

2

~~RS 80/3~~

57309



Rare section

ADMINISTRATION REPORT

OF THE

PUBLIC WORKS DEPARTMENT,

(IRRIGATION)

BOMBAY PRESIDENCY,

FOR THE YEAR

1899-1900.

S

220714
DO
48566

BOMBAY:

PRINTED AT THE GOVERNMENT CENTRAL PRESS.

1900.

[Indian Price—Rs. 1-4-0.]
[English Price—2 Shillings.]

OFFICIAL AGENTS FOR THE SALE OF INDIAN
OFFICIAL PUBLICATIONS.

In England.

E. A. ARNOLD, 37, Bedford Street, Strand, W.C., London.

CONSTABLE & Co., 2, Whitehall Gardens, S.W., London.

SAMPSON, LOW, MARSTON & Co., St. Dunstan's House, Fetter Lane, E.C.,
London.

P. S. KING & SON, 9, Bridge Street, Westminster, S.W., London.

LUZAC & Co., 46, Great Russell Street, W.C., London.

KEGAN PAUL, TRENCH, TRÜBNER & Co., Charing Cross Road, W.C., London.

B. QUARITCH, 15, Piccadilly, W., London.

WILLIAMS AND NORSGATE, Oxford.

DEIGHTON BELL & Co., Cambridge.

On the Continent.

FRIEDLÄNDER & SOHN, 11, Carlstrasse, Berlin.

OTTO HARRASSOWITZ, Leipzig.

KARL W. HIRSEMANN, Leipzig.

ERNEST LEROUX, 28, Rue Bonaparte, Paris.

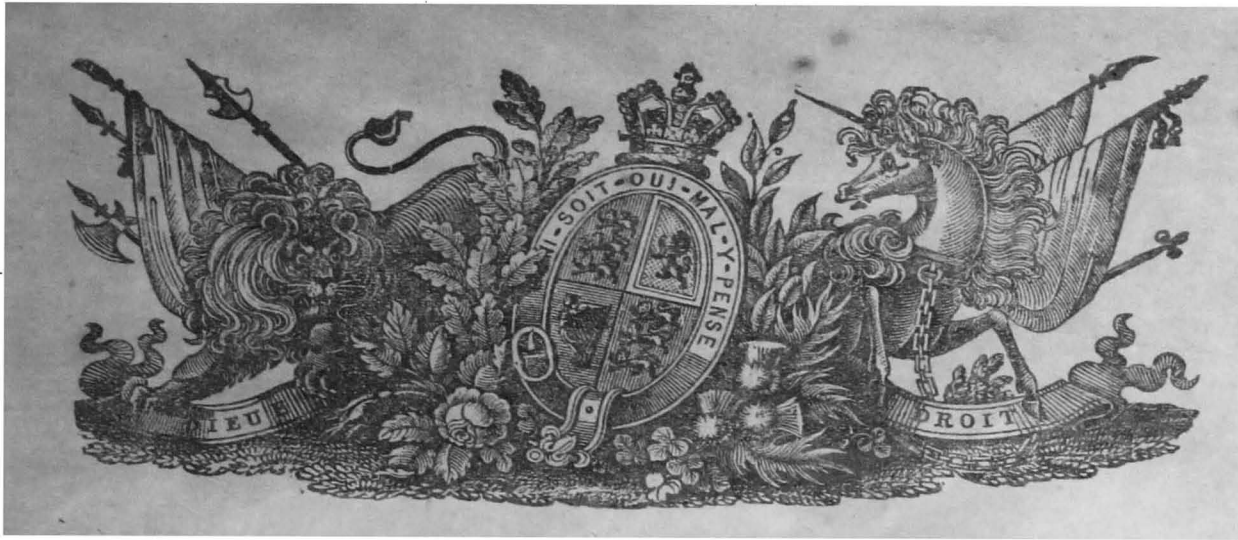
MARTINUS NIJHOFF, The Hague.

In India.

HIGGINBOTHAM & Co., Madras.

THACKER, SPINK & Co., and W. NEWMAN & Co., Calcutta.

THACKER & Co., LD., A. J. COMBRIDGE & Co., MR. SEYMOUR HALE, and
CURATOR, GOVERNMENT CENTRAL BOOK DEPÔT, Bombay.



Rare section
ADMINISTRATION REPORT

OF THE

PUBLIC WORKS DEPARTMENT.

(IRRIGATION)

BOMBAY PRESIDENCY,

FOR THE YEAR

1899-1900.

6

**BOMBAY:
PRINTED AT THE GOVERNMENT CENTRAL PRESS.**

1900.

APPENDIX A.

Statement showing the entire Expenditure incurred during the financial year 1899-1900
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	15,93,212	.....	15,93,212
Establishment	2,63,095
Tools and Plant	10,875
Total	18,67,182
<i>42.—Revenue Account.</i>			
Extensions and Improvements	11,272	.....	11,272
Maintenance and Repairs	2,16,774	2,16,774
Establishment	53,288
Tools and Plant	2,327
Refunds of Revenue	31
Total	2,83,692
43.—IRRIGATION MINOR WORKS AND NAVIGATION.			
WORKS FOR WHICH CAPITAL AND REVENUE ACCOUNTS ARE KEPT.			
<i>Capital Account.</i>			
Works	40,709	.....	40,709
Establishment	9,267
Tools and Plant	650
Total	50,626
<i>Revenue Account.</i>			
Extensions and Improvements	7,790	.....	7,790
Maintenance and Repairs	2,51,185	2,51,185
Establishment	72,239
Tools and Plant	1,857
Refunds of Revenue
Total	3,33,071
WORKS FOR WHICH ONLY REVENUE ACCOUNTS ARE KEPT.			
<i>Revenue.</i>			
Extensions and Improvements	2,14,624	.....	2,14,624
Maintenance and Repairs	5,27,162	5,27,162
Establishment	1,94,316
Tools and Plant	3,351
Refunds of Revenue
Total	9,39,453
WORKS FOR WHICH NEITHER CAPITAL NOR REVENUE ACCOUNTS ARE KEPT.			
Works and Surveys	30,813	.....	30,813
Maintenance and Repairs	3,34,360	3,34,360
Establishment	98,570
Tools and Plant	19,428
Refunds
Total	4,83,171
DEPOSITS.			
<i>Contributions, Ordinary.</i>			
Works	6,699	.....	6,699
Repairs	6,983	6,983
Establishment	10,625
Tools and Plant	447
Total	24,754
Total under all Heads	* 39,81,949

Note.—Expenditure exclusive of Establishment and Tools and Plant Rs. 32,41,614
Cost of Establishment and Tools and Plant 7,40,335
Percentage of Establishment and Tools and Plant on Outlay 22.84
* Exclusive of suspense, Rs. 538.

