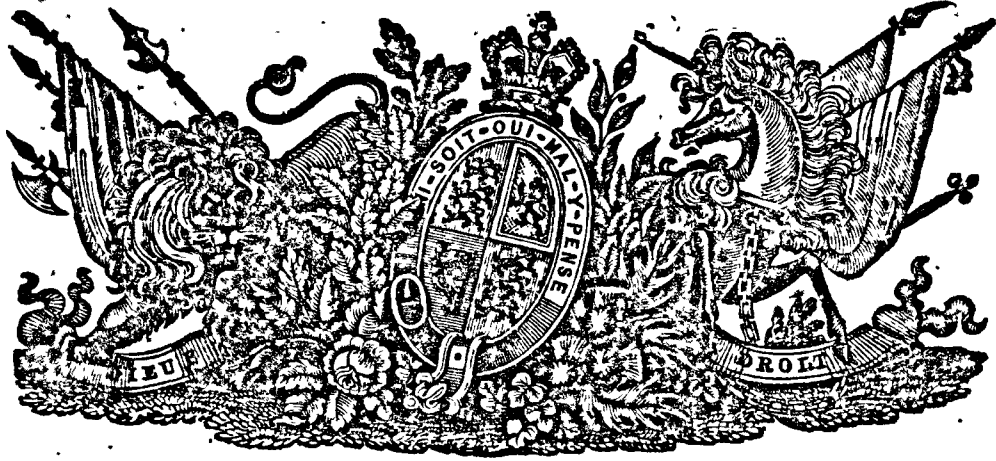


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Rare section
ADMINISTRATION REPORT

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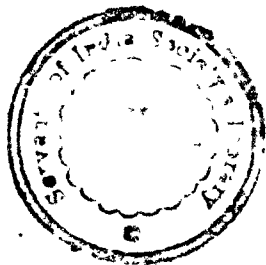
PUBLIC WORKS DÉPARTMENT,

(IRRIGATION)

BOMBAY PRESIDENCY.

FOR THE YEAR

1894-95.



B o m b a y :
PRINTED AT THE GOVERNMENT CENTRAL PRESS.

1895.

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APPENDIX A.

Statement showing the entire Expenditure incurred during the financial year 1894-95 on Irrigation Works, Repairs and Establishment in the Province of Sind.

Service.	Works,	Repairs,	Total
	Rs.	Rs.	Rs.
PRODUCTIVE PUBLIC WORKS.			
MAJOR WORKS.			
<i>49.—Capital Account.</i>			
Works...	3,87,713	.....	3,87,713
Establishment .....	.....	.....	1,29,568
Tools and Plant .....	.....	.....	81,767
Total	3,87,713	.....	5,99,048
<i>42.—Revenue Account.</i>			
Extensions and Improvements	10,903	.....	10,903
Maintenance and Repairs .....	.....	2,53,469	2,53,469
Establishment .....	.....	.....	57,350
Tools and Plant .....	.....	.....	1,227
Refunds of Revenue .....	.....	.....	3,467
Total	10,903	2,53,469	3,26,416
43.—IRRIGATION MINOR WORKS AND NAVIGATION.			
WORKS FOR WHICH CAPITAL AND REVENUE			
ACCOUNTS ARE KEPT:			
<i>Capital Account.</i>			
Works ..	37,500	.....	37,500
Establishment .....	.....	.....	8,549
Tools and Plant .....	.....	.....	90
Total	37,500	.....	46,139
<i>Revenue Account.</i>			
Extensions and Improvements	66,634	.....	66,634
Maintenance and Repairs .....	.....	1,71,300	1,71,300
Establishment .....	.....	.....	79,696
Tools and Plant .....	.....	.....	1,645
Refunds of Revenue .....	.....	.....	35
Total	66,634	1,71,300	3,19,310
WORKS FOR WHICH ONLY REVENUE			
ACCOUNTS ARE KEPT.			
<i>Revenue.</i>			
Extensions and Improvements...	2,84,407	.....	2,84,407
Maintenance and Repairs .....	.....	5,04,776	5,04,776
Establishment .....	.....	.....	1,96,704
Tools and Plant .....	.....	.....	2,340
Refunds of Revenue .....	.....	.....	579
Total	2,84,407	5,04,776	9,88,806
WORKS FOR WHICH NEITHER CAPITAL NOR			
REVENUE ACCOUNTS ARE KEPT.			
Works and Surveys	40,300	.....	40,300
Maintenance and Repairs .....	.....	3,92,531	3,92,531
Establishment .....	.....	.....	79,087
Tools and Plant .....	.....	.....	1,035
Total	40,300	3,92,531	5,12,953
DEPOSITS.			
<i>Contributions, Ordinary.</i>			
Works ..	2,885	.....	2,885
Repairs .....	.....	4,849	4,849
Establishment .....	.....	.....	15
Tools and Plant .....	.....	.....	.....
Total	2,885	4,849	7,749
Total under all Heads .....	.....	.....	28,00,421

Note.—Expenditure exclusive of Establishment and Tools and Plant .. Rs. 21,61,348

Cost of Establishment and Tools and Plant 6,39,073

Percentage of Establishment and Tools and Plant on Outlay 29.56

APPENDIX B.

