind and Foreign lands in Khelat and assessments at the ordinary rates in force for Government lands	69
Statement showing actual receipts for 1917-18 on account of irrigation share of land revenue from canals in Sind	70
Statement of highest readings on Bukkur and Kotri gauges from 1880 to 1917	71
Hydrograph of the river Indus at Bukkur and Kotri.	
Index map of the Indus Right and Left Bank Divisions.	

No. 988 of 1919.

PUBLIC WORKS DEPARTMENT.

**SUPERINTENDING ENGINEER'S OFFICE,
INDUS LEFT BANK DIVISION,
In Camp, 21st March 1919.**

From

**R. T. HARRISON, Esquire,
Superintending Engineer,
Indus Left Bank Division;**

To

THE CHIEF ENGINEER, IN SIND.

Subject :—Annual Irrigation Revenue Report for 1917-18.

SIR,

With reference to Government Resolution No. W.L-5362, dated the 7th May 1915, I have the honour to submit, for favour of disposal, the Irrigation Revenue Report for Sind for the year 1917-18.

2. The diagram showing the hydrograph of the river Indus mentioned in the report and the Index map of Sind may please be attached in your office.

I have the honour to be,

Sir,

Your most obedient servant,

R. T. HARRISON,

Superintending Engineer, Indus Left Bank Division.

ANNUAL IRRIGATION REVENUE REPORT, INDUS LEFT BANK DIVISION, SIND, 1917-18.

The inundation of 1917-18 was on the whole a poor one. The chief features of the period were the low level of the river throughout the months of June and July, its very satisfactory and steady level throughout August and its abnormal height throughout the whole of September combined with abnormal rainfall.

The diagram accompanying this report compares the inundation of 1917 with the two previous years and with the 10 years' average.

The following table shows the principal features of the year as compared with those of previous years :—

				Average of 10 years including 1916.	Average of 8 years including 1916.	1916.	1917.	
				Days.	Days.	Days.	Days.	
Gauges :—								
Bukkur, 10 feet and over	...	...	...	70	74	65	71
Do. 13 do.	...	...	...	24	18	9	30
Kotri 14 do.	...	...	...	123	139	114	140
Do. 17 do.	...	...	...	75	84	86	73
						Acres.	Acres.	Acres.
Irrigation :—								
Kharif	...	...	...	1,252,871	1,347,409	1,187,394	
Rabi	...	...	...	276,249	237,538	258,660	
Total				...	1,529,120	1,584,947	1,446,054	
						Rs.	Rs.	Rs.
Gross revenue				...	40,26,590	41,91,582	38,83,484	
Working expenses				...	16,30,754	16,53,018	18,31,910	
Net revenue, neglecting simple interest				...	23,95,836	25,38,564	20,01,554	

Area of cultivation—Government, and Jagir.

2. The gross assessed areas for the year are given in the subjoined Statement A.

STATEMENT A.

Year and class of crops.	MAJOR WORKS.		MINOR WORKS AND NAVIGATION.			Grand total.
	Productive Works.	Works for which Capital and Revenue Accounts are kept.	Works for which only Revenue Accounts are kept.	Agricultural Works.	Total.	
1	2	3	4	5	6	7
Average of 8 years including 1916-17.						
Kharif	533,579	477,132	242,160	...	719,292	1,252,871
Rabi	171,327	78,835	81,684	...	105,019	276,246
Total	704,906	556,467	273,844	...	824,311	1,129,117
1916-17						
Kharif	573,990	523,469	249,950	...	778,419	1,347,409
Rabi	142,951	63,570	81,017	...	94,587	237,538
Total	716,941	587,039	280,967	...	868,006	1,584,947

STATEMENT A—continued.

Year and class of crops.	MAJOR WORKS.	MINOR WORKS AND NAVIGATION.				Grand total.
	Productive Works.	Works for which Capital and Revenue Accounts are kept.	Works for which only Revenue Accounts are kept.	Agricultural Works.	Total.	
1	2	3	4	5	6	7
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
1917-18 ... { Kharif ...	490,429	466,706	230,259	..	696,965	1,167,894
... { Babi ...	159,650	55,578	43,433	...	93,010	238,660
Total ...	650,079	522,284	273,691	...	790,975	1,406,054
Increase or decrease as compared with average. { Kharif ...	-43,150	-10,426	-11,901	...	-22,327	-65,477
... { Babi ...	-11,577	-17,757	11,748	...	-6,009	-17,586
Total ...	-54,727	-28,183	-153	...	-28,336	-83,063
Increase or decrease as compared with 1916-17. { Kharif ...	-88,561	-56,763	-19,691	...	-76,454	-160,015
... { Babi ...	16,699	-7,993	13,415	...	4,423	21,122
Total ...	-66,862	-64,755	-7,276	...	-72,031	-138,893

The total cultivation shows a decrease of 138,893 acres as compared with 1916-17 and of 83,063 acres when compared with the average of the previous three years. The area under kharif was less by 160,015 and 65,477 acres, respectively, while that under rabi was 21,122 acres more as compared with the previous year and 17,586 acres less than the average of the previous three years.

3. The area of 'dubari' or twice cropped land, which is not included in statement A, was 39,392 acres of which 4,329 were 'watered dubari' in the Ther and Parkar district. The dubari figures for the previous year and the average of the previous triennium were 30,104 and 36,879 acres, while those of 'watered dubari' were 4,541 and 7,876 acres respectively.

4. The net irrigation assessment for the year, including 'hakabo,' for Jagir lands is given in statement B.

Irrigation assessment—Government and Jagir.

STATEMENT B.

Year and class of crops.	MAJOR WORKS.	MINOR WORKS AND NAVIGATION.				Grand total.
	Productive Works.	Works for which Capital and Revenue Accounts are kept.	Works for which only Revenue Accounts are kept.	Agricultural Works.	Total.	
1	2	3	4	5	6	7
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Average of 3 years including 1916-17. { Kharif ...	15,75,658	13,03,632	6,16,144	...	19,19,976	3,495,634
... { Babi ...	5,12,440	1,53,994	80,822	...	2,94,816	7,66,756
Total ...	20,88,098	14,57,626	6,96,966	...	21,14,792	42,62,390
1916-17 ... { Kharif ...	16,91,100	14,21,145	6,48,299	...	20,69,449	37,69,544
... { Babi ...	4,32,861	1,44,109	74,201	...	2,18,810	6,50,671
Total ...	21,23,961	15,65,254	7,22,500	...	22,88,259	44,20,215
1917-18 ... { Kharif ...	14,27,018	12,38,590	5,88,962	...	18,74,893	32,51,910
... { Babi ...	4,94,550	1,17,625	1,08,318	...	2,25,939	7,20,468
Total ...	19,21,568	13,56,215	6,97,280	...	20,50,831	39,72,378
Increase or decrease as compared with average. { Kharif ...	-1,48,640	-65,339	-29,758	...	-95,054	-2,43,724
... { Babi ...	-17,970	-86,863	27,991	...	-8,377	-26,287
Total ...	-1,66,610	-1,01,700	-1,761	...	-1,03,431	-2,70,011
Increase or decrease as compared with 1916-17. { Kharif ...	-2,64,082	-1,82,615	-61,007	...	-2,44,552	-5,08,634
... { Babi ...	62,102	-1,36,463	24,112	...	7,629	69,798
Total ...	-2,01,980	-2,09,128	-37,895	...	-2,36,923	-4,38,836

The net assessed revenue shows a decrease of Rs. 4,38,836 and Rs. 2,70,011 as compared with that of the previous year and with the average of the previous triennium.

4-A. The area cultivated on 'spill' water was 2,779 acres as compared with the previous year's area of 8,256 acres and 6,629 acres the average area of the previous three years.

5. The average net consolidated assessment per acre on Government land as compared with the previous year and the average of previous three years is shown below :—

	Average of previous 3 years.	1917-18.	1916-17.
	Rs.	Rs.	Rs.
Major Works--Productive	3-03	3-04	3-03
Minor Works for which Capital and Revenue Accounts are kept.	3-04	2-98	3-06
Minor Works for which only Revenue Accounts are kept.	2-80	2-84	2-85
Average for all works	2-98	2-99	3-01

Actual realizations under all heads and the balances outstanding.

6. The following statement shows the realizations under all heads and the balances outstanding at the end of the year :—

STATEMENT C.

Years.	COLLECTIONS.				Balance outstanding.
	Government land and hakabo.	Miscellaneous.	Four per cent. Irrigation share of proceeds from sale of occupancy rights.	Total receipts.	
1	2	3	4	5	6
Average of past 3 years	Rs. 38,26,876	Rs. 71,809	Rs. 1,22,072	Rs. 40,20,257	Rs. 1,59,404
1916-17	39,30,663	85,408	1,25,511	41,91,582	70,701
1917-18	35,52,229	1,53,304	1,27,937	38,33,461	1,00,010
Increase or decrease as compared with 1916-17	--2,28,435	67,896	2,421	--3,58,118	29,319
Increase or decrease as compared with average	--2,74,148	81,495	5,860	--1,66,793	--59,384

The balance outstanding at the end of the year is Rs. 29,319 more than in the previous year and Rs. 59,384 less than the average balance of the previous three years. The total outstanding balance at the end of the year on the Jamrao Canal under both Government and Jagir lands was Rs. 13,187 against Rs. 12,766 at the end of the last year and Rs. 81,946 the average outstanding balance of the previous three years.

7. The remissions granted during the year on Government land amounted to Rs. 1,18,477 against Rs. 55,518 remitted last year and Rs. 83,855 the average remissions of the previous three years. The remissions on the kharif crop amounted to Rs. 1,06,341, while those on the rabi crop were Rs. 12,136.

The following statement gives details of the causes of remissions and compares the results of the year under report with that of the previous year:—

REMISSIONS.

Causes of remissions.	1917-18,	1916-17.	Difference.
1	2	3	4
	Rs.	Rs.	Rs.
Deficiency of water and drought	12,431	16,087	—3,656
Breaches of canals	53,074	21,547	31,531
Floods and erosion	13,047	13,170	—123
Kalar soil	400	2,105	—1,705
Grants cancelled and arrears remitted	758	1,213	—455
Locusts ... ..	...	45	—45
Blight or mahlo	1,223	...	1,223
Insects or wire-worms	4,121	166	3,955
Written off... ..	529	578	—49
Frost	50	...	50
Rats	32,643	...	32,643
Other causes	197	607	—410
Total	1,18,477	55,518	62,959

Remissions on Jagir lands.

7-A. The remissions on Jagir lands amounted to Rs. 13 only.

8. The difference between the 'Hakabo' or water rate assessed on Jagir cultivation and the assessment at full rates on these areas amounted to Rs. 3,51,474 which

represents the loss of canal revenue during the year owing to the low rates charged to Jagirdars.

Expenditure on maintenance and repairs and establishment charged to works.

9. The total charges during the year on account of maintenance and repairs amounted to Rs. 16,08,241 as shown below:—

	Rs.
Works	9,76,453
Establishment and tools and plant	4,20,378
Percentage charges for revenue collection	2,11,410
Total	16,08,241

Establishment charged to 'Works' amounted to Rs. 1,93,645 and is included in the expenditure for 'Works,' while the net expenditure on 'Works' (clearance and repairs) was Rs. 7,82,808. Compared with the previous year and with the average of the previous three years, the net expenditure on clearance and repairs shows an increase of Rs. 1,60,418 and Rs. 1,16,563, respectively. The charges on account of Establishment and tools and plant also show an increase of Rs. 48,432 and Rs. 79,148, respectively.

Expenditure on maintenance and repairs separately for canals and river embankments.

10. Of the total charges shown in the preceding paragraph, Rs. 15,52,640 were spent on canals and Rs. 55,601 on river embankments.

Outlay on new works.

11. The outlay for the year on new works was Rs. 2,91,382 as shown below:—

	Rs.
Major Works	{ Capital ... 84,158
	{ Revenue ... 56,581
Minor Works and Navigation—Works for which Capital and Revenue Accounts are kept.	{ Capital ... 56,094
	{ Revenue ... 51,847
Works for which only Revenue Accounts are kept	42,690
Agricultural Works	12
Total	2,91,382

Under "Major Works"—Capital—Rs. 66,001 represent the 'works' expenditure, of which Rs. 51,397 were spent on the Jamrao Canal (Ghotki Flood Diversion Bund in the Shikarpur Canals district) and Rs. 20,822 on constructing Right and Left Bank Makhi Distributaries and Head Distributary on the Hiralwah in the Eastern Nara district. The expenditure against the Revenue Account pertains mainly to the Eastern Nara district.

Under "Minor Works"—Capital—Rs. 45,798 represents the 'works' expenditure, of which Rs. 20,123 were spent on the Hyderabad canals on constructing a head regulator over the Great Marakh Canal, Rs. 25,675 on constructing a new mouth to the Dokiawah in mile 45/3 of the Fuleli above the Alipur Regulator.

12. The regular establishment charges, as shown below, amounted to Rs. 4,59,356, which is Rs. 33,234 and Rs. 62,658 more than the previous year and the average of the previous three years:—

	Rs.	Percentage on outlay.
Executive	3,92,401	32.8
Direction—		
Superintending Engineer ...Rs. 44,164		
Secretariat " 22,791	66,955	5.5
Total Rs. ...	4,59,356	37.8

13. The general financial results of all Irrigation works in this Division are shown in the following statement:—

Financial results.

STATEMENT D.

Class of works.	Gross revenue.	Working expenses.	Net revenue.	Simple interest.	Net profit, 1917-18.	Net profit, 1916-17.	Increase.	Decrease.
1	2	3	4	5	6	7	8	9
Major Works—Productive	19,14,911	10,87,760	8,47,951	6,87,638	1,59,415	5,39,290	...	-3,59,875
Minor Works for which Capital and Revenue Accounts are kept.	12,89,000	4,49,603	8,18,397	...	8,18,397	9,87,506	...	-1,69,109
Total ...	31,53,911	15,17,363	16,65,448	6,87,638	9,77,812	15,16,796	...	-5,39,094
Minor Works for which only Revenue Accounts are kept.	6,50,599	2,40,849	4,09,747	...	4,09,747	4,20,982	...	-11,235
Agricultural Works	57	73,698	-73,641	...	-73,641	-46,602	...	-27,039
1917-18	38,39,464	19,31,910	20,01,554	6,87,638	13,13,918	15,91,158	...	-5,77,338
1916-17	41,91,682	16,53,918	25,38,664	6,47,409	19,91,166	...	...	...
Increase or decrease	-3,53,118	1,78,092	-5,37,010	40,229	6,77,233	...	...	-5,77,338

13-A. The following statement shows the rate of expenditure on agricultural works per acre of area irrigated after excluding the cost of the surveys for definite projects:—

STATEMENT E.

Total area irrigated by all classes of works.	Total working expenses and maintenance for canals.	Rate of working expenses per acre of area irrigated (Col. 2 + Col. 1).	Expenditure on agricultural works (excluding the cost of surveys for special projects).	Rate of expenditure on agricultural works per acre of area irrigated (Col. 4 + Col. 1).	Total working expenses per acre of area irrigated including expenditure on agricultural works (Col. 3 + 5).
1	2	3	4	5	6
Acres.	Rs.	Rs.	Rs.	Rs.	Rs.
1,446,054	17,58,212	1.22	73,698	0.05	1.27

The total working expenses including expenditure on agricultural works comes to Rs. 1.27 per acre of total area irrigated compared with 1.04 per acre of area irrigated in the previous year and Rs. 1.06 per acre of the average area irrigated during the past three years.

14. There were 1,029 miles of main canals and 3,052 miles of branch canals—total 4,081 miles—in operation during the year against the previous year's total mileage of 4,076 miles (main canals 1,024 miles and branch canals 3,052 miles). The increase in total mileage is explained at the bottom of Table VI accompanying this report. The total length of river embankments was 373 miles. The increase of 2 miles against the previous year's mileage of 370 was due to the construction of a new bund between Dhadko and Mulchand canals in the Fuleli Canals district.

Area of principal crops—Government and Jagir.

15. The areas of the principal crops grown during the year were —

STATEMENT F.

Crops.	1917-18.			Average of previous 3 years.	1916-17.	Increase or decrease as compared with average.	Increase or decrease as compared with 1916-17.	
	Lift.	Flow.	Total.					
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
Kharif	Rice	2,755	403,903	408,658	429,373	457,124	-20,714	-48,466
	Juari	63,800	42,143	105,443	165,259	176,595	-49,809	-71,152
	Bajri	294,807	79,828	378,635	336,693	432,708	-15,257	-59,071
	Cotton	133,173	123,753	258,926	237,043	233,048	21,664	26,878
	Other crops	21,187	19,545	40,732	44,209	48,439	-3,477	-7,707
	Total	513,722	673,673	1,167,394	1,252,767	1,347,412	-65,378	-160,018
Rabi	Wheat	19,377	150,709	170,066	180,423	164,339	-10,337	5,747
	Barley	324	4,040	4,264	5,538	4,156	-1,274	108
	Oil seeds	2,056	58,837	60,913	64,732	47,589	-13,839	18,324
	Other crops	3,450	59,339	62,789	62,356	56,558	6,233	6,231
	Total	25,107	272,945	298,052	313,069	267,042	-15,017	30,410
GRAND TOTAL	538,829	946,617	1,465,446	1,565,836	1,615,054	-60,390	-129,608	

As compared with the last year and the average of the previous three years, there is a decrease of 160,018 and 65,378 acres under kharif. Under rabi there is an increase of 30,410 acres as compared with last year and a decrease of 15,017 as compared with the average of the last three years. With the exception of cotton under kharif and "other crops" under rabi, there is a decrease under all crops as compared with the average of the previous three years; while comparison with the last year shows a decrease under all crops except cotton under kharif and an increase in all crops under rabi.

16. The proportions of kharif and rabi out of the total area irrigated in the Division were 80 and 20 against 83 and 17 of the last year. The highest kharif percentage of 89 was in the Fuleli Canals District and the lowest 64 was in the Jamrao Canals District, while Hyderabad Canals, Eastern Nara and Nasrat Canals Districts had respectively 85, 80 and 76 per cent. The Fuleli Canals and Eastern Nara Districts had as usual the largest rice areas, with 272,819 and 111,955 acres, respectively, out of the total rice cultivation for the Division of 408,658 acres. The largest areas under bajri were in the Hyderabad and Fuleli Canals Districts, *viz.*, 146,191 and 77,009 acres. The largest area under jowari was as usual in the Nasrat Canals District with 89,154 acres. Of the total area of 258,926 acres under cotton in the Division the area under this crop on the Jamrao was 96,661 acres and in the Hyderabad Canals District 75,709 acres.

Of the rabi crops, wheat was most largely grown, as last year, on the Jamrao and the Eastern Nara Districts, the Jamrao accounting for 75,594 acres

and the Eastern Nara for 33,679 acres out of a total for the whole Division of 170,086 acres. The smallest area cultivated in wheat was in the Hyderabad Canals District, *viz.*, 12,806 acres. The areas under oilseeds were 31,421 acres in the Nasrat Canals District, 12,550 acres in the Fuleli Canals District and 11,111 acres in the Hyderabad Canals District out of the total for the Division of 60,913 acres.

Out of the total area cultivated during the year 36 per cent. was watered by lift and 64 per cent. by flow against 37 per cent. and 63 per cent., respectively, during the previous year.

17. The duties and deltas of canals in the Division show the usual fluctuations of values. The kharif duty and delta on the *Jamrao* were 68 and 3.4 as compared with 76 and 4.4 of the previous year. The rabi duty has fallen from 59 to 52 and the delta has risen from 5.6 to 7. The decrease in duty under kharif is due to an increase in discharge and a decrease in the area irrigated. The decrease in duty and increase in delta under rabi are due to increase in the discharge and the increase in the number of days the canal flowed. The average discharge measured for the 299 days the canal flowed was 1,910 cusecs and as the total area brought to maturity was 235,787 acres, each cusec irrigated 123 acres against 140 in the previous year.

On the *Dad* Canal the duty and delta were 48 and 4.9, respectively, against 44 and 4.7 in the previous year. The increase in duty is due to the decrease in the average discharge, more judicious distribution of water by internal rotations and the heavy rainfall during the year.

On the *Nasrat* Canal the duty and delta were 62 and 3.8, respectively, against 52 and 3.8 in the previous year. The increase in duty is due to the same reasons as are given above for the *Dad* canal. The reason why there is no corresponding decrease in delta is due to the increase in the number of days the canal was flowing.

On the *Mithrao*, the kharif duty and delta were 52 and 6.5 against the last year's figures of 63 and 6.3. The decrease in duty and increase in delta are due to increase in discharge, decrease in the area irrigated and heavy rainfall. The rabi duty and delta on this canal were 23 and 7.5 against the previous year's figures of 46 and 7.1. The decrease in duty and increase in delta are due to the heavy rainfall and consequent reduction in the rabi area owing to excessive growth of weeds.

On the *Hiral* Canal the kharif duty and delta were 67 and 6.1 against 90 and 4 in the previous year. As only 'Bosi' rabi is now cultivated on the canal, the kharif period is taken upto the closure of the canal. The same reasons given for the *Mithrao* Canal are applicable here for the decrease and increase in duty and delta of this canal.

On the *Thar* Canal the duty and delta were 60 and 6.8 as compared with the previous year's figures of 52 and 7.4. The increase in duty and decrease in delta are due to better distribution and heavy rainfall.

On the *Khipro* Canal the duty and delta were 58 and 5.3 as compared with 42 and 5.3 in the previous year. The increase in duty is due to better distribution and heavy rainfall.

On the *Fuleli* Canal the kharif duty and delta were 56 and 6.5 against the previous year's figures of 64 and 5.7 while the rabi duty and delta were 42 and 8.7 against the last year's figures of 45 and 8.1. The decrease in duty and increase in delta during kharif are due to decrease in the area irrigated, and similar conditions in rabi are due to the accident to the Alipur Regulator which reduced the rabi cultivation as the *Fuleli* had to be partially closed.

On the *Hassanali*, the duty and delta were 26 and 9.1 against 35 and 9.0 in the previous year. The decrease in duty and increase in delta are due to increased discharge, decline in the area irrigated and heavy rainfall.

18. On "Major Works" the incidence of working expenses on assessed revenue and per acre irrigated were 55.26 per cent. and Rs. 1.64 per acre as compared with 42.97 per cent. and Rs. 1.24 per acre in the previous year.

Under "Minor Works" the figures were 35.39 per cent. and Rs. 0.86 per acre as compared with 32.41 per cent. and Rs. 0.80 per acre in the previous year.

19. The total value of crops grown on the irrigated area of 1,485,446 acres was estimated by the Revenue authorities at Rs. 3,34,83,553 which gives an average of Rs. 22 per acre.

20. The agricultural and other conditions of the year as affecting the areas irrigated by the principal works, the nature of seasons, the state of demand and supply are given in the following paragraph.

21. The principal irrigation works in the Division are the Eastern Nara System, the Jamrao, the Dad, the Nasrat, the Fuleli, the Hassanali, the Alibhar Kacheri, the Great Marakh and the Sarfraz.

The Eastern Nara system comprises the Nara, Mithrao, Hiral, Thar and Khipro canals; the first two are perennial, the third and fourth could be perennial but are given no rabi supply, while the last, the Khipro, flows only during the inundation. The Jamrao has also perennial supply. The Eastern Nara system and the Jamrao are both fed by the Nara Supply Channel taking off the Indus at Rohri. All the other canals are inundation canals, getting their supply direct from the river; the Fuleli, though not perennial, flows nearly throughout the year and gets a rabi supply.

The inundation of 1917 was remarkable for the low level of the river throughout the month of July, its good and steady level throughout August and its abnormal height throughout the month of September.

The river commenced to rise at the beginning of June, but did not reach the fair irrigating level of 13 feet on the Bukkur gauge till the 9th of August 1917. It continued above this level for a period of 30 days as compared with 9 days in the last year, none in the year 1915 and 18 days, the average of previous triennium.

The fair irrigating level of 17 feet on the Kotri gauge was first registered on the 1st August 1917. The river remained above this level from 1st August to 12th October, a period of 73 days as compared with 56 in the previous year, 66 in the year 1915 and 84 days, the average of the previous three years.

The highest readings for the year were 15.8 feet on the Bukkur gauge on the 16th August and 23 feet on the Kotri gauge on the 6th September as compared with 12.6 and 22.1 on the Bukkur and Kotri gauges, respectively, in 1916, and as compared with the recorded maximum readings on these two gauges of 17.9 feet and 23.8 feet, respectively.

The rainfall during the season was abnormal throughout Sind and did a great deal of damage to cultivation and property. It caused some breaches in canals in the Nasrat and Hyderabad Canals Districts but these were closed without serious damage. The season owing to the very late rise of the river and to abnormal rainfall was a very bad one for dry crop cultivation. On the Jamrao owing to the heavy rains and the consequent dense growth of weeds the outturn of cotton per acre was below the normal but this was compensated for by the very high market price obtainable for the cotton.

The areas irrigated in the whole Division under different crops are given in Statement F, paragraph 15 above.

22. The following paragraphs give details of different works or groups of works and a comparison of the agricultural and financial results of the year 1917-18 with the previous year and the average of the previous triennium and the main causes of any important differences in results.