APPENDIX B.

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

Names of Canals.	CLEARANCE PROPER IN CANALS.		Jungle cutting	Re-moving Tudes.	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.	
Begári Canals District.	Desert Canal	5,795,142	28,240	911	172	...	...	...	1,878	1,256	790,755	3,136	...	
	Unharwah	2,271,437	9,274	532	...	...	...	...	828	1,169	1,065,825	4,218	...	
	Begári Canals	10,594,197	52,528	800	74	...	...	167,000	689	2,457	4,498	4,050,575	12,857	
	Kashmor Bund	75,000	300	257	...	...	...	...	1,586	7,272	50,819	241	...	
Shikarpur Canals District.	Canals in Rohri	4,155,554	13,411	369	881	3,307,537	10,955	11,898	151	2,094	...	651,613	2,806	197
	Bunds do. ... ..	...	...	47	...	...	...	...	...	...	...	...	...	...
	Sind Canal	2,934,277	13,667	240	148	1,526,540	4,483	...	...	449	927	1,176,500	3,286	540
	Rajibwah	21,868	87	72	15	...	...	...	...	...	...	219,879	995	60
	Chittiwah ... ..	...	...	242	110	...	...	...	...	...	...	147,793	637	60
	Garangwah... ..	308,636	1,168	60	228	...	...	...	...	...	...	270,779	513	120
	Kasimpur Bund ... ..	...	...	...	...	...	...	...	519	725	...	...	...	...
	Sukkur-Begári Bund ... ..	...	...	124	...	...	...	...	...	27,069	...	...	...	...
Ghár Canals District.	Sukkar Canal	2,667,196	13,481	361	...	1,336,600	6,025	...	...	1,246	390	249,660	1,161	...
	Ghár Canal	24,710,302	1,00,610	...	1,072	...	...	...	...	1,256	280	496,793	1,835	...
	Ghár Bunds ... ..	...	...	...	...	...	...	...	88	38	...	...	...	...
Western Nára District.	Western Nára	9,767,801	32,843	1,176	2,766	...	...	71,147	225	5,117	3,658	2,803,289	11,287	1,436
	Pritchard Canal	321,158	1,099	83	516	...	...	...	...	958	232	452,660	1,457	93
	Dádu Canals	1,510,346	5,297	98	53	...	...	...	...	140	60	101,109	325	30
	Phitta Canal	239,780	842	49	393	107,550	363	...	...	658	82	31,458	119	96
	Wahur	141,215	441	24	...	240,751	753	...	...	...	...	18,904	71	...
	Márví	517,227	1,551	20	...	...	...	...	...	56	...	...	...	...
	Nára Bunds ... ..	...	...	...	...	...	...	...	...	1,553	138	...	...	...
Karachi Canals District.	Canals, North of Kotri	809,978	3,169	44	107	...	...	48,963	193	72	26	92,601	101	171
	Canals in Tatta Sacra and Ghorabari.	1,982,490	6,929	26	246	...	...	...	...	...	404	82,792	429	...
	Kalpi	1,915,881	6,729	95	86	244,847	1,091	5,248	19	...	52	45,208	341	24
	Bághar	1,995,288	8,268	2	230	...	...	...	...	326	38	1,176,138	4,545	...
	Uchito	44,739	147	...	...	...	...	...	...	...	...	960	1	...
	Pinyári	3,661,165	19,224	654	723	...	...	236,315	1,069	1,022	626	4,196,599	16,169	62
	Canals in Mirpur Batoro	1,819,625	5,964	127	175	...	...	...	...	...	5	47,965	393	39
	Canals in Sujáwal... ..	1,004,189	2,720	132	90	...	...	...	...	...	...	48,816	156	...
	Canal in Jati	356,973	961	...	6	...	...	79,000	236	...	...	281,552	874	...
	Satta	3,113,151	9,209	18	270	615,715	2,155	37,000	702	...	...	38,866	112	240
	Khanta	397,471	1,202	...	107	...	...	212,200	575	8	25	164,589	509	...
	Canals in Sháhbánder	128,314	346	93	108	...	...	...	158	...	23	228,282	614	74
	Kokawári	250,684	723	...	6	...	...	...	...	...	...	73,550	326	...
	Bunds, Right Bank ... ..	...	...	248	...	...	...	59,400	152	1,614	379	...	...	...
	Bunds, Left Bank... ..	...	...	123	...	...	...	...	...	817	999	...	...	35

B.

debt to the Canal Clearance Grant in 1893-1900 in the Province of Sind.

REPAIRS TO RIVER EMBANKMENTS.		SPECIAL WORKS IN CONNECTION WITH RIVER EMBANKMENTS.		Protecting Slopes of Embankments and Canals.	Miscellaneous.	Arrears.	Contingencies.	Extraordinary Abkalani Expenditure and closing breaches.	Total Works	ESTABLISHMENT.				Total Works and Establishment.
Cubic feet.	Cost.	Cubic feet.	Cost.							Abkalani.	Revenue.	Work.	Total.	
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
	Rs.		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
...	...	...	...	...	608	...	135	887	37,218	3,114	1,593	1,745	6,452	48,670
...	...	...	...	...	2,624	...	10	278	18,933	2,945	868	1,164	4,977	23,910
...	...	...	...	...	1,713	...	1,163	1,286	78,065	3,986	2,217	1,837	8,040	86,105
3,128,662	24,001	6,241,161	40,203	...	5,231	...	1,860	12,614	95,345	7,213	642	1,946	9,801	1,05,146
...	...	...	...	661	234	...	228	38	82,025	2,953	749	2,342	6,049	38,074
213,167	877	...	...	...	...	...	...	...	924	392	54	169	615	1,539
...	...	...	...	1,046	624	...	195	233	25,838	1,571	478	1,424	3,473	29,311
...	...	...	...	20	24	...	6	...	1,279	293	57	164	514	1,793
...	...	...	...	...	38	...	...	...	1,027	269	53	151	473	1,500
...	...	...	...	...	...	...	9	...	2,038	318	62	178	558	2,596
77,314	352	...	...	33	29	...	190	...	1,790	1,834	102	288	2,224	4,014
1,243,050	13,503	8,475,009	37,637	699	3,015	...	497	277	77,917	4,136	214	633	4,983	82,900
...	...	...	...	...	1,674	...	36	...	24,374	2,852	845	2,580	6,277	30,651
...	...	...	...	...	2,208	...	174	...	107,435	6,137	1,385	4,135	11,657	1,19,092
877,779	1,733	...	...	...	659	...	63	...	2,581	2,894	506	1,473	4,873	7,454
...	...	...	...	1,215	2,227	...	...	82	62,032	8,350	4,589	6,990	19,929	81,961
...	...	...	...	117	551	...	...	9	5,115	...	...	...	...	5,115
...	...	...	...	...	31	...	...	...	6,034	255	122	282	659	6,693
...	...	...	...	...	9	...	...	40	2,651	253	129	232	664	3,315
...	...	...	...	...	30	...	...	...	1,319	68	18	57	143	1,462
...	...	...	...	...	48	...	...	...	1,675	95	28	54	177	1,852
560,133	1,427	...	...	327	5,349	...	...	188	8,982	3,203	517	1,465	5,185	14,167
...	...	...	...	...	72	678	...	...	4,633	383	106	396	885	5,513
...	...	...	...	...	88	289	...	...	7,833	442	150	363	955	8,783
...	...	...	...	...	210	300	...	...	8,337	591	383	1,130	2,104	10,441
...	...	...	...	...	309	586	...	...	13,132	1,674	470	1,354	3,498	16,630
...	...	...	...	...	4	...	...	...	152	...	...	...	...	152
...	...	...	...	176	672	2,575	...	...	37,822	3,299	1,001	2,964	7,264	45,086
...	...	...	...	...	126	1,189	...	...	5,640	303	99	276	678	6,318
...	...	...	...	34	32	343	...	...	2,821	68	36	104	208	3,029
...	...	...	...	...	45	51	...	...	2,071	37	...	...	37	2,108
...	...	...	...	...	120	2,205	...	...	10,021	274	112	324	710	10,731
...	...	...	...	...	123	272	...	...	2,821	279	53	217	549	3,370
...	...	...	...	...	36	12	...	...	1,463	71	20	60	151	1,614
...	...	...	...	...	448	61	...	...	1,469	312	20	53	385	1,854
2,479,141	7,900	486,500	2,000	1,288	1,234	299	...	...	14,516	2,616	378	1,244	4,238	18,754
2,044,721	8,452	5,070,679	21,250	...	1,150	105	...	...	32,931	5,183	480	1,512	7,175	40,106