Statement showing in detail Expenditure incurred on Works (Repairs) and Establishment

Names of Canals.	CLEARANCE PROPER IN CANALS.		Jungle cuttings.	Removing Toogas.	IMPROVING CANAL HEADS.		SIDE SLOPING AND REPAIRING CURVES.		Buildings and Gardens.	Regulators, Bridges and Sluices.	REPAIRS TO CANAL BANKS.		Removing spoil banks and inspection paths.	
	Cubic feet.	Cost.			Cubic feet.	Cost.	Cubic feet.	Cost.			Cubic feet.	Cost.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	
		Rs.	Rs.	Rs.		Rs.	Rs.	Rs.	Rs.	Rs.		Rs.	Rs.	
Begári Canals.	Desert Canal	11,041,575	78,745	1,125	1,504	...	...	...	95	...	664,601	3,331	440
	Unharwah	2,363,077	8,997	796	259	...	...	...	400	822	728,269	4,596	2,571
	Begári Canal	3,980,343	16,351	922	692	...	...	...	1,483	258	136,572	1,729	1
	Kashmor Bund	23,032	86	3,493	23	...	...	...	3,145	6,813	61,802	294	...
Shikárpur Canals.	Canals in Rohri	2,121,878	9,913	310	1,259	780,636	4,079	...	280	94	1,857,426	9,334	...	
	Bunds in do. ... ..	...	...	7	...	...	...	...	...	...	...	...	...
	Sind Canal and Bunds	1,807,646	8,333	117	191	...	...	...	398	1,459	58,443	286	190
	Sukkur-Begári Bund ... ..	...	...	925	...	...	...	...	791	1,226	...	...	...
	Kásimpur Bund ... ..	...	...	42	...	...	...	...	38	440	...	...	...
Ghár Canals.	Ghár Canal	5,509,243	24,356	2,528	2,948	...	...	...	1,002	2,266	3,348,103	12,611	...
	Sukkur Canals	1,171,664	7,163	615	2,655	...	...	...	233	865	1,161,489	6,896	...
	Ghár Bunds ... ..	...	...	366	...	...	...	...	64	136	...	...	...
Western Nára.	Western Nára	1,668,498	6,781	1,043	1,189	...	...	...	2,280	330	5,134,534	20,829	302
	Pritchard Canal	274,572	1,229	294	361	...	...	...	226	115	3,461,549	9,614	...
	Damrao Canal	296,865	1,187	...	...	...	...	...	10	...	...	...	...
	Dádú Canal	1,573,621	5,165	206	196	...	...	...	120	61	104,404	449	78
	Phitta Canal	347,991	1,177	150	...	...	...	...	...	...	148,058	476	54
	Marviwah	54,000	213	150	...	...	...	...	...	...	...	...	...
	Wáhurwah	44,020	175	57	...	...	...	...	...	...	...	...	...
	Nára Bunds ... ..	...	...	52	...	...	...	...	249	1,745	...	...	...
Eastern Nára District.	Nára Supply Channel ... ..	...	...	...	...	...	...	...	61	...	...	...	...
	Eastern Nára	109,219	1,638	4,064	...	...	...	...	149	8,193	...	...	...
	Mithrao Canal	237,763	846	1,407	521	...	...	...	1,645	8,073	296,513	1,193	1,941
	Dimwah	859,134	2,792	180	125	...	...	...	...	66	...	1,532	...
	Heranwah ... ..	...	...	151	...	...	...	...	...	...	...	...	...
	Klipra ... ..	...	...	...	...	...	...	...	134	...	...	...	...
	Tharwah ... ..	...	...	361	230	...	...	...	263	336	469	6,000	18
Hyderabad Canals.	Mehrábwah	996,833	3,603	...	235	...	...	...	...	...	137,740	873	...
	Nasrat	1,341,032	5,017	...	889	...	...	...	554	...	553,042	2,127	...
	Naolákhí	2,581,347	9,861	1	491	...	...	...	232	106	295,765	1,207	...
	Dambro	907,472	3,431	...	485	...	...	...	...	...	80,308	296	...
	Dád	2,919,352	11,821	148	6	...	...	...	721	...	1,078,260	4,827	...
	Renwah	406,355	1,994	...	181	...	...	...	...	...	54,732	170	...
	Albhar Kacheri	802,432	3,366	...	437	...	...	...	...	...	5,747	23	...
	Márák	3,321,728	17,326	12	864	...	...	...	...	...	167,115	649	...
	Gháro Mahmuda	4,429,577	22,473	71	1,828	...	...	...	...	...	95,935	403	...
	Kari Shumáli	1,189,142	5,933	21	1,037	...	...	...	...	...	36,561	146	...
	Nasirwah	1,961,909	8,903	...	410	...	...	...	...	...	87,270	221	...
	Sarfrázwah	664,232	3,157	82	476	...	...	...	...	...	417,635	1,132	...
	Other Canals... ..	2,464,807	9,581	25	148	...	...	...	...	...	149,478	607	...
Fuleli Canals.	Fuleli Canal	22,907,896	84,634	2,900	4,408	...	...	...	1,170	2,814	1,889,693	7,790	449
	Other Canals... ..	2,153,119	6,579	301	220	...	...	...	...	7	655,874	2,528	...
Karáchi Canals.	Canals north of Kotri	1,116,261	3,919	...	70	...	...	...	...	27	16,782	50	...
	Shal	492,579	2,287	15	...	...	...	...	...	252	148,787	494	...
	Canals in Táttá, &c... ..	530,389	1,938	336	340	26,000	99	71,471	153	...	621,607	2,275	...	
	Kalri	196,162	595	230	459	...	...	...	15	...	845,120	2,569	...
	Baghar	548,136	1,428	28	41	...	...	2,905	9	509	3,252,533	11,246	...
	Uchitto	72,454	247	...	...	...	...	...	15	...	...	...	...
	Canals in Mirpur	309,826	908	...	55	...	...	...	...	4	66,362	183	...
	Pinyári	2,071,989	7,878	1,044	656	...	...	...	170	1,005	3,344	2,496,128	9,517
	Canals in Sujáwal	340,775	1,053	115	115	...	...	...	...	...	...	167,519	797
	Canals in Jati	63,250	185	11	...	...	...	...	...	...	...	275,076	907
	Sattah... ..	134,050	367	...	12	3,600	10	...	...	...	...	517,875	1,763
	Canals in Sháhbándar	19,665	122	...	...	...	...	...	...	...	...	507,860	1,381
	Khanto	60,664	166	...	...	...	...	...	...	10	...	584,064	2,011
	Kokawari	261,648	773	49	22	...	...	...	...	32	...	409,966	1,117
	Bunds, Right Bank... ..	...	...	1,278	...	...	...	...	12	1,050	1,232	...	...
	Bunds Left Bank ... ..	...	...	88	...	...	...	...	...	304	7,577	...	...
Begári Canals.	...	17,408,027	1,04,179	6,336	2,478	...	...	...	5,123	7,793	1,591,244	9,950	3,012
Shikárpur Canals	...	3,929,524	18,246	1,401	1,450	780,636	4,079	...	1,507	3,279	1,915,868	9,620	190	
Ghár Canals ...	...	6,630,907	31,519	3,509	5,603	...	...	...	1,349	3,267	4,509,592	19,507	...
Western Nára	...	4,259,567	15,927	1,952	1,746	...	...	...	2,785	2,251	8,848,545	31,368	434
Eastern Nára...	...	1,206,116	5,276	6,163	878	...	...	263	2,375	16,801	302,513	2,743	1,941
Hyderabad Canals	...	23,986,220	1,06,516	360	7,487	...	...	...	1,507	106	3,159,688	12,182	...
Fuleli Canals...	...	25,061,015	91,213	3,201	4,628	...	...	...	1,170	2,871	2,545,567	10,378	449
Karáchi Canals	...	6,217,848	21,366	3,194	1,770	29,600	109	74,576	374	2,900	13,528	9,900,629	34,310	
Total	...	88,749,224	3,94,742	26,116	26,038	810,236	4,188	74,576	637	18,816	49,886	32,773,646	1,29,998	6,023