I.—MAJOR WORKS.

PRODUCTIVE PUBLIC WORKS.

A.—Eastern Nara District.

23. An expenditure of Rs. 20,822 was incurred under this head during the year under report on the construction of the *Capital.* Makhi Distributaries, Right and Left and Head Distributary, Hiral Canal.

A sum of Rs. 24,468 was spent during the year mainly on extending the *Extensions and improvements.* inner Right and Left Bank bunds along the Nara below the Makhi Regulator, constructing Clerks' quarters at Samaro and Kanhar and constructing masonry profiles on karias *ex* 30th mile distributary left *ex* Mithrao Canal.

All the canals in the District were maintained in good order at a cost of *Maintenance and repairs.* Rs. 1,15,570 including 'Works establishment.'

The area irrigated during the year was 232,059 acres of which 186,934 *Irrigation.* acres were under kharif and 46,125 acres under rabi as compared with 263,438 acres (kharif 210,253 acres and rabi 53,185 acres) in the last year and with 261,852 acres (kharif 202,174 acres and rabi 59,678 acres) the average of the previous three years.

The gross revenue amounted to Rs. 6,14,961 as compared with last year's *Financial results.* revenue of Rs. 6,82,503 and Rs. 6,84,230 the average revenue of the previous three years. Deducting working expenses Rs. 2,55,619 and share due to old irrigation Rs. 3,100, the net revenue during the year due to improvements was Rs. 3,56,242, or 5.06 on the capital outlay to end of the year as compared with 6.35 per cent. in the last year and 6.50 the average of the previous three years.

The remissions granted during the year amounted to Rs. 8,431 against *General remarks.* Rs. 4,040 remitted last year and Rs. 10,605 the average remissions of the previous three years. The year's remissions were mostly due to deficiency of water at the beginning of the season and to floods caused by the abnormal rainfall at the end.

The principal crops grown were—

Rice	...	...	...	...	111,955 acres.
Bajri	...	...	...	...	33,198 "
Cotton	...	...	...	...	36,884 "
Wheat	...	...	...	...	33,679 "

and the value of the whole outturn is estimated at Rs. 66,23,629 or Rs. 29 per acre.

B.—Jamrao Canal.

24. The net expenditure during the year was Rs. 51,397 after deducting recoveries from Colonists and this amount was spent on completing the Ghotki Flood Diversion Bund (29 miles) mentioned in the previous year's report.

Capital.
A sum of Rs. 1,619 was spent during the year on 'Works' in substituting screw gates for needles at 3 regulators and in extending the Murid distributary.

Extensions and improvements.
The canal and its branches were maintained in good order at a cost of Rs. 3,03,167 including 'Works establishment.' Maintenance and repairs. Regrading and clearance of minors was done where necessary. The canal was completely closed for special clearance in the first 13 miles from 15th March to 25th May 1917. The necessity for special clearance was urgent as the kharif discharge had fallen considerably below the designed discharge. This most important and arduous work was successfully completed within the period fixed for the closure of the canal. The whole work amounted to Rs. 1,34,780.

Irrigation.
The total area irrigated during the year was 238,406 acres (kharif 152,163 acres and rabi 86,243 acres) compared with 239,426 acres (kharif 163,477 acres and rabi 75,949 acres) in the last year and with 259,039 acres (kharif 158,082 acres and rabi 100,957 acres) the average cultivation of the previous three years.

Financial results.
The gross revenue of the year amounted to Rs. 8,28,379 compared with Rs. 7,98,104 in the last year and Rs. 8,23,292 the average revenue of the previous three years. Deducting working expenses Rs. 5,18,633, the net revenue during the year was Rs. 3,09,746 or 3.48 per cent. on the capital outlay to end of year as compared with 4.90 per cent. of the last year and 5.36 the average of the previous three years.

General remarks.
The amount remitted during the year was Rs. 8,774 against Rs. 11,212 remitted last year and Rs. 25,191 the average remissions of the previous three years. This year's remissions were mainly due to deficiency of water and later to damage by rain.

The principal crops grown were—

Cotton	...	...	...	...	96,661 acres.
Wheat	...	...	...	...	75,594 "
Bajri	...	...	...	...	43,751 "

and the estimated value of the whole outturn was Rs. 62,48,335 or Rs. 26 per acre.

C.—Dad Canal.

25. No expenditure was incurred under this head. A sum of Rs. 2,578 was, however, recovered from Colonists during the year.

Capital.
A sum of Rs. 7,409 was spent under this head during the year on 'Works' mainly on constructing a 2nd class Inspection Bungalow with outhouses at Kazi Ahmed.

Extensions and improvements.
The canal and its branches (including Ben distributary *ex* Dad) were maintained in good order at a cost of Rs. 82,509 including 'Works establishment.'

Maintenance and repairs.

The total area irrigated during the year was 121,439 acres of which 85,931 acres were under kharif and 35,508 under rabi as compared with 125,169 acres (kharif 103,375 acres and rabi 19,794) in the last year. No comparison of this year's figures with those of the previous triennium can be made as the Ren distributary *ex Dad*, the figures of which have since 1916-17 been included in those for the Dad under orders of Government, worked for the first time in 1915.

The gross revenue for the year amounted to Rs. 2,75,161 as compared with Rs. 2,94,618 in the last year and Rs. 2,60,353 the average of the previous three years. Deducting working expenses Rs. 1,47,697 and share due to old irrigation Rs. 38,699, the net revenue due to improvements was Rs. 88,785 or 3.33 per cent. on the capital outlay to end of the year as compared with 4.46 in the last year and 2.72 per cent. the average of the previous three years.

The remissions granted during the year amounted to Rs. 13,045 against Rs. 10,074 remitted in the last year and Rs. 8,772 the average remissions of the previous three years. The year's remissions were due to deficiency of water in the early part of the season and to breaches caused by heavy rainfall at the end of the season.

The principal crops grown were—

Jowari	...	...	...	...	21,609 acres.
Bajri	...	...	...	...	36,257 "
Rice	...	...	...	...	11,805 "
Wheat	...	...	...	...	11,026 "

and the estimated value of the whole outturn was Rs. 21,58,898 or Rs. 17 per acre.

D.—*Nasrat Canal.*

26. No expenditure was incurred under this head. A sum of Rs. 3,637, was, however, recovered from Colonists during the year.

A sum of Rs. 4,793 was spent under this head during the year on 'Works' only.

The canal and its branches were maintained in good order at a cost of Rs. 89,605 including 'Works establishments.'

The area irrigated during the year was 77,878 acres (kharif 66,401 acres and rabi 11,477) as compared with 101,480 acres (kharif 94,885 acres and rabi 6,595 acres) in the previous year and with 91,026 acres (kharif 84,076 acres and rabi 6,950 acres) the average of the previous three years.

The gross revenue amounted to Rs. 1,96,290 as compared with Rs. 2,90,410 of the previous year and Rs. 2,58,464, the average of the previous three years. Deducting working expenses Rs. 1,45,811 and share due to old irrigation Rs. 53,046, the net revenue due to improvements was Rs. 2,567 or 0.14 per cent. on the capital outlay to end of the year as compared with 4.48 in the last year and 4.01 per cent. the average of the previous three years.

The remissions granted during the year amounted to Rs. 33,595 against Rs. 12,766 remitted last year and Rs. 13,337 the average remissions of the previous three years.

and were due to deficiency of water early in the season and later to breaches caused by heavy rainfall.

The principal crops grown were—

					Acres.
Jowari	...	...	...	...	20,895
Bajri	...	...	...	...	22,488
Cotton	...	...	...	...	17,014

and the estimated value of the whole outturn was Rs. 7,44,517 or Rs. 9 per acre.

II.—MINOR WORKS AND NAVIGATION.

A.—WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.

1.—Fuleli Canal.

27. A sum of Rs. 25,675 was spent during the year on constructing a new mouth to the Dokiawah from mile 45/3 of the Fuleli Canal above the Alipur regulator.

Capital.

A sum of Rs. 38,131 was spent on works mainly on completing the Inspection bungalow with outhouses at Rajo Khanani and Tando Kaisar, excavating the Shadiwah distributary and constructing masonry sluices to karias taking off from this distributary, constructing sluices to karias *ex* Mithawah and Wangiwah, and a regulator over Chandan Canal *ex* Fuleli.

Extensions and improvements.

The canal and its branches were maintained in good order at a cost of Rs. 1,70,766 inclusive of 'Works establishment'.

Maintenance and repairs.

The area irrigated during the year was 356,780 acres (karif 341,935 acres and rabi 44,845 acres) compared with 444,821 acres (karif 390,153 acres and rabi 54,668 acres) irrigated in the previous year and with 420,055 acres (karif 353,796 acres and rabi 66,259 acres) the average of the previous three years.

Irrigation.

The gross revenue amounted to Rs. 9,29,400 against Rs. 11,04,131 realized last year and Rs. 10,23,190 the average of the previous three years. Deducting working expenses Rs. 3,41,909 and share due to old irrigation Rs. 1,28,188 the net revenue due to improvements was Rs. 4,59,303 or 22.64 per cent. on the capital outlay to end of the year compared with 30.78 in the last year and with 28.20 per cent. the average of the previous three years.

Financial results.

The remissions granted during the year amounted to Rs. 30,965 against Rs. 9,491 remitted last year and Rs. 7,201 the average remissions of the previous three years.

General remarks.

The year's remissions were mainly due to damage by rats.

The principal crops grown were—

					Acres.
Rice	...	...	...	...	242,335
Bajri	...	...	...	...	65,950
Cotton	...	...	...	...	22,120
Wheat	...	...	...	...	15,377
Oilseeds	...	...	...	...	10,712

and the estimated value of the whole outturn was Rs. 79,36,786 or Rs. 21 per acre.

2.—*Hassanali Canal.*

28. A sum of Rs. 1,073 was spent during the year on 'Works' only.

Extensions and improvements. Maintenance and repairs. The canal and its branches were maintained in good order at a cost of Rs. 10,267 inclusive of 'Works establishment.'

Irrigation. The area irrigated during the year was 18,955 acres (karif 18,043 acres and rabi 912 acres) compared with 20,003 acres (karif 19,586 acres and rabi 417 acres) in the previous year and with 18,726 acres (kharif 18,195 and rabi 531 acres) the average of the previous three years.

Financial results. The gross revenue amounted to Rs. 48,178 compared with Rs. 54,843 realized in the previous year and Rs. 50,524 the average realizations of the previous three years. Deducting working expenses Rs. 17,999 and share due to old irrigation Rs. 2,458, the net revenue due to improvements was Rs. 27,721 or 9.09 per cent. on the capital outlay to end of the year against 8.85 per cent. in the last year and 7.60 the average of the previous three years.

General remarks. The remissions of the year amounted to Rs. 3,976 against none remitted last year and Rs. 84 the average remissions of the previous three years. The year's remissions were mainly due to damage by rats.

The principal crops grown were—

	Acres.
Rice	14,375
Bajri	2,890

and the estimated value of the whole outturn was Rs. 4,38,720 or Rs. 23 per acre.

3.—*Alibhar Kacheri.*

29. The canal and its branches were maintained in good order at a cost of Rs. 6,467 including 'Works establishment.'

Maintenance and repairs. Irrigation. The area irrigated during the year was 17,330 acres (kharif 12,647 acres and rabi 4,683 acres) against last year's area of 16,208 acres (kharif 12,861 acres and rabi 3,347 acres) and 16,015 (kharif 12,492 acres and rabi 3,523 acres) the average of the previous three years.

Financial results. The gross revenue amounted to Rs. 33,400 against Rs. 33,496 in the last year and Rs. 34,251 the average of the previous three years. Deducting working expenses 12,656 and share due to old irrigation Rs. 8,239, the net revenue due to improvements was Rs. 12,505 or 52.28 per cent. on the capital outlay to the end of the year against 72.79 per cent. in the last year and 78.88 the average of the previous three years.

General remarks. The sum remitted during the year was Rs. 1,935 against Rs. 476 remitted last year and Rs. 478 the average remissions of the last three years.

The principal crops grown were—

	Acres.
Bajri	8,094
Cotton	3,165
Wheat	2,547

and the value of the whole outturn was estimated at Rs. 4,46,423 or Rs. 26 per acre.

4.—Great Marakh.

30. A sum of Rs. 20,123 was spent during the year on constructing a
 Capital head regulator over the canal.

The canal and its branches were maintained in good order at a cost of
 Maintenance and repairs Rs. 28,715 including 'Works establishment.'

The area irrigated during the year was 79,791 acres (kharif 66,330 acres
 Irrigation. and rabi 13,461 acres) against 85,321 acres
 (kharif 71,424 acres and rabi 13,897 acres)
 irrigated in the last year and 78,182 acres (kharif 65,441 acres and rabi 12,742
 acres) the average of the previous three years.

The gross revenue amounted to Rs. 1,90,410 against Rs. 2,00,487 in the
 Financial results. last year and Rs. 1,85,405 the average revenue
 of the previous three years. Deducting working
 expenses Rs. 57,968 and share due to old irrigation Rs. 36,032, the net revenue
 due to improvements was Rs. 96,410 or 40.01 per cent. on the capital outlay to
 end of the year as compared with 51.87 per cent. in the previous year and
 45.35 per cent. the average of the previous three years.

The sum remitted during the year was Rs. 4,484 against Rs. 4,169
 General remarks. remitted last year and Rs. 3,032 the average
 remissions of the previous three years. The
 year's remissions were mainly due to breaches in canal banks caused by the
 heavy rainfall.

The principal crops grown were bajri 34,604 acres and cotton 24,337
 acres and the value of the whole outturn was estimated at Rs. 22,69,152 or
 Rs. 28 per acre.

5.—Sarfraz.

31. A sum of Rs. 878 was spent during
 Extensions and improvements. the year under this head on 'Works' only.

The canal and its branches were maintained in good order at a cost of
 Maintenance and repairs. Rs. 8,560 including 'Works establishment.'

The area irrigated during the year was 30,027 acres (kharif 27,751 acres
 Irrigation. and rabi 2,276 acres) against 31,950 acres (kharif
 28,994 acres and rabi 2,956 acres) irrigated in
 the last year and 29,042 acres (kharif 26,925 acres and rabi 2,117 acres) the
 average of the previous three years.

The gross revenue amounted to Rs. 66,612 against Rs. 64,637 in the last
 Financial results. year and Rs. 58,950 the average revenue of the
 previous three years. Deducting working ex-
 penses Rs. 19,071 and share due to old irrigation Rs. 10,985, the net revenue
 due to improvements was Rs. 36,556 or 29.32 per cent. on the capital outlay
 to end of the year as compared with 24.91 per cent. in the last year and 19.64
 the average of the previous three years.

The sum remitted during the year was Rs. 16 against Rs. 74 remitted last
 General remarks. year and Rs. 158 the average remissions of the
 previous three years.

The principal crops grown were bajri 18,357 acres and cotton 6,483 acres
 and the value of the whole outturn was estimated at Rs. 6,31,092 or Rs. 21
 per acre.

B.—WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.

1.—*Nasrat Canals District.*

32. The principal canals under this classification are the Mehrab, the Naulakhi and Dambro.

Extensions and improvements. A sum of Rs. 8,662 was spent during the year on 'Works' only.

Maintenance and repairs. All the canals under this head were maintained in good order at a cost of Rs. 40,791 including 'Works establishment.'

Irrigation. The total area irrigated during the year was 91,647 acres (kharif 67,228 acres and rabi 24,421 acres) against last year's area of 92,432 acres (kharif 79,993 acres and rabi 12,439 acres) and the three year's average area of 92,226 acres (kharif 77,191 acres and rabi 15,035).

Financial results. The total canal revenue amounted to Rs. 2,43,472 and the total revenue charges were 69,338 which represents 28.5 per cent. on revenue and Rs. .8 per acre irrigated against last year's figures of 34.4 per cent. and Rs. 1.0 per acre. The corresponding figures for the previous three years averaged 43.5 per cent. and Rs. 1.1 per acre.

General remarks. The remissions granted during the year amounted to Rs. 6,018 against Rs. 420 remitted last year and Rs. 9,743 the average remissions in the previous three years.

The principal crops grown were —

	Acres.
Jowari	44,150
Bajri	14,741
Wheat	14,744

and the estimated value of the whole outturn was Rs. 10,16,590 or Rs. 11 per acre.

2.—*Hyderabad Canals District.*

33. The principal canals under this head are the Ren, Gharo Mahmudo, Kari Shumali and Nasir.

Extensions and improvements. A sum of Rs. 5,904 was spent during the year on 'Works' only.

Maintenance and repairs. All the canals and branches were maintained in good order at a cost of Rs. 56,389 including 'Works establishment.'

Irrigation. The total area irrigated was 160,679 acres (kharif 136,916 acres and rabi 23,763 acres) against last year's area of 161,390 acres (kharif 140,472 acres and rabi 20,918 acres) and 156,766 acres (kharif 137,008 acres and rabi 19,758 acres) the average area irrigated during the previous three years.

Financial results. The total canal revenue amounted to Rs. 3,31,293 and the revenue charges were Rs. 1,00,957 being 30.5 per cent. on the revenue and Rs. 0.6 per acre irrigated against last year's figures of 33.7 per cent. and Rs. 0.7 per acre irrigated. The corresponding figures for the previous three years were 35.5 per cent. and 0.7 per acre irrigated.

The year's remissions amounted to Rs. 3,340 against Rs. 1,584 remitted last year and Rs. 3,374 the average remissions of the previous three years.

General remarks.

The principal crops grown were bajri 85,136 acres and cotton 41,724 acres and the estimated value of the whole outturn was Rs. 43,68,435 or Rs. 27 per acre.

3.—Fuleli Canals district.

34. There are only a few small canals under this head taking off direct from the Indus.

A sum of Rs. 17,224 was spent during the year on constructing two road bridges over the Dhadko and Mulchand Canals into regulators, and on the diversion of the Joyawah.

Extensions and improvements.

Maintenance and repairs.

All the canals were maintained in good order at a cost of Rs. 18,224 inclusive of 'Works establishment.'

The total area irrigated during the year was 30,455 acres (kharif 26,117 acres and rabi 4,338 acres) compared with 33,406 acres (kharif 29,939 acres and rabi 8,467 acre) in the previous year and with 30,182 acres (kharif 25,828 acres and rabi 4,354 acres) the average of the previous three years.

Irrigation.

The total canal revenue amounted to Rs. 71,582 and the revenue charges were Rs. 27,864 representing 38.7 per cent., on the revenue and Rs. 0.9 per acre irrigated against last year's figures of 35.6 per cent., on the revenue and Rs. 0.9 per acre irrigated. The corresponding figures for the previous three years averaged 41.5 per cent., and Rs. 1.1 per acre.

Financial results.

A sum of Rs. 3,911 was remitted during the year against Rs. 1,218 remitted last year and Rs. 1,830 the average remissions of the previous three years.

General remarks.

The principal crops grown were rice 16,109 acres and bajri 8,169 acres and the value of the whole outturn was estimated at Rs. 6,00,972 or Rs. 20 per acre.

C. WORKS—FOR WHICH NEITHER CAPITAL NOR REVENUE ACCOUNTS ARE KEPT

Agricultural Works.

35. A sum of Rs. 14,747 was spent on 'Works' only of which Rs. 14,738 were spent in the Fuleli Canals District on constructing a bund between Dhadko and Mulchand, a paca well on the bank of Nurwah for the Katiar bungalow and a sluice and a supply channel in mile 14 of the Hajipur Bund.

Extensions and improvements.

Maintenance and repairs.

All the bunds in the Division were maintained in good order at a cost of Rs. 45,423 inclusive of 'Work establishment.' Of this sum Rs. 37,767 were spent in the Fuleli Canals District, Rs. 5,228 in the Nasrat Canals District and Rs. 2,428 in the Hyderabad Canals District.

All the river bunds in the Division were subjected to a severe test during the inundation season as water stood high against all of them.

General remarks.

In the Nasrat Canals District, the Naulakhi Nasrat Bund which was partially eroded in 1916 was not repaired as the land behind it is high and the zamindars are anxious to have it flooded. As only about two feet of water is likely to overtop the land behind the bund, the banks of two karias were strengthened to act as a bund in case of necessity.

The Ren bund in the Hyderabad Canals District stood well though there was water against it for nearly the whole of its length, the maximum depth being 5.5 feet.

The bunds in the Fuleli Canals District were subjected to high water levels but, with the exception of two leaks in the Hajipur bund, gave no trouble.

36. The expenditure on and receipts from gardens during the year are compared below with the three years' expenditure and receipts:—

Years.	Expenditure on maintenance.	RECEIPTS.	
		As estimated.	Actuals.
	Rs.	Rs.	Rs.
1914-15	5,412	1,800	2,086
1915-16	5,472	1,844	1,732
1916-17	5,517	1,880	1,917
1917-18	5,516	1,880	2,168

There is an increase in receipts from gardens in the Division of Rs. 251 and 139, respectively, as compared with the receipts of the last year and the average of the previous three years.

37. During the year about 20,400 new young trees of various kinds, other than babul, were planted along canals and in gardens and nurseries. Of about 17,500 trees of various kinds planted along canals, about 16,100 trees were alive at the end of the year. Besides these about 3,000 babul trees were also planted along canal banks and river embankments.

38. The Division was in charge of Mr. R. T. Harrison throughout the year.

The following officers were in charge of the Executive Districts:—

District.	Executive Engineer.	Months in charge.
		M. d.
Nasrat Canals District	Mr. E. P. Watson	10 19
	Mr. T. S. Mirchandani	1 11
Hyderabad Canals District	Mr. D. R. Sawhney	12 0
Fuleli Canals District	Mr. C. O. Lowsley	12 0
Eastern Nara District	Mr. N. B. Baxter	12 0
Northern District Jamrao Canal	Mr. A. B. Timms	12 0
Southern District Jamrao Canal	Mr. J. E. McDongall	9 0

B. T. HARRISON,
Superintending Engineer, Indus Left Bank Division.

No. 729 of 1919.

PUBLIC WORKS DEPARTMENT.

SUPERINTENDING ENGINEER'S OFFICE,
INDUS RIGHT BANK DIVISION.

Camp Shikarpur, 23rd February 1919.

From

V. M. GRIFFITHS, ESQUIRE,

Superintending Engineer,

Indus Right Bank Division;

To

THE CHIEF ENGINEER IN SIND;

SUBJECT :—Annual Irrigation Revenue Report, 1917-18.

Sir,

With reference to Government Resolution No. W.L-5362, dated the 7th May 1915, I have the honour to forward herewith the Revenue Report for Irrigation works in this Division for the year 1917-18.

2. Crop Return VIII-A will follow.

I have the honour to be,

Sir,

Your most obedient servant,

V. M. GRIFFITHS,

Superintending Engineer, Indus Right Bank Division.

Through

The Superintending Engineer,

Indus Left Bank Division.

ANNUAL IRRIGATION REVENUE REPORT, INDUS RIGHT BANK DIVISION, SIND.

1917-18.

The inundation of 1917, as described in the Irrigation Administration Report for 1917-18, and under paragraph 21 of this Report, was unusually late but unusually prolonged.

The diagram sent in advance of this report compares the inundation of 1917 with the two previous years and with the 10 years' average.

The following table shows the principal features of the year as compared with those of previous years:—

		Average of 10 years, including 1916.	Average of 8 years, including 1916.	1916.	1917.
Gauges:—		Days.	Days.	Days.	Days.
Bukkur, 10 feet and over ..	...	70	74	65	71
Do. 13 do. ...	...	84	18	9	30
Kotri, 10 do. ...	...	123	139	114	140
Do. 17 do. ...	...	75	84	86	73
Irrigation:—			Acres.	Acres.	Acres.
Kharif ...	...	...	1,291,924	1,421,721	1,176,286
Rabi ...	...	...	448,405	420,891	537,674
Total ...		...	1,740,329	1,842,612	1,713,960
Gross Irrigation revenue realized ...		...	Rs. 48,79,162	Rs. 52,22,916	Rs. 45,86,893
Working expenses ...		...	23,02,629	19,79,843	22,97,766
Net revenue, neglecting simple interest ...		...	25,76,533	32,43,073	22,89,127

Area of cultivation—Government, Jagir and Foreign.

2. The gross assessment areas for the year are given in the subjoined Statement A.

STATEMENT A.