Names of Canals,	CLEARANCE PROPER IN CANALS.		Jungle cutting.	Re-moving Todas.	IMPROVING CANAL HEADS.		SIDE SLOPING AND REPAIRING CURVES.		Buildings and Gardens.	Regulators, Bridges and Sluices.	REPAIRING CANAL BANKS.		Removing Spoil banks and Inspection Paths.
	Cubic feet.	Cost.			Cubic feet.	Cost.	Cubic feet.	Cost.			Cubic feet.	Cost.	
	2	3	4	5	6	7	8	9	10	11	12	13	14
		Rs.	Rs.	Rs.		Rs.		Rs.	Rs.	Rs.		Rs.	Rs.
Indus River District.	Coals and Stores for the Steam Launch "Maud."	...	...	...	...	...	...	...	...	...	...	...	...
	Repairing and renewing Survey Pillars, &c.	...	...	...	...	...	...	...	...	...	...	...	...
	Repairing and renewing beacons along the coasts of the Indus.	...	...	...	...	...	...	...	...	...	...	...	...
Eastern Nára.	Nára Supply Channel	...	...	30	89	...	...	...	448	1,604	...	...	48
	Eastern Nára	...	...	1,922	...	...	...	...	...	43	...	...	...
	Mithrao Canal	3,075,103	11,980	1,327	1,845	149,508	615	391,237	1,516	834	3,623	462,006	1,705
	Thar Canal	...	...	...	326	...	...	...	38	1,142	266,917	963	...
	Dimwáh	133,100	532	181	664	...	...	...	...	56	...	...	...
	Khipra Canal	446,485	1,562	...	...	...	...	...	...	11	...	...	...
	Heranwáh	...	...	...	...	...	...	...	...	...	...	...	...
Northern Hyderabad Canals.	Mehrábwah	2,665,586	9,314	...	15	...	...	...	...	...	4,87	19	806
	Nasrat	1,054,044	3,424	...	46	...	...	...	966	...	4,100	15	...
	Naoláki	2,382,563	9,201	30	1,145	...	...	...	63	100	72,481	699	1,047
	Dambro	283,388	1,011	...	69	...	...	...	...	15	145,520	617	125
	Dadwáh	4,360,800	13,860	13	144	...	...	...	1,408	13	65,376	253	338
	Renwáh	274,229	1,102	...	218	...	...	...	...	48	11,269	53	89
	Other Canals	1,668,616	5,798	112	10	...	...	...	...	9	230,478	940	207
	Repairs to Right Bank bhorti	...	...	...	...	...	...	...	...	...	...	...	...
	Naoláki Bhorti Bund	...	...	...	...	...	...	...	...	...	...	...	...
	Surveying Left Bank Indus	...	...	...	...	...	...	...	...	...	...	...	...
	Special repairs to Canal Chauki at Dowlátpur	...	...	...	...	...	...	...	48	...	...	...	...
Central Hyderabad Canals.	Gháro Mahmuda	8,127,214	28,938	82	885	1,746,512	6,169	...	...	2	81,072	353	...
	Kari Shumáli	2,652,155	9,853	52	494	...	...	...	24	...	9,014	36	...
	Nasir	3,023,086	10,544	18	144	...	...	...	...	...	23,711	42	19
	Other Canals	187,611	573	32	57	...	...	...	...	...	288,059	1,044	...
	Alibhar Kacheri	623,838	2,278	1	221	126,700	345	...	...	2	56,902	206	5
	Great Marak	4,821,674	18,417	1,011	2,616	...	...	...	...	43	1,106,856	4,859	733
	Sarfráz	2,535,643	9,868	131	100	...	...	...	...	...	172,495	335	68
	Bund to check spill in Hála Sub-division	...	...	...	...	...	...	...	...	...	...	...	...
	Repairs to Indus Survey marks in Deh Amilpur, Táluks Hála	...	...	...	...	...	...	...	...	...	...	...	...
	Repairs to Indus Survey marks in Hála Sub-division	...	...	...	...	...	...	...	...	...	...	...	...
Fuleli Canals.	Fuleli Canal	33,311,012	1,01,442	2,315	1,200	...	...	...	623	4,418	3,572,815	15,460	530
	Other Canals	6,441,105	22,273	412	350	...	...	...	...	5,765	286,712	952	42
Begári Canals District	...	18,735,776	90,342	4,230	246	...	...	167,000	689	6,749	14,195	5,957,974	20,452
Shikárpur Canals District	...	7,420,335	23,333	2,244	1,382	4,334,077	15,438	11,898	151	3,060	28,721	2,466,564	8,237
Ghár Canals District	...	27,377,498	1,14,091	...	1,433	1,336,600	6,025	...	...	2,590	708	746,453	2,996
Western Nára District	...	12,497,527	42,073	1,450	3,728	348,301	1,116	71,147	225	3,482	4,170	3,407,420	13,259
Karáchi Canals District	...	17,479,948	65,595	1,552	2,154	860,562	3,246	678,126	2,504	3,859	2,577	6,478,118	24,470
Indus River District	...	...	...	...	...	...	...	...	...	...	...	...	...
Eastern Nára District	...	3,654,688	14,074	3,460	2,924	149,508	615	391,237	1,516	1,320	6,479	728,923	2,668
Northern Hyderabad Canals	...	12,689,226	48,710	155	1,647	...	...	...	...	2,485	185	534,111	2,596
Central do.	...	21,971,221	80,471	1,327	4,517	1,873,212	6,514	...	...	24	47	1,738,609	6,875
Fuleli Canals District	...	89,752,117	1,23,715	2,727	1,580	...	...	...	...	623	10,183	3,859,527	16,412
Total	...	161,578,336	6,07,404	17,195	19,611	9,402,280	32,954	1,319,408	5,085	29,194	67,265	25,917,699	97,965