B.

debitable to the Canal Clearance Grant in 1894-95 in the province of Sind.

REPAIRS TO RIVER EMBANKMENTS.		IMPROVEMENTS TO LOOPS, &c., RIVER EMBANKMENTS.		Protecting slopes of Embankments and Canals.	Miscellaneous.	Contingences.	Advances.	Abkani Expenditure, breaches, &c.	Total Works.	ESTABLISHMENT.				Total Works and Establishment.	Remarks.
Cubic feet.	Cost.	Cubic feet.	Cost.							Abkani.	Revenue.	Works.	Total.		
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30
...	...	...	...	...	3,992	655	...	829	90,716	2,065	1,778	1,477	5,320	96,036	
...	...	...	...	...	2,315	299	...	3,554	24,609	2,398	983	881	4,262	28,871	
...	...	...	...	...	329	184	...	2,088	24,037	3,294	2,217	1,539	7,050	31,087	
1,374,429	9,448	5,129,928	26,528	2,216	4,963	123	...	16,456	73,588	13,000	561	1,176	14,737	88,325	
907,828	4,380	...	...	768	3	560	...	72	26,672	2,705	791	2,390	5,886	32,558	
...	...	...	...	76	...	...	...	...	4,463	670	19	59	748	5,211	* Includes Rs. 39 for land compensation.
...	...	...	...	381	...	48	...	12	11,415	1,521	451	1,559	3,531	14,946	
2,410,313	20,168	3,482,756	33,794	118	*237	914	...	5,666	63,839	6,530	219	689	7,438	71,277	
432,744	2,348	3,046,000	24,226	339	...	135	...	793	28,361	699	85	263	1,047	29,408	
...	...	...	...	...	6,987	207	...	...	52,905	4,135	1,388	4,470	9,993	62,898	† Includes Rs. 37 for refund of revenue.
609,947	2,618	...	...	...	9,707	189	...	...	28,273	2,728	887	2,711	6,326	34,599	
...	...	...	...	...	1,504	39	...	...	4,727	2,680	376	976	4,032	8,769	
...	...	...	...	3	2,295	193	...	1,481	36,761	9,050	3,046	5,630	17,726	54,487	‡ Includes Rs. 190 for refund of revenue.
...	...	...	...	...	786	...	...	174	12,799	...	...	...	...	12,799	
...	...	...	...	...	6	...	...	...	1,203	2,591	556	597	3,743	4,946	
...	...	...	...	...	144	...	...	...	6,419	292	77	213	582	7,001	
...	...	...	...	...	...	...	...	...	1,857	301	149	294	747	2,604	
...	...	...	...	...	191	...	...	...	654	237	32	63	322	876	
...	...	...	...	...	...	...	...	...	232	118	20	59	197	429	
2,698,822	13,390	...	...	450	802	...	...	6,145	22,830	5,635	297	724	6,656	29,486	
...	...	...	...	...	...	...	...	...	61	...	...	1,525	1,525	1,586	
2,518,347	10,539	...	...	...	*7,046	...	...	467	33,096	5,346	1,439	2,388	9,173	41,269	† This includes Rs. 200 for refunds of revenue.
134,974	6,172	...	...	...	1,105	...	...	1,271	24,174	2,583	2,524	2,705	7,612	31,786	
...	...	...	...	...	138	...	...	...	4,833	507	112	329	5,482	5,781	
...	...	...	...	...	...	...	...	...	151	...	...	...	...	799	
...	...	...	...	...	90	...	...	...	224	230	190	155	575	799	
...	...	...	...	...	1301	...	...	52	2,080	1,083	1,778	838	3,699	5,779	† Do. Rs. 77 do.
...	...	...	...	...	135	...	...	2	4,348	508	169	380	1,057	5,405	
...	...	...	...	...	118	...	...	1,335	10,040	655	179	563	1,397	11,437	
...	...	...	...	...	302	...	...	1,374	13,574	740	459	1,086	2,285	15,859	
...	...	...	...	...	150	...	...	1	4,362	453	233	615	1,301	5,663	
...	...	...	...	...	391	...	...	177	18,091	1,140	299	969	2,403	20,499	