Year and class of crops.	MAJOR WORKS.		MINOR WORKS AND NAVIGATION.			Grand total.
	Productive Works.	Works for which Capital and Revenue Accounts are kept.	Works for which only Revenue accounts are kept.	Agricultural Works.	Total.	
1	2	3	4	5	6	7
Average of 8 years including 1916-17.	Acres. 413,217 215,642	Acres. 288,787 49,721	Acres. 566,941 171,474	Acres. 22,979 11,588	Acres. 878,707 232,763	Acres. 1,291,924 448,405
Total ...	628,859	338,508	738,415	34,547	1,111,470	1,740,329
1916-17 ...	{ Kharif ... 466,020 Rabi ... 222,972	{ 302,957 51,912	{ 636,818 136,184	{ 25,926 9,873	{ 965,701 197,919	{ 1,421,721 420,891
Total ...	678,992	354,869	772,952	35,799	1,163,620	1,842,612
1917-18 ...	{ Kharif ... 350,558 Rabi ... 266,033	{ 290,840 77,390	{ 516,676 180,630	{ 18,212 13,621	{ 825,728 271,641	{ 1,176,286 537,674
Total ...	616,591	368,230	697,306	31,833	1,097,369	1,713,960
Increase or decrease as compared with average.	{ Kharif ... -62,659 Rabi ... 50,391	{ 2,053 27,669	{ -50,265 9,156	{ -4,767 2,053	{ -52,979 38,878	{ -115,638 69,269
Total ...	-12,268	29,722	-41,109	-2,714	-14,101	-26,369
Increase or decrease as compared with 1916-17.	{ Kharif ... -105,463 Rabi ... 43,061	{ -12,117 25,478	{ -120,142 44,406	{ -7,714 3,748	{ -139,973 73,723	{ -245,485 116,783
Total ...	-62,401	13,361	-75,646	-3,966	-66,251	128,652

The total cultivation shows a decrease of 128,652 and 26,369 acres as compared with that of the previous year and of the average of the previous triennium.

The area under kharif was less by 245,435 and 115,638 acres as compared with last year and previous triennium, while that under rabi was 116,763 and 89,269 acres more than the previous year and the average of the previous triennium.

3. The area of "dubari" or twice-cropped land, which is not included in statement A, was 307,961 acres.

4. The total net consolidated assessment, including "hakabo," on Foreign and Jagir lands, after deducting remissions, is given in statement B.

Assessment—Government, Foreign and Jagir.

STATEMENT B.

Year and class of crops.	MAJOR WORKS.	MINOR WORKS AND NAVIGATION.				Grand total.
	Productive Works.	Works for which Capital and Revenue Accounts are kept.	Works for which only Revenue Accounts are kept.	Agricultural Works.	Total.	
1	2	3	4	5	6	7
	Ra.	Ra.	Ra.	Ra.	Ra.	Ra.
Average of 3 years including 1916-17.	{ Kharif ... 9,89,472 Rabi ... 5,56,412	{ Kharif ... 11,33,363 Rabi ... 2,45,459	{ Kharif ... 16,82,882 Rabi ... 5,65,836	{ Kharif ... 49,426 Rabi ... 33,547	{ Kharif ... 28,65,671 Rabi ... 8,44,842	{ Kharif ... 26,54,143 Rabi ... 14,01,254
Total ...	15,44,884	13,78,822	22,48,718	82,973	37,10,518	52,55,897
1916-17 ...	{ Kharif ... 11,28,525 Rabi ... 5,87,981	{ Kharif ... 11,87,598 Rabi ... 2,52,783	{ Kharif ... 16,97,807 Rabi ... 6,02,623	{ Kharif ... 63,188 Rabi ... 30,120	{ Kharif ... 31,48,593 Rabi ... 7,85,725	{ Kharif ... 42,77,118 Rabi ... 13,78,706
Total ...	17,16,506	14,40,381	24,00,629	93,308	39,34,318	56,50,524
1917-18 ...	{ Kharif ... 9,52,810 Rabi ... 6,98,048	{ Kharif ... 10,75,216 Rabi ... 2,96,753	{ Kharif ... 13,13,609 Rabi ... 6,10,390	{ Kharif ... 42,968 Rabi ... 67,706	{ Kharif ... 24,31,811 Rabi ... 6,54,878	{ Kharif ... 23,84,121 Rabi ... 16,52,926
Total ...	16,50,858	13,71,969	19,23,999	90,696	30,86,689	50,37,047
Increase or decrease as compared with average.	{ Kharif ... -36,168 Rabi ... 1,41,636	{ Kharif ... -58,153 Rabi ... 51,323	{ Kharif ... -3,69,273 Rabi ... 44,554	{ Kharif ... -6,494 Rabi ... 14,159	{ Kharif ... -4,38,860 Rabi ... 1,10,036	{ Kharif ... -1,70,022 Rabi ... 2,81,673
Total ...	1,05,474	-6,830	-3,24,719	7,725	-3,23,824	-2,18,350
Increase or decrease as compared with 1916-17.	{ Kharif ... -1,76,215 Rabi ... 1,10,067	{ Kharif ... -1,12,368 Rabi ... 43,999	{ Kharif ... -5,24,198 Rabi ... 1,07,568	{ Kharif ... -20,196 Rabi ... 17,586	{ Kharif ... -7,16,782 Rabi ... 1,69,153	{ Kharif ... -8,92,097 Rabi ... 2,79,220
Total ...	-66,143	-69,369	-4,76,630	-2,610	-5,47,629	-6,13,777

The total net assessed revenue shows a decrease of Rs. 5,13,777 and Rs. 2,18,350 as compared with that of the previous year and of the average of the previous triennium respectively.

4-A. The area cultivated on "spill" water was 66,406 acres as compared with the previous year's area of 55,892 acres and 72,549 acres the average of the previous triennium.

Cultivation on spill.

5. The average net consolidated assessment per acre on Government land, as compared with the previous year and the average of the previous three years, is shown below :—

	Average of previous three years.	1917-18.	1916-17.
	Ra.	Ra.	Ra.
Major Works—Productive	2.73	2.80	2.61
Works for which Capital and Revenue Accounts are kept	4.25	3.78	4.19
Works for which only Revenue Accounts are kept	3.21	2.81	3.24
Agricultural Works	2.73	2.66	2.93
Average of all works	3.25	3.04	3.29

Actual realizations under all heads and the balance outstanding.

6. The following statement shows the realizations under all heads and the balances outstanding at the end of the year :—

STATEMENT C.

Years.	COLLECTIONS.				Balance outstanding.
	Government land and hakabo.	Miscellaneous.	Four per cent irrigation share of proceeds from sale of occupancy rights.	Total receipts.	
1	2	3	4	5	6
	Rs.	Rs.	Rs.	Rs.	Rs.
Average of past 3 years	47,47,374	65,540	66,247	48,79,161	98,467
1916-17	50,96,208	59,373	67,335	52,22,916	71,255
1917-18	44,37,866	80,585	68,442	45,86,893	1,91,709
Increase or decrease as compared with average	-8,09,503	15,045	2,195	-2,92,268	98,242
Increase or decrease as compared with 1916-17	-6,58,342	21,212	1,107	-6,36,023	1,20,454

The balance outstanding at the end of the year shows an increase of Rs. 1,20,454 and Rs. 98,242 when compared with the previous year and the average of the previous triennium.

7. The remissions granted during the year amounted to Rs. 7,11,678 against Rs. 3,56,158 and Rs. 2,91,033 of the previous year and the average of the previous 3 years.

Remissions on Government land.

7-A. The remissions granted during the year amounted to Rs. 270 against Rs nil of the previous year and the average of the previous triennium.

Remissions on Jagir land.

7-B. The remissions on land in Foreign territory (Khelat) amounted to Rs. 2,723 of which Rs. 2,556 were on kharif and Rs. 167 on rabi.

Remissions on Foreign lands.

The following statement gives details of the causes of the remissions with a comparison of the previous year's figures :—

Causes of remissions.	1917-18.	1916-17.	Difference.
	2	3	4
1	Rs.	Rs.	Rs.
Deficiency of water	12,193	26,486	-14,288
Breaches in canals	24,817	90,992	-66,175
Blight or mahlo	25,936	181	25,755
Wire-worms or insects	46,971	2,305	44,666
Frost	6,873	2,535	4,338
Locusts	179	1,316	-1,137
Rats	57,260	1,690	55,570
Revised settlement	74,771	91,940	-17,169
Kalar soil	4,958	14,277	-9,319
Other causes	13,239	11,801	1,938
Inundation	4,09,433	65,303	3,44,130
Erosion	.....	43,643	-43,643
Adverse winds	19,068	6,625	12,441
Rains	18,970	.....	18,970
Total	7,14,671	3,58,394	3,56,277

8. The difference between the 'hakabo' or water rate assessed on Foreign and Jagir cultivation and the assessment at full rates on these areas amounted to Rs. 2,97,422 which represents the loss of canal revenue during the year owing to low rates charged to jagirdars and to zamindars in Khelat.

Expenditure on maintenance and repairs and establishment charged to works.

9. The total charges during the year on account of maintenance and repairs amounted to Rs. 18,76,708 as shown below:—

	Rs.
Works	12,95,385
Establishment and tools and plant	3,02,677
Revenue collections	2,78,646
Total	18,76,708

Establishment charged to 'Works' amounted to Rs. 2,73,796 and is included in the expenditure on 'Works,' while the net expenditure on works (clearance and repairs) was Rs. 10,21,589. Compared with the previous year and the average of the previous three years, the net expenditure on clearance and repairs shows an increase of Rs. 1,45,964 and a decrease of Rs. 13,310, respectively.

Expenditure on maintenance and repairs separately for canals and river embankments.

10. Of the total charges shown in the preceding paragraph, Rs. 12,40,938 were spent on canals and Rs. 6,35,770 on river embankments.

Outlay on new work a.

11. The outlay of the year on new works was Rs. 3,93,655 as shown below:—

	Rs.						
Major Works	<table style="display: inline-table; vertical-align: middle;"> <tr> <td style="font-size: 2em; vertical-align: middle;">{</td> <td>Capital</td> <td style="text-align: right;">10,522</td> </tr> <tr> <td></td> <td>Revenue... ..</td> <td style="text-align: right;">31,798</td> </tr> </table>	{	Capital	10,522		Revenue... ..	31,798
{	Capital	10,522					
	Revenue... ..	31,798					
Minor Works and Navigation—							
Works for which Capital and Revenue Accounts are kept,	<table style="display: inline-table; vertical-align: middle;"> <tr> <td style="font-size: 2em; vertical-align: middle;">{</td> <td>Capital</td> <td style="text-align: right;">...</td> </tr> <tr> <td></td> <td>Revenue... ..</td> <td style="text-align: right;">11,495</td> </tr> </table>	{	Capital		Revenue... ..	11,495
{	Capital					
	Revenue... ..	11,495					
Works for which only Revenue Accounts are kept	63,353						
Agricultural Works	2,97,531						
Total Rs.	3,93,655						

12. The regular establishment charges, as shown below, amounted to Rs. 4,24,026 which is Rs. 2,937 and Rs. 5,019 less than, that of the previous year and that of the average of the previous triennium respectively:—

	Rs.	Percentage on outlay.
Executive	3,73,984	23.83
Direction—		
Superintending Engineer	18,056	
Secretariat	31,936	
	50,042	3.19
Total	4,24,026	27.02

13. The general financial results of all the irrigation works in this Division are shown in the following Statement D:—

STATEMENT D.

Class of works.	Gross revenue.	Working expenses.	Net revenue.	Simple interest.	Net profit, 1917-18.	Net profit, 1916-17.	Increase.	Decrease.
1	2	3	4	5	6	7	8	9
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Major Works—Productive ...	14,83,872	4,42,289	10,41,583	2,48,566	7,93,017	9,01,721	...	1,08,704
Minor Works for which Capital and Revenue Accounts are kept	12,53,311	2,85,264	9,68,047	...	9,68,047	9,54,846	13,201	...
Total ...	27,37,183	7,27,553	20,09,630	2,48,566	17,61,064	18,56,567	13,201	1,08,704
Minor Works for which only Revenue Accounts are kept.	17,66,108	6,36,912	11,29,196	...	11,29,196	15,26,902	...	3,97,706
Agricultural Works ...	83,602	9,33,301	-8,49,699	...	-8,49,699	-3,76,448	...	4,73,251
1917-18 ...	45,86,893	22,97,766	22,89,127	2,48,566	20,40,561	30,07,021	...	...
1916-17 ...	52,22,916	19,79,843	32,43,073	3,36,052	30,07,021	...	-9,66,460	...
Increase or decrease ...	-6,36,023	3,17,923	-9,53,946	12,514	-9,66,460	...	-9,66,460	...

13-A. The following statement shows the rate of expenditure on agricultural works per acre of area irrigated after excluding the cost of the surveys for definite projects:—

STATEMENT E.

Total area irrigated by all classes of works.	Total working expenses and maintenance for canals.	Rate of working expenses per acre of area irrigated (col. 2 divided by col. 1).	Expenditure on agricultural works (excluding the cost of surveys for special projects).	Rate of expenditure on agricultural works per acre of area irrigated (col. 4 divided by col. 1).	Total working expenses per acre of area irrigated including expenditure on agricultural works (col. 3 + col. 5).
1	2	3	4	5	6
Acres.	Rs.	Rs.	Rs.	Rs.	Rs.
1,713,960	13,64,465	0.80	9,33,301	0.54	1.34

The total working expenses, including expenditure on agricultural works, comes to Rs. 1.34 per acre of total area irrigated compared with Rs. 1.08 per acre of area irrigated in the previous year and Rs. 1.34 per acre of the average area irrigated during the past three years.

14. There were 1,371 miles of main canals and 1,969 of branch canals—total 3,340 miles—in operation during the year against the previous year's total of miles 3,351 (main 1,376 and branch canals 1,975).

The total length of the river embankment was 562.5 miles against 563 miles of the last year. The causes of decrease of 5 miles in main canals and 6 in branch canal and decrease of .5 miles in river embankments are explained at the bottom of Table VI, accompanying this report.

Area of principal crops—Government, Foreign and Jagir.

15. The areas of the principal crops grown during the year were—

STATEMENT F.

Crops.	1917-18.			Average of previous 3 years.	1916-17.	Increase or decrease as compared with average.	Increase or decrease as compared with 1916-17.	
	Lift.	Flow.	Total.					
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
Kharif	Rice ...	99	759,910	740,009	739,600	801,302	10,409	-61,193
	Juari ...	79,625	197,152	276,777	353,603	424,221	-77,023	-147,444
	Bajri ...	35,809	86,674	122,483	157,572	156,898	-37,089	-34,475
	Cotton ...	340	607	947	982	635	-35	122
	Other crops ...	6,574	29,497	36,071	49,970	38,528	-13,899	-3,457
Total ...	122,447	1,053,840	1,176,287	1,291,924	1,421,674	-115,637	-245,587	
Rabi	Wheat ...	44,785	258,565	303,170	260,091	253,232	43,079	49,938
	Barley ...	91,425	10,868	12,268	11,788	7,725	500	4,563
	Oil-seeds ...	7,862	176,360	183,762	180,850	153,658	2,912	29,904
	Other crops ...	2,116	344,298	346,414	340,221	368,331	6,193	-21,617
	Total ...	55,508	790,126	845,634	792,950	783,146	52,684	62,458
GRAND TOTAL ...	177,955	1,843,966	2,021,921	2,084,874	2,204,820	-62,953	-182,899	

As compared with the last year and the average of the previous triennium there was a decrease of 245,387 and 115,637 acres, respectively, under kharif and an increase of 62,488 and 52,684 acres, respectively, under rabi, resulting in a net decrease of 182,899 and 62,953 acres, respectively.

16. The proportions of kharif and rabi, of the total area irrigated in this Division were 58 and 42 against 64 and 36 of the last year and against 62 and 38 of the past 3 years. The highest percentage, viz., 86 of kharif was in the Karachi Canals District and the lowest was 50 in the Shikarpur Canals District, while the Begari, Ghar and Western Nara Districts had respectively 51, 58 and 56. The Karachi Canals, the Ghar Canals and the Western Nara Districts had as usual, the largest rice areas with 219, 661, 218, 054 and 150,079 acres, respectively, out of the total rice cultivation of the Division of 740,009. The largest areas under juari were in the Begari Canals District and the Western Nara District, viz., 108,839 and 60,684 acres, while the largest under bajri 92,601 acres were in the Begari Canals District and under cotton 610 in the Shikarpur Canals District.

Of the rabi crops wheat was largely grown in the Begari, Western Nara, Shikarpur and the Ghar Canals Districts and oil-seeds in the Begari Canals, the Ghar Canals and the Western Nara Districts.

17. The duties and deltas of canals in this Division this year indicate a decided improvement with a few exceptions (particularly in the Western Nara District where much cultivation was flooded by hill torrents).

BEGARI CANALS DISTRICT.

Desert Canal.

The duty and delta for the year were 125 and 2.1, respectively, as compared with 101 and 4.3 of the previous year. The increase in duty and decrease in delta is due to good regulation, to heavy rain during August and September, the reduced number of days in which the canal flowed and to the high proportion of rabi cultivation.

Unharwah.

The duty and delta were 83 and 2·8 as compared with 62 and 4·9 respectively in the previous year. The favourable results are due to better distribution, heavy rains in August and September, the reduced number of days in which the canal flowed and to the high proportion of rabi cultivation.

Begari Canal.

The duty and delta were 74 and 3·8 as compared with 108 and 3·7, respectively, in the previous year. The lower duty is due to the increased average discharge, the decrease in kharif cultivation and the big remissions necessary owing to crops flooded by hill torrents and rain water.

SHIKARPUR CANALS DISTRICT.

The duties and deltas in the canals in Rohri, the Chitti, the Rajib, the Garang and the Sind Canal show a uniform improvement due to a reduction in rice cultivation, heavy rains and high late river which tended to increase the area brought under rabi cultivation and judicious regulation.

The following figures show the increase in duty and reduction in delta, respectively, in each of the canals:—

				Increase in duty.	Reduction in delta.
Canals in Rohri	...	...	...	3	0·82
Chitti Canal	...	...	...	16	0·39
Rajib Canal	...	...	...	9	0·46
Garang Canal	...	...	...	24	1·53
Sind Canal	...	...	...	4	0·22

Mahiwah.

The duty and delta for the year were 50 and 4·4 as compared with 37 and 5·2, respectively, in the previous year. The favourable results are due to decrease in rice cultivation, heavy rains and high late river which helped to increase the area brought under rabi cultivation and the judicious regulation of the canal.

GHAR CANALS DISTRICT.*Sukkur Canal.*

The kharif and rabi duties were 36 and 164 as compared with 34 and 82, respectively, in the previous year. The deltas were 6·2 and 1·1 as compared with 6·7 and 1·1. The slight improvement in the kharif duty and delta is due to timely rains and decrease in rice owing to the low inundation in the first half of the season. The increase in the rabi duty is due to the heavy rainfall and high inundation in the latter half of the season which flooded the land sufficiently for rabi cultivation.

Ghar Canal.

The duty and delta were 87 and 4·3 as compared with 99 and 3·3, respectively, in the previous year. The unfavourable results are due to less kharif cultivation owing to low early inundation exclusion of about 20,000 acres due to remissions owing to flooding by hill torrents and no corresponding increase in rabi cultivation due the state of the country damaged by floods.

KARACHI CANALS DISTRICT.*Sattah Canal.*

The duty and delta were 18 and 11·9 as compared with 10 and 21·4, respectively, in the previous year. The very low duty and high delta are due to overwatering of the crops and dearth of rabi cultivation.

Baghar.

The very low duty and an excessive delta are due to a big volume of water running to waste into the sea.

Pinyari Canal.

The duty and delta were 32 and 6.7 the same as in the previous year. The canal would have shown better results owing to increase in rabi cultivation had not large areas come under remission.

Kalri Canal.

The duty and delta were 33 and 6.5 as compared with 22 and 9.7, respectively, in the previous year. The favourable results obtained notwithstanding heavy kharif remissions are due to the low supply in the first half of the season and to increase in area under rabi.

WESTERN NARA DISTRICT.*Western Nara including the new feeder and the Pritchard Canal.*

The duty and delta were 46 and 6.3 as compared with 67 and 4.2, respectively, in the previous year. The decrease in duty and increase in delta are due to heavy remissions on over 80,000 acres of kharif area, due to hill floods and to decrease in rabi cultivation owing to the deserted and flooded country.

Maroivah.

The duty and delta were 45 and 6.5 as compared with 39 and 5.5, respectively, in the previous year. The increase in duty is due to an increase in rabi cultivation and that in delta to the increased number of days the canal flowed without corresponding results in the end of the season.

Dadu Canals.

The duty and delta were 210 and 1.4 as compared with 57 and 4.4, respectively, in the previous year. These results are due, notwithstanding heavy kharif remissions, to the very low supply in the first half of the season, almost complete cut off at head in the latter half of the season, decrease of kharif cultivation and increase in rabi area.

Phitta Canal.

The duty and delta were 226 and 1.22 as compared with 18 and 3.1, respectively, in the previous year. These favourable results are due to the same causes given for the Dadu Canals.

Chario Wahur including the Munchur lake.

The duty and delta were 11 and 29.72. No comparison with last year's results can be made as the discharge observations in that year were incomplete. The very low duty and high delta are due to water running into the Munchur Lake. Instead of a marked increase in rabi cultivation there is a decrease owing to rabi areas remaining flooded for want of an independent and efficient drainage channel from the Munchur areas to the river.

Canals north of Kotri.

The duty and delta were 49 and 3.35 as compared with 36 and 5.5, respectively, in the previous year. The favourable results are due, notwithstanding heavy kharif remissions, to a reduction, in the number of days the canal flowed as also to the very low discharge in the first half of the season, decrease of kharif cultivation and increase in rabi area.

Wahurwah.

The duty and delta were 117 and 1.47. No comparison with last year's results is possible as the latter were incomplete as remarked in that year's report.

18. On 'Major Works' the figures were 28.70 per cent. and Rs. 0.72 per acre as compared with 28.19 per cent. and Rs. 0.67 per acre in the previous year. Under 'Minor Works' the figures were 22.69 per cent. and Rs. .77 per acre as compared with 27.00 per cent. and Rs. 1.00 per acre last year.

19. The total value of crops grown on the irrigated area of 2,021,921 acres was estimated by the Revenue authorities at Rs. 5,02,70,614 which gives an average of 25 per acre.

20. The agricultural and other conditions of the year under review, as affecting the areas irrigated by the principal works, such as the nature of the seasons, the state of demand and supply, &c., are given in the following paragraph.

21. The principal irrigation works in this Division are the Desert Canal, the Unharwah, the Begari, the Mahiwah, the Sukkur Canal, the Ghar and the Sattah.

The first four are 'Major Works' and the remaining three 'Minor Works' for which both Capital and Revenue accounts are kept. There are also other irrigation systems, *viz.*, the Sind Canal, the Western Nara, the Baghar, the Kalri and the Pinyari. These, however, with a number of small canals taking off direct from the river, are classed as "Works for which only Revenue Accounts are kept." All the canals are inundation canals.

The inundation of 1917 was remarkable for the lowness of the river throughout the month of July, its good and steady level throughout August and its abnormal height throughout the whole of September.

The river commenced to rise at the beginning of June, but did not reach the fair irrigating level of 13 feet on the Bukkur gauge till the 9th of August 1917. It continued above this level for a period of 30 days as compared with 9 days in the last year, none in the year 1915 and 18 days the average of previous triennium.

The fair irrigating level of 17 feet on the Kotri gauge was first registered on the 1st August 1917. The river remained above this level from 1st August to 12th October, a period of 73 days, as compared with 86 in the previous year, 66 in the year 1915 and 84 days the average of the previous three years.

The highest readings for the year were 15.8 feet on the Bukkur gauge on the 16th August and 23.0 feet on the Kotri gauge on the 6th September. As compared with 13.6 and 22.1 on the Bukkur and Kotri gauges, respectively, in 1916, and as compared with the recorded maximum readings on these two gauges of 17.9 feet and 23.8 feet, respectively.

The rainfall during the season was abnormal throughout Sind and did a great deal of damage to cultivation and property. The season, owing to the very late rise of the river and to abnormal rainfall, was a very bad one for dry crop cultivation. As regards rice, the seedlings withered in July and had to be resown in many places and a good deal of the rice cultivation in low lands was flooded. The season was a poor one except for rabi cultivation on high lands.

The areas irrigated in the whole division under different crops are given in Statement F, paragraph 15, above. There was a decrease of 182,899 and 62,953 acres as compared with the previous year and the average of the previous triennium, respectively.

22. The following paragraphs give details of different works or groups of works and a comparison of the agricultural and financial results of the year 1917-18 with the previous year and the average of the previous triennium and the main causes of any important differences in results.

I.—MAJOR WORKS.

PRODUCTIVE WORKS.

A.—Desert Canal.

23. An expenditure of Rs. 482 was incurred during the year on lowering pavement of Adiowah Bund Regulator taking off the Desert Canal.

Capital.

A sum of Rs. 5,775 was spent during the year on (1) constructing a store room at Jacobabad, (2) providing furniture in Public Works Department inspection bungalows and (3) constructing a baulkshed at mile 7 of the Desert Canal.

Extensions and Improvements.

Maintenance and repairs.

The main canal and its branches were maintained in good order at a cost of Rs. 60,692 including 'Work Establishment.'

The total area irrigated, including dubari, during the year was 206,279 acres out of which 91,130 acres were under kharif and 115,149 acres under rabi, against 240,347 acres in the previous year and 208,386 acres the average of the previous triennium. The decrease is due to less cultivation of kharif owing to low level of river in the beginning of the season and a large decrease in kharif in Nasirabad Tahsil (Khelat territory) is due to less cultivation of the crop owing to (1) the appearance of "tid" at the time of sowing of kharif crops, (2) adoption of rotations due to insufficiency of water in canal, and (3) to heavy rains and floods.

Irrigation.