B—concluded.

REPAIRS TO RIVER EMBANKMENTS.		SPECIAL WORKS IN CONNECTION WITH RIVER EMBANKMENTS.		Protecting Slopes of Embankments and Canals.	Miscellaneous.	Arrears.	Contingencies.	Extraordinary Abkalaní Expenditure, Closing Breaches, &c.	Total Works.	ESTABLISHMENT.				Total Works and Establishment.
Cubic feet.	Cost.	Cubic feet.	Cost.							Abkalaní	Revenue	Works.	Total.	
15	16	17	18	19	20	21	22	23	24	25	26	27	28	29
	Rs.		Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.	Rs.
...	...	...	...	...	1,293	...	...	...	1,293	...	...	...	...	1,293
...	...	...	...	...	193	...	...	...	193	...	...	...	...	193
...	...	...	...	...	627	...	...	...	627	...	...	...	...	627
...	...	...	...	1,027	231	...	94	...	3,571	...	2,007	...	2,007	5,578
446,448	1,826	...	...	...	1,148	...	...	712	5,651	6,435	1,796	2,357	10,588	16,239
151,400	696	...	...	...	2,284	...	124	866	27,415	2,758	2,182	2,129	7,969	34,484
41,600	145	...	...	...	518	...	...	116	3,248	1,226	1,840	800	3,866	7,114
...	...	...	...	...	...	...	...	542	1,975	272	112	313	696	2,671
...	...	...	...	...	83	...	...	23	1,629	240	188	120	548	2,177
...	...	...	...	...	48	...	...	...	48	...	...	...	...	48
...	...	...	...	...	179	...	...	...	9,497	399	139	432	970	10,467
...	...	...	...	...	152	...	...	22	4,006	463	226	441	1,130	5,136
...	...	...	...	...	455	...	...	518	13,255	900	352	764	2,016	15,271
...	...	...	...	...	119	...	...	...	1,956	404	143	466	1,013	2,969
...	...	...	...	12	9,504	...	...	5	30,550	2,172	532	1,305	4,009	34,559
...	...	...	...	...	170	...	...	54	1,684	718	315	863	1,896	3,580
...	...	...	...	...	1,326	...	...	...	8,402	683	176	517	1,376	9,778
...	...	...	...	...	7	...	...	...	7	...	...	...	...	7
...	...	...	...	...	24	...	...	...	24	1,112	64	...	1,176	1,200
...	...	...	...	...	68	...	...	...	68	...	...	...	...	68
...	...	...	...	...	...	...	...	...	48	...	...	...	...	48
...	...	...	...	...	1,363	...	...	1	37,793	1,395	682	1,728	3,805	41,598
...	...	...	...	...	289	...	...	...	10,748	767	411	1,129	2,807	13,055
...	...	...	...	...	661	...	...	42	11,470	609	304	821	1,734	13,204
...	...	...	...	...	57	...	...	...	1,763	145	18	54	217	1,980
...	...	...	...	...	162	...	...	...	3,220	321	181	438	940	4,160
...	...	...	...	...	369	...	...	26	28,124	1,402	344	1,418	3,364	31,488
...	...	...	...	...	410	...	...	...	10,912	467	353	618	1,338	12,250
...	...	...	...	...	8	...	...	...	8	...	...	...	...	8
...	...	...	...	...	2	...	...	...	2	...	...	...	...	2
...	...	...	...	...	18	...	...	...	18	...	...	...	...	18
...	...	...	75	2,698	631	...	641	1,243	1,31,326	5,356	4,021	7,121	16,498	1,47,824
70,000	300	...	...	1,653	...	...	244	724	32,745	1,255	646	1,327	3,228	35,973
3,128,662	24,001	6,241,161	40,203	...	10,171	...	3,168	15,065	2,29,561	17,258	5,320	6,692	23,270	2,58,631
1,533,531	14,733	8,475,009	37,673	2,459	2,124	...	1,125	548	1,42,838	11,771	1,769	5,349	18,889	1,61,727
377,779	1,733	...	...	...	4,541	...	273	...	1,34,390	11,833	2,736	8,188	22,807	1,57,197
360,133	1,427	...	...	1,659	8,245	...	...	319	87,808	12,224	5,403	9,130	26,757	1,14,565
4,523,862	16,352	5,537,179	23,250	1,498	4,669	6,709	...	...	1,45,662	15,532	3,308	9,997	28,837	1,74,499
...	...	...	...	...	2,113	...	...	...	2,113	...	...	...	...	2,113
639,448	2,667	...	...	1,027	4,262	...	218	2,250	43,537	10,931	8,125	5,718	24,774	68,311
...	...	...	...	12	11,046	...	...	599	69,497	6,851	1,947	4,788	13,586	83,083
...	...	...	...	...	3,339	...	...	69	1,04,058	5,106	2,393	6,206	13,705	1,17,763
700,000	300	...	75	4,351	631	...	885	1,967	1,64,171	6,611	4,667	8,448	19,726	1,83,797
10,633,415	61,212	20,273,349	1,01,201	11,006	46,893	6,709	5,669	20,826	11,23,535	98,167	35,668	64,516	1,98,351	13,21,866
As per Booked Accounts ...									11,31,161	98,167	35,668	64,516	1,98,351	13,29,512†

* The Executive Engineer, Northern Hyderabad Canals District, has shown Rs. 968 as arrears; these have not been shown in the detailed column.
 † Exclusive of outlay on contribution. Difference due chiefly to omission of certain works in Fuleli Division and adjustments in supplementary accounts for March 1900.