...	...	...	...	...	264	...	...	102	2,711	821	410	1,069	2,300	5,011	
...	...	...	...	...	259	...	...	...	4,087	246	180	400	826	4,913	
46,409	186	...	...	...	638	...	...	171	19,846	1,105	552	1,489	3,146	22,992	
...	...	...	...	...	597	...	...	562	25,934	1,726	770	2,385	4,881	30,815	
...	...	...	...	...	213	...	...	33	7,433	788	358	1,116	2,262	9,695	
...	...	...	...	...	169	...	...	38	9,741	524	311	742	7,577	11,318	
...	...	...	...	...	175	...	...	110	5,132	659	329	803	1,791	6,923	
...	...	...	...	...	370	...	...	180	10,911	417	176	493	1,086	11,997	
...	...	...	...	832	1,174	5	...	18,598	124,774	6,490	4,844	8,450	19,784	1,44,558	
156,713	636	...	...	1,610	170	...	...	3,371	15,422	1,715	408	1,139	3,257	18,679	
...	...	...	...	...	119	...	...	6	4,191	214	103	330	697	4,888	
...	...	...	...	...	46	...	-700	20	2,414	70	68	122	260	2,674	
...	...	...	...	...	168	...	-380	...	5,396	383	102	358	843	6,239	
...	...	...	...	...	365	...	-702	80	3,611	519	486	912	1,917	5,528	
...	...	...	...	...	405	...	-1,147	426	13,558	3,137	594	1,035	4,766	18,324	
...	...	...	...	...	20	...	...	...	282	...	...	...	...	282	
...	...	...	...	...	217	...	1,023	280	2,670	319	94	311	724	3,394	
...	...	...	...	...	622	...	-1,005	2,213	25,444	2,546	2,328	2,177	7,051	32,495	
...	...	...	...	...	203	...	540	6	2,829	89	37	113	239	3,068	
...	...	...	...	...	24	...	187	4	1,318	35	...	...	35	1,353	
...	...	...	...	...	69	...	1	149	2,371	170	66	139	375	2,746	
...	...	...	...	...	22	...	14	18	1,557	11	...	...	11	1,568	
...	...	...	...	...	161	...	824	9	3,181	237	60	280	577	3,758	
...	...	...	...	...	99	...	73	...	2,155	152	223	103	478	2,643	
5,453,969	20,392	3,28,488	1,533	219	974	...	40	762	27,497	4,403	1,036	1,650	7,092	34,584	
5,555,648	17,842	1,972,343	11,570	1,499	1,016	...	-3,557	2,019	33,358	5,232	1,185	1,885	8,302	46,660	
1,374,429	9,448	5,129,928	26,528	2,216	11,599	1,261	...	22,927	3,12,950	20,757	5,539	5,073	31,369	2,44,319	
3,750,885	26,896	6,528,756	58,020	1,682	240	1,657	...	6,543	1,34,750	12,125	1,565	4,960	18,650	1,53,400	
609,947	2,618	...	...	...	18,195	335	...	...	85,905	9,543	2,651	8,157	20,351	1,06,256	
2,698,822	13,390	...	...	...	488	4,224	193	7,797	89,655	18,227	4,176	7,570	23,973	1,12,628	
2,653,321	16,711	...	...	...	8,680	...	...	1,790	63,619	9,749	5,843	7,940	23,532	87,151	* Exclusive of Rs. 157 on account of contribution for repair to Zamindari sluices.
46,409	186	...	...	...	3,781	...	...	4,085	1,26,210	9,782	4,425	12,110	26,317	1,62,527	
156,713	636	...	...	...	2,441	1,344	5	21,969	1,40,196	8,205	5,247	9,589	23,041	1,63,237	
11,009,617	38,234	2,300,831	13,103	1,718	4,528	...	-4,789	5,999	1,86,837	17,517	6,385	9,465	33,367	1,70,204	
22,300,143	1,08,119	18,969,515	97,651	8,646	52,594	3,451	-4,789	71,103	9,93,122	1,05,905	35,831	64,864	2,06,600	11,99,722	† The difference of Rs. 1,26,435 represents expenditure chiefly on special repairs.
As per booked accounts ...									11,19,557	1,05,905	35,831	64,864	2,06,600	11,26,157	