The gross revenue from all sources amounted to Rs. 4,52,182 compared with Rs. 4,80,321 of the last year and Rs. 4,17,536 the average of the previous triennium. Deducting working expenses Rs. 1,19,872 the net revenue during the year was Rs. 3,32,310 or Rs. 12.21 per cent. on the capital outlay to end of the year as compared with 13.07 of the last year and 10.77 the average of the previous triennium. The decrease in revenue as compared with last year is due to the same causes as given above under cultivation paragraph.

Financial results.

The remissions granted during the year amounted to Rs. 38,934 against Rs. 65,721 of the last year. The increase in the last year's remission was due to revised settlement in Thul, Kandhkot and Kashmor talukas.

General remarks.

The principal crops grown were—

	Acres.
Rice	30,156
Juari	27,151
Bajri	29,235
Wheat	48,677
Oil-seeds	26,764

and the value of the whole outturn is estimated at Rs. 63,32,750 or Rs. 31 per acre.

B.—Unharwah.

Capital.

24. No expenditure was incurred under this head during the year under report.

A sum of Rs 11,265 was spent under this head on (1) providing furniture in Public Works Department Inspection bungalows along Unharwah, (2) making additions and alterations to Public Works Department Inspection bungalow at Tangwani, (3) constructing Public Works Department Inspection bungalow, class II, at Thul, and (4) excavating karia Dadwah.

The main canal and its branches were maintained in good order at a cost of Rs. 32,131 including 'Works Establishment.'

The total area cultivated during the year was 89,922 acres out of which 45,576 acres were under kharif and 44,346 acres under rabi, as compared with 81,262 acres of the average of the previous triennium and 85,241 acres of the past year. The increase in total cultivation is due to increase in rabi cultivation owing to high level of the river during August and September and heavy rains.

The gross revenue amounted to Rs. 2,09,867 as compared with Rs. 1,87,930 of the last year and Rs. 1,78,090 the average of the previous triennium. Deducting working expenses Rs. 72,624, the net revenue during the year was Rs. 1,37,243 or 17.40 per cent. on the capital outlay to the end of the year as compared with 15.83 per cent. of the last year and 15.37 per cent. of the average of the previous triennium. The increase in net revenue is due to the same cause as given above in cultivation paragraph.

The remissions granted amounted to Rs. 13,001 against Rs. 23,234 of the previous year. The increase of the last year's remissions was due to the revised settlement.

The principal crops grown were—

	Acres.
Rice	2,204
Juari	9,582
Bajri	32,385
Wheat	20,188
Oil seeds	8,025

and the value of the outturn of the crops grown on this canal is estimated at Rs. 23,46,050 or Rs. 26 per acre.

C.—*Begari Canal.*

Capital. 25. No expenditure was incurred under this head.

A sum of Rs. 5,324 was spent under this head on (1) providing furniture in Public Works Department Inspection bungalows, (2) constructing Darogas' landhis at 19 and 67 miles and (3) constructing head sluice over distributary No. 1, Right Bank, Choi Branch.

The main canal and its branches were maintained in good order at a cost of Rs. 80,822 including 'Works establishment,' against Rs. 87,240 spent during the last year.

The total area cultivated during the year was 331,016 acres out of which 183,632 acres were under kharif and 147,384 acres under rabi, as compared with 327,559 acres the average of the previous triennium and with 361,455 acres of the previous year. The decrease in cultivation as compared with the last year 1916-17 is due to the same causes as are given under same heading of the Desert Canal.

The gross revenue of the year amounted to Rs. 6,48,022 as compared with Rs. 7,31,773 of the last year and Rs. 6,63,221 the average of the previous triennium. Deducting working expenses Rs. 1,63,416 and share due to old irrigation Rs. 24,854, the net revenue during the year due to improvements was Rs. 4,59,752 or Rs. 18.84 per cent. on the capital outlay to end of the year as compared with 21.77 per cent. in the last year and 18.71 per cent. the average of the previous triennium.

The remissions during the year amounted to Rs. 46,890 against Rs. 19,488 of the previous year. The remissions were chiefly due to wire worms and insects, &c.

The principal crops grown were—

	Acres.
Rice	76,041
Juari	71,368
Bajri	29,609
Wheat	28,973
Oil seeds	35,818

The value of the whole outturn of the crops grown is estimated at Rs. 90,68,903 or Rs. 27 per acre.

D.—Mahiswah.

Capital. 26. No expenditure was incurred under this head.

A sum of Rs. 1,227 was spent during the year on making certain minor additions and alterations to a few Public Works bungalows and providing furniture.

Maintenance and repairs. The canal and its branches were maintained in good order at a cost of Rs. 66,862; including 'Works establishment.'

The total area irrigated was 66,792 acres of which 30,171 acres were under kharif and 36,621 acres under rabi. When compared with the average of the previous triennium 68,672 acres and 74,434 acres of the last year, the total cultivation shows a decrease of 1,880 and 7,642 acres, respectively. The decrease in cultivation was due to low kharif inundation.

The gross revenue amounted to Rs. 1,73,801 as compared with Rs. 1,89,103 of the last year and Rs. 1,69,401 the average of the previous triennium. Deducting working expenses Rs. 86,377 and share due to old irrigation Rs. 89,217 the net revenue during the year due to improvements is Rs. 1,793.

The remissions granted amounted to Rs. 5,525 of which Rs. 3,055 were on account of kharif and Rs. 2,470 for rabi.

The principal crops grown were—

	Acres.
Rice	4,246
Juari	11,993
Bajri	11,247
Wheat	26,035
Oil seeds	5,812

The estimated value of the outturn was Rs. 14,58,180 or Rs. 22 per acre.

II.—MINOR WORKS AND NAVIGATION.

A.—WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.

I.—Sukkur Canal.

Capital. 27. No expenditure was incurred under this head.

A sum of Rs. 3,107 was expended under this head during the year on
 (1) completing the construction of a well in the compound of Public Works Inspection bungalow at Ruk, (2) constructing a sluice over Karia Shah at 0-0-483, Left Bank, Sind Sanhri on the Sukkur Canal, (3) constructing a tube well in the compound of 2nd class Inspection bungalow at Sanjharbhati, (4) providing additional furniture in Public Works Department Inspection bungalows, Sukkur Canal, (5) additions and alterations to 2nd class Inspection bungalow at Sanjharbhati, (6) additions and alterations to and laying water pipe $\frac{3}{4}$ " diameter in the Public Works Inspection bungalow, class I at Sukkur and (7) additions and alterations to Public Works Inspection bungalow at Ruk.

The main canal and branches were maintained in good order at a cost of
 Maintenance and repairs. Rs. 42,257 including 'Works establishment' against Rs. 47,930 of the last year.

The total cultivation was 129,143 acres of which 68,364 acres were under kharif and 60,779 acres were under rabi as compared with 115,490 acres the average of the previous triennium and 126,260 acres of the previous year. The increase of 12,161 acres in rabi as compared with that of the previous triennium was due to the very good inundation in the latter half of the season and to the encouragement given for the extension of the wheat cultivation during the year. The decrease in kharif is due to the late inundation.

The gross revenue realized during the year amounted to Rs. 2,99,878 as compared with Rs. 3,07,712 of the last year and Rs. 2,86,599 the average of the previous triennium. Deducting working expenses Rs. 80,654 and share due to old irrigation Rs. 71,444 the net revenue due to improvement was Rs. 1,47,780 giving a return of 10.36 per cent. on the capital outlay against 10.82 per cent. of the last year and 8.47 the average of the previous triennium. The decrease in net revenue notwithstanding the increase in total cultivation as compared with the last year and the average of the previous triennium is due to large remissions owing to submersion of kharif crop due to hill torrents and extraordinary heavy rain.

General remarks. Remissions granted during the year amounted to Rs. 20,227 against Rs. 2,696 in the previous year.

The principal crops grown were—

	Acres.
Rice	46,177
Juari	19,303
Wheat	18,464
Oil seeds	17,239

The estimated value of the whole outturn was Rs. 32,82,193 or Rs. 18 per acre.

II.—Ghar Canal.

Capital. 28. No expenditure was incurred under this head during the year.

A sum of Rs. 5,894 was spent under this head during the year, on constructing four new wells at Inspection bungalows, on completion of nine open type sluices and on some other petty works.

Extensions and improvements.

Maintenance and repairs.

A total expenditure during the year was Rs. 94,919 against Rs. 1,46,453 in the previous year including 'Works establishment.'

The total cultivation was 342,210 acres of which 226,396 acres were under kharif and 135,814 acres under rabi against 356,312 acres in the previous year and 348,400 acres the average of the previous triennium. As compared with the average of the previous triennium the decrease of 3,410 acres in kharif was due to unfavourable inundation in the first half of the season and of 2,780 acres in rabi due to many lands being flooded and not drying up in time for cultivation.

Irrigation.

The gross revenue amounted to Rs. 9,08,560 as compared with Rs. 9,79,676 of the last year and Rs. 9,55,689 the average of the previous triennium. Deducting the working expenses Rs. 1,92,248 and share due to old irrigation Rs. 1,16,671, the net revenue during the year due to improvements was Rs. 5,99,641, which represents a return of 103.52 per cent. on the capital outlay against 104.99 per cent. of the last year and 104.98 per cent. the average of the past three years. The decrease in net revenue is due to large remissions for the same reasons as given under similar heading for Sukkur Canal.

Financial results.

General remarks.

The remissions granted during the year amounted to Rs. 93,014 against Rs. 6,978 in the previous year.

The principal crops grown were—

	Acres.
Rice	171,877
Juari	29,330
Wheat	28,621
Oil seeds	37,338

The estimated value of the whole outturn was Rs. 57,69,258 or Rs. 17 per acre.

III.—Sattah.

Capital.

29. No expenditure was incurred under this head during the year under report.

Extensions and improvements.

Do.

do.

do.

Maintenance and repairs.

A sum of Rs. 7,817 was spent during the year under this head including 'Works establishment.'

The total area irrigated including dubari in 1917-18 was 17,026 acres of which 16,080 were under kharif and 946 under rabi against 12,419 acres of the last year and 12,681 acres the average of the previous triennium. Increase in cultivation is due to good water.

Irrigation.

The gross revenue amounted to Rs. 44,873 against Rs. 21,565 of the last year and Rs. 23,681 the average of the past triennium. Deducting working expenses Rs. 12,362 and share due to old irrigation Rs. 6,927 the net revenue during the year due to improvements was Rs. 25,584 which represents a return of 14.21 per cent. on the capital outlay.

Financial results.

General remarks.

The remissions granted during the year amounted to Rs. 2,374 against Rs. 2,826 in the previous year.

The principal crops grown were—

	Acres.
Rice	14,537
Bajri	1,320

The estimated value of the whole outturn was Rs. 6,12,718 or Rs. 36 per acre.

B—WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.

I.—Canals in the Shikarpur Canals District.

30. The principal canals are the Sind Canal, the Rajib, the Chitti and the Garang on the right bank of the river and the canals in the Rohri Division on the left bank.

A sum of Rs. 16,534 was spent during the year on (1) additions and alterations to the existing Bichanji Regulator over Chitti Canal, (2) constructing Daroga's landhi, &c., at Head Regulator over Colonel Fife's Channel, (3) additions and alterations to Public Works Inspection bungalows at Loi, Shikarpur, Miani, Sahta, Thahrio Sherkot and Shahpur, (4) sinking a pacca well in the compound of subordinate's quarters at Kassim on Chitti Canal and (5) additions and alterations to the regulator at Chimani at mile 5/5 of the old Sind Canal and other small works.

Extensions and improvements. The expenditure incurred under this head was Rs. 1,00,756 against Rs. 1,02,763 in the previous year.

The total area irrigated under this head was 179,630 acres of which 95,121 acres were under kharif and 4,509 acres under rabi as compared with 190,928 acres of the last year and 189,720 acres the average of the previous triennium. When compared with the average it shows a decrease of 10,090 acres.

Financial results. The total canal revenue realized was Rs. 5,42,833 and maintenance and revenue collection charges Rs. 1,34,508 which amounts to 24.8 per cent. of the revenue and Rs. 0.9 per acre of the area irrigated excluding dubari. The corresponding figures for the previous triennium averaged 27.5 per cent. and Rs. 0.9, respectively.

General remarks. The remissions granted during the year amounted to Rs. 3,127 against Rs. 744 of the previous year.

The principal crops grown were—

	Acres.
Rice	38,831
Juari	44,263
Wheat	40,431
Oil seeds	9,290

and the estimated value of the whole outturn was estimated at Rs. 38,51,928 or Rs. 21 per acre.

II.—Canals in the Western Nara District.

31. The district comprises the following main canals which take off direct from the river:—

The Western Nara with its two feeders (the new feeder and the Pritchand canal), the Marvi, the Phitta, the Chario Wahur with Aral and the Dunster, the Dadu canals and the canals north of Kotri.

The Mancher lake is fed by the river through Chario Wahur by means of the Aral and the Dunster, also by the Western Nara and by rain water from the hills; it is drained for rabi cultivation through the Aral, the Dunster and the Chariowah when the river falls.

A sum of Rs. 37,805 was spent under this head on (1) constructing head regulators over Chario Wahur Canal and Shah Panjo Canal, (2) constructing Daroga's landhi at Bahawalpur, (3) additions and alterations to Inspection Bungalow at Mehar, (4) widening left berm of Western Nara, (5) constructing a baulkshed at Head Regulator of Phitta Canal, (6) additions and alterations to the Public Works Department Sub-Divisional office at Mehar, (7) reconstructing portion of compound wall of Public Works Department Inspection bungalow at Tharri and (8) making chowki furniture for bungalows in the District.

The total expenditure under this head including special repairs amounted to Rs. 1,93,653 and was incurred on ordinary clearance of canals and on the special repairs such as (1) new out to Phitta Canal, (2) special clearance to Dhoro B feeding the Upper Nurwah, (3) new head for the Kolab Sial and (4) special repairs to Executive Engineer's bungalow at Larkana and other miscellaneous items.

The total area irrigated was 386,662 acres of which 217,995 acres were under kharif and 168,667 acres under rabi as compared with the total area of 444,060 acres of the past triennium, of which 243,206 acres were under kharif and 200,854 under rabi. The decrease of 25,211 acres under kharif and 32,187 under rabi was due to the very low inundation at the beginning and the exceptional heavy rains and hill floods late in the season, which submerged much of the kharif crops and did not allow the rabi lands to be exposed and sufficiently dried to cultivate rabi crops.

The total canal revenue was Rs. 7,40,567 as compared with Rs. 10,63,444 the average of the past triennium. The revenue and collection charges during the year were Rs. 2,56,887 being 34.7 per cent. of the revenue and Rs. .8 per acre of the area irrigated excluding dubari; the average corresponding figures of the previous triennium being 25.9 and .8, respectively. The decrease in the revenue is due to the same causes as given above for cultivation.

General remarks.

The remissions granted during the year amounted to Rs. 3,82,639 against Rs. 1,92,587 of the last year.

The principal crops grown were—

	Acres.
Rice	149,710
Juari	59,973
Wheat	82,561
Oil seeds	30,500

and the estimated value of the whole outturn was Rs. 91,98,213 or Rs. 24 per acre.

III.—Canals in the Karachi Canals District.

32. The principal canals are the Kalri, the Baghar and the Pinyari with a number of small canals taking off direct from the river.

Extensions and improvements.

The expenditure under this head was Rs. 4,536 against Rs. 7,662 of the last year.

Maintenance and repairs.

The expenditure incurred under this head, including 'Works establishment,' was Rs. 1,33,068 against Rs. 1,11,490 of the previous year.

The total area irrigated was 238,268 acres of which 203,560 were under kharif and 34,708 under rabi as compared with 260,371 of the previous year and 240,535 the average of the previous triennium. As compared with the average kharif of 106,734 acres and rabi of 33,801 acres of the last triennium, the decrease in kharif of 3,174 acres is due to early seedlings, having withered for want of water during the early part of the season and the increase of 907 acres under rabi was due to late supply being available in the canals.

Financial results.

The total canal revenue realized was Rs. 4,56,322 and maintenance and revenue charges amounted to Rs. 1,82,164 which amounts to 39.9 per cent. of the revenue and Rs. 0.8 per acre on the area irrigated excluding dubari, the corresponding figures for the previous and the average of the previous triennium being 33.8 per cent. and Rs. 0.8 per acre and Rs. 46.2 per cent. and Rs. 0.9 per acre, respectively. The decrease in revenue as compared with the last year is partly due to large remissions and partly to less kharif cultivation for the reasons given under heading "Irrigation" above.

General remarks. The remissions granted during the year amounted to Rs. 1,00,540 against Rs. 41,325.

The principal crops grown were—

	Acres.
Rice	194,123
Bajri	5,165
Barley	4,869
Oil seeds	19,712

and the estimated value of the whole outturn was Rs. 82,36,540 or Rs. 35 per acre.

C.—WORKS FOR WHICH NEITHER CAPITAL NOR REVENUE

ACCOUNTS ARE KEPT.

33. The principal bunds in this division on the right bank of the river are the Kashmor, the Sukkur-Begari, the Ghar, the Nara, the bunds north of Kotri, and the right bank bunds in the Karachi Canals District, and on the left bank, the Kassimpur bund in the Shikarpur Canals District and the left bank bunds in the Karachi Canals District.

The sum of Rs. 1,91,197 was spent against Rs. 1,40,306 of the last year.

Extensions and improvements.

The works carried out were (1) constructing a sluice in mile 24/3 of the Abad loop of the Sukkur-Begari Bund and other works in the Shikarpur Canals District, (2) constructing a forest sluice through the Jhalli bund mile 22/1, (3) constructing a well with baulkshed and bath place at Ayo-jo-Goth and other works in the Ghar Canals District, (4) extension of Western Nara bund from Phitta head to Sehwan Rs. 63,893, (5) raising and strengthening Nara bunds in Dadu and Pritchard Canal sub-divisions Rs. 48,998 and other works in the Western Nara District, (6) raising and strengthening of the bunds on the right and left banks and (7) construction of new bund sluices in the bund on both sides in the Karachi Canals District.

Maintenance and repairs. The expenditure of maintenance and repairs and special repairs to river embankment, including establishment and tools and plant charges was Rs. 6,31,631.

Irrigation and financial results. The cultivation during 1917-18 on the canals *ex* Kashmor Bund, on the bunds in the Shikarpur Canals District, the Ghar Canals, the Western Nara and the Karachi Canals Districts, was 5,147, 12,002, 548, 4,148 and, 13,128 acres, respectively and the revenue Rs. 13,331, 27,848, 5,559, 12,033 and 21,536, respectively.

General remarks. The remissions granted during the year under report under this head were Rs. 8,400. A sum of Rs. 6,382 was spent on the Mathematical Instrument Depot on Establishment and Tools and Plant.

A total sum of Rs. 1,19,696 was spent by the Chief Engineer, Indus River Commission, of which Rs. 22,827 were spent on Extensions and Improvements (1) Rs. 22,602 on making surveys on the Indus and (2) Rs. 225 on demarcating boundary between Sind and Bahawalpur State; Rs. 12,507 on Maintenance and Repairs of which Rs. 11,742 were spent on maintenance of steamers, gauges, and snagging the river Indus and Rs. 765 on maintenance of other works, Rs. 81,271 under regular establishment and Rs. 3,091 under Tools and Plant.

34. The expenditure on, and receipts from, gardens during the year are compared below with the three previous years' expenditure and receipts:—

Years.	Expenditure on maintenance of gardens during the year.	Receipts during the year.
1914-15 ...	Rs. 3,843	Rs. 1,608
1915-16 ...	„ 4,309	„ 1,791
1916-17 ...	„ 3,987	„ 1,709
1917-18 ...	„ 5,177	„ 1,344

35. The total number of trees planted during the year in this Division was 95,404, of which 48,851 were babul and the rest principally talli and nim. The total number alive at the end of the year was 538,716 including babul.

The number of young trees transferred from nurseries for plantation on canal banks and bunds was 246,380 including babul.

36. The Division was in charge of Mr. V. M. Griffiths throughout the year.

The following officers were in charge of executive districts:—

District.	Executive Engineer.	M.	d.
Karachi Canals ...	C. M. Lane, Esquire ...	5	1
	H. A. MacArthur, Esquire ...	1	0
	C. M. Lane, Esquire ...	3	0
	H. A. MacArthur, Esquire ...	2	29
Western Nara ...	C. H. H. Philpot-Brookes, Esquire ...	12	0
Ghar Canals ...	T. A. Andrew, Esquire ...	6	12
	C. H. H. Philpot-Brookes, Esquire ...	0	10
	Tanmal Shewakram, Esquire ...	0	22
	T. A. Andrew, Esquire ...	2	2
Shikarpur Canals ...	A. Nazareth, Esquire ...	2	16
	D. R. Satarawala, Esquire ...	12	0
Begari Canals ...	A. Gordon, Esquire ...	12	0

V. M. GRIFFITHS,
Superintending Engineer, Indus Right Bank Division.

Below Irrigation Revenue Report for the year 1917-18.

No. C.E.-630 OF 1919.

OFFICE OF THE CHIEF ENGINEER IN SIND,

Karachi, 25th March 1919.

Forwarded with compliments to the Secretary to Government, Public Works Department, Bombay.

F. WRIGHT,
Chief Engineer in Sind.

TABLE I

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TABLE
Area of Cultivation and Consolidated Revenue for 1917-18 and comparison with
irrigation share of

Canals and Executive districts.	Cultivation.			Consolidated Assessment.		
	Khariif.	Rabi.	Total.	Khariif.	Rabi.	Total.
	1	2	3	4	5	6
MAJOR WORKS.						
PRODUCTIVE WORKS.						
IRRIGATION WORKS NOT CHARGED AGAINST REVENUE						
<i>Canals in operation.</i>						
Begari Canals District	{ Desert Canal ... Unharwah ... Begari Canal ...	76,186 45,530 166,966	60,047 40,163 63,073	145,233 86,693 242,030	2,46,200 1,22,000 4,78,700	2,08,696 1,17,146 3,27,466
	Total	280,668	162,281	472,947	6,81,003	5,47,339
Shikarpur Canals District	{ Mahirah ...	80,163	32,356	82,618	82,626	1,07,396
Jamroo Canal District	{ Jamroo Canal ...	160,163	60,763	230,961	4,03,414	8,77,709
Nasrat Canals District	{ Dad Canal ... Nasrat Canal ...	61,750 66,123	23,623 9,706	105,312 75,531	2,21,076 2,76,326	90,657 53,466
	Total	147,912	84,231	191,148	4,33,415	1,34,323
Eastern Nara District	{ Nara Supply Channel ... Eastern Nara ... Mithroo Canal ... Thar Canal ... Khiproo Canal ... Hiral Canal ...	446 24,663 96,543 67,846 2,754 9,794	6,686 8,473 18,746 1,643 56 300	7,342 25,396 118,288 69,591 2,340 10,066	1,250 16,393 2,04,316 108,277 4,307 84,306	20,851 60,719 54,896 1,70,370 146 84,949
	Total	181,651	36,204	217,755	5,31,653	66,022
	Total, Major Works	790,663	374,741	1,165,324	24,11,668	11,64,947
MINOR WORKS.						
IRRIGATION AND NAVIGATION.						
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.						
<i>Canals in operation.</i>						
Ghar Canals District	{ Sukkur Canal ... Ghar Canal ...	67,638 201,544	20,636 45,650	67,364 247,194	2,47,964 8,76,337	1,00,201 2,06,051
	Total	269,072	75,486	344,558	11,23,221	2,06,252
Karachi Canals District	{ Sutlah Canal ...	15,665	781	16,636	60,295	608
Hyderabad Canals District	{ Alibahar Kachri ... Great Marak ... Sarfras ...	11,316 60,926 24,133	2,678 6,139 1,617	13,994 68,065 26,750	28,418 1,60,033 50,291	6,876 26,464 8,431
	Total	66,974	12,638	109,007	2,03,639	39,611
Fuleli Canals District	{ Fuleli Canal ... Haseemali Canal ...	251,800 17,261	33,077 719	215,785 18,009	9,20,534 64,100	75,656 1,460
	Total	269,059	34,006	233,795	9,74,636	77,116
	Total, Minor Works, Capital and Revenue Accounts	679,430	123,546	802,976	24,18,791	4,24,039
WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.						
<i>Canals in operation.</i>						
Shikarpur Canals District	{ Canals in Bohri ... Sind Canal ... Rajib Canal ... Chitti Canal ... Garang Canal ...	22,854 64,695 4,791 6,502 2,254	31,104 23,478 3,430 3,330 3,690	48,958 77,025 8,221 9,941 3,944	60,090 2,30,943 24,961 22,245 10,479	78,797 94,814 16,193 17,242 18,196
	Total	69,560	65,230	144,790	3,09,668	2,33,944
Western Nara District	{ Nara ... Mauohar ... Aral ... Pritchard ... Wahur ... Narvi ... New Feeder, Western Nara ... Dadu Canal ... Pritta Canal ... Canals, north of Kotri ...	179,053 1,041 2,632 1,973 1,503 3,073 632 7,446 3,227 8,763	60,934 6,778 7,240 1,848 1,966 2,143 199 9,723 4,222 3,634	279,997 8,422 9,873 9,271 2,940 8,221 781 17,399 7,409 6,290	7,29,329 8,739 8,400 29,000 4,900 8,463 1,946 22,217 8,400 10,730	2,17,007 3,686 10,161 9,714 6,090 7,300 600 32,100 16,006 11,600
	Total	218,619	69,347	310,306	8,23,981	8,66,307
Karachi Canals District	{ Kalri ... Baghar ... Indus Canals, Right Bank ... Pinyari ... Indus Canals, Left Bank ...	15,110 27,944 33,212 61,473 8,432	1,148 3,833 1,654 9,136 1,800	16,258 30,617 34,866 70,610 10,231	97,766 60,257 84,900 2,78,591 1,22,468	4,690 7,074 2,715 19,200 8,100
	Total	190,323	16,179	212,611	8,64,798	27,946

