

Public Works (1898) Department.

G.O., No. ⁴⁴⁵~~443~~ J

DATED 8 June 98

[Despatch Abstract.]

Immigration Works in the N.W. Provinces
Inspection Review of the Rev. Report
of — for the year 1896-97, Communi-
cated to the Ch. Engineer for Immigration for
information.

Dr

Indexed.

18/6

FURTHER PAPERS.

GOVERNMENT OF INDIA.
PUBLIC WORKS DEPARTMENT.
CIVIL WORKS.

Irrigation.

Simla, the 12th May 1898.

Review of the Revenue Report of Irrigation Works in the North-Western Provinces for the year 1896-97.

Read—

Letter No. 199 L., dated the 18th January 1898, from the Government of the North-Western Provinces, forwarding the Revenue Report of Irrigation Works in the North-Western Provinces for 1896-97, and the Resolution of that Government reviewing the Report.

OBSERVATIONS.—The capital outlay on Irrigation Works in the North-Western Provinces during and up to the end of 1896-97 is shewn in the following statement :—

	Number of Works.	DURING THE YEAR 1896-97.							Total direct and indirect to end of 1896-97.
		Works.	Establish- ment.	Tools and plant.	Sus- pense Account.	Total direct charges.	Indirect charges.	Total direct and indirect charges.	
		1	2	3	4	5	6	7	8
MAJOR WORKS.									
Protective Works (Account head 35)	1	Rs. 33,332	Rs. 7,667	Rs. 500	Rs. 2,113	Rs. 43,612	Rs. 1,098	Rs. 44,710	Rs. 42,80,864
Irrigation Works not charged against Revenue (Account head 49)	5	11,28,722	2,35,240	—8,956	71,518	14,26,524	1,26,434	15,52,958	7,93,67,361
MINOR WORKS.									
Works for which Capital and Revenue Accounts are kept (Account head 43).									
Works in operation	4	34,374	7,933	...	1,438	43,745	1,315	45,060	26,84,186
Surveys	2	151	...	...	...	151	...	151	2,25,617
TOTAL MINOR WORKS .	6	34,525	7,933	...	1,438	43,896	1,315	45,211	29,09,809
GRAND TOTAL .	12	11,96,579	2,50,840	—8,456	75,069	15,14,032	1,28,847	16,42,879	8,65,58,031

2. The total Capital expenditure during the year was Rs. 3,28,562 more than during the previous year.

On the Betwa Canal, a Capital outlay of Rs. 44,710 was incurred on pitching the slopes of the main canal, on widening and raising banks of the Kuthaund Branch and on the earthwork of four minor distributaries.

On the Ganges Canal, a Capital outlay of Rs. 2,18,685 was incurred on providing additional gates in the Myapur Regulator; remodelling the Muzafarnagar cut; completing the Pur Branches, the Ghisukhera siphon under the Deoband Branch, the new spurs for Belwala island, the new fall on the Jani escape, the Nagan nadi improvements, and widening the Bisaich Jansath cuts, the Barah and Kotlah minors; constructing bed bars in main canal below Gangaoli bridge; improving the Nim nadi; the distribution of water, building outlets and discharge flumes in the Bulandshahr Division; and on a number of new drainage cuts.

On the Lower Ganges Canal, including the Fatehpur Branch, there was a Capital outlay during the year of Rs. 11,84,135. The expenditure was on the permanent river training works at Narora; that on the main canal and branches was chiefly on works connected with the new Fatehpur Branch and on raising and strengthening the banks of the main canal in the Mainpuri Division; under distributaries the most important expenditure was on the remodelling and extension of the Ghatampur distributary; under drainage works the outlay was chiefly on the Mohanpur and Rudain drains. Good progress was made on the Fatehpur Branch; the Pandu nadi aqueduct was completed to canal bed-level; the Gujeni escape was practically completed, and 170 miles of distributary channels were aligned and lockspitted.

On the Agra Canal, a Capital outlay of Rs. 71,480 was incurred on distributaries, and chiefly on a number of important drainage works.

On the Eastern Jumna Canal, a Capital outlay of Rs. 78,658 was incurred on the Naogaon Dam, diversion of the canal at Naogaon, the Lumb and Basi drains, the diversion of the Kandhla drain, and the construction of a new office at Delhi for the Executive Engineer.

