A separate study has been suggested to work out the methodology of this integrated approach before implementation of the Second-Stage Project when highly intensified agriculture would be 'practised.

10.0 ACKNOWLEDGEMENT

The authors express their gratitude to Mr.Abdul Rashid Shaikh, General Manager (South) WAPDA who has very kindly granted permission for the presentation of this paper based on the Project Planning Report on Remodelling of Rohri Canal System submitted to the Pakistan Water & Power Development Authority by the Consultants.

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ANNEXURE-A

(Sheet 1 of 3)

ROHRI CANAL SYSTEM

STATEMENT OF ACTUAL AND PROPOSED DISCHARGES

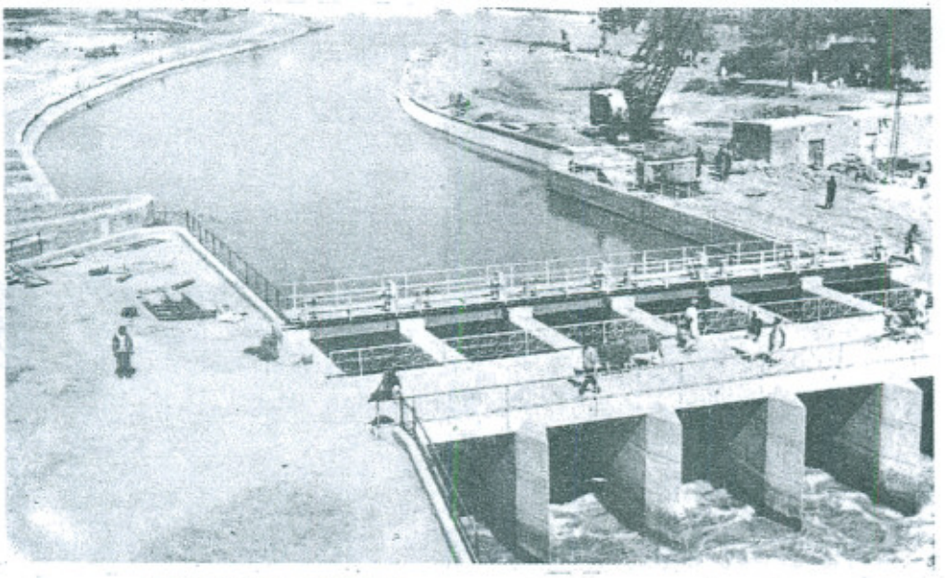
NAME OF CHANNEL	Last designed Discharge (CS)	Max. Discharge Run (1977-78)	Proposed Discharge in the 1st Stage Project	Proposed Discharge in the 2nd stage Project
1	2	3	4	5
ROHRI MAIN CANAL HEAD	10,887	13,379	16,150	20,000 (13,500+6,500)
1. Naulakhi Branch	252.5	299	358	650.00
2. Hingorja Dy.	72.2	58	68	132.00
R.M.C. RD 205 (D/S)				
Naulakhi Cross Regulator	10,177	13,009	15,095	18,525
3. Godhu Dy.	50.0	84	85	151.00
4. Mehrabpur Br.	265.32	327	372	662.00
5. Kotri Minor	13.00	28	21	37.00
R.M.C. RD 264 (D/S)				
Mehrabpur Cross Regulator	9,600	12,980	14,440	17,474
6. Dhoda Mr.	14.40		23	40.00
7. Nasrat Branch	1,655	2,395	2,915	5,050.00
	2,889			
8. Kandiaro Minor	8.40	21	13	22
9. Sehra Branch	329.75	631	500	859
10. Budhika Dy.	108.50	165	174	307
R.M.C. RD 328 (D/S)				
Kandiaro Cross Regulator	7,350	8,832	10,617	10,968
11. Bhiria Disty.	95.79	131	128	225
12. Phul Disty.	64.93	106	104	179
13. Nather Detho Mr.	50.20	104	80	141
14. Dad Branch	319.00	500	515	925
15. Jiskani Disty.	90.66	169	153	278
R.M.C. RD 425 (D/S)				
Naushahro Cross Regulator	6,607	7,561	9,381	8,942
16. San Minor	35.35	106	52	93
17. Manharo Minor	47.46	93	91	161
18. Kurkaim Minor	23.13	52	38	67
19. Thul Branch	253.69	405	396	704