TABLE

Canals and Executive districts.	Cultivation.			Consolidated Assessment.			
	Kharrif.	Rabi.	Total.	Kharrif.	Rabi.	Total.	
	1	2	3	4	5	6	
MINOR WORKS—continued.							
IRRIGATION AND NAVIGATION—continued.							
WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT—continued.							
Canals in operation—continued.							
Nasrat Canals District ...	{ Mehrabwah ...	9,940	2,775	12,715	86,591	6,291	35,853
	{ Naulikhi ...	29,944	1,433	31,377	1,81,423	29,061	1,61,073
	{ Dambro ...	11,330	2,979	14,309	36,038	10,153	46,190
	{ Other canals ...	5,066	4,937	10,003	16,432	14,565	31,997
	Total ...	55,280	10,124	65,404	2,09,483	65,030	2,74,513
Hyderabad Canals District ...	{ Ghoro Mahmud ...	55,548	8,251	63,800	1,52,843	20,33	1,73,173
	{ Kart Shumail ...	30,151	1,805	31,956	74,673	6,10	79,69
	{ Nasir ...	27,440	2,865	30,305	70,611	9,321	79,932
	{ Benwah ...	337	369	706	1,23	1,259	2,038
	{ Other Canals ...	1,007	700	1,707	2,425	2,438	4,863
Total ...	115,493	13,010	130,503	2,00,975	29,495	2,30,470	
Fuleli Canals District ...	{ Other canals ...	23,443	2,046	25,489	76,574	6,285	81,859
Total, Minor Works, Revenue Accounts only ...							
		702,150	205,936	908,086	23,44,727	7,16,907	20,61,824
AGRICULTURAL WORKS.							
WORKS FOR WHICH NEITHER CAPITAL NOR REVENUE ACCOUNTS ARE KEPT.							
Begari Canals District ...	{ Canals from Kashmir Bund ...	2,460	2,635	5,095	5,468	6,900	12,368
Shikarpur Canals District ...	{ Bunds th Rohri ...	27	123	150	63	252	405
	{ Sukkur-Begari Bunds ...	940	5,212	6,152	4,554	20,078	24,632
	{ Kashmir Bund ...	453	698	1,151	1,191	2,682	3,873
Total ...	1,419	6,033	7,451	5,793	23,112	29,910	
Ghar Canals District ...	{ Ghar Bunds ...	133	248	381	600	1,538	2,168
Western Nara District ...	{ Nara Bunds ...	1,020	2,053	3,073	2,558	6,405	6,990
	{ Bunds north of Kotri ...	670	43	713	1,946	199	2,145
Total ...	1,690	2,096	3,786	4,504	6,604	12,135	
Karachi Canals District ...	{ Bunds, Right Bank ...	4,718	736	5,454	9,313	1,408	10,721
	{ Bunds, Left Bank ...	5,498	150	5,648	15,900	563	16,463
Total ...	10,216	886	11,102	25,213	1,971	27,174	
Total Agricultural Works ...							
		15,916	12,046	27,962	43,940	40,174	84,114
Indus Right Bank Division ...	{ Begari Canals District ...	233,126	191,016	424,142	8,56,650	6,64,208	14,20,858
	{ Shikarpur Canals District ...	121,141	93,618	214,759	4,97,080	5,63,763	6,11,432
	{ Ghar Canals District ...	298,205	75,824	374,029	11,23,991	3,07,790	14,31,781
	{ Western Nara District ...	219,708	100,443	320,151	8,99,433	8,83,911	11,82,344
	{ Karachi Canals District ...	223,461	17,945	241,406	8,50,316	80,774	6,70,540
Total ...	1,109,622	482,846	1,592,468	29,07,750	16,49,326	45,57,076	
Indus Left Bank Division ...	{ Jamroo Canals District ...	150,192	80,771	230,963	4,92,414	2,77,709	7,70,173
	{ Eastern Nara District ...	141,853	86,102	227,955	5,51,763	9,192	4,46,946
	{ Nasrat Canals District ...	218,192	62,355	280,547	6,42,696	1,50,952	6,32,648
	{ Hyderabad Canals District ...	210,971	27,043	238,014	5,09,914	77,915	6,47,829
	{ Fuleli Canals District ...	232,531	20,743	253,274	10,51,210	82,728	11,33,938
Total ...	1,078,422	338,614	1,417,036	23,07,987	7,36,533	20,41,454	
TOTAL, SINCE ...							
		2,188,068	716,200	2,904,268	72,15,745	23,46,037	26,41,808

I—concluded.

Remissions.			Net consolidated assessment.	Irrigation share, 90 percent.	Average of previous three years.			Results as compared with the average of the previous three years.				
Kharif.	Rabi.	Total.			Cultivation.			Irrigation share of net consolidated assessment.	Cultivation.			Irrigation share of net consolidated assessment.
					Kharif.	Rabi.	Total.		Kharif.	Rabi.	Total.	
8	9	10	11	12	13	14	15	16	17	18	19	20
Rs.	Rs.	Rs.	Rs.	Rs.	Acres.	Acres.	Acres.	Rs.	Acres.	Acres.	Acres.	Rs.
485	390	785	36,128	51,615	11,638	1,144	12,680	30,065	-1,598	1,631	95	1,550
3,243	818	4,066	1,57,017	1,41,315	44,023	5,170	49,193	1,59,639	-5,079	3,263	-1,816	1,476
618	152	860	45,240	40,716	12,708	3,063	14,790	39,743	-1,372	801	-481	974
170	117	287	81,710	29,540	6,905	3,662	10,567	27,949	-1,839	1,275	-564	661
4,868	1,358	6,018	2,69,085	2,42,186	75,166	12,064	87,230	2,37,595	-9,886	7,060	-2,626	4,591
2,329	518	2,741	1,70,182	1,53,119	59,106	7,147	66,253	1,57,833	-2,557	1,104	-1,453	-4,714
160	34	194	79,485	71,637	30,342	1,589	31,931	72,207	-6178	208	28	670
140	140	140	79,819	71,859	25,121	3,098	28,217	65,066	-2,319	769	3,068	6,783
94	94	94	1,888	1,759	2,773	567	3,370	7,888	-2,438	-208	-3,644	-6,089
119	49	168	4,695	4,328	1,781	971	2,602	6,464	-724	-171	-865	-2,238
2,592	735	3,327	3,36,145	3,02,830	119,073	13,310	132,383	3,09,459	-3,579	1,700	-1,876	-6,928
3,601	260	3,911	78,048	70,544	28,077	3,140	25,217	70,470	365	-694	271	-226
4,98,040	17,252	4,99,392	25,62,342	23,06,125	756,160	186,859	943,018	26,26,553	-54,030	19,075	-34,952	-3,20,827
644	201	845	11,883	10,425	3,418	2,569	5,987	11,743	-958	66	-892	-1,317
...
...	801	...	405	384	71	101	172	404	-44	31	-23	-40
...	...	...	34,431	21,888	2,162	3,978	6,141	33,573	-1,222	1,233	-	-1,585
...	...	...	3,978	3,438	624	879	1,503	4,406	-172	-181	-	-353
...	801	801	28,709	25,839	2,867	4,969	7,816	28,383	-1,438	1,073	-365	-2,545
...	...	...	2,198	1,979	365	342	707	3,031	-232	6	-236	-1,052
500	...	500	9,460	8,514	2,346	897	3,733	10,982	-1,326	1,066	-260	-2,438
669	104	763	13,162	1,244	591	198	789	1,404	79	-155	-76	-160
1,169	104	1,263	10,843	9,758	2,937	1,185	4,123	12,366	-1,247	611	-336	-2,598
4,341	...	4,341	6,380	5,742	4,621	487	5,108	7,389	95	398	393	-1,647
1,600	250	1,750	14,703	13,233	6,174	364	6,538	11,481	-676	-204	-850	1,601
5,841	250	6,091	21,082	18,974	10,795	641	11,636	18,820	-581	94	-487	154
7,844	756	8,400	74,414	68,974	20,372	9,896	30,268	74,389	-4,456	2,180	-2,306	-7,358
63,946	33,001	96,947	18,23,001	11,91,512	308,079	169,129	462,208	11,17,811	-19,953	35,787	15,834	73,701
5,429	3,424	8,853	8,02,579	7,22,931	148,388	67,439	215,825	7,29,791	-27,245	26,179	-1,068	-7,460
1,01,370	11,877	1,13,247	18,16,430	11,86,198	286,478	46,576	312,048	12,16,463	3,727	-29,264	32,991	-29,375
3,76,174	7,459	3,83,633	9,0,711	7,27,844	237,935	102,888	340,323	10,55,239	-24,238	1,845	-26,171	-3,27,355
1,01,947	7,068	1,09,005	5,81,956	5,06,787	222,740	16,247	238,987	4,69,837	-289	1,698	1,399	36,490
648,866	61,812	7,11,678	49,15,608	49,34,068	1,177,618	391,773	1,569,391	45,88,631	-67,996	90,883	22,887	-2,54,569
5,110	3,655	8,774	7,61,439	6,85,295	155,524	93,416	248,940	7,14,671	-5,392	-12,645	-17,977	-33,376
7,632	790	8,421	6,41,614	5,77,382	137,904	60,772	198,676	6,82,013	-16,253	-14,870	-30,823	-84,651
48,714	3,944	52,658	7,80,190	7,02,173	243,313	92,287	275,600	7,29,163	-30,021	20,068	-9,953	-26,990
7,715	3,047	10,762	6,87,808	6,74,039	212,792	26,329	239,118	5,76,238	-1,921	2,317	96	-2,208
37,161	1,991	39,152	10,95,091	9,85,633	333,682	52,461	386,033	10,80,238	-11,051	-15,709	-26,760	-64,650
1,06,341	12,136	118,477	39,16,042	36,24,441	1,143,015	264,252	1,397,267	37,66,311	-64,576	-20,639	-85,217	-3,41,870
7,55,207	274,948	8,30,155	87,81,648	78,53,503	2,320,633	646,025	3,066,658	83,54,348	-132,574	70,344	-62,330	-4,96,498

TABLE II

Area of Cultivation and Canal Revenue for 1917-18 and the previous five years.

Years.	CULTIVATION.			Water-share of net consolidated assessment.	Hakabo.	Miscellaneous.	Total Canal Revenue.
	Government.	Jāghir.	Total.				
1	2	3	4	5	6	7	8
	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.
1912-13 ...	1,403,629	186,453	1,540,081	88,53,603	1,17,473	72,311	40,49,387
1913-14 ...	1,506,896	151,473	1,658,368	41,21,897	1,34,547	72,942	43,99,486
1914-15 ...	1,647,163	180,461	1,827,624	46,05,405	1,28,538	78,513	48,13,456
1915-16 ...	1,394,075	156,678	1,550,753	42,29,320	1,48,487	58,756	44,87,043
1916-17 ...	1,666,939	175,673	1,842,612	49,29,662	1,70,279	59,873	51,59,314
Average ...	1,523,740	163,147	1,686,887	43,48,277	1,39,885	68,375	45,56,437
1917-18 ...	1,592,278	121,632	17,13,960	43,34,062	1,17,538	80,665	45,32,166
Increase or decrease as compared with 1916-17 ...	-74,661	-53,991	-128,652	-5,95,800	-52,741	21,212	-6,27,129
Do. do. with average...	68,538	-38,465	30,073	-14,215	-22,347	12,210	-24,352
1912-13 ...	1,979,713	123,423	1,499,136	35,58,105	55,862	76,409	36,83,365
1913-14 ...	1,362,855	126,051	1,488,906	34,12,105	54,471	98,445	35,65,021
1914-15 ...	1,887,201	133,948	1,521,144	37,02,314	51,823	61,230	38,15,867
1915-16 ...	1,357,249	124,021	1,481,270	36,31,143	58,779	68,790	36,03,711
1916-17 ...	1,447,350	137,597	1,584,947	39,15,488	64,057	85,408	40,64,948
Average ...	1,385,074	130,007	1,515,081	36,58,330	56,896	76,856	37,67,588
1917-18 ...	1,312,050	134,004	1,446,054	35,24,441	53,137	1,63,304	37,80,832
Increase or decrease as compared with 1916-17 ...	-135,300	-3,593	-138,893	-3,91,043	-10,920	67,896	-3,34,086
Do. do. with average...	-73,024	3,997	-69,027	-1,29,389	-3,759	76,448	-58,700
1912-13 ...	2,774,343	264,875	3,039,217	74,11,798	1,72,825	1,42,719	77,27,242
1913-14 ...	2,869,751	277,523	3,147,274	75,34,008	1,89,118	1,71,387	78,94,507
1914-15 ...	3,034,364	314,404	3,348,768	83,08,720	1,90,301	1,39,742	86,28,823
1915-16 ...	2,751,324	280,699	3,032,023	79,10,963	2,07,206	1,27,520	82,45,754
1916-17 ...	3,114,289	313,270	3,427,559	83,45,145	2,34,836	1,44,781	92,24,203
Average ...	2,908,314	290,154	3,198,468	80,02,107	1,96,781	1,45,231	83,44,119
1917-18 ...	2,904,323	255,686	3,160,014	78,58,503	1,70,875	2,83,589	82,93,067
Increase or decrease as compared with 1916-17 ...	-209,961	-57,584	-267,545	-9,86,642	-63,661	58,108	-9,61,196
Do. do. with average...	-4,486	-34,468	-38,954	-1,43,604	-26,106	68,668	-81,052
Total for Sind ...							

TABLE III—concluded.

Table with columns: Canals and Executive districts, Cultivation (Government, Jagir, Total), Water share of net consolidated assessment, Average Revenue before improvement (Deduct, Add), Balance irrigation share due to canals, Hakaba, Miscellaneous, Total Canal Revenue, Receipts from sale of occupancy rights, Total direct and indirect receipts. Rows include Minor Works, Agricultural Works, and Grand Total.

(c) Adjustments. Note.—The figure in columns 5 and 6 are assessments; those in 9, 10 and 11 are actuals.

TABLE IV.

Area of Cultivation, Assessment, Realization and Balances outstanding in respect of lands in Khelat and Jagir lands in the Indus Right and Left Bank Divisions for 1917-1918.

Canals and Executive districts.	AREA CULTIVATED DURING THE YEAR.			Un-realized balance at the end of last year.	ASSESSMENT OF THE YEAR.			Remissions.	Net total for collection.	Actual realizations.	Balance outstanding at end of year.
	Kharif.	Rabi.	Total.		Kharif.	Rabi.	Total.				
I	2	3	4	5	6	7	8	9	10	11	12
MAJOR WORKS.	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
PRODUCTIVE WORKS.											
IRRIGATION WORKS NOT CHARGED AGAINST REVENUE.											
<i>Canals in operation.</i>											
Desert Canal ...	12,918	81,762	44,677	980	41,834	84,191	68,635	869	95,996	68,632	26,364
Begari Canal ...	12,301	8,219	17,520	3,347	26,063	5,971	58,038	3,764	33,206	19,270	13,936
Total	25,219	90,981	62,197	4,327	67,897	90,162	1,27,673	4,633	1,29,202	87,902	40,300
Desert Canal ...	2,027	1,358	3,385	606	619	279	692	...	1,688	752	836
Unbarwah ...	58	18	69	275	174	130	804	...	579	240	339
Begari Canal ...	18,423	2,049	16,474	3,116	19,682	6,080	27,163	...	30,277	6,707	23,570
Total	19,508	4,415	16,093	4,098	19,869	8,489	28,359	...	32,444	7,699	24,745
Shikarpur Canals District—Mahwah.	9	...	9	942	50	...	50	...	922	1,067	-75
Jamrao Canal District—Jamrao Canal.	1,971	1,003	2,974	2,135	1,084	478	1,562	...	3,697	1,666	2,041
Nasrat Canals District—Dad Canal ...	4,142	2,415	6,557	-2,766	1,958	610	2,468	...	-800	2,203	-2,503
Nasrat Canal ...	278	390	668	241	98	89	187	...	528	215	313
Total	4,420	2,805	7,225	-2,425	2,056	699	2,655	...	228	2,418	-2,190
Nara Supply Channel ...	1,402	5,682	7,084	1,668	1,472	161	1,633	...	3,295	1,677	1,618
Eastern Nara ...	484	146	630	342	190	51	243	...	584	536	58
Thar Canal ...	3,897	61	2,459	39	1,337	73	1,410	...	1,448	1,267	181
Khipro Canal ...	...	...	...	...	...	...	...	...	...	...	...
Hiral Canal ...	...	...	...	...	...	...	...	...	...	...	...
Total	4,268	5,898	10,171	2,048	2,969	289	3,258	...	5,327	3,609	1,818
Total, Major Works	80,404	90,942	101,346	11,047	93,462	70,114	1,63,566	2,723	1,71,890	1,05,251	66,639
MINOR WORKS.											
IRRIGATION AND NAVIGATION.											
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.											
<i>Canals in operation.</i>											
Ghar Canals/Sukhr Canal ...	636	230	1,066	1,467	3,435	985	4,420	...	5,887	1,466	4,421
Ghar Canal ...	4,862	926	5,779	-1,763	1,939	446	2,385	...	623	4,728	-4,106
Total	5,498	1,156	6,844	-266	5,374	1,431	6,806	...	6,510	6,194	316
Karachi Canals District—Sattah Canal	165	17	202	11	65	2	68	...	77	...	77
Hyderabad (Alibahar Kacheri ...)	1,831	184	1,464	871	469	67	569	...	1,200	770	430
Great Mirak ...	6,408	1,311	7,719	600	1,867	327	2,314	...	3,623	2,893	1,336
Sarira ...	3,613	265	3,878	8,179	-1,411	119	1,530	...	6,769	1,773	4,996
Total	11,354	1,732	13,086	6,459	3,760	613	4,273	...	10,732	5,979	5,353
Fulell Canal (Fulell Canal ...)	60,127	6,612	66,639	-4,068	20,707	3,055	32,762	...	29,674	30,469	-808
Hasanali Canal ...	762	5	767	305	361	2	363	...	688	629	59
Total	60,889	6,617	67,406	-3,763	20,668	3,057	33,125	...	30,362	31,111	-1,749
Total, Minor Works, Capital and Revenue Accounts	78,116	9,422	87,538	2,391	29,226	5,093	44,289	...	46,680	42,684	3,996
WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.											
<i>Canals in operation.</i>											
Canals in Rohri ...	3,730	2,720	6,450	1,668	13,646	11,461	28,996	...	25,694	1,330	24,354
Bind Canal ...	1,433	617	1,950	2,148	7,362	3,783	30,066	...	13,193	2,761	9,402
Chini Canal ...	8	21	29	42	12	36	54	...	96	84	12
Chini Canal ...	135	141	276	336	898	611	1,500	...	1,908	304	1,604
Garang Canal ...	56	8	64	648	433	97	630	...	1,108	677	521
Total	5,393	3,397	8,790	4,967	21,166	14,983	36,139	...	41,076	5,186	36,890
Dhawalpur Lands Foreign—Canals in Rohri	169	79	248	86	63	30	83	...	178	78	102
New Feeder to Western Nara ...	4,589	3,345	7,934	9,192	2,564	1,459	4,012	166	13,043	3,443	9,600
Wahur ...	...	...	...	...	...	...	...	...	...	...	...
Marvi ...	...	...	...	...	...	...	...	...	...	...	...
Pir-bhad Canal ...	141	37	178	-1,489	98	13	108	...	-1,383	...	-1,383
Phitta canal ...	6-3	47	1,150	408	346	279	827	...	1,033	372	661
Manchar ...	...	...	...	...	...	...	...	...	...	...	...
Arni ...	108	2,081	2,189	1,197	7	761	768	104	1,861	665	1,306
Other canals north of Kotri ...	456	914	1,370	1,153	147	839	686	...	1,630	417	1,223
Virah Bund ...	...	...	...	...	...	...	...	...	...	...	...
Total	5,978	6,904	12,789	10,460	3,169	2,845	6,004	270	16,198	4,787	11,406

* Rs. 60 erroneously shown in Accountant-General, Bombay's statement of direct receipts and revenue expenditure against Wahur, where there no Jagir cultivation, have been added in Western Nara as per Collector of Larkana's Remark given in the Remarks column of his canal return IX.

TABLE IV—concluded.

* Canals and Executive districts.	AREA CULTIVATED DURING THE YEAR.			End- received balance at the end of last year.	ASSESSMENT OF THE YEAR.			Remis- sions.	Net total for collection.	Actual realisa- tions.	Balance out- standing at end of year.	
	Kharif.	Rabi.	Total.		Kharif.	Rabi.	Total.					
	1	2	3		4	5	6					7	8	9	10	11	12
MINOR WORKS—concluded.	Acres.	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
IRRIGATION AND NAVIGATION—concluded.												
WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT—concluded.												
Canals in operation—concluded.												
Kerachi Canals District.	Kabri	607	8	615	-285	254	1	565	...	-80	223	-353
	Baghar	2,234	512	2,634	1,155	908	81	990	...	2,145	1,181	1,014
	Indus Canal Right Bank	1,144	108	1,253	-413	334	...	334	...	-79	684	-773
	Indus Canal Left Bank	247	20	265	-1,809	63	11	74	...	-1,735	1,301	-3,036
	Pinjari	2,908	127	3,033	3,318	1,333	61	1,314	...	3,531	(a) 138	(a) 138
	Total	7,228	694	7,922	255	2,522	154	2,077	...	2,833	3,271	1,328
	Masrat Canals District.	Mehrabwah	125	20	155	48	48	...
Naulakhi	1,025	1,074	2,739	1,707	421	60	521	...	1,054	278	1,236	
Dambro	745	133	878	451	352	9	361	...	812	304	416	
Other Canals	-11	39	40	-177	17	14	21	...	-146	...	-146	
Total	1,944	1,968	3,912	1,331	600	118	913	...	2,248	687	1,565	
Hyderabad Canals District.	Ohavo Mahbudo	14,773	3,978	18,651	-3,203	5,468	711	6,209	...	2,008	2,064	-3,051
	Kari Shumali	5,469	673	6,171	2,475	2,393	184	3,577	...	2,046	2,001	2,058
	Nasir wah	1,142	423	1,530	3,390	397	8	402	...	4,328	...	4,292
	Ronwah	...	...	...	...	...	...	...	...	...	...	...
	Other Canals	1	...	1	61	...	...	...	...	...	...	...
	Total	21,419	4,894	26,408	4,310	8,258	800	9,188	...	13,395	6,165	5,242
Foreign Canals District.	Other Canals	2,075	403	2,077	2,708	1,204	127	1,331	...	6,037	288	2,868
Total, Minor Works, Revenue accounts only												
	44,805	18,120	62,921	24,628	37,462	19,142	26,645	282	50,945	22,266	58,211	
AGRICULTURAL WORKS.												
WORKS FOR WHICH NEITHER CAPITAL NOR REVENUE ACCOUNTS ARE KEPT.												
Bacchi Canals—Kashmir Bund District.	Bunds in Rohri	...	...	...	...	...	...	...	...	...	...
	Sukkar Bund	1,273	1,508	2,688	110	7,678	2,251	15,726	...	18,026	...	18,026
	Kasimpar Bund	...	...	...	...	...	...	...	...	...	...
Total	1,273	1,508	2,688	110	7,678	2,251	15,726	...	18,026	...	18,026	
Ghar Canals District.	Ghar Bunds	17	...	17	20	117	...	117	...	127	92	66
Western Nara District.	Nara Bunds north of Kotri	...	...	...	...	...	...	...	...	...	...
	Total	...	...	...	...	...	...	...	...	...	...
Kerachi Canals District.	Bunds, Right Bank	681	12	693	293	288	...	359	...	671	...	671
	Bunds, Left Bank	250	58	308	-70	118	27	155	...	68	-264	-179
Total	901	70	971	213	406	27	448	...	768	304	492	
Total, Agricultural Works												
	2,206	1,678	3,872	443	7,900	2,266	16,264	...	19,777	268	18,371	
Foreign Lands.												
Indus Right Bank Division.	Rohri Canals District.	25,216	26,961	62,197	4,267	67,208	60,267	1,27,050	3,723	1,29,279	88,962	60,267
	Shikarpur Canals do.	180	79	248	25	68	50	68	...	178	70	102
Total	26,886	27,080	62,445	4,323	67,269	60,267	1,27,718	3,723	1,29,500	89,076	60,492	
Indus Right Bank Division.	Jaghr Lands.	14,605	6,418	19,023	6,000	19,608	9,469	24,266	...	21,644	7,609	24,745
	Rohri Canals District.	6,779	6,902	11,641	5,989	22,579	22,234	31,913	...	27,999	6,281	31,607
	Shikarpur Canals District.	5,775	1,106	6,981	-276	5,401	1,431	6,923	...	6,645	6,240	6,240
	Ghar Canals District.	6,974	6,904	12,740	10,440	2,180	2,445	6,004	270	15,118	8,727	11,446
	Western Nara District.	5,214	581	5,896	1,180	3,208	119	3,460	...	4,378	1,131	1,131
	Kerachi Canals District.	...	...	...	...	...	...	...	...	...	...	...
	Total	41,379	17,958	59,337	21,438	60,491	26,163	68,668	270	1,17,881	24,900	98,241
Grand total												
	66,004	66,018	121,022	25,790	1,27,900	96,494	2,24,424	3,993	2,17,231	1,17,238	1,22,099	
Indus Left Bank Division.	Jamro Canal District.	1,971	1,008	2,976	2,123	1,054	579	1,503	...	3,607	1,650	2,031
	Eastern Nara District.	4,200	8,948	10,171	2,642	2,900	240	3,245	...	5,227	3,708	1,314
	Nasrat Canals District.	2,258	6,921	10,897	-1,095	5,654	712	5,509	...	5,471	3,106	-1,044
	Hyderabad Canals District.	32,773	6,710	99,469	10,869	12,046	1,412	12,461	19	24,117	13,874	10,863
	Fulleri Canals District.	33,664	6,910	70,468	-1,077	31,723	2,164	34,476	...	22,399	21,243	2,064
	Total	106,967	22,947	124,006	12,774	50,227	4,073	66,260	13	69,011	62,127	18,214
TOTAL BILLS												
	176,221	80,046	248,068	29,454	1,78,227	1,02,877	2,90,784	3,986	2,16,262	1,70,676	1,45,977	

(a) * Adjustments made in March 1916 final.