APPENDIX C.

Statement showing the Expenditure incurred on Work Establishment employed in the Deccan Districts during the year 1894-95, and the percentage it bears to the Outlay on Works and Repairs proper.

No.	Name of Sub-division or District.	OUTLAY ON						Total Contract and Departmental Columns 5 and 8.	COST OF WORK ESTABLISHMENT SANCTIONED BY			Percentage (column 12 bears to column 9).	REMARKS.
		By Contract.			By Departmental Agency.				Chief or Superintending Engineer.	Executive Engineer.	Total.		
		Original Works, including additions and alterations and improvements, and extensions.	Repairs.	Total.	Original Works, including additions and alterations and improvements, and extensions.	Repairs.	Total.						
1	2	3	4	5	6	7	8	9	10	11	12	13	14
		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	
1	Mutha Canals ...	42,372	5,405	47,777	23,614	4,370	27,984	75,761	1,632	7,777	9,409	12.42	
2	Poona Water Supply ...	...	614	614	...	10,917	10,917	11,531	273	2,498	2,771	24.03	
3	Nira Canal ...	53,244	...	53,244	33,702	10,810	44,512	97,756	2,802	12,153	14,955	15.20	
4	Other Poona Irrigation Works ...	...	935	935	...	1,671	1,671	2,606	...	1,924	1,924	73.81	
5	Sholapur Irrigation Works ...	...	...	...	14,106	16,356	30,462	30,462	891	1,249	2,140	7.02	
6	Ahmednagar Irrigation Works ...	...	...	...	623	5,769	6,392	6,392	453	2,592	3,045	47.64	
7	Nasik Irrigation Works ...	...	...	...	6,223	2,361	8,584	8,584	720	1,503	2,223	25.90	
8	Khândesh Irrigation Works ...	...	...	...	31,990	14,795	46,785	46,785	2,057	3,572	5,629	12.00	
9	Hubli Water Works...	...	...	...	5,029	2	5,031	5,031	197	301	498	9.90	
10	Dhárwâr Irrigation Works ...	...	...	...	21,653	36,042	57,695	57,695	1,128	2,334	3,462	6.00	
	Total ...	95,616	6,954	1,02,570	1,36,940	1,03,093	2,40,033	3,42,603	10,153	35,903	46,056	13.44	

Statement showing the Results of Run-off from Catchment Areas of Tanks in the Deccan for the year 1894.