3. The table below shows for Major Works the mileage of main canal and distributary sanctioned and in operation at the close of the year:—

	SANCTIONED.		COMPLETED.	
	Miles of canals.	Miles of distributaries.	Miles of canals.	Miles of distributaries.
MAJOR WORKS.				
Protective Works—				
Betwa Canal	168	379	168	357
Works of which the Capital outlay is not charged against Revenue—				
Ganges Canal	440	2,654	440	2,643
Lower Ganges Canal, including Fatehpur Branch	663	2,773	557	2,198
Agra Canal	109	574	109	574
Eastern Jumna Canal	129	650	129	650
Total Major Works, 1896-97	1,509	7,030	1,403	6,422
Figures for 1895-99	1,510	7,398	1,403	6,376

There was an increase of 46 miles of distributaries as compared with the previous year, 29 miles of this increase being on the Ganges Canal, 13 miles on the Lower Ganges Canal, and 4 on the Eastern Jumna Canal.

4. The financial results of the year under review are shown in the following table:—

CANALS.	Total direct and indirect Capital outlay to end of year.	GROSS REVENUE COLLECTED.			WORKING EXPENSES.			Net Revenue.	Percentage of net Revenue on Capital outlay.
		Direct Revenue Receipts.	Share of Land Revenue.	TOTAL.	Direct.	Indirect.	TOTAL.		
I	2	3	4	5	6	7	8	9	10
MAJOR WORKS.									
Protective Works—	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
Betwa Canal	42,80,864	83,317	...	83,317	89,904	7,410	97,314	13,997	...
Irrigation Works not charged against Revenue—									
Ganges Canal	2,58,50,813	32,15,811	7,15,593	39,31,404	10,08,949	69,417	10,78,366	28,53,038	9.6
Lower Ganges Canal	3,47,76,553	23,31,223	2,09,586	25,40,809	8,28,767	60,351	8,89,118	16,51,691	4.7
Agra Canal	95,34,543	8,08,906	...	8,08,906	2,19,135	15,721	2,34,856	5,74,050	6.0
Eastern Jumna Canal	38,17,964	11,12,165	2,49,803	13,61,968	3,17,805	21,995	3,39,800	10,22,168	26.8
TOTAL OF MAJOR WORKS, 1896-97	8,22,60,737	75,51,422	11,74,982	87,26,404	24,64,560	1,74,894	26,39,454	60,86,950	7.4
TOTAL FOR 1895-96	8,15,65,459	36,98,129	11,74,982	48,73,111	20,95,464	1,62,709	22,58,173	26,14,938	3.2
Average for last 5 years	8,01,56,707	53,62,858	11,69,147	65,32,005	24,25,285	1,76,767	26,02,051	39,29,954	4.9
MINOR WORKS.									
In operation—									
Dun Canals	6,96,893	79,448	24,980	1,04,428	47,659	3,603	51,262	53,166	7.6
Rohilkhand Canals	17,53,928	1,19,093	50,070	1,69,163	92,526	7,897	1,00,423	68,740	3.9
Bijnor Canals	1,50,970	35,894	8,172	44,066	15,840	1,394	17,234	26,832	17.8
Bundelkhand Irrigation Works. } Jhansi Lakes	82,398	3,872	1,299	5,171	4,774	215	4,989	182	2.5
} Hamirpur "		3,957	1,763	5,720	3,495	311	3,806	1,914	
TOTAL OF MINOR WORKS, 1896-97	26,84,189	2,42,264	86,284	3,28,548	1,64,294	13,420	1,77,714	1,50,834	5.6
TOTAL FOR 1895-96	26,39,129	1,37,183	86,284	2,23,467	1,45,511	13,019	1,58,530	64,937	2.5
Average for last 5 years	25,89,754	1,64,882	86,284	2,51,166	1,54,435	13,022	1,67,458	83,708	3.2
GRAND TOTAL, 1896-97	8,49,44,926	77,93,686	12,61,266	90,54,952	26,28,854	1,88,314	28,17,168	62,37,784	7.3
GRAND TOTAL, 1895-96	8,42,04,588	38,35,312	12,61,266	50,96,578	22,40,975	1,75,728	24,16,703	26,79,875	3.2
Average for last 5 years	8,27,46,461	55,27,740	12,55,431	67,83,171	25,79,720	1,89,789	27,69,509	40,13,662	4.8

* Refunds deducted from Direct Revenue.