APPENDIX C.

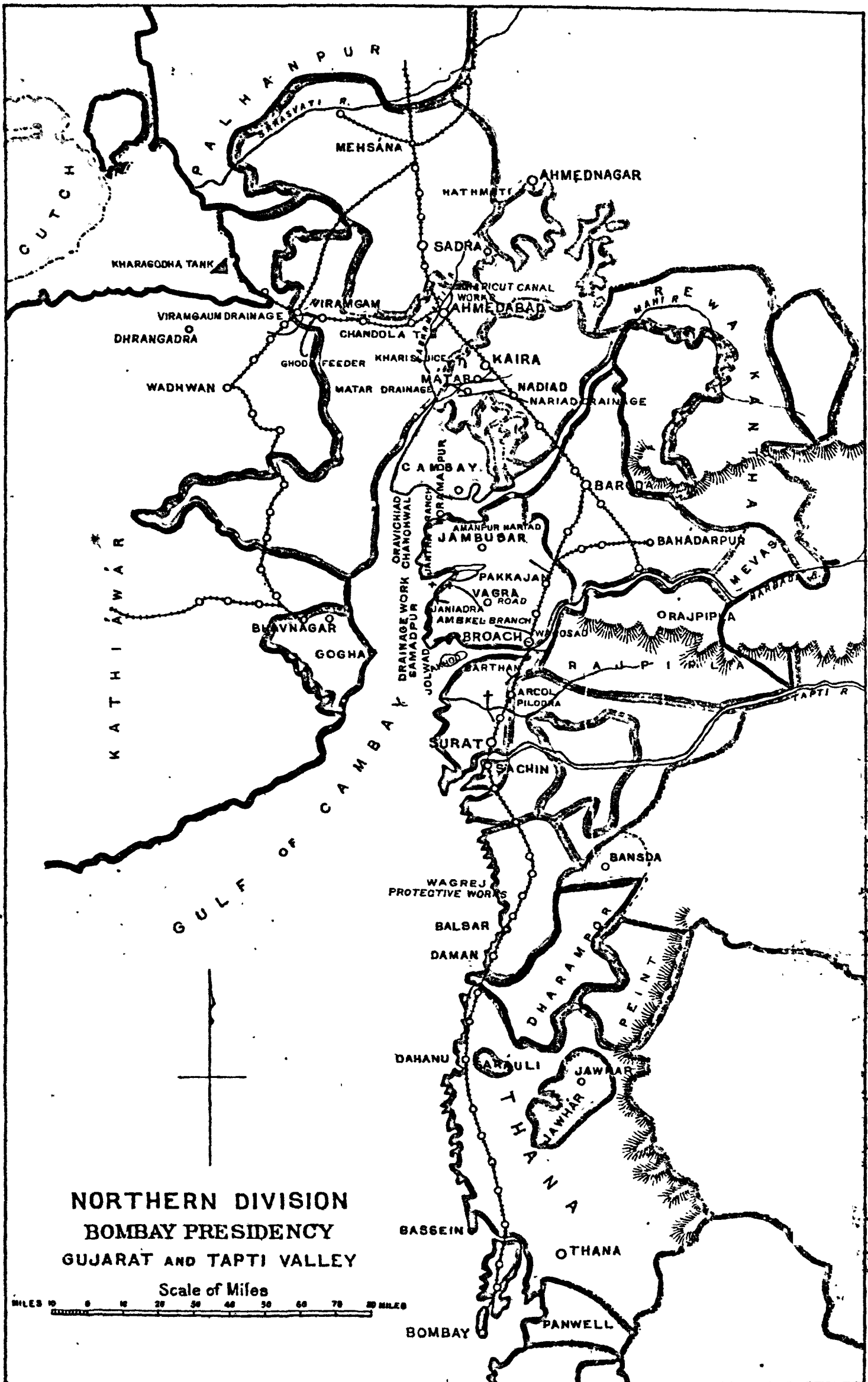
Statement showing the Expenditure incurred on Work Establishment employed in the Deccan Districts during the year 1899-1900, and the percentage it bears to the Outlay on Works and Repairs proper.

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 Super-intending 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 ...	...	...	...	14,172	15,165	29,337	29,337	2,217	3,168	5,385	18.36	The result seems to be satisfactory as compared with last year. Increased percentage due to less Capital outlay.
2	Poona Water-supply...	...	...	...	6,528	7,647	14,175	14,175	1,222	5,321	6,543	46.16	
3	Nira Canal ...	...	...	...	3,107	17,042	20,149	20,149	2,472	5,103	7,575	37.59	
4	Other Poona Irrigation Works*	...	...	...	78,581	3,310	81,891	81,891	995	2,532	3,527	4.30	Decrease due to large outlay on the Shetphal Tank.
5	Sholapur Irrigation Works†	...	...	...	5,54,319	10,192	5,64,511	5,64,511	2,508	15,227	17,735	3.14	Decrease due to large outlay on famine relief works.
6	Ahmednagar Irrigation Works	...	...	...	2,42,826	59,028	3,01,854	3,01,854	12,533	...	12,533	4.15	
7	Khândesh Irrigation Works	3,444	...	3,444	1,25,311	26,168	1,51,479	1,54,923	2,370	3,941	6,311	4.07	Do. do.
8	Dhárwár Irrigation Works	...	3,946	3,946	280	35,731	36,011	39,957	1,530	2,254	3,784	9.47	The percentage compares favourably with that of the last year.
	Total ...	3,444	3,946	7,390	10,25,124	1,74,283	11,99,407	12,06,797	25,847	37,546	63,393	5.25	

* Includes Shetphal Tank. † Includes Pathri, Mangi, Hotgi, Wadshwne, Budhibal and Bhamburdi Tanks.
 Note.—The figures of expenditure for works in the Násik District are given in Appendix C to the Administration Report of Civil Works of this Department for 1899-1900 (General Branch).

Statement showing the results of Run-off from catchment area of Tanks in the Deccan for the year 1899.