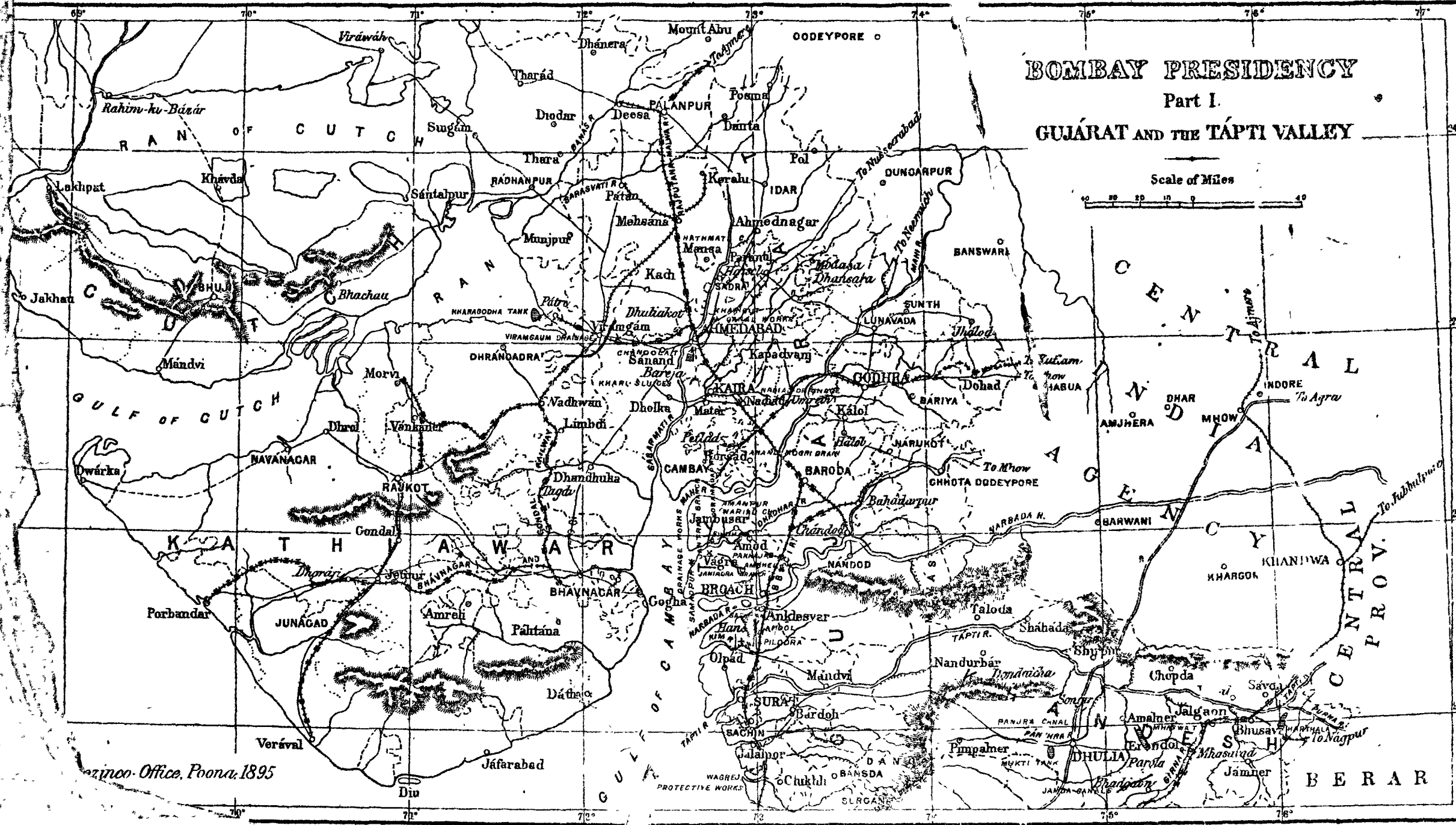
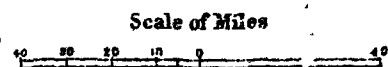
District.	Name of Tank.	Year.	Area of Catchment, Square Miles.	Rainfall in Inches.	Supply due to Rainfall, millions of Cubic Feet.	Actual Run-off, millions of Cubic Feet.	Proportion of Run-off to Rainfall, Column 7 divided by Column 6.	REMARKS.
1	2	3	4	5	6	7	8	9
Khândesh	Mukti Tank ...	1894 ...	34.2	18.47	1,467.50	177.00	.120	Rainfall from 6th June to 27th October 1894. From the time when the tank commenced filling to 27th October the water-level did not reach to full supply capacity.
	Mhasva Tank ...	Do. ...	13.4	18.81	585.57	110.05	.188	The tank was at its lowest water-level on 6th June and filled to overflowing on 10th September 1894. Rainfall taken between these dates.
	Hartála Tank ...	Do. ...	6.8	33.91	535.70	86.76	.162	Tank at its lowest capacity on 10th June and filled on 27th October 1894. Rainfall taken between these dates.
Ahmednagar	Bhatodi Tank	Do. ...	44.0	13.19	1,348.29	115.086	.085	Tank was at its lowest water-level on 8th June and filled up to crest of waste weir on 11th September 1894. Rainfall taken between these dates.
Násik	Pársul Tank ...	Do. ...	17.75	7.61	313.81	106.01	.338	Tank was at its lowest level on 10th June and filled up to overflowing on 8th August 1894. Rainfall taken between these dates.
	Wághad Tank ...	Do. ...	29.0	54.97	3,703.482	3,031.002	.82	Rainfall from 5th July to end of October. Tank filled on 24th July 1894. The highest flood gauged occurred on 21st July = 4,768 c. ft. per second = $\frac{1}{4}$ of rainfall per hour on the catchment area. The rainfall is the average of 3 gauges in the catchment, and columns 6 and 8 are derived accordingly.
Poona	Shirsuphal Tank ...	Do. ...	23.5	15.24	832.02	680.30	.818	This tank was empty on 3rd September and was replenished on 7th September 1894. The tank did not overflow this year. Rainfall, June to October, 5 months.
	Bhádálwádi Tank ...	Do. ...	23.0	14.23	760.36	100.43	.132	This tank did not overflow this year. Rainfall, June to October, 5 months.