5. The financial results exhibited by these figures are very satisfactory. The gross revenue derived from Major Works exceeded the average of the last five years by 33 per cent., while the corresponding increase in the working expenses amounted to little more than one per cent. The net revenue, therefore, exceeded the average of the last 5 years by 55 per cent. and was more than double the figures of 1895-96. These exceptional results were due to the unusually large areas irrigated in the rabi season of 1895-96 and in the kharif of 1896, the rainfall in both of these seasons having been deficient.

The net revenue derived from Major Works is equivalent to a return of 7.4 per cent. on the Capital outlay as compared with 4.9 per cent., the average of the last 5 years, and 3.2 per cent. in 1895-96.

The interest charges on the Major Works in operation for the year, calculated at 4 per cent. on direct Capital outlay at the commencement of the year and at 2 per cent. on the direct Capital outlay during the year, amounted to Rs. 30,67,744, and the surplus revenue after meeting these charges to Rs. 30,19,206 or 3.67 per cent. on the total sum at charge. On the Betwa Canal alone was there a deficit in the net revenue, the excess charge amounting to Rs. 1,75,691.

On the Lower Ganges and Agra Canals, the surplus revenue after paying interest charges amounted to Rs. 3,60,997 and Rs. 2,21,122, respectively, whereas in the previous year the interest charges for these Canals were in excess of the net revenue.

The surplus of accumulated net revenue over interest charges to the end of the year amounted to Rs. 1,66,68,065, the details of which are given below:—

Account head.	Canal.	TOTAL.		BALANCE OF	
		Net Revenue.	Interest charges.	Net Revenue.	Interest charges.
		Rs.	Rs.	Rs.	Rs.
35	Betwa	—4,21,772	21,57,543	...	25,79,315
49	Ganges	4,40,20,257	3,94,79,833	45,40,424	...
	Lower Ganges	2,18,06,418	2,55,08,260	...	37,01,842
	Agra	55,89,135	79,45,473	...	23,56,338
	Eastern Jumna	2,29,72,424	47,86,603	1,81,85,821	...
	TOTAL 49	9,43,88,234	7,77,20,169	1,66,68,065	...
	TOTAL, 1896-97	9,39,66,462	7,98,77,712	1,40,88,750	...
	TOTAL, 1895-96	8,78,79,512	7,68,09,968	1,10,69,544	...
	TOTAL, 1894-95	8,52,64,574	7,37,72,002	1,14,92,572	...
	TOTAL, 1893-94	8,10,47,607	7,07,64,557	1,02,83,050	...

6. The net revenue derived from the Minor Works was 80 per cent. greater than the average of the last 5 years and represented a return of 5.6 per cent. on the Capital outlay as against 3.2 per cent., the average of the last 5 years, and 2.5 per cent. during 1895-96.

7. The following table exhibits the results of the Provincial Contract for the past five years:—

	1892-93.	1893-94.	1894-95.	1895-96.	1896-97.
Revenue—	Rs.	Rs.	Rs.	Rs.	Rs.
Productive Works, Gross direct revenue.	55,99,355	57,71,147	56,23,502	36,72,268	74,68,105
Minor Works	1,86,634	1,74,368	1,50,481	1,37,183	2,42,264
TOTAL	57,85,989	59,45,515	57,73,983	38,09,451	77,10,369
Expenditure, Provincial—					
Productive Works, Working Expenses	24,29,258	24,38,835	23,69,675	20,08,015	23,74,656
Capital Account	49,025	37,964	18,344	11,923	43,896
Minor Works	1,61,970	1,44,210	1,59,269	1,45,511	1,64,294
Working Expenses	96,067	70,393	90,809	57,369	87,445
Neither Capital nor Revenue	27,36,320	26,91,402	26,38,097	22,22,818	26,70,291
TOTAL	30,49,669	32,54,113	31,35,886	15,86,633	50,40,078
Net Revenue	29,00,916	29,17,772	29,42,706	29,81,260	30,34,933
Interest charges payable to Government of India	1,48,753	3,36,341	1,93,180	—13,94,627	20,05,145
Surplus					

Under this contract the Provincial Government retains the direct Revenue from Major Productive Works and from Minor Irrigation Works, and pays interest to the Imperial Government on the total Capital outlay from all sources on works of the former class, and also on the Capital outlay from Imperial funds on Minor Works and Navigation incurred up to 1877-78.

In comparison with the previous year, in which the Provincial revenues suffered a loss of nearly 14 lakhs of rupees by the Canal Contract, there was, during the year under review, a profit to the Local Government of over 20 lakhs. The highest profit in any previous year was Rs. 4,92,063.