District.	Name of Work.	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 ...	1899 ...	34.20	4.27	339.27	10.76	0.32	The tank was at its highest level on the 13th June at R. L. 917.20, being 31.70 feet above sill of sluice and at its lowest on the 31st October, being 12.25 feet above sill of the sluice. The rainfall taken is an average of two gauges at Dahiana and Sargaon from 1st June to 31st October.
	Mbaswa Tank ...	Do. ...	13.40	9.98	310.69	96.47	.31	The tank was at its lowest level on the 8th June, being 11.15 feet above sill of sluice, and at its highest on the 19th June, being 19.95 feet above sill of sluice. The rainfall is taken between the above dates.
	Hartala Tank ...	Do. ...	6.80	6.66	105.21	Nil.	Nil.	The level of water in the tank was below the sill throughout the year. The total rainfall from June to October was 6.66 inches but it was so light that it did not cause any rise in the tank and thus there was no run-off.
Nasik ...	Paradi Tank ...	Do. ...	17.75	6.90	284.53	13.84	.049	The tank was at its highest level on the 18th June, being 11.85 feet above sill and at its lowest on 31st October, being 2.35 feet above sill of the sluice. Rainfall is taken from 1st June to 31st October.
	Waghad Tank ...	Do. ...	29	18.365	1,237.301	195.319	0.157	The first rainfall was on the 13th June. On the 12th June the R. L. of water in the tank was at 97.94. The waste weir with crest at R. L. 114 began to flow on the morning of 12th July. Average rainfall at Peint and Chachadgaon between these dates has been taken for calculation. The run-off is made up as under:— (1) Tank replenishment, 194.44 Mil. C. ft. (2) Outlet discharge ... 875 do. 195.319
Ahmednagar ...	Bhatodi Tank ...	Do. ...	44	9.32	952.70	183.81	0.193	Rainfall from 3rd June to 16th September. The tank did not fill to waste weir level during the year.
Poona ...	Bhadalwadi Tank ...	Do. ...	23	10.21	545.56	58.79	.108	Rainfall from 10th June to 19th September 1899.
	Shirasphal Tank ...	Do. ...	23.50	7.83	427.48	50.256	.118	Do. 5th June to 19th September 1899.
Sholapur ...	Mhaswad Tank ...	Do. ...	480	8.77	9,779.74	1,854.26	.189	The tank received its first replenishment on 5th June and the water in the tank flowed over waste weir on 13th September.
	Ekrak Tank ...	Do. ...	159	12.50	4,617.36	207.62	0.044	The tank received its first replenishment on 6th June and the water rose to the highest level on 19th September. The waste weir did not overflow.
	Ashiti Tank ...	Do. ...	92	12.05	2,575.50	546.70	0.212	The tank received its first replenishment on 5th June. The waste weir overflowed on 17th September.
	Koregaon Tank ...	Do. ...	4.40	11.30	115.51	25.67	.222	The tank received first replenishment on the 6th of June and the water rose to the highest level at 87.80 on the 18th September. The waste weir did not overflow.
Bijapur ...	Muchkundi ...	Do. ...	26	3.17	191.478	17.793	.093	From first rainfall—13th May to 21st May.
	Do. ...	Do. ...	26	15.65	945.310	241.901	.256	From 6th September to 22nd September.
	Do. ...	Do. ...	26	19.25	1,162.762	281.958	.242	From 1st June to end of 31st October.
Dharwar ...	Asundi ...	Do. ...	23	3.40	181.674	28.668	.158	From first rainfall—17th April to 22nd April.
	Do. ...	Do. ...	23	8.07	431.209	23.763	.055	From 1st June to end of 31st October.
	Dambal ...	Do. ...	43	6.19	618.366	50.102	.081	From first rainfall—17th April to 19th April.
	Do. ...	Do. ...	43	5.89	588.397	54.992	.093	From 4th September to 25th September.
	Do. ...	Do. ...	43	11.07	1,105.866	169.636	.153	From 1st June to end of 31st October. The tank overflowed from 5th June to 8th June.
Sátara ...	Medleri ...	Do. ...	11	13.47	344.229	43.765	.127	From 1st June to end of 31st October. The tank did not fill during the season.
	Maini ...	Do. ...	54	4.23	530.665	125.399	.236	From 6th September to 9th September.
	Do. ...	Do. ...	54	5.66	697.517	183.573	.270	From 12th June to 9th September, on which date the tank filled to overflowing.
Sátara ...	Nehr ...	Do. ...	59.50	6.46	892.968	327.788	.367	From 7th September to 29th September, on which date water rose to R. L. 2,659.14, the R. L. of temporary weir being 2,661.02.
	Do. ...	Do. ...	59.50	14.03	1,946.284	343.536	.176	From 1st June to end of 31st October. The tank did not fill during the season.