Sholápur	Mhasvad Tank	Do.	480	18.36	20,473.89	2,009.21	.098	Rainfall from June to October 1894. The waste weir began to overflow on 2nd October 1894, the run-off to that date being .103.
	Ekruk Tank	Do.	159	18.54	6,848.46	1,403.13	.204	Rainfall from June to October 1894. The waste weir did not overflow this year.
	Ashti Tank	Do.	92	21.62	4,621.00	543.57	.118	Do. do.
	Koregaon Tank	Do.	4.40	22.60	231.01	147.73	.639	Rainfall from June to October 1894. The waste weir began to overflow on 13th September 1894, the run-off to that date being 0.496.
Dhárwár	Asundi Tank	Do.	23	13.29	710.132	22.161	.031	Rainfall from 1st June to end of October 1894. The tank overflowed on the 5th and 6th June and the run-off is 0.353; the tank overflowed for 36 hours, the calculated discharge was 18.44 millions cubic feet; the actual run-off, column 7, was therefore $22.16 + 18.44 = 40.60$ millions cubic feet and the proportion of run-off to rainfall, column 8 = .057.
	Medleri	Do.	11	8.99	229.741	19.067	.0829	Do. The tank did not fill.
	Dámbal	Do.	43	12.54	1,252.716	86.381	.0689	Do. do.
Bijápur	Muchkundi Tank	Do.	26	15.44	932.625	154.066	.165	Do. do.
		Do.	59.50	30.02	4,149.67	637.83	.154	The run-off is calculated from 20th May, i. e. from beginning of replenishment to 18th October. The tank filled on the latter date.
Sátára	Nebr Tank	Do.	59.50	33.63	4,648.68	794.08	.171	The run-off is calculated from 20th May to 31st October.
	Maini Tank	Do.	54.00	11.49	1,441.45	143.02	.099	Do. from 1st June to 26th September, i. e. the beginning of replenishment to 26th September. The tank filled on the latter date.

BOMBAY PRESIDENCY

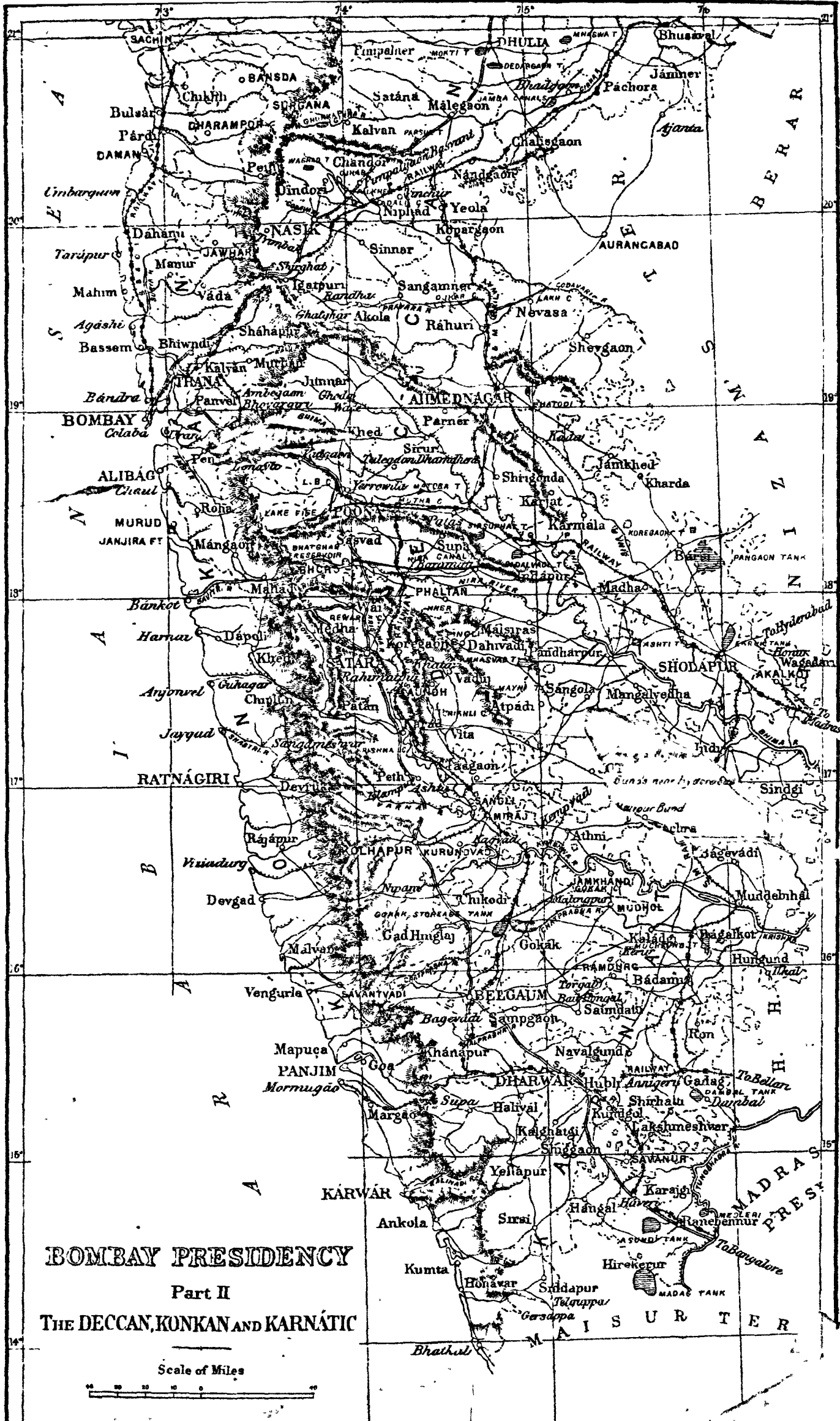
Part I.