NOTE.—The difference in figures as compared with the last year is due to adjustments made by the Civil Department.

TABLE V.

Revenue Expenditure on New Works, Maintenance and Repairs, and Establishment Charges in the Public Works and Revenue Departments on Irrigation Works in Sind during the year 1917-18.

Canals and Executive districts.	REVENUE.				EXPENDITURE.							Revenue collection charges.	Total, columns 6 to 12.	TOTAL EXPENDITURE.					
	Improvements.				Maintenance and Repairs.									Works.	Establishment.		Indirect charges.	Total.	
	Works.	Regular establishment.	Tools and Plant.	Total.	Clearance expenditure.			Regular establishment.	Tools and Plant.	Total.	Public Works Department, including Tools and Plant.				Civil Department collection charges.				
					Works.	Works establishment.	Total.												
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18		
MAJOR WORKS. PRODUCTIVE WORKS. IRRIGATION WORKS NOT CHARGED AGAINST REVENUE.																			
Canals in operation.																			
Desert Canal 5,775 1,891 96 7,662 36,552 24,140 60,692 20,921 1,009 82,623 24,824 1,07,446 68,467 24,017 24,824 4,564 1,19,873																			
Regari Canals District.	Unharwah 11,265 4,059 67 15,391 23,345 8,786 32,131 11,578 192 43,901 12,312 56,213 43,393 15,866 12,312 1,020 72,624																		
	Bogari Canal 5,824 1,826 73 7,223 59,489 22,323 80,822 27,716 (a) 1,104 (a) 1,871 1,11,643 40,049 1,51,692 86,146 32,600 40,049 4,531 1,63,416																		
Total 22,364 7,876 236 30,476 1,18,386 66,259 1,73,645 60,215 4,278 2,38,136 77,185 3,15,321 1,96,009 72,603 77,185 10,115 3,55,912																			
Mahiwañ 1,227 70 16 1,322 53,805 13,367 66,862 4,281 900 72,048 12,401 84,449 63,089 5,276 12,401 611 86,377																			
Jámrao Canals District.	Jámrao Canal 1,619 673 29 2,520 2,48,268 54,901 3,03,169 1,63,319 (a) 5,433 (a) 155 4,71,764 21,272 4,93,036 3,04,766 1,60,498 21,272 23,077 5,18,633																		
	Total 12,202 4,331 142 16,705 1,78,866 33,769 1,72,114 61,703 1,970 2,35,787 30,684 2,66,471 1,84,316 68,176 30,684 10,332 2,93,509																		
Nasrat Canals District.																			
Dad Canal 7,400 2,649 80 10,148 61,762 20,747 82,509 29,496 1,010 1,12,015 18,950 1,31,965 89,918 33,245 18,950 5,584 1,47,697																			
Nasrat Canal 4,793 1,712 52 6,557 76,493 13,012 89,605 33,207 960 1,22,772 11,734 1,34,506 94,398 31,921 11,734 4,748 1,46,811																			
Total 12,202 4,331 142 16,705 1,78,866 33,769 1,72,114 61,703 1,970 2,35,787 30,684 2,66,471 1,84,316 68,176 30,684 10,332 2,93,509																			
Nara Supply Channel 347 41 9 397 7,534 2,665 10,199 1,217 246 11,662 1,199 12,861 10,543 1,613 1,199 176 13,434																			
Eastern Nara District.	Eastern Nara 9,234 4,509 21 13,963 13,736 8,214 21,962 10,723 623 33,313 3,328 36,641 31,196 16,979 3,328 2,133 52,736																		
	Mithrao Canal 13,319 6,671 361 20,351 39,096 15,188 54,279 26,060 (a) 3,508 (a) 1,320 58,265 19,145 1,04,410 68,098 38,018 19,145 4,532 1,29,843																		
	Thar Canal 1,416 691 39 2,148 16,696 4,923 20,619 10,065 561 31,245 9,161 40,406 22,035 11,256 9,161 1,506 44,056																		
	Khipro Canal 1,837 3,611 6,874 2,316 179 10,989 1,912 12,281 6,874 3,495 1,912 464 2,803 12,745																		
Total 24,816 11,912 628 37,356 80,974 34,596 1,15,570 52,159 6,531 1,74,310 34,963 2,09,273 1,40,936 71,280 34,963 8,970 2,56,619																			
MINOR WORKS. IRRIGATION AND NAVIGATION.																			
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.																			
Canals in operation.																			
Sukkar Canal 3,107 845 ... 3,952 33,897 8,360 42,257 11,496 ... 53,753 21,221 74,974 45,364 12,341 21,221 1,728 80,654																			
Ghar Canals District.	Ghar Canal 5,894 1,903 46 7,543 73,318 21,601 94,919 25,622 743 1,21,484 58,995 1,80,479 1,00,813 28,214 58,995 4,226 1,92,248																		
	Total 9,001 2,443 46 11,495 1,07,215 29,961 1,37,176 37,318 743 1,75,227 80,216 2,55,953 1,46,177 40,555 80,216 5,954 2,72,902																		
Sattah Canal 5,476 2,341 7,817 1,434 117 9,368 2,793 12,161 7,817 1,551 2,793 201 12,362																			
Alibahar Kacheri 5,764 673 6,437 3,029 97 9,593 2,639 12,232 6,467 3,126 2,639 424 12,656																			
Hydrabad Canals District.	Great Mārak 23,562 5,153 28,715 13,365 431 42,611 3,471 46,082 28,715 13,896 13,471 1,836 57,968																		
	Sartraz 878 411 13 1,302 5,756 2,804 8,560 4,010 128 12,608 4,452 17,160 9,438 4,562 4,452 619 19,071																		
Total 878 411 13 1,302 35,112 8,630 43,742 20,804 658 64,902 10,562 75,464 44,820 11,564 20,562 2,929 89,605																			
Fuleli Canals District.																			
Fuleli Canal 38,131 10,701 327 49,159 1,44,241 26,525 1,70,766 47,922 (a) 1,435 (a) 23 1,72,197 63,957 2,36,154 2,08,697 80,363 63,952 8,697 3,41,909																			
Hassanali Canal 1,073 304 9 1,386 6,595 3,672 10,267 2,907 83 13,262 2,902 16,164 11,340 3,308 2,902 449 17,999																			
Total 39,204 11,005 336 50,545 1,50,836 30,197 1,81,033 50,829 1,501 2,31,363 66,859 3,00,217 2,20,037 83,671 66,859 9,146 3,59,908																			
WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.																			
Canals in operation.																			
Canals in Rohri 942 61 45 968 25,651 6,633 32,284 2,077 1,551 33,810 3,602 41,412 33,226 542 3,602 ... 42,370																			
Shikarpur Canals District.	Sind Canal 9,561 615 459 9,717 44,492 9,736 54,197 3,487 2,603 55,081 17,662 72,743 63,759 1,000 17,666 ... 82,404																		
	Rajib Canal 6,031 388 290 6,129 11,090 3,185 14,275 919 886 14,567 5,842 20,340 20,306 330 5,842 ... 26,478																		
	Gudu Dhand 16,534 1,064 794 18,804 81,702 19,554 1,00,756 6,482 4,840 1,02,398 32,110 1,34,508 1,17,290 1,912 32,110 ... 1,61,312																		

(a) Suspense account.

TABLE V—concluded.

Canals and Executive districts.	REVENUE.				EXPENDITURE.						Revenue collection charges.	Total, columns 6 to 12.	TOTAL EXPENDITURE.					
	Improvements.				Maintenance and Repairs.								Works.	Establishment.		Indirect charges.	Total.	
	Works.	Regular establishment.	Tools and Plant.	Total.	Clearance expenditure.			Regular establishment.	Tools and Plant.	Total.				Public Works Department, including Tools and Plant.	Civil Department collection charges.			
					Works.	Works establishment.	Total.											
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	
AGRICULTURAL WORKS—concluded.																		
WORKS FOR WHICH NEITHER CAPITAL NOR REVENUE ACCOUNTS ARE KEPT—concluded.																		
Canals District	Bunds, Right Bank	27,016	9,509	481	39,200	31,678	5,944	37,423	13,110	65	51,222	344	51,566	65,385	24,033	344	89,775	
	Bunds, Left Bank	19,275	6,773	335	26,393	62,498	10,447	72,945	25,632	1,267	99,814	874	1,00,718	92,229	34,007	874	1,27,101	
	Sukkur Barrage	1,563	549	27	2,139	...	...	...	...	(a) -1,904	(a) -1,904	...	(a) -1,904	1,563	576	...	(a) -1,904
	Total	48,754	17,131	846	66,731	94,076	16,391	1,10,367	38,782	18	1,49,162	1,218	1,50,380	1,59,121	68,772	1,218	2,17,111	
Buildings District	River District Mathematical Instrument Depot	22,827	52,504	1,997	77,328	13,507	...	12,807	28,767	1,094	42,368	...	42,368	35,334	84,362	...	1,19,696	
		...	1,084	5,293	6,392	...	...	...	...	...	...	...	...	...	6,382	...	6,382
	Total	22,827	53,588	7,296	83,710	13,507	...	12,807	28,767	1,094	42,368	...	42,368	35,334	90,744	...	1,26,078	
Canals District	Bunds in the Nasrat Canals.	10	2	...	13	2,331	2,066	4,397	944	(a) -78	5,298	...	5,298	4,407	903	...	6,310	
	Canal Chouki at Doulatpur	...	...	...	...	790	...	790	170	-22	944	...	944	796	146	...	944
	Maintaining Bench marks and Centre Nook line of proposed Rohri-Hyderabad Canal	...	...	...	...	26	...	26	6	-1	31	...	31	26	5	...	31
	Riverain survey marks	...	...	...	...	9	...	9	2	...	11	...	11	9	2	...	11
	Total	10	2	...	13	2,162	2,066	5,228	1,122	-144	6,284	...	6,284	5,238	1,058	...	6,296	
Canals District	Renwah Bunds	...	...	...	...	1,868	562	2,428	502	36	2,966	...	2,966	2,426	538	...	2,966
Canals District	River Bunds	14,757	3,130	218	18,085	32,964	4,803	37,767	8,024	500	46,381	...	46,381	52,564	11,932	...	64,436	
	Total, Agricultural Works	2,05,944	99,533	10,151	3,15,628	4,38,490	69,341	5,27,831	1,58,467	5,934	6,87,229	4,139	6,91,371	7,33,775	2,69,085	4,139	10,06,919	
Right Bank Division.	Begari Canals District.	23,419	7,898	237	30,544	1,30,179	89,063	2,19,232	69,935	4,954	2,94,131	77,830	3,71,941	2,41,651	83,014	77,820	10,115	4,12,600
	Shikarpur Canals District	21,906	1,952	729	22,838	3,27,158	47,898	3,75,054	54,429	-997	4,28,556	46,088	4,74,644	3,96,667	54,732	46,088	611	4,96,671
	Ghar Canals District	10,177	2,701	64	12,942	1,11,206	34,940	1,46,046	39,235	-115	1,85,156	50,340	2,05,496	1,56,227	41,875	80,340	5,964	2,81,302
	Western Nara District.	1,62,346	28,339	1,414	1,62,097	2,41,946	49,349	2,91,294	40,063	2,002	3,33,379	44,175	3,77,554	4,43,639	71,837	44,175	...	5,59,651
	Karachi Canals District	53,290	17,961	797	72,048	1,98,596	52,656	2,51,252	64,562	-1,333	3,14,482	30,213	3,44,705	3,04,542	61,986	80,223	201	4,16,954
	Karachi Buildings District	23,927	53,588	7,296	83,710	12,507	...	12,507	28,767	1,094	42,368	...	42,368	35,334	90,744	...	1,26,078	
	Total	2,82,664	1,12,428	9,085	4,04,177	10,21,589	2,73,796	12,95,385	2,97,001	5,676	15,98,062	2,78,616	18,76,708	16,76,049	4,94,190	2,78,646	16,981	22,97,706
Left Bank Division.	Jamroo Canal District	1,619	872	29	2,520	2,43,266	54,901	3,03,167	1,63,319	5,278	4,71,764	21,272	4,93,036	3,04,786	1,69,498	21,272	23,077	5,18,633
	Eastern Nara District	24,616	11,912	628	37,356	80,974	34,596	1,15,570	62,159	6,681	1,74,310	34,983	2,09,293	1,40,386	71,280	84,953	6,970	2,56,619
	Nasrat Canals District	20,874	7,251	259	28,384	1,72,837	45,246	2,18,133	76,420	2,451	2,97,004	45,059	3,42,063	2,39,007	86,381	45,059	10,332	3,80,308
	Hyderabad Canals District	6,782	3,174	-17	9,839	61,286	21,294	1,03,569	47,416	40	1,50,384	39,003	1,89,387	1,03,941	60,992	39,003	2,829	3,02,255
	Fuleli Canals District.	11,166	10,939	812	91,018	1,99,416	37,698	2,37,024	64,010	2,335	3,03,369	71,063	3,74,432	3,08,189	86,196	71,063	9,146	4,74,591
	Total	1,25,256	42,248	1,711	1,69,215	7,82,808	1,93,645	9,76,453	4,03,324	17,054	13,96,831	2,11,410	16,08,241	11,01,709	4,64,337	2,11,410	54,464	18,31,910
GRAND TOTAL		4,07,920	1,54,676	10,796	5,73,892	19,04,397	4,67,441	22,71,838	7,00,325	22,730	99,84,824	4,90,058	1,04,84,946	12,79,758	8,68,527	4,90,656	7,1,338	41,39,676

TABLE VI—concluded.

Canals and Executive districts.	AVERAGE OF THREE PREVIOUS YEARS.			Per-centage of expendi-ture on revenue.	Cost of main-tenance per acre.	1917-18.			Per-centage of expendi-ture on revenue.	Cost of main-tenance per acre.	LENGTH IN MILES.					
	Cultiva-tion.	Canal revenue.	Main-tenance and revenue collec-tion.			Cultiva-tion.	Canal revenue.	Main-tenance and revenue collec-tion.			Canals.			Bunds	Total.	
											Main canals.	Branches.	Total.			
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	
MINOR WORKS—concl.																
IRRIGATION AND NAVIGATION WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT—concluded.																
Canals in operation—concluded.																
Karachi Canals District.	Kalri	18,148	34,530	21,563	63.5	1.2	16,882	32,372	14,663	44.6	0.9	26	66	92	92	
	Bachri	85,704	67,310	43,333	75.6	1.2	83,253	50,371	37,517	74.5	1.1	93	67	160	160	
	Indus Canals, Right Bank	31,701	44,700	23,940	53.6	0.8	36,189	52,281	13,960	26.7	0.4	103	8	111	111	
	Pinyari	92,208	2,01,231	77,602	38.6	0.8	93,643	2,13,946	70,809	33.0	0.8	81	251	332	332	
	Indus Canals, Left Bank	45,096	98,929	86,842	87.2	0.8	40,416	1,06,990	45,415	42.4	1.1	157	70	227	227	
Total	222,848	4,30,700	2,03,314	46.2	0.9	220,333	4,56,922	1,82,164	39.9	0.8	460	463	923	923		
Total, Minor Works, Revenue Accounts only	1,012,230	26,87,902	8,78,124	32.7	0.8	970,977	23,86,119	7,71,718	32.3	0.8	1,308	1,556	2,864	2,864		
AGRICULTURAL WORKS.																
WORKS FOR WHICH NEITHER CAPITAL NOR REVENUE ACCOUNTS ARE KEPT.																
Karachi Canals District.	Kashmor Bund	5,987	14,630	1,00,065	684.0	16.7	5,095	13,331	56,620	424.7	11.1				124	124
	Sukkur-Begri Bund	11,171	3,260	140,286	448.8	12.6	10,334	27,848	2,55,692	918.2	24.8				126	126
Total	11,171	31,260	1,40,286	448.8	12.6	10,334	27,848	2,55,692	918.2	24.8				126	126	
Karachi Canals District.	Ghar Bunds	802	3,422	12,930	377.8	16.1	498	5,559	10,043	180.7	20.2				46	46
	Nara Bunds, north of Kotri	8,333	11,420	30,873	270.3	9.3	3,073	8,637	1,16,980	1,316.3	33.1				112	112
Total	4,133	13,121	37,753	287.7	9.3	3,766	13,033	1,20,667	1,002.3	31.9				121	121	
Karachi Canals District.	Bunds, Right Bank	5,592	9,086	66,169	729.9	11.8	6,164	7,950	51,566	656.9	8.4				52	52
	Bunds, Left Bank	6,972	12,460	1,05,856	852.1	15.4	6,956	13,686	1,00,718	736.9	16.9				93.5	(J) 93.5
Total	12,464	21,466	1,72,988	803.1	13.8	12,120	21,536	1,50,380	698.3	12.4				145.5	145.5	
Karachi Build-ings District.	River Depot (M. I. Depot)		840	36,799				245	42,368							
	Total		840	36,799				245	42,368							
Karachi Canal District.	Eastern Nara District		17	5,646	21,447.1			5	6,284	1,25,660.0					14	14
	Nara District		12	2,626	21,883.3			52	2,966	296,600.0					8	8
	Mehrad Canal District		178	39,649	21,712.9			57	46,851	89,136.5					(c) 46	46
	Total		210	44,921	21,390.6			57	55,601	97,543.8					68	68
	Total Agricultural Works	84,547	85,049	5,45,152	641.0	15.8	31,933	80,609	6,91,371	867.7	21.7				830.5	630.5
Karachi Divi-sion.	Begri Canals District	571,898	12,56,864	4,38,793	34.9	0.8	549,159	18,07,667	3,71,941	28.4	0.6	208	493	701	124	825
	Shikarpur Canals District	237,923	7,49,659	3,71,795	49.6	1.6	226,838	7,41,118	4,74,644	64.4	2.1	209	360	569	126	695
	Ghar Canals District	326,868	12,35,288	3,27,015	26.5	1.0	351,900	12,08,439	2,65,496	22.0	1.8	113	319	432	46	478
	Western Nara District	355,893	10,76,565	3,13,637	29.1	0.9	336,932	7,62,900	3,77,554	50.2	1.2	351	329	680	121	801
	Karachi Canals District	247,764	4,83,967	3,91,229	60.8	1.6	249,221	6,21,016	3,44,705	66.0	1.4	490	468	958	145.5	1,103.5
Total	1,740,331	48,03,273	18,79,168	89.1	1.1	1,713,960	48,32,185	18,76,708	41.4	1.1	1,371	1,969	3,340	563.5	3,903.5	
Karachi Divi-sion.	Jamroo Canal District	852,900	7,53,715	3,23,310	42.8	1.3	233,935	7,59,094	4,93,036	65.0	2.1	117	520	637		637
	Eastern Nara District	253,313	6,79,329	1,69,388	24.9	0.7	227,925	6,12,955	2,09,293	34.1	0.9	160	162	322		322
	Nara District	285,077	7,37,975	3,66,609	49.7	1.3	276,434	7,03,891	3,43,093	49.3	1.2	281	685	966		966
	Hyderabad Canals District	275,430	5,85,654	1,98,116	32.9	0.7	278,003	6,14,221	1,89,337	30.8	0.6	286	652	918		918
Total	1,529,117	38,96,834	14,25,263	36.8	0.9	1,446,054	37,30,883	16,08,241	43.1	1.1	1,029	2,053	4,081	372	4,453	
GRAND TOTAL, SIND	3,269,448	86,99,607	33,04,421	38.0	1.0	3,180,014	82,63,067	34,94,949	42.1	1.1	2,400	5,021	7,421	934.5	8,355.5	

- (a) The decrease of 6 miles is due to the transfer of 4 miles of old Jiwah to "Other canals" and to the abandonment of 2 miles of new Jiwah.
- (b) Increase of 6 miles due to the construction of Shadiwah distributary ex Fuleli mile 71/6.
- (c) Increase of 1 mile due to the excavation of a new cut to the canal.
- (d) Increase of 4 miles due to the transfer of old Jiwah.
- (e) Increase of 2 miles due to the construction of a new bund between Dhadko and Mulehand Canals.
- (f) Difference of 4 miles is due to 2 miles having been eroded at the head of Begri 4 miles abandoned from the lengths of Rajwah and Budwah (2 miles from each canal) owing to the excavation of a new feeder 3 miles long from the branch canal. This accounts for the decrease of 4 miles this year as compared with that of last year.
- (g) Decrease in mileage is due to new cut Fordwah excavated in 1916 having been disused.
- (h) Decrease of 2 miles is due to erosion on new feeder of 1.13 miles and on auxiliary feeder of 1.03 miles.
- (i) Decrease of 1 mile is due to erosion at Charo Wahur head.
- (j) Decrease of half mile due to erosion.

* Suspense account.

† Adjustments.

TABLE VII.

Statement showing receipts from sale of occupancy rights in waste or other lands not belonging to Major and Minor Works, but directly benefited by their construction for the year 1917-18.

Canals and Executive districts.	Particulars of the lands, the occupancy rights of which were sold.				Amounts of receipts from sale of occupancy rights.	Land share $\frac{1}{10}$.	Irrigation share $\frac{9}{10}$.	Sums to be credited as indirect revenue calculated at 4 per cent. on Irrigation share.	Remarks.	
	Taluka.	Village.	Area.	Assessment.						
1	2	3	4	5	6	7	8	9	10	
MAJOR WORKS.										
PRODUCTIVE WORKS.										
IRRIGATION WORKS NOT CHARGED AGAINST REVENUE.										
<i>Canals in operation.</i>										
Begári Canals District.			Desert Canal ...	1,065	1,261	1,097	110	987	39	
			Unharwáh ...	77	115	410	41	369	15	
			Begári Canal ...	1,647	2,471	5,235	523	4,712	188	
			Total ...	2,789	3,847	6,742	674	6,068	242	
Shikárpur District.			Maliwah ...	692	1,623	1,770	177	1,593	84	
Jámrao Canal District.			Jámrao Canal ...	8,263	23,680	50,787	5,079	45,708	1,828	
Nasrat Canals District.			Dád Canal ...	109	127	274	27	247	10	
			Nasrat Canal ...	...	...	1,435	144	1,291	62	
Total ...			Total ...	109	127	1,709	171	1,538	62	
Eastern Nára District.			Nára Supply Channel ...	98	143	225	22	203	8	
			Eastern Nára ...	...	...	...	...	...	...	...
			Mithrao Canal ...	82	190	472	47	425	17	
			Thar Canal ...	45	117	78	7	66	3	
			Khipro Canal ...	...	...	...	...	...	...	...
Total ...			Total ...	225	459	770	76	694	23	
Total, Major Works ...										
				12,278	29,735	61,778	6,177	55,601	2,224	
MINOR WORKS.										
IRRIGATION AND NAVIGATION										
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.										
<i>Canals in operation.</i>										
Ghár Canals District.			Sukkur Canal ...	40	42	99	10	89	4	
			Ghár Canal ...	8	7	24	3	23	1	
Total ...			Total ...	48	49	123	12	111	5	
Karachi Canals District.			Sattah Canal ...	750	2,251	1,074	107	967	89	
Hyderabad District.			Alibhar Kacheri ...	...	...	...	...	...	...
			Great MáraK ...	...	...	...	...	...	...	...
Total ...			Total ...	...	...	...	...	...	...
Fuleli Canals District.			Fuleli Canal ...	...	...	11,092	1,109	9,983	399	
			Hasanali Canal ...	...	...	1,349	135	1,214	49	
Total ...			Total ...	...	...	12,441	1,244	11,197	448	
Total, Minor Works, Capital and Revenue Accounts ...										
				798	2,300	18,638	1,363	12,275	492	

Too numerous to mention.