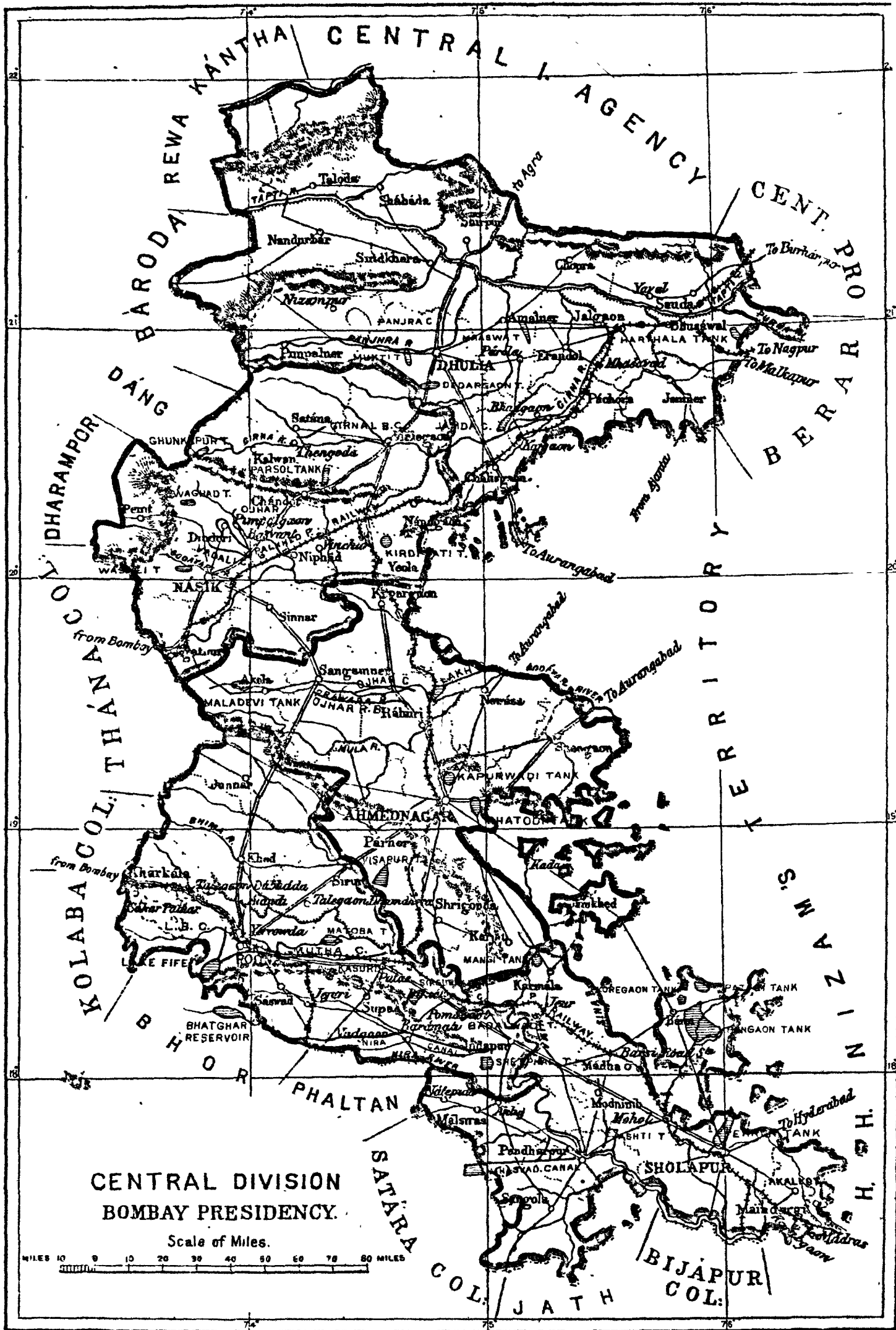


**NORTHERN DIVISION
BOMBAY PRESIDENCY
GUJARAT AND TAPTI VALLEY**

Scale of Miles



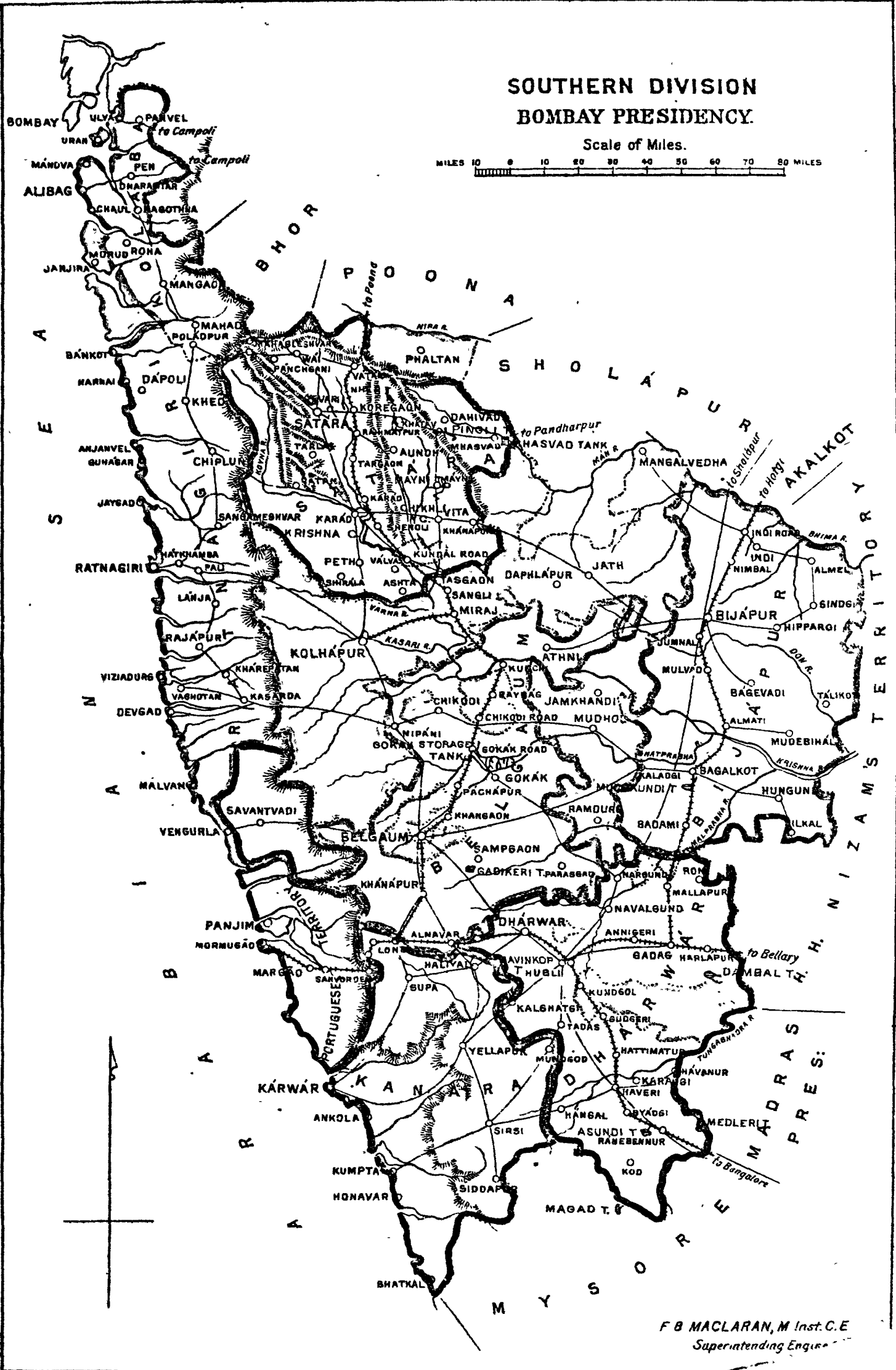
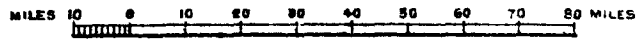
*Reduced to Scale from a Tracing.
Govt Photoduplication Office, New Delhi*



Reduced to Scale from a printed copy
Gov. Photoduc. Office, Poona, 1900.