8. The statement below gives details of the assessed revenue, which represents the actual earnings of the canals during the year under water rates and share of land revenue, the total for each canal being compared with the area irrigated:—

Canals.	AREA IRRIGATED.		ASSESSMENTS, 1896-97.				RATE PER ACRE IRRIGATED.	
	1896-97.	1895-96.	Occupier's rates.	Owner's rates.	Share of land revenue.	Gross assessed revenue, excluding miscellaneous.	Assessments, 1895-96.	
1	2	3	4	5	6	7	8	9
	Acres.	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Betwa	87,306	35,292	1,40,626	...	...	1,40,626	90,577	1.6
Ganges	1,083,234	759,297	34,57,395	1,22,622	7,15,593	42,95,611	33,38,799	4.0
Lower Ganges	1,042,662	666,880	25,04,160	2,71,737	2,09,586	30,85,483	21,96,376	2.9
Agra	308,004	184,502	8,39,349	1,44,339	...	9,83,688	6,40,484	3.2
Eastern Jumna	324,700	222,476	12,44,140	9,036	2,40,803	15,02,985	11,61,874	4.6
Dun	19,598	16,027	53,670	3,716	24,980	82,366	74,772	4.2
Rohilkhand	129,083	108,789	1,16,077	12,934	50,070	1,79,081	1,49,290	1.4
Bijnor	25,362	12,809	34,620	6,159	8,172	48,951	26,252	1.9
Bundelkhand Irrigation Works—								
Jhansi Lakes	1,244	1,942	2,030	...	1,299	3,320	4,549	2.7
Hamirpur Lakes	2,691	2,007	4,208	...	1,763	5,971	5,220	2.2
TOTAL	3,023,884	2,010,021	84,96,282	5,70,543	12,61,266	1,03,28,091	76,88,199	3.4

9. Owing chiefly to the early cessation of the monsoon rains, and to the deficient rainfall during the rabi season, the area irrigated during the financial year under review was greatly in excess of that for any previous year. The area irrigated under rabi was 1,823,424 acres and under kharif 1,200,460 acres as compared with 1,293,265 acres and 716,756 acres, respectively, during the previous year.

The kharif area is 46 per cent., the rabi area 24 per cent., and the total area 31 per cent. above the previous maximum.

The total assessments per acre irrigated averaged Rs. 3.4 against Rs. 3.8 in 1895-96.

The occupiers' rate averaged Rs. 2.81 per acre.

10. The areas irrigated under the principal crops were as follows:—

Crops.	1896-97.	1895-96.
	Acres.	Acres.
Sugarcane	247,119	214,529
Rice	200,671	150,106
Indigo	325,406	223,441
Cotton	120,707	45,550
Wheat	1,015,120	728,163
Barley	118,632	74,091
Gram	68,025	79,625
Poppy	26,534	20,864

The value of the irrigated crops is estimated at 1,268 lakhs of rupees which amounts to one and a half times the total capital cost of the canals. The average value of the crops per acre was Rs. 42 and the average rate assessed for the use of the water, including share of land revenue, Rs. 3'4, being only a small fraction of the value of the crop.

11. The balance of demands unrealized was Rs. 1,90,902 at the beginning and Rs. 4,18,596 at the end of the year, or 5'1 per cent. of the demand. It is explained that though at the end of the year the percentage of the balance of demands was exceptionally high, nearly the whole of the amount outstanding has since been collected.