Too numerous to mention.

TABLE VII—continued.

Canals and Executive districts.	Particulars of the lands, the occupancy rights of which were sold.				Amounts of receipts from sale of occupancy rights.	Land share 1 10.	Irrigation share 9 10.	Sums to be credited as indirect revenue calculated at 4 per cent. irrigation share.	Remarks.
	Taluka.	Village.	Area.	Assessment.					
1	2	3	4	5	6	7	8	9	10
MINOR WORKS—continued.									
IRRIGATION AND NAVIGATION—concluded.									
WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.									
<i>Canals in operation—concluded.</i>									
Shikarpur District.	Canals	Canals in Rohri	285	610	726	73	653	26	
		Sind Canal...	81	265	369	37	332	13	
		Rajib do. ...	3	14	14	1	13	1	
		Chitti do. ...	24	82	77	8	69	3	
		Garang do. ...	181	695	517	52	465	19	
Total ...			574	1,666	1,703	171	1,532	62	
Western Nara District.	Canals	Nara ...	37	17	129	13	116	5	
		Aral ...	...	...	...	...	...	...
		New Feeder, Western Nara ...	...	...	...	...	...	...
		Pritchard Canal ...	...	...	...	...	...	...
		Wahur ...	...	...	...	...	...	...
		Marvi ...	5	12	12	1	11	...	
		Dadu Canals ...	...	...	...	...	...	...
Phitta Canals ...	...	...	...	...	...	...
Canals north of Kotri ...	...	...	...	...	...	...
Total ...			609	1,581	1,043	104	939	38	
Total ...			651	1,610	1,184	118	1,066	43	
Karachi Canals District.	Canals	Kalri ...	295	633	1,066	107	959	33	
		Bachar ...	847	1,216	2,794	279	2,515	101	
		Indus Canals, Right Bank ...	1,181	1,572	1,543	154	1,389	56	
		Pinyari ...	5,353	14,725	7,461	746	6,715	269	
		Indus Canals, Left Bank ...	3,167	10,440	4,970	497	4,473	179	
Total ...			10,843	28,586	17,834	1,783	16,051	643	
Kasrat District.	Canals	Mehrabwah ...	...	...	...	...	...	...
		Naulakhi ...	...	...	...	...	...	...
		Dambro ...	...	...	...	...	...	...
		Other canals ...	...	...	...	...	...	...
Total ...			...	...	...	...	...	...
Hyderabad Canals District.	Canals	Ghoro Mahmud ...	...	...	312	31	281	11	
		Kari Shumali ...	...	...	...	...	...	...
		Nasir ...	...	...	...	...	...	...
		Renwah ...	...	...	...	...	...	...
		Other canals ...	...	...	...	...	...	...
Total ...			...	...	311	31	281	11	
Fuleli District.	Canals	Other canals ...	930	2,762	1,296	119	1,167	46	
		Total, Minor Works, Revenue Accounts only ...	3,048	34,624	22,329	2,282	20,097	805	

TABLE VII—concluded.

Canals and Executive districts,	Particulars of the lands, the occupancy rights of which were sold.				Amounts of receipts from sale of occupancy rights.	Land share $\frac{1}{10}$.	Irrigation share $\frac{9}{10}$.	Sums to be credited as indirect revenues calculated at 4 per cent. on irrigation share.	Remarks.
	Taluka.	Village.	Area.	Assessment.					
1	2	3	4	5	6	7	8	9	10
MINOR WORKS—concluded.									
AGRICULTURAL WORKS.									
WORKS FOR WHICH NEITHER CAPITAL NOR REVENUE ACCOUNTS ARE KEPT.									
Begári Canals District.	Kashmor Bund & ...	4	...	10	1	9	...		
Shik & r p u r Canals District.	Bunds in Rohri ...	6	24	178	17	156	6		
	Sukkur-Begári Bund... Kásimpur Bund ...	...	...	...	...	...	...
	Total ...	6	24	178	77	156	6		
Ghár Canals District.	Ghár Bunds ...	...	...	...	...	...	...
Western Nára District.	Nára Bunds ...	...	...	...	...	...	...
	Bunds north of Kotri ...	...	...	...	...	...	...
	Total ...	...	...	...	...	...	...
K a r á c h i Canals District.	Bunds, Right Bank ...	80	149	47	5	42	2		
	Bunds, Left Bank ...	...	...	...	...	...	...
	Total ...	80	149	47	5	42	2		
	Total, Agricultural Works ...	90	178	230	23	207	8		
Indus Right Bank Division.	Begári Canals District.	2,793	3,847	6,752	675	6,077	242		
	Shikárpur Canals District ...	1,472	3,312	3,646	365	3,281	132		
	Ghár Canals District..	48	49	123	12	111	5		
	Western Nára District	651	1,610	1,184	118	1,066	43		
	Karachi Canals District ...	11,673	30,986	18,955	1,895	17,060	684		
	Total ...	16,637	39,804	30,660	3,065	27,595	1,106		
Indus Left Bank Division.	Jámrao Canal District.	3,263	23,680	50,787	5,079	45,708	1,828		
	Eastern Nára District.	225	459	770	76	694	28		
	Nasrat Canals District ...	109	127	1,709	171	1,538	62		
	Hyderabad Canals District ...	...	...	812	81	281	11		
	Fuleli Canals District.	980	2,762	13,737	1,373	12,364	484		
	Total ...	9,577	27,028	67,815	6,780	60,585	2,423		
	GRAND TOTAL, SIND ...	26,214	66,832	97,975	9,795	88,180	3,529		

Too numerous to mention.

Too numerous to mention.

TABLE VIII.

TABLE

Abstract of Crop Return of Government

Canals, districts and crops.		1913-1914.			1914-1915.			1915-1916.		
		Lift.	Flow.	Total.	Lift.	Flow.	Total.	Lift.	Flow.	Total.
		Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Begari Canals District.	<i>Kharif.</i>									
	Rice...	...	32,187	32,187	...	59,208	59,208	...	79,614	79,614
	Jowari ...	25,422	160,002	185,424	30,307	111,553	141,860	29,183	84,637	113,820
	Bajri ...	16,774	74,771	91,545	19,639	108,067	127,700	21,482	103,510	124,992
	Cotton ...	18	595	611	14	473	487	1	58	59
	Other crops ...	1,622	50,923	52,550	1,919	46,800	48,719	1,024	10,539	11,563
	Total ...	43,834	318,483	362,317	51,873	326,101	377,974	51,690	278,358	330,048
	<i>Rabi.</i>									
	Wheat ...	181	48,082	48,263	176	83,661	83,837	1,074	61,172	82,246
	Barley ...	1	88	89	1	127	128	2	87	89
Oil-seeds ...	10,763	44,969	55,712	3,648	61,950	65,598	5,850	55,815	61,665	
Other crops ...	31	68,619	68,650	1	83,606	83,607	274	120,798	121,072	
Total ...	10,966	161,748	172,714	3,826	229,344	233,170	7,200	257,872	265,072	
Grand total.	54,800	480,231	535,031	55,699	555,445	611,144	58,890	536,230	595,120	
Shikarpur Canals District.	<i>Kharif.</i>									
	Rice...	2	27,787	27,789	...	43,653	43,653	30	53,651	53,681
	Jowari ...	30,461	61,662	92,123	24,918	68,329	93,247	31,313	86,292	68,245
	Bajri ...	8,468	9,320	17,788	7,035	10,748	17,783	8,988	6,913	15,002
	Cotton ...	275	765	1,030	227	604	831	121	147	268
	Other crops ...	1,458	7,622	9,080	887	8,804	9,691	891	6,694	7,585
	Total ...	40,664	107,096	147,760	33,067	132,138	165,205	41,341	104,340	145,681
	<i>Rabi.</i>									
	Wheat ...	494	53,145	53,639	1,124	78,683	74,807	604	52,255	52,859
	Barley ...	5	178	183	8	251	254	1	163	164
Oil-seeds ...	4	8,164	8,168	99	12,687	12,786	5	6,902	6,907	
Other crops ...	4	19,334	19,338	87	38,091	38,128	10	38,512	38,522	
Total ...	507	80,821	81,328	1,263	124,712	125,975	620	97,832	98,452	
Grand total.	41,171	187,917	229,088	34,330	266,850	291,180	41,961	202,172	244,133	
Ghar Canals District.	<i>Kharif.</i>									
	Rice...	6	217,243	217,349	...	217,195	217,195	8	103,853	198,301
	Jowari ...	20,581	33,922	54,573	20,511	38,793	59,304	12,036	28,765	40,801
	Bajri ...	2,874	2,835	5,259	3,160	1,751	4,911	802	849	1,651
	Cotton ...	24	36	60	14	65	79	6	10	16
	Other crops ...	2,519	8,781	11,250	2,185	8,939	11,174	1,312	5,199	6,511
	Total ...	26,004	262,487	288,491	25,870	266,793	292,668	14,159	233,181	247,340
	<i>Rabi.</i>									
	Wheat ...	1,945	45,444	47,389	2,238	54,976	57,214	887	40,103	49,990
	Barley ...	6	49	55	17	114	181	9	61	70
Oil-seeds ...	500	39,781	40,281	2,817	51,161	53,978	261	25,429	25,690	
Other crops ...	298	88,354	88,650	376	101,479	101,855	369	81,904	82,273	
Total ...	2,747	178,628	176,375	5,448	207,730	213,173	1,526	156,497	158,023	
Grand total.	28,751	436,115	464,866	31,318	474,523	505,841	15,685	389,678	405,363	
Western Nars District.	<i>Kharif.</i>									
	Rice...	...	175,298	175,298	...	169,652	169,652	...	153,583	153,583
	Jowari ...	37,591	26,632	64,223	32,783	34,760	67,543	32,782	17,788	50,570
	Bajri ...	5,329	1,611	7,240	2,973	2,138	5,111	5,532	1,907	7,472
	Cotton ...	341	33	874	205	76	281	91	4	95
	Other crops ...	1,270	3,522	4,795	852	3,081	3,963	1,278	2,694	3,070
Total ...	44,331	207,094	251,925	36,843	209,727	246,570	39,684	175,97	216,000	

VIII.

Foreign and Jágir lands for five years.

1916-1917.			1917-1918.			Percentage of lift and flow.			Percentage of kharif and rabi.	Canals, districts and crops.
Lift.	Flow.	Total.	Lift.	Flow.	Total.	Lift.	Flow.	Total.		
Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
...	101,168	101,168	...	1,08,625	1,08,625	...	100	100	...	<i>Kharif.</i>
29,818	144,521	174,139	20,176	88,663	108,839	19	81	100	...	Rice ...
16,900	107,658	124,558	18,421	74,180	92,601	20	80	100	...	Jowári ...
2	211	213	4	150	154	3	97	100	...	Bájrí ...
700	13,141	13,841	1,265	11,364	12,629	10	90	100	...	Cotton ...
									51	Other crops ...
47,220	368,699	413,919	39,866	282,982	322,848	12	88	100	51	Total.
										<i>Rabi.</i>
1,881	72,378	74,259	1,951	97,988	99,939	2	98	100	...	Wheat ...
2	48	50	...	66	66	...	100	100	...	Barley ...
6,990	61,604	68,594	4,115	66,821	70,936	6	94	100	...	Oil-seeds ...
16	136,662	136,678	1,648	136,927	138,575	1	99	100	...	Other crops ...
									49	Total.
8,889	270,892	279,581	7,714	301,802	309,516	2	98	100	49	Total.
50,109	637,391	693,500	47,580	584,784	632,364	8	92	100	100	Grand total.
										<i>Kharif.</i>
...	60,226	60,226	...	43,590	43,590	...	100	100	...	Rice ...
20,380	89,252	97,632	19,177	39,025	58,202	33	67	100	...	Jowári ...
4,788	10,624	15,362	7,174	8,954	16,128	44	56	100	...	Bájrí ...
107	376	483	193	412	610	32	68	100	...	Cotton ...
957	7,289	8,246	1,882	7,677	9,559	20	80	100	...	Other crops ...
									50	Total.
34,182	147,767	181,949	28,431	99,658	128,089	22	78	100	50	Total.
										<i>Rabi.</i>
1,479	52,425	53,904	1,556	69,883	71,439	2	98	100	...	Wheat ...
2	152	154	11	171	182	6	94	100	...	Barley ...
16	5,997	6,013	15	16,225	16,240	...	100	100	...	Oil-seeds ...
22	86,776	86,798	17	42,457	42,474	...	100	100	...	Other crops ...
									50	Total.
1,519	95,850	96,869	1,599	128,736	130,335	1	99	100	50	Total.
35,701	249,117	278,818	30,030	228,894	258,424	12	88	100	100	Grand total.
										<i>Kharif.</i>
...	211,706	211,706	...	218,054	218,054	...	100	100	...	Rice ...
15,267	54,386	69,643	11,060	37,664	48,724	25	77	100	...	Jowári ...
577	1,220	1,797	571	1,217	1,848	31	69	100	...	Bájrí ...
3	...	3	3	13	18	19	81	100	...	Cotton ...
1,586	6,576	8,162	1,401	4,667	6,268	22	78	100	...	Other crops ...
									58	Total.
17,423	278,888	291,311	13,035	261,875	274,910	5	95	100	58	Total.
										<i>Rabi.</i>
1,356	48,223	49,579	905	46,500	47,405	2	98	100	...	Wheat ...
1	57	58	4	58	62	6	94	100	...	Barley ...
380	89,376	39,768	806	54,314	54,620	1	99	100	...	Oil-seeds ...
236	102,149	102,385	103	94,301	94,904	...	100	100	...	Other crops ...
									42	Total.
1,973	189,805	191,778	1,818	195,672	196,991	1	99	100	42	Total.
19,396	468,693	483,089	14,559	457,548	471,901	3	97	100	100	Grand total.
										<i>Kharif.</i>
...	184,875	184,875	...	150,079	150,079	...	100	100	...	Rice ...
17,802	63,951	81,753	28,884	31,800	60,684	48	52	100	...	Jowári ...
3,413	1,710	5,123	3,130	2,244	5,374	53	42	100	...	Bájrí ...
88	38	126	128	32	160	80	20	100	...	Cotton ...
815	3,509	4,324	661	2,727	3,388	20	80	100	...	Other crops ...
									56	Total.
22,118	254,083	276,201	32,803	186,882	219,686	15	85	100	56	Total.

Begári Canals District.

Shikárpur Canals District.

Ghár Canals District.

Western Nára District.

TABLE

Canals, districts and crops.	1913-1914.			1914-1915.			1915-1916.			
	Lift.	Flow.	Total.	Lift.	Flow.	Total.	Lift.	Flow.	Total.	
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
Western Nara District— <i>concl'd.</i>	<i>Rabi.</i>									
	Wheat ...	12,149	37,276	49,425	28,565	50,321	78,886	9,971	36,908	46,770
	Barley ...	905	1,914	2,819	932	3,760	4,712	676	2,426	3,101
	Oil-seeds ...	1,882	43,173	50,054	4,672	106,164	110,836	637	29,779	30,606
	Other crops ...	557	62,366	62,913	1,438	75,808	77,246	406	68,650	69,056
Total ...	15,493	149,718	165,211	35,607	236,073	271,680	11,880	137,662	149,543	
Grand total.	60,324	356,812	417,136	72,450	445,800	518,250	51,564	313,638	365,202	
Karachi Canals District.	<i>Kharif.</i>									
	Rice ...	126	224,449	224,575	14	209,802	209,816	164	202,670	202,834
	Jowari ...	926	322	1,248	762	119	831	737	151	888
	Bajri ...	8,262	3,019	11,281	5,919	587	6,806	3,037	488	3,519
	Cotton ...	6	...	6	4	...	4	1	...	1
Other crops ...	1,950	1,419	3,369	2,030	1,253	3,283	2,163	2,761	4,924	
Total ...	11,270	229,209	240,479	8,729	212,061	220,790	6,102	206,064	212,166	
Grand total.	11,771	279,478	291,244	8,972	253,025	261,997	6,645	245,028	251,571	
Indus Right-Bank Division.	<i>Rabi.</i>									
	Wheat ...	...	279	279	...	284	284	...	140	140
	Barley ...	...	9,801	9,801	...	11,060	11,060	10	7,919	7,929
	Oil-seeds ...	...	17,859	17,859	...	11,775	11,775	...	8,850	8,850
	Other crops ...	501	22,325	22,826	243	17,645	18,088	433	22,053	22,486
Total ...	501	50,164	50,765	243	40,964	41,207	443	38,962	39,405	
Grand total.	11,771	279,478	291,244	8,972	253,025	261,997	6,645	245,028	251,571	
Eastern Nara District.	<i>Kharif.</i>									
	Rice ...	134	677,009	677,143	14	699,510	699,524	197	687,976	688,073
	Jowari ...	114,981	282,610	397,591	109,231	263,574	362,855	106,051	168,273	274,324
	Bajri ...	42,067	91,106	133,113	38,720	123,691	162,311	39,842	113,664	153,506
	Cotton ...	692	1,419	2,081	464	1,218	1,682	220	219	439
Other crops ...	8,819	72,225	81,044	7,903	68,927	76,830	6,666	27,687	34,553	
Total ...	166,693	1,124,369	1,290,972	156,332	1,146,320	1,303,202	152,970	997,919	1,160,895	
Eastern Nara District.	<i>Rabi.</i>									
	Wheat ...	14,769	184,226	198,995	32,103	262,925	295,028	12,536	219,478	232,014
	Barley ...	917	12,080	12,947	958	15,332	16,285	698	10,655	11,353
	Oil-seeds ...	13,189	158,935	172,074	11,236	243,737	254,973	6,943	126,775	133,718
	Other crops ...	1,389	260,988	262,377	2,095	316,829	318,924	1,492	331,917	333,409
Total ...	30,214	616,179	646,398	46,397	638,823	685,210	21,669	668,825	710,494	
Grand total.	166,817	1,740,548	1,937,365	202,769	1,985,648	2,168,412	174,645	1,686,744	1,861,389	
Eastern Nara District.	<i>Kharif.</i>									
	Rice ...	1,167	121,287	122,454	751	112,325	113,076	3,374	136,849	140,223
	Jowari ...	2,380	936	3,316	499	831	1,330	1,268	740	1,998
	Bajri ...	25,074	11,482	36,556	20,131	12,640	32,771	25,848	13,775	39,623
	Cotton ...	22,699	29,892	52,611	19,304	23,517	47,821	7,205	7,404	14,611
Other crops ...	1,873	685	2,558	1,393	770	2,163	1,344	1,303	2,647	
Total ...	52,663	164,282	216,945	42,088	155,068	197,166	39,029	160,073	199,103	
Grand total.	56,159	203,986	260,094	45,984	215,051	261,040	47,682	213,395	261,077	

VIII—continued.

1916-1917.			1917-1918.			Percentage of lift and flow.			Percentage of kharif and rabi.	Canals, districts and crops.
Lift.	Flow.	Total.	Lift.	Flow.	Total.	Lift.	Flow.	Total.		
Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
8,726	66,574	75,300	40,173	43,969	84,142	48	52	100	...	<i>Rabi.</i>
386	2,013	2,399	1,410	5,135	6,546	22	73	100	...	Wheat...
1,836	34,513	36,349	2,946	28,162	31,108	9	91	100	...	Barley...
1,927	70,021	71,948	348	48,982	49,330	1	99	100	...	Oil-seeds ...
12,875	173,121	185,996	44,877	126,248	171,125	26	74	100	44	Other crops ...
34,093	427,204	462,197	77,660	813,130	590,810	20	80	100	100	Total
115	243,112	243,227	99	219,562	219,661	...	100	100	...	<i>Kharif.</i>
678	378	1,054	328	...	328	100	...	100	...	Rice ...
9,238	820	10,058	6,513	19	6,532	100	...	100	...	Jowari...
1,411	2,544	8,955	1,365	2,862	4,227	7	100	100	...	Bajri ...
11,440	246,854	258,294	8,312	222,418	230,755	32	68	100	...	Cotton ...
...	190	190	...	245	245	...	100	100	...	Other crops ...
...	5,074	5,064	...	5,433	5,433	...	100	100	...	Total
...	3,146	3,146	...	10,858	10,858	...	100	100	...	<i>Rabi.</i>
127	20,395	20,522	...	21,131	21,131	...	100	100	...	Wheat...
127	28,795	28,922	...	37,667	37,667	...	100	100	14	Barley...
11,567	275,649	287,216	8,312	260,110	268,422	3	97	100	100	Oil-seeds ...
115	801,087	801,202	99	739,910	740,009	...	100	100	...	Other crops ...
91,733	332,488	424,221	79,625	197,152	276,777	29	71	100	...	Total
34,866	122,032	156,892	35,809	86,674	122,488	29	71	100	...	<i>Kharif.</i>
200	625	825	340	607	947	36	64	100	...	Rice ...
5,469	33,059	38,528	6,574	29,497	36,071	18	82	100	...	Jowari...
132,333	1,239,291	1,421,674	122,447	1,053,840	1,176,287	10	90	100	58	Bajri ...
13,442	239,790	253,232	44,585	258,585	303,170	15	85	100	...	Cotton ...
391	7,334	7,725	1,425	10,863	12,288	12	88	100	...	Other crops ...
9,223	144,636	153,868	7,882	176,380	183,762	4	96	100	...	Total
2,328	366,003	368,331	2,116	344,298	346,414	1	99	100	...	<i>Rabi.</i>
25,333	757,763	783,146	55,508	790,126	845,634	7	93	100	42	Wheat...
157,766	2,047,054	2,204,820	177,955	1,843,966	2,021,921	9	91	100	100	Barley...
2,644	118,423	121,067	2,503	109,453	111,955	2	98	100	...	Oil-seeds ...
1,970	1,287	3,257	1,217	771	1,988	61	39	100	...	Other crops ...
31,550	21,614	53,164	23,184	10,014	33,198	70	30	100	...	Total
11,811	18,959	30,770	13,306	23,578	36,884	36	64	100	...	<i>Kharif.</i>
1,353	637	1,995	1,171	733	1,909	60	40	100	...	Rice ...
49,333	180,920	210,253	41,331	144,553	185,934	22	78	100	80	Jowari...
4,628	34,034	38,662	2,502	31,177	33,679	7	93	100	...	Bajri ...
29	407	430	50	817	867	6	94	100	...	Cotton ...
622	6,366	6,987	266	3,471	3,737	7	93	100	...	Other crops ...
875	6,731	7,106	479	7,363	7,842	6	94	100	...	Total
5,648	47,537	53,185	3,297	42,823	46,125	7	93	100	20	<i>Rabi.</i>
54,981	208,457	263,438	44,673	137,331	232,059	19	81	100	100	Wheat...

Western Nara District—
(conold.)

Karachi Canals District.

Indus Right Bank Division.

Eastern Nara District.

TABLE

Canals, districts and crops.	1913-1914.			1914-1915.			1915-1916.		
	Lift.	Flow.	Total.	Lift.	Flow.	Total.	Lift.	Flow.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Kharif.									
Rice ...	15	13,725	13,740	95	14,203	14,298	14	16,406	16,420
Jowari ...	70,798	40,481	111,279	64,956	48,942	113,878	71,298	58,712	128,010
Bajri ...	53,008	19,004	72,012	37,569	12,653	50,222	33,717	10,297	44,014
Cotton ...	15,899	25,642	41,541	17,364	27,266	44,630	5,467	7,930	13,397
Other crops .	6,274	9,679	15,953	7,364	11,728	19,028	4,572	10,598	15,165
Total ...	145,494	108,491	253,925	127,328	114,792	242,120	118,068	110,938	229,006
Nasrat Canals District.									
Rabi.									
Wheat ...	463	17,969	18,425	2,584	24,401	26,985	605	14,348	14,953
Barley ...	12	945	957	184	2,177	2,361	27	1,135	1,212
Oil-seeds ...	11	24,560	24,571	518	23,729	24,247	28	9,031	9,059
Other crops .	...	4,030	4,030	772	4,925	5,697	33	3,700	3,733
Total ...	486	47,497	47,983	4,058	55,232	59,290	698	28,264	28,962
Grand total.	145,980	155,929	301,908	161,386	170,024	301,410	118,766	139,202	257,968
Kharif.									
Rice ...	6	4,842	4,848	11	5,016	5,027	49	7,467	7,516
Jowari ...	8,154	1,092	9,246	7,109	978	8,082	10,418	1,211	11,629
Bajri ...	141,058	14,831	155,889	123,158	14,861	143,019	144,480	12,448	156,928
Cotton ...	71,510	9,042	80,552	73,237	10,251	83,488	43,494	4,772	48,266
Other crops .	7,783	490	8,273	7,727	547	8,269	6,292	491	6,783
Total ...	228,511	30,297	258,808	216,237	31,648	247,885	204,673	26,869	231,062
Hyderabad Canal District.									
Rabi.									
Wheat ...	557	5,810	6,367	815	11,212	12,027	1,189	6,216	7,405
Barley ...	4	4	8	...	19	19	10	4	14
Oil-seeds ...	385	8,605	8,990	330	22,239	22,569	158	8,531	8,687
Other crops .	230	10,582	10,812	296	14,424	14,720	434	14,760	15,220
Total ...	1,176	25,001	26,177	1,441	47,894	49,335	1,759	24,537	26,326
Grand total.	229,687	55,298	284,985	217,678	79,542	297,220	206,432	50,926	257,868
Kharif.									
Rice ...	176	263,902	264,078	48	246,945	246,998	212	287,224	287,436
Jowari ...	3,678	783	4,466	3,478	1,851	5,329	3,995	2,096	5,491
Bajri ...	77,396	6,223	83,619	71,678	9,670	81,348	63,366	11,031	74,397
Cotton ...	22,256	1,778	24,029	19,573	3,016	22,589	9,505	2,443	11,948
Other crops .	3,707	1,764	10,471	3,050	2,403	10,458	6,017	1,738	7,805
Total ...	112,208	274,445	386,653	102,827	263,885	366,712	82,485	304,532	337,067
Fuleli Canals District.									
Rabi.									
Wheat ...	311	7,338	8,149	1,593	11,327	12,920	6,083	18,496	24,579
Barley ...	33	718	751	104	2,167	2,271	88	2,899	2,987
Oil-seeds ...	645	16,625	17,270	416	42,723	43,139	303	24,705	25,008
Other crops .	4,597	13,291	17,888	3,511	19,119	21,730	1,773	20,474	22,247
Total ...	5,556	38,472	44,028	4,724	75,336	80,000	8,247	66,574	74,821
Grand total.	117,764	312,917	430,681	107,601	339,221	446,712	90,732	371,156	461,888

VIII—continued.