GUJARAT AND THE TÁPTI VALLEY



Survey Office, Poona, 1895

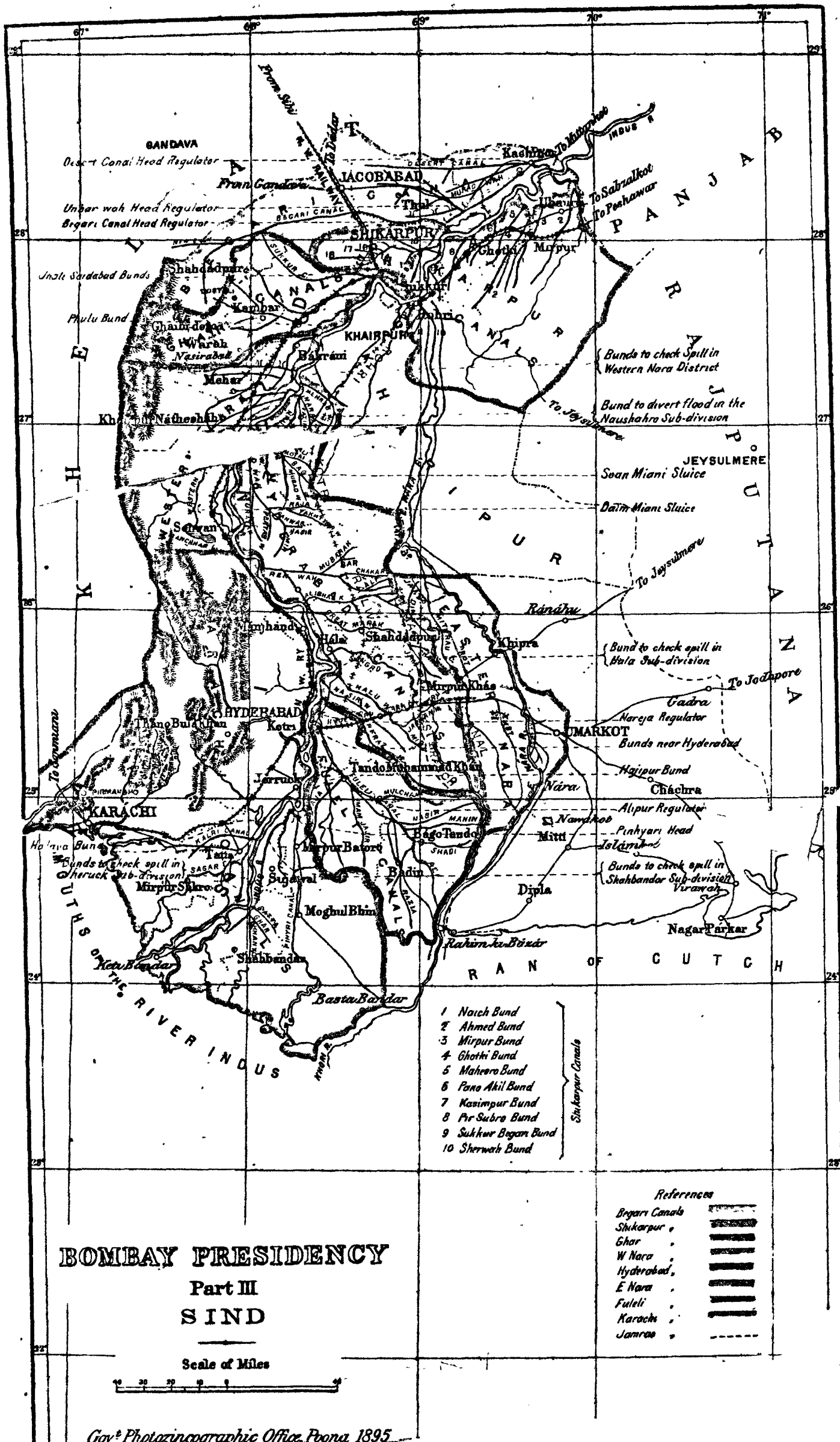
- JAMBHATI (1) AMANPUR NARIAD CHANNEL
- TALVA (2) KORA NADI CANAL
- KVAD (3) SAMADRI KADODIA PANJA RA CI IN IS
- TANPRESHVAR (4) SATHIN ARCOL PILODRA
- KYACRA (5) PAKHILAN MBIKI
- AMBAR (6) SINDHAD



BOMBAY PRESIDENCY
 Part II
THE DECCAN, KONKAN AND KARNATIC

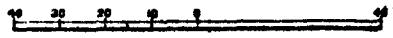
Govt Photodupco. Office, Poona, 1895

Govt Photodupco. Office, Poona, 1895



BOMBAY PRESIDENCY
Part III
SIND

Scale of Miles



- 1 Naich Bund
- 2 Ahmed Bund
- 3 Mirpur Bund
- 4 Ghotki Bund
- 5 Maheero Bund
- 6 Pano Ahil Bund
- 7 Kasimpur Bund
- 8 Pir Sabro Bund
- 9 Sukkur Begam Bund
- 10 Sherwah Bund

Sindhurpur Canals

References

Begari Canals	
Sindhurpur	
Ghor	
W Nara	
Hyderabad	
E Nara	
Fuleli	
Karachi	
Jamrao	