12. The following statement gives details of the working expenses of the year :—

CANALS.	1896-97.					1895-96.	Average last 5 years.
	Works.	Establishment.	Tools and Plant.	Indirect charges.	TOTAL.	TOTAL.	
	2	3	4	5	6	7	
1	2	3	4	5	6	7	8
	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
MAJOR WORKS.							
Protective Irrigation Works—							
Betwa Canal	33,888	52,926	3,090	7,410	97,314	95,073	1,02,641
Irrigation Works not charged against Revenue—							
Ganges Canal	4,97,521	5,02,856	8,572	69,417	10,78,366	9,18,738	10,79,054
Lower Ganges Canal	3,77,710	4,39,196	11,861	60,351	8,89,118	7,68,452	8,52,835
Agra Canal	1,01,757	1,14,631	2,747	15,721	2,34,856	1,95,540	2,50,103
Eastern Jumna Canal	1,55,335	1,58,540	3,930	21,995	3,39,800	2,80,370	3,17,418
TOTAL	11,66,211	12,68,149	30,200	1,74,894	26,39,454	22,58,173	26,02,051
PER ACRE IRRIGATED	...	...	...	...	0'93	1'21	1'65
MAJOR WORKS.							
Works for which Capital and Revenue Accounts are kept—							
Dun Canals	21,350	26,004	305	3,603	51,262	44,567	49,289
Rohilkhand Canals.	34,623	56,726	1,177	7,897	1,00,423	95,677	97,129
Bijnor Canals	5,026	10,307	507	1,394	17,234	11,060	10,724
Bundelkhand Irrigation Works—							
Jhansi Lakes	3,237	1,537	...	215	4,989	3,293	5,096
Hamirpur Lakes	1,276	2,219	...	311	3,806	3,933	5,220
TOTAL	65,512	96,793	1,989	13,420	1,77,714	1,58,530	1,67,458
PER ACRE IRRIGATED	...	...	...	...	0'99	1'12	1'49
GRAND TOTAL	12,31,723	13,64,942	32,189	1,88,314	28,17,168	24,16,703	27,69,509
PER ACRE IRRIGATED	...	...	...	...	1'00	1'20	1'64

The expenditure on extensions and improvements amounted to Rs. 1,61,658, or Rs. 41,139 more than in the previous year, and on repairs to Rs. 10,33,586, or Rs. 2,43,706 more than in 1895-96.

As compared with the previous year, there was an excess of 4 lakhs in the total working expenses during the year under review. This is attributed to the carrying out of many works of repair which, but for the orders restricting

expenditure referred to in the review on the report for 1895-96, would have been completed in that year. The amount of total maintenance charges for the year, viz., Rs. 28,17,168, is, however, below the average for the five years ending 1894-95, which amounts to Rs. 28,70,035.

The working expenses amounted to Rs. 0'93 per acre irrigated on Major Works and Rs. 0'99 per acre irrigated on Minor Works as compared with Rs. 1'21 and Rs. 1'12, respectively, during the previous year. The charges per acre vary to a great extent inversely with the area irrigated.

13. The details of the establishment charges shown in the statement in paragraph 12 are as follows :—

	Revenue Management.	Maintenance.	TOTAL.	Percentage.
	Rs.	Rs.	Rs.	
Direction	1,24,373	45,907	1,70,280	12'47
Executive	4,06,104	3,06,838	7,12,942	52'23
Revenue (Irrigation Branch)	2,61,464	...	2,61,464	19'15
Revenue—payments by Civil Officers, including fees	1,89,392	...	1,89,392	13'88
Navigation	11,252	...	11,252	0'84
Medical	...	6,008	6,008	0'44
Plantation	...	13,604	13,604	0'99
GRAND TOTAL	9,92,585	3,72,357	13,64,942	100'00

14. The total working expenses amounted to 31'1 per cent. of the gross revenue realised, and the cost of revenue management was 35'2 per cent. of the working expenses, or 10'9 per cent. of the gross revenue.

15. The length of navigable channels open at the end of the year was 535 miles as before.

The ton-mileage was 6 $\frac{2}{3}$ millions, the estimated value of the cargoes was 27 $\frac{1}{2}$ lakhs of rupees, and that of rafts 2 $\frac{1}{2}$ lakhs.

The number of passengers carried was 216 on the Agra Canal only.

16. The Navigation receipts and charges were as follows :—

CANAL.	RECEIPTS.		CHARGES.	
	1895-96.	1896-97.	1895-96.	1896-97.
	Rs.	Rs.	Rs.	Rs.
Upper and Lower Ganges	11,930	10,421	12,071	14,164
Agra	5,654	3,631	6,792	6,959
TOTAL	17,584	14,052	18,863	21,123

The net revenue from Navigation operations was a loss of Rs. 3,743 on the Upper and Lower Ganges Canals and of Rs. 3,328 on the Agra Canal, resulting in a deficit on Navigation operations of Rs. 7,071 during the year. The decrease in navigation receipts is attributed to several causes. The grain traffic fell off partly because local requirements absorbed a larger proportion than usual of the produce from canal irrigated land and partly because the export of food-grains was chiefly effected by railway. Another reason given is that the requirements of

navigation had at times to be sacrificed to those of irrigation to meet the heavy demand for water.