ANNEXURE-A
(Sheet 2 of 3)

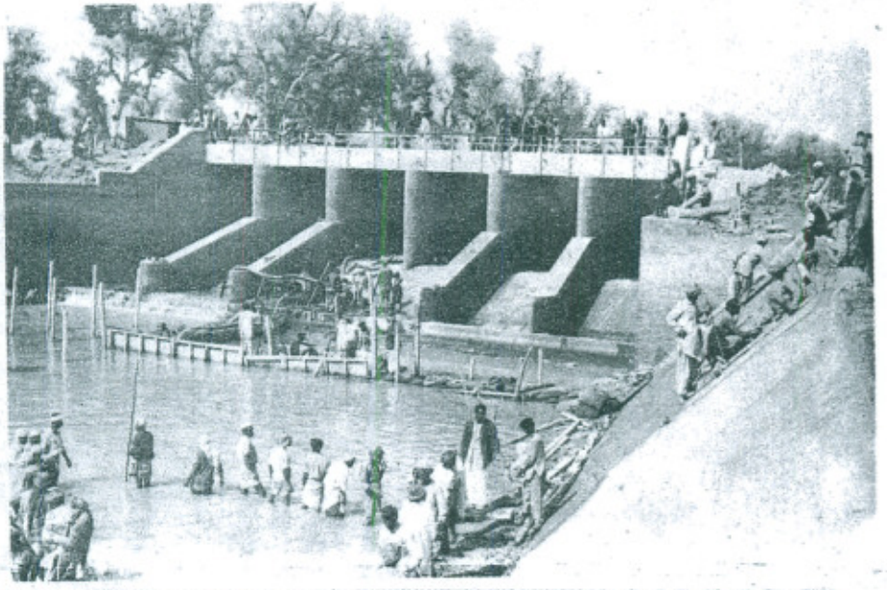
1	2	3	4	5	
R.M.C. RD 496 (D/S)					
Usif Dahri Cross Regulator.	6,155	7,069	8,642	7,759	
20. Pubjo Minor	28.40		44	78	
21. James Minor	19.61	43	33	59	
22. Varyam Minor	13.68	29	25	43	
23. Jan Mohammad Minor	5.11	25	11	19	
24. Jamal Shah Disty.	99.80	144	145	257	
R.M.C. RD 579 (D/S)					
Jamal Shah Cross Regulator.	5,881	6,922	8,205	7,133	
25. Rein Disty.	197.96	224	280	467	
R.M.C. RD 618 (D/S)					
Chanesar Cross Regulator	5,663	6,663	7,825	6,559	
26. Zardari Minor	3.36		7	11	
27. Attur Minor	26.97		47	83	
28. Khair Shah Mr.	17.27	47	29	52	
29. Khaddar Dy.	100.93	177	158	275	
30. Dalel Dero Mr.	6.19		19*	24	*includes one D outlet.
R.M.C. RD 647 (D/S)					
Sakrand Cross Regulator	5,512	6,511	7,487	12,832 (6,012+6,820)	
31. Batho Mr.	19.94		28	49	
32. Kumblima Mr.	6.26	18	9	17	
33. Nakur Minor	58.1	41	58	101	
34. Gadali Minor	11.87	25	19	32	
35. Jamali Minor	24.0	46	48	84	
36. Ali Bahar Br.	218.45	444	389	679	
37. Hala Branch	365.70	348	454	787	
R.M.C. RD 705 (D/S)					
Kumblima Cross Regulator	4,666	5,719	7,329	12,632	U/S
			6,352	10,932	D/S
38. Zirpir Minor	19.68	53	29	52	
39. Berandi Minor	26.78		54	95	
40. Maldasi Minor	27.81		42	74	
41. Kumb Daroon Mr.	14.19	43	20	35	
42. Suikandar Disty.	128.0	194	128	222	
43. Jam Branch	388.68	457	454	793	
44. Tando Adam Br.	396.0	467	489	851	