1916-1917.			1917-1918.			Percentage of lift and flow.			Percentage of kharif and rabi.	Canals, districts and crops.
Lift.	Flow.	Total.	Lift.	Flow.	Total.	Lift.	Flow.	Total.		
Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
...	20,912	20,912	55	15,577	15,632	...	100	100	...	<i>Kharif.</i>
85,650	61,127	146,777	53,860	35,294	89,154	60	40	100	...	Rice ...
43,782	20,155	63,937	53,699	20,787	73,486	72	28	100	...	Jowari ...
10,215	17,967	28,182	10,140	16,205	26,345	38	62	100	...	Bajri ...
4,952	15,493	20,445	5,089	9,852	14,941	34	66	100	...	Cotton ...
...	...	...	...	...	...	...	...	...	...	Other crops ...
144,599	135,564	280,253	121,843	97,715	219,558	55	45	100	76	Total.
...	...	...	...	...	...	...	...	...	...	<i>Rabi.</i>
964	18,323	19,286	1,182	30,391	31,573	4	96	100	...	Wheat ...
72	1,407	1,479	36	1,914	1,950	2	98	100	...	Barley ...
56	13,380	13,436	332	31,089	31,421	1	99	100	...	Oil-seeds ...
21	4,606	4,627	8	6,454	6,462	...	100	100	...	Other crops ...
1,113	37,715	38,828	1,558	69,848	71,406	2	98	100	24	Total.
145,712	173,369	319,081	123,401	167,563	290,964	42	58	100	100	Grand total.
...	...	...	...	...	...	...	...	...	...	<i>Kharif.</i>
81	9,455	9,536	73	8,179	8,252	1	99	100	...	Rice ...
12,181	1,469	13,650	5,831	484	6,315	92	8	100	...	Jowari ...
138,401	16,158	154,559	134,131	12,060	146,191	92	8	100	...	Bajri ...
59,484	8,979	68,463	65,718	9,991	75,709	87	13	100	...	Cotton ...
6,926	617	7,543	6,349	828	7,127	88	12	100	...	Other crops ...
217,073	36,678	253,751	212,102	31,542	243,644	87	13	100	85	Total.
...	...	...	...	...	...	...	...	...	...	<i>Rabi.</i>
536	10,316	10,852	2,093	10,708	12,806	16	84	100	...	Wheat ...
...	1	1	...	31	81	...	100	100	...	Barley ...
96	8,799	8,895	938	10,173	11,111	8	92	100	...	Oil-seeds ...
447	20,933	21,380	552	19,883	20,235	2	98	100	...	Other crops ...
1,079	40,049	41,128	3,388	40,795	44,183	3	92	100	15	Total.
218,152	76,727	294,879	215,490	72,337	287,827	75	25	100	100	Grand total.
...	...	...	...	...	...	...	...	...	...	<i>Kharif.</i>
69	305,540	305,609	124	272,695	272,819	...	100	100	...	Rice ...
4,547	2,588	7,130	1,705	940	2,645	64	36	100	...	Jowari ...
88,544	11,736	100,280	69,055	7,954	77,009	90	10	100	...	Bajri ...
18,233	8,417	16,640	19,400	3,927	23,327	83	17	100	...	Cotton ...
7,451	2,568	10,019	7,609	2,686	10,295	74	26	100	...	Other crops ...
113,834	325,844	439,678	9,7893	288,202	386,995	25	75	100	89	Total.
...	...	...	...	...	...	...	...	...	...	<i>Rabi.</i>
7,632	21,399	29,031	3,562	12,874	16,434	22	78	100	...	Wheat ...
215	1,232	1,447	55	941	996	6	94	100	...	Barley ...
560	9,362	9,922	322	12,228	12,550	3	97	100	...	Oil-seeds ...
2,136	16,016	18,152	1,905	18,210	20,115	9	91	100	...	Other crops ...
10,543	48,009	58,552	5,844	44,251	50,095	12	88	100	11	Total.
124,377	373,853	498,230	103,737	332,453	436,190	24	76	100	100	Grand total.

TABLE

Canals, districts and crops.	1913-1914.			1914-1915.			1915-1916.		
	Lift.	Flow.	Total.	Lift.	Flow.	Total.	Lift.	Flow.	Total.
	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.
Kharij.									
Rice ...	...	...	...	...	...	...	...	...	...
Jowári ...	1,045	2,924	3,969	1,496	5,801	7,097	1,136	5,181	6,317
Bájrí ...	19,348	25,294	44,642	14,942	17,447	32,389	20,018	41,251	61,269
Cotton ...	82,807	91,850	124,657	33,406	91,815	125,221	16,715	49,593	66,308
Other crops .	1,108	3,551	4,659	1,165	3,218	4,373	1,143	6,350	7,492
Total ...	54,308	123,619	177,927	50,999	118,061	169,080	89,011	102,679	141,630
Jámráo Canal District.									
Rabi.									
Wheat ...	7,008	42,167	49,175	11,033	57,833	68,866	23,076	95,016	118,092
Barley ...	138	720	858	180	457	637	374	1,503	1,877
Oil-seeds ...	408	2,564	2,972	337	2,618	2,955	473	2,791	3,264
Other crops .	926	7,759	8,685	2,533	15,467	18,020	1,471	11,741	13,212
Total ...	8,480	53,210	61,690	14,083	76,395	90,478	25,394	111,051	136,445
Grand total.	62,788	176,829	239,617	65,082	194,476	259,558	64,405	213,730	278,135
Kharij.									
Rice ...	1,364	403,756	405,120	905	378,439	379,394	3,649	447,050	451,599
Jowári ...	86,050	46,216	132,266	77,518	58,158	135,716	87,505	65,940	153,445
Bájrí ...	315,584	76,834	392,718	272,478	67,271	339,749	290,419	97,802	388,221
Cotton ...	161,841	168,199	322,840	162,894	160,865	323,749	82,366	72,444	154,830
Other crops .	25,245	16,069	41,314	25,689	18,665	44,355	19,307	20,525	39,832
Total ...	593,184	701,074	1,294,258	639,474	683,439	1,222,963	483,266	704,661	1,187,927
Indus Left Bank Division.									
Rabi.									
Wheat ...	10,864	95,679	106,543	13,378	144,814	163,192	33,082	175,657	213,739
Barley ...	206	2,589	2,795	498	5,274	5,772	553	6,132	6,685
Oil-seeds ...	2,182	63,591	65,773	2,679	102,056	104,785	2,052	44,879	46,931
Other crops .	5,941	41,975	47,916	6,657	62,681	69,338	4,094	57,080	61,174
Total ...	19,193	203,834	223,027	23,212	314,825	343,037	44,781	283,748	328,529
Grand total.	612,377	904,908	1,517,285	662,686	998,264	1,566,000	528,047	988,409	1,516,456
Kharij.									
Rice ...	1,498	1,080,765	1,082,263	919	1,077,919	1,078,918	3,848	1,155,326	1,139,872
Jowári ...	201,031	323,826	529,857	186,799	311,772	498,571	193,556	234,213	427,769
Bájrí ...	357,891	167,940	525,831	311,198	190,862	502,060	380,261	211,466	541,727
Cotton ...	165,303	159,618	324,921	163,348	162,033	325,431	82,606	72,663	155,269
Other crops .	34,064	88,294	122,358	33,592	67,593	121,185	25,973	43,412	74,855
Total ...	759,787	1,825,443	2,585,290	695,856	1,830,309	2,526,165	636,242	1,702,560	2,338,822
Total for Sind.									
Rabi.									
Wheat ...	25,638	279,905	305,538	50,481	407,739	458,220	50,618	395,135	445,753
Barley ...	1,123	14,619	15,742	1,451	20,806	22,057	1,251	16,787	18,038
Oil-seeds ...	15,321	222,523	237,847	13,915	345,793	359,708	3,935	171,654	180,640
Other crops .	7,330	302,963	310,293	8,752	379,510	388,262	5,586	383,997	394,583
Total ...	49,407	820,013	869,420	74,599	1,153,648	1,228,247	60,450	972,578	1,039,023
GRAND TOTAL	309,194	2,645,456	3,454,650	770,455	2,983,957	3,754,412	702,092	2,675,153	3,377,845

VIII—concluded.

1916-1917.			1917-1918.			Percentage of lift and flow.			Percentage of kharif and rabi.	Canals, districts and crops.
Lift.	Flow.	Total.	Lift.	Flow.	Total.	Lift.	Flow.	Total.		
Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	Acres.	
999	4,782	5,781	687	4,654	5,341	13	87	100	...	
18,120	42,646	60,766	15,238	22,513	43,751	35	65	100	...	
21,116	67,378	88,493	23,609	73,052	96,661	30	70	100	...	
1,046	7,391	8,437	969	5,441	6,410	15	85	100	...	
41,280	122,197	163,477	40,503	111,660	152,163	27	73	100	64	
8,448	58,060	66,508	10,033	65,561	75,594	13	87	100	...	
74	725	799	83	337	420	20	80	100	...	
257	3,092	3,349	198	1,896	2,094	10	90	100	...	
353	4,940	5,293	706	7,429	8,135	9	91	100	...	
9,132	66,817	75,949	11,020	75,223	86,243	13	87	100	36	
50,412	189,014	239,426	51,523	186,883	238,406	22	78	100	100	
2,794	454,330	457,124	2,755	405,903	408,658	1	99	100	...	
105,347	71,248	176,593	63,300	42,143	105,443	60	40	100	...	
320,397	112,309	432,706	291,307	79,328	370,635	79	21	100	...	
115,848	116,700	232,548	132,173	126,753	258,926	51	49	100	...	
21,783	26,706	48,489	21,187	19,545	40,732	52	48	100	...	
566,119	781,293	1,347,412	513,722	673,672	1,187,394	43	57	100	80	
22,208	142,131	164,339	19,377	150,709	170,086	11	89	100	...	
384	3,772	4,156	224	4,040	4,264	5	95	100	...	
1,591	40,998	42,589	2,056	58,857	60,913	3	97	100	...	
3,332	53,226	56,558	3,450	59,339	62,789	5	95	100	...	
27,515	240,127	267,642	25,107	272,945	298,052	9	91	100	20	
593,684	1,021,420	1,615,054	538,829	946,617	1,485,446	36	64	100	100	
2,909	1,255,417	1,258,326	2,854	1,145,813	1,148,667	...	100	100	...	
197,080	403,736	600,816	142,925	239,295	382,220	38	62	100	...	
355,263	234,341	589,604	330,116	166,002	496,118	66	34	100	...	
116,048	117,325	233,373	132,513	127,560	259,873	51	49	100	...	
27,202	59,765	86,967	27,761	49,042	76,803	36	64	100	...	
698,502	2,070,584	2,769,086	636,169	1,727,512	2,363,681	27	73	100	67	
35,650	381,921	417,571	63,962	409,394	473,256	14	86	100	...	
775	11,106	11,881	1,649	14,903	16,552	10	90	100	...	
10,813	185,634	196,447	9,438	235,237	244,675	4	96	100	...	
5,660	419,239	424,899	5,566	403,637	409,203	1	99	100	...	
52,898	997,890	1,050,788	80,616	1,063,071	1,143,686	7	93	100	23	
7,519,00	3,068,474	3,819,874	7,176,784	2,790,583	3,507,367	20	80	100	100	

Kharif.

Rice ...
 Jowári ...
 Bajri ...
 Cotton ...
 Other crops ...

Total.

Rabi.

Wheat ...
 Barley ...
 Oil-seeds ...
 Other crops ...

Total.

Grand total.

Jámrao Canal District.

Kharif.

Rice ...
 Jowári ...
 Bajri ...
 Cotton ...
 Other crops ...

Total.

Rabi.

Wheat ...
 Barley ...
 Oil-seeds ...
 Other crops ...

Total.

Grand total.

Indus Left Bank Division.

Kharif.

Rice ...
 Jowári ...
 Bajri ...
 Cotton ...
 Other crops ...

Total.

Rabi.

Wheat ...
 Barley ...
 Oil-seeds ...
 Other crops ...

Total.

Total for Sind.

GRAND TOTAL.

Memorandum showing the amounts of loss to canals on account of difference between the assessments of water-rates on Jaghir lands and assessment at the ordinary rates for Government lands.

	To end of 1916-17.	During 1917-18.	To end of 1917-18.	Remarks.
MAJOR WORKS.				
<i>Productive Works.</i>				
Desert Canal	18,91,985	96,422	19,88,407	
Unharwáh	18,321	1,184	19,505	
Begári Canal	21,08,461	73,633	21,82,094	
Mahiwáh	86,226	5,149	91,375	
Eastern Nára Works	5,82,270	24,879	6,07,149	
Jámráo Canal	1,89,105	9,207	1,98,312	
Dád Canal	3,17,474	18,103	3,35,577	
Nasrat Canal	25,537	1,659	27,196	
Total	52,19,379	2,30,236	54,49,615	
MINOR WORKS AND NAVIGATION.				
<i>Works for which Capital and Revenue Accounts are kept.</i>				
Sukkur Canal	2,40,573	7,326	2,47,899	
Ghár Canal	12,14,408	23,552	12,37,960	
Sattah Canal	3,447	472	3,919	
Alibhar-Kacheri Canal	1,11,243	3,444	1,14,687	
Márák Great Canal	6,42,119	20,170	6,62,289	
Sarírazwáh	3,45,418	8,001	3,53,419	
Fuleli Canal	54,97,874	1,93,085	56,90,959	
Hassanali Canal	23,749	1,811	25,560	
Total	80,78,831	2,57,861	83,36,692	
<i>Works for which only Revenue Accounts are kept.</i>				
Shikárpur Canals District ... ..	...	35,090	...	
Western Nára District ... ..	...	35,480	...	
Karáchi Canals District ... ..	...	16,912	...	
Nasrat Canals District ... ..	...	7,591	...	
Hyderabad Canals District ... ..	...	56,749	...	
Fuleli Canals District ... ..	...	6,775	...	
Total ... ..	...	1,58,597	...	
<i>Works for which neither Capital nor Revenue Accounts are kept.</i>				
Ghár Canals District ... ..	...	491	...	
Shikárpur Canals District ... ..	...	165	...	
Karáchi Canals District ... ..	...	1,546	...	
Total ... ..	...	2,202	...	

N. M. MUZUMDAR,
Assistant Accountant Officer.

Statement showing actual Receipts during 1917-18 on account of Irrigation share of Land Revenue from canals in Sind:

	Gross Irrigation share of Land Revenue.	Deduct 1/4ths of Cash Refunds of Land Revenue in the Civil Department.	Net Irrigation share of Land Revenue.
	Rs.	Rs.	Rs.
MAJOR WORKS.			
<i>Productive Works.</i>			
Desert Canal	3,73,344	...	3,73,344
Unharwáh	2,04,253	...	2,04,253
Begári Canal	6,04,580	...	6,04,580
Mahiwáh	1,66,471	...	1,66,471
Eastern Nára Works—			
Mithrao Canal	3,18,341	...	3,18,341
Thar Canal	1,51,079	...	1,51,079
Nára Canal	52,619	...	52,619
Khipra Canal	3,972	...	3,972
Hiral Canal	31,867	...	31,867
Hiran Canal ... ..	...	...	...
Nára Supply Channel	17,763	...	17,763
	5,75,641	...	5,75,641
Jámrao Canal	6,84,822	...	6,84,822
Dád Canal	2,63,672	...	2,63,672
Nasrat Canal	1,81,133	...	1,81,133
Total ...	30,53,921	...	30,53,921
MINOR WORKS AND NAVIGATION.			
<i>Works for which Capital and Revenue Accounts are kept.</i>			
Sukkur Canal	2,94,211	...	2,94,211
Ghár Canal	8,87,501	...	8,87,501
Sattah Canal	43,930	...	43,930
Alibahar Kacheri	31,551	...	31,551
Márah Great Canal	1,82,018	...	1,82,018
Sarfrazwáh	59,884	...	59,884
Fuleli Canal	8,65,817	...	8,65,817
Hassanali Canal	46,382	...	46,382
Total ...	24,11,294	...	24,11,294
<i>Works for which only Revenue Accounts are kept.</i>			
Shikárpur Canals District	5,28,710	...	5,28,710
Western Nára District	7,18,641	...	7,18,641
Nasrat Canals District	2,39,393	...	2,39,393
Hyderabad Canals District	2,99,189	...	2,99,189
Fuleli Canals District	69,922	...	69,922
Karáchi Canals District	4,30,738	...	4,30,738
Total ...	22,86,593	...	22,86,593
<i>Works for which neither Capital nor Revenue Accounts are kept.</i>			
Begári Canals District—			
Kashmor Bund	10,525	...	10,525
Shikárpur Canals District—			
Sukkur-Begári Bund	21,986	...	21,986
Kasimpur Bund	3,486	...	3,486
Bunds in Rohri	364	...	364
Ghar Canals District—			
Ghár Bunds	1,979	...	1,979
Western Nára District—			
Nára Bunds	9,758	...	9,758
Karachi Canals District—			
Karachi Bunds	19,851	...	19,851
Total ...	67,949	...	67,949
Total Minor Works ...	47,65,836	...	47,65,836
GRAND TOTAL ...	78,19,757	...	78,19,757

Statement of Highest Readings on Bukkur and Kotri Gauges from 1880 to 1917.

Year.	Bukkur.		Kotri.		Remarks.
	Date.	Highest reading.	Date.	Highest reading.	
		Feet.		Feet.	
1880	8th July	14.9	14th August	17.1	
1881	20th June	14.4	28th "	17.2	
1882	7th August	17.6	17th "	20.5	
1883	17th July	15.9	26th July	18.5	
1884	19th August	15.8	27th August	19.2	
1885	20th "	15.4	4th September.	20.3	
1886	22nd July	16.3	19th August	20.3	
1887	18th August	16.6	2nd "	19.7	
1888	29th "	14.4	3rd September	17.9	
1889	19th July	16.6	24th July	19.8	
1890	24th August	16.0	31st August	20.6	
1891	15th "	14.3	20th "	20.6	
1892	18th "	16.8	27th "	21.3	
1893	30th July	15.8	3rd "	21.0	
1894	7th August	16.4	14th "	22.6	
1895	24th "	15.3	26th "	18.3	
1896	7th "	15.8	19th "	19.4	
1897	28th "	17.9	19th "	22.0	
1898	18th July	13.3	21st July	18.5	
1899	27th "	13.4	29th "	18.6	
1900	16th August	14.5	24th August	19.3	
1901	15th "	16.4	19th "	19.5	
1902	1st "	13.5	4th "	15.9	
1903	22nd "	17.1	27th "	19.7	
1904	6th "	15.8	22nd "	18.7	
1905	20th July	16.7	26th July	19.1	
1906	22nd August	16.6	29th August	20.9	
1907	20th "	13.7	27th "	19.4	
1908	12th "	16.1	16th September.	22.9	
1909	28th "	14.4	30th August	20.8	
1910	4th September	14.5	8th September	22.3	
1911	20th June	14.0	28th June	20.7	
1912	10th August	15.5	17th August	21.7	
1913	15th "	15.0	20th "	20.9	
1914	3rd "	17.4	11th "	23.8	
1915	26th "	12.7	31st "	19.6	
1916	16th "	13.6	24th "	22.1	
1917	16th "	15.8	6th September.	23.0	

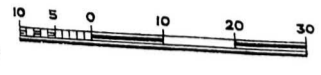
R. T. HARRISON,
Superintending Engineer, Indus Left Bank Division.

67° 0 68° 0 69° 0 70° 0 71° 0

INDEX MAP OF SIND

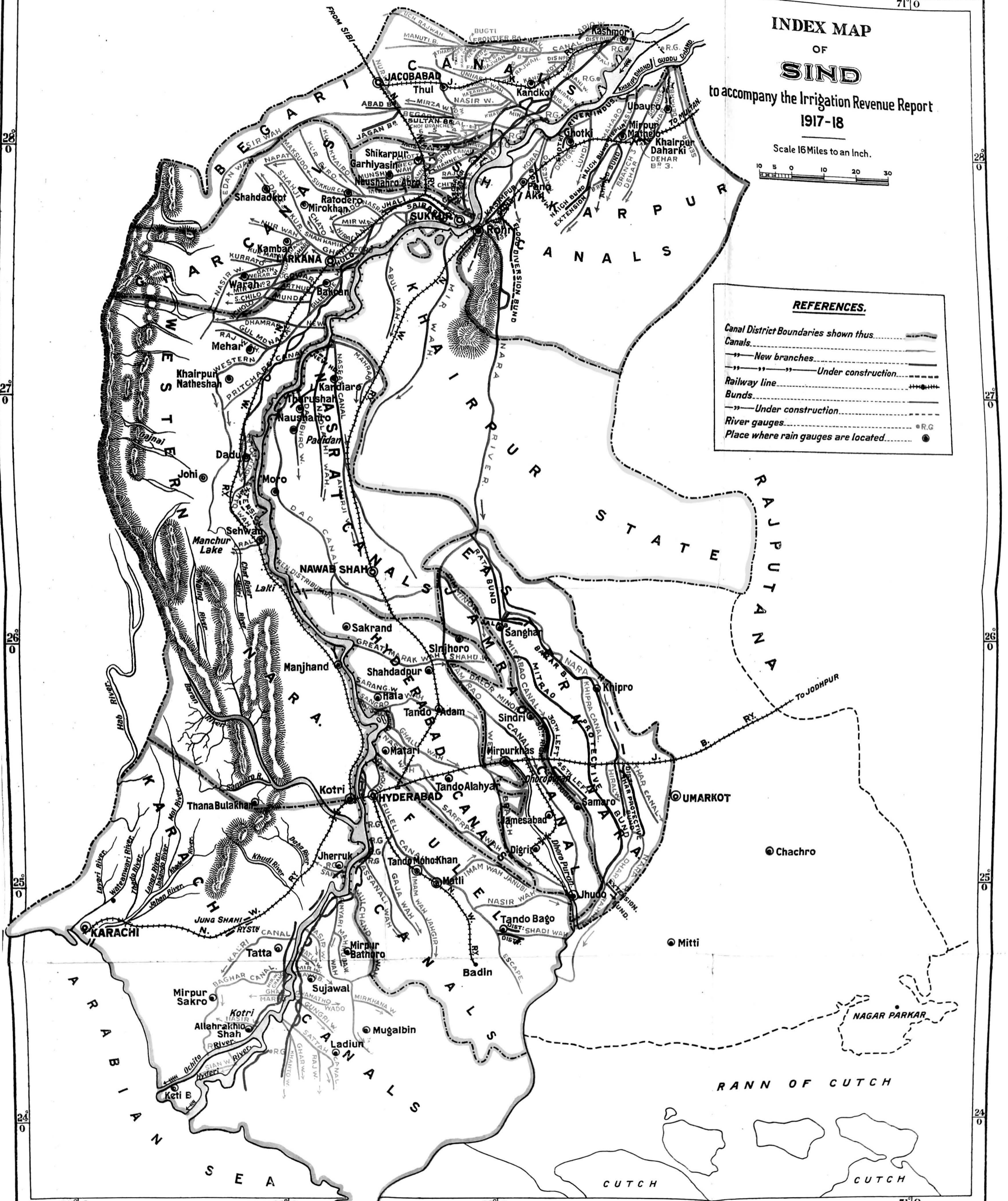
to accompany the Irrigation Revenue Report
1917-18

Scale 16 Miles to an Inch.



REFERENCES.

- Canal District Boundaries shown thus.....
- Canals.....
- New branches.....
- Under construction.....
- Railway line.....
- Bunds.....
- Under construction.....
- River gauges..... R.G.
- Place where rain gauges are located.....



67° 0 68° 0 69° 0 70° 0 71° 0

Reduced to Scale 1/4
Govt. Photoduplication Office, Dhaka, 1970

HYDROGRAPH OF THE RIVER INDUS AT BUKKUR AND KOTRI.