17. The revenue realized on account of water power was Rs. 80,911.

18. In the following table are given details of supply utilized and escaped on the four principal canals:—

CANAL.	Number of irrigating days.	Mean discharge at head, cubic feet per second.	Discharge utilized, cubic feet per second.	PERCENTAGES.	
				Discharge utilized.	Discharge escaped.
Ganges	315	4,600*	4,269	92.8	7.2
Lower Ganges	346	4,594	3,519	80.1	19.9
Agra	310	1,126	1,024	90.9	9.1
Eastern Jumna	360	1,289	1,251	97.0	3.0

* Exclusive of the volume passed on to the Lower Ganges Canal.

The large percentage of discharge escaped on the Lower Ganges Canal is due to the fitful nature of the demand during the rainy season.

19. The following figures relate to the water duty obtained and the assessments per cubic foot of discharge:—

CANAL.	AREA IRRIGATED PER CUBIC FOOT		Total assessment per cubic foot of discharge utilized.	Occupiers' rate per acre.	TOTAL ASSESSMENT PER ACRE.
	Of discharge at head.	Of discharge utilized.			
	Acres.	Acres.	Rs.	Rs.	Rs.
Ganges	235	254	1,006	3.19	3.97
Lower Ganges	237	296	877	2.50	2.96
Agra	273	301	961	2.72	3.19
Eastern Jumna	252	260	1,201	3.83	4.63

20. Particulars relating to distributaries are given below:—

CANAL.	AVERAGE.		
	Area irrigated per mile of distributary.	Number of outlets per mile.	Area irrigated per outlet.
	Acres.		Acres.
Ganges	401	6.4	63
Lower Ganges	469	5.3	85
Agra	536	6.9	75
Eastern Jumna	484	5.1	88

21. The usual measurements of the level of water in wells were made during the year.

There was a fall in the spring levels in all the canal commanded tracts except in the case of the Agra Canal where below Sessai there was a marked rise of which no good explanation has been given. The results generally confirm what has often been observed before that even in canal irrigated districts the level of subsoil water depends more on rainfall than on any other circumstance.

22. The outlay on drainage works charged against Capital amounted to Rs. 1,23,112, and 294 miles of drainage channels were excavated during the year.

The charges for extensions and improvements and repairs and maintenance of drainage channels connected with works for which Capital and Revenue Accounts are kept was Rs. 99,821. The expenditure on Agricultural (chiefly drainage) works was Rs. 70,648.

23. The following figures relate to the Tarai and Bhabar Canals on which the water revenue credited to the canals is an arbitrary portion of the land revenue, no separate water-rate being assessed:—

CANALS.	Irrigated area.	REVENUE RECEIPTS.				REVENUE EXPENDITURE.				
		Water rate.	Plantations.	Water-power.	TOTAL.	Original works.	Repairs.	Establishment.	Tools and Plant.	TOTAL.
	Acres.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
Tarai	29,780	32,245	...	...	32,245	...	...	...	...	17,129*
Bhabar	49,243	1,23,950	...	34,875	1,58,825	16,738	62,800	13,927	846	94,311

* Details not given in the Revenue Report.

24. The Revenue Report was received by the Government of India on the 20th January 1898, and is accompanied by the usual maps and diagrams. The Report has been carefully prepared giving in a clear and concise form all the useful information regarding the very extensive and successful irrigation operations carried on in the Provinces during a year of abnormal drought and pressure.

The Resolution by the Local Government concludes with a reference to the very effective work done under trying conditions during the year by the Chief Engineer and the Officers of the Irrigation Branch of the North-Western Provinces, Public Works Department, and the Government of India desire to record their appreciation of the good work brought to notice in the Resolution and so clearly indicated by the extremely satisfactory results recorded in the body of the Report.

ORDER.—Ordered, that copies of this Review and of the Report be forwarded to the Revenue and Agricultural Department for information.

Ordered, also, that copies of the Review be forwarded to the Government of the North-Western Provinces and Oudh and to the Local Governments and Administrations in the Public Works Department, noted on the margin, for information.

The Governments of Madras, Bombay, Bengal, Burma, and the Punjab.
The Chief Commissioners of the Central Provinces, Assam, and Coorg.
The Residents at Hyderabad and Mysore.
The Agents to the Governor General in Central India, Rajputana, and Baluchistan.

Ordered further, that the Review be published in the *Gazette of India*, and that copies of the Review and of the Report be forwarded to Her Majesty's Secretary of State for India.

J. J. Bercford
Officiating Joint Secy. to the Govt. of India.

To The Secretary to the Government of Madras,
Public Works Department.

With 6 Plans Enclosed