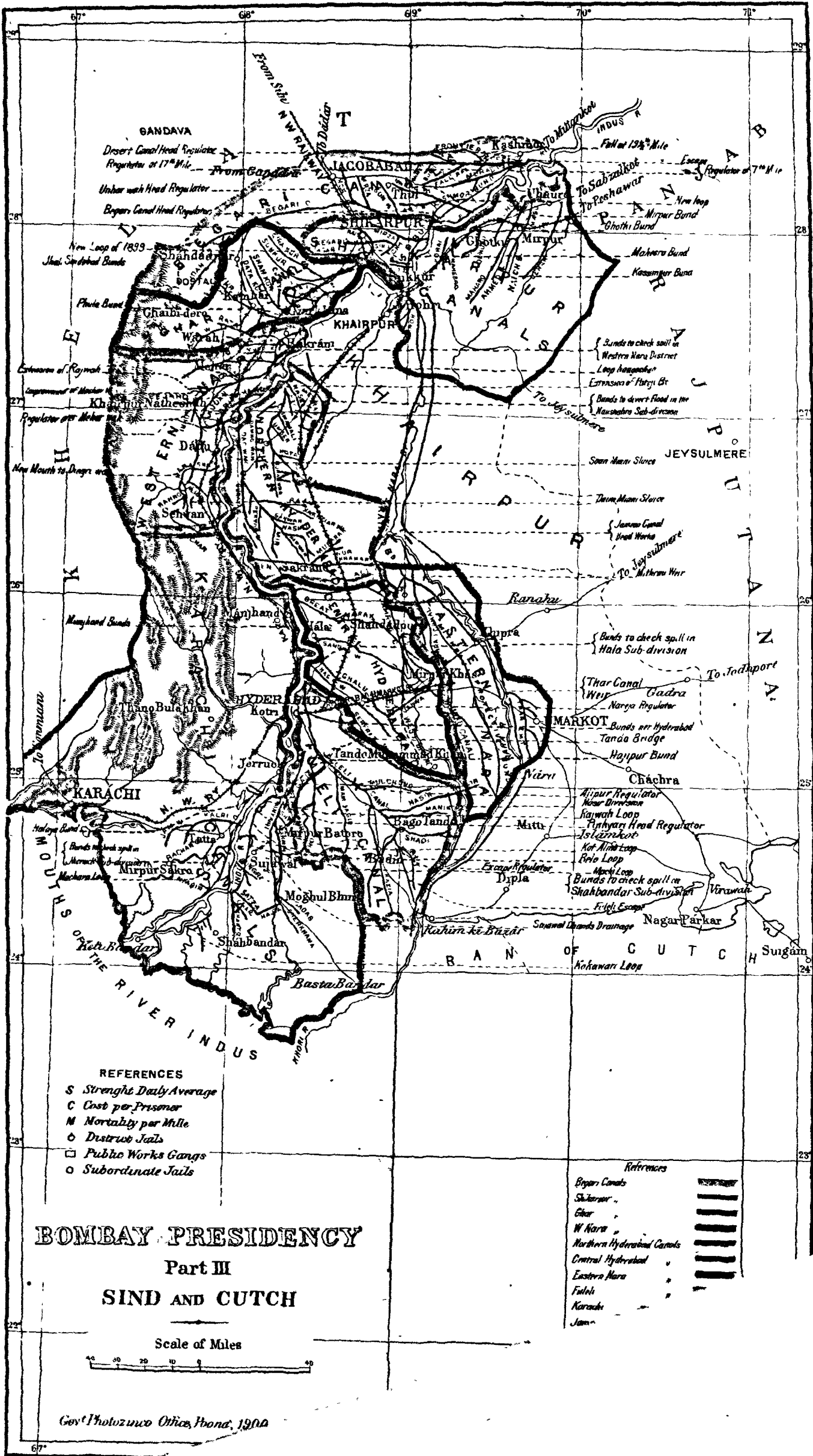
SOUTHERN DIVISION BOMBAY PRESIDENCY.

Scale of Miles.



F B MACLARAN, M Inst. C. E.
Superintending Engineer

*Reduced to Scale from a Tracing
Govt Photodup Office, Poona, 1906*



GANDAVA
Desert Canal Head Regulator
Regulator at 17th Mile
From Gandava
Unhar wash Head Regulator
Begari Canal Head Regulator

JACOABABAD

SHIKHARPUR

KHAIRPUR

HYDERABAD

MARKOT

KARACHI

INDUS R.

REGAR C

SHIKHAR

GHAR

W. NARA

NORTHERN HYDRABAD CANALS

CENTRAL HYDRABAD

EASTERN NARA

FULELI

KARACHI

JAMN

From Sibi. N.W. Rly. To Dadlar

To Multan

Fall at 19th Mile

To Sabzalkot

To Peshawar

Escape Regulator at 7th Mile

New Loop

Mirpur Bund

Ghotki Bund

Mahera Bund

Kasampur Bund

Bunds to check spill in Western Nara District

Loop Ananghar

Extension of Fuleli Br

Bunds to divert flood in the Nara Sub-division

To Jeysumere

JEYSUMERE

Suan Mani Sluice

Tham Mani Sluice

Jamra Canal Head Works

To Jeysumere

To Mithran War

Bunds to check spill in Hala Sub-division

To Sindhport

Thar Canal

Gadra Weir

Narya Regulator

Bunds at Hyderabad

Tania Bridge

Hajipur Bund

Chachra

Mirpur Regulator

Near Diversion

Rajwah Loop

Pinyari Head Regulator

Islizkot

Kot Alind Loop

Rio Loop

Mochi Loop

Bunds to check spill in Shahbandar Sub-division

Fuleli Escape

Nagar Parkar

Sandwal Dams Drainage

Kohawari Loop

Virawah

Sungam

REGAR C

SHIKHAR

GHAR

W. NARA

NORTHERN HYDRABAD CANALS

CENTRAL HYDRABAD

EASTERN NARA

FULELI

KARACHI

JAMN

From Sibi. N.W. Rly. To Dadlar

To Multan

Fall at 19th Mile

To Sabzalkot

To Peshawar

Escape Regulator at 7th Mile

New Loop

Mirpur Bund

Ghotki Bund

Mahera Bund

Kasampur Bund

Bunds to check spill in Western Nara District

Loop Ananghar

Extension of Fuleli Br

Bunds to divert flood in the Nara Sub-division

To Jeysumere

JEYSUMERE

Suan Mani Sluice

Tham Mani Sluice

Jamra Canal Head Works

To Jeysumere

To Mithran War

Bunds to check spill in Hala Sub-division

To Sindhport

Thar Canal

Gadra Weir

Narya Regulator

Bunds at Hyderabad

Tania Bridge

Hajipur Bund

Chachra

Mirpur Regulator

Near Diversion

Rajwah Loop

Pinyari Head Regulator

Islizkot

Kot Alind Loop

Rio Loop

Mochi Loop

Bunds to check spill in Shahbandar Sub-division

Fuleli Escape

Nagar Parkar

Sandwal Dams Drainage

Kohawari Loop

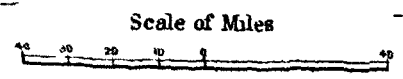
Virawah

Sungam

- REFERENCES**
- S Straight Daily Average
 - C Cost per Prisoner
 - M Mortality per Mile
 - o District Jails
 - Public Works Gangs
 - o Subordinate Jails

- References**
- Begari Canals
 - Shikhar
 - Ghar
 - W. Nara
 - Northern Hyderabad Canals
 - Central Hyderabad
 - Eastern Nara
 - Fuleli
 - Karachi
 - Jam

BOMBAY PRESIDENCY
Part III
SIND AND CUTCH



Govt Photoduplex Office, Pondicherry, 1900