1	2	3	4	5
R.M.C. RD 808 (D/S)				
Kumb Daroon Cross Regulator.	3,670	3,931	4,932	8,507
45. Dhando Minor	36.22		55	97
46. Khabrani Minor	21.70	46	31	54
47. Matiari Disty.	42.0	43	64	111
48. Bhunphar Disty.	189.36	316	244	423
49. Oderolal Minor	14.36	24	17	28
50. Hyderabad Br.	396.0	322	432	736
51. Nasir Branch	1,557	2,321	2,034	3,559
52. Sultanpur Disty.	28.35	34	37	65
R.M.C. RD 891 (D/S)				
Oderolal Cross Regulator	1,259	1,509	1,851	3,192
53. Arain Minor	10.87	27	18	32
54. Shahpur Disty.	15.16	27	20	34
55. Palejani Minor	19.03	45	36	63
R.M.C. RD 929 (D/S)				
Palejani Cross Regulator	1,157	1,263	1,728	3,000
56. Tajpur Minor	25.69	41	37	65
57. Sarfraz Branch	326.36	384	538	949
58 Kinar Disty.	74.04	143	164	288
59. Ghotano Disty.	118.69	128	159	271
R.M.C. RD 970 (D/S)				
Khasano Cross Regulator	536	577	748	1,287
60. Seri Disty.	89.18	68	85	145
61. Mohammad Khan Disty.	134.57	110	174	301
62. Mulan Disty.	9.29	19	17	30
R.M.C. RD 1038 (Tail)				
63. Almani Branch	280.31	302	414	724

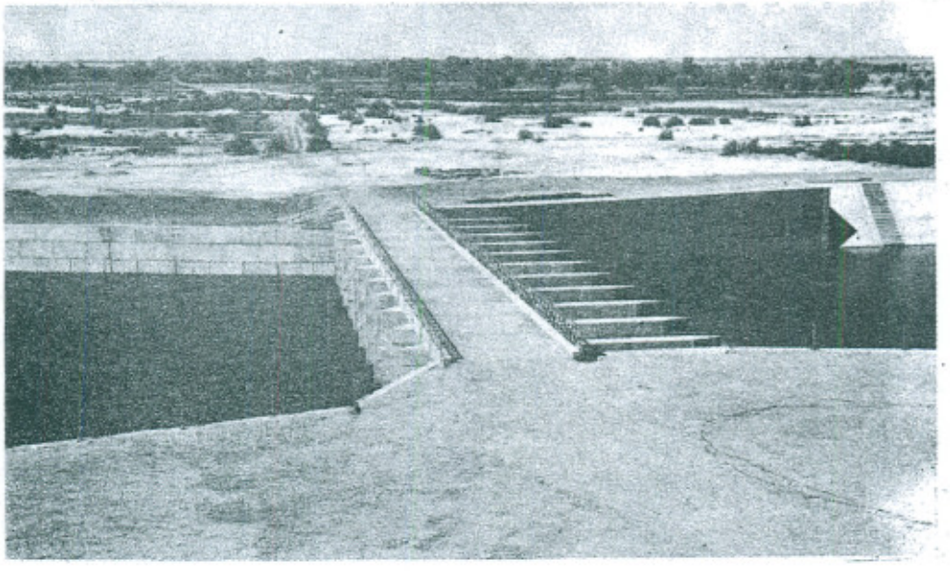
ROHRI CANAL IN PICTURES.



Yousif Dahri By- Pass Channel & New Regulator, Constructed in 1975.



Repair work in progress at Duro Fall after damage in 1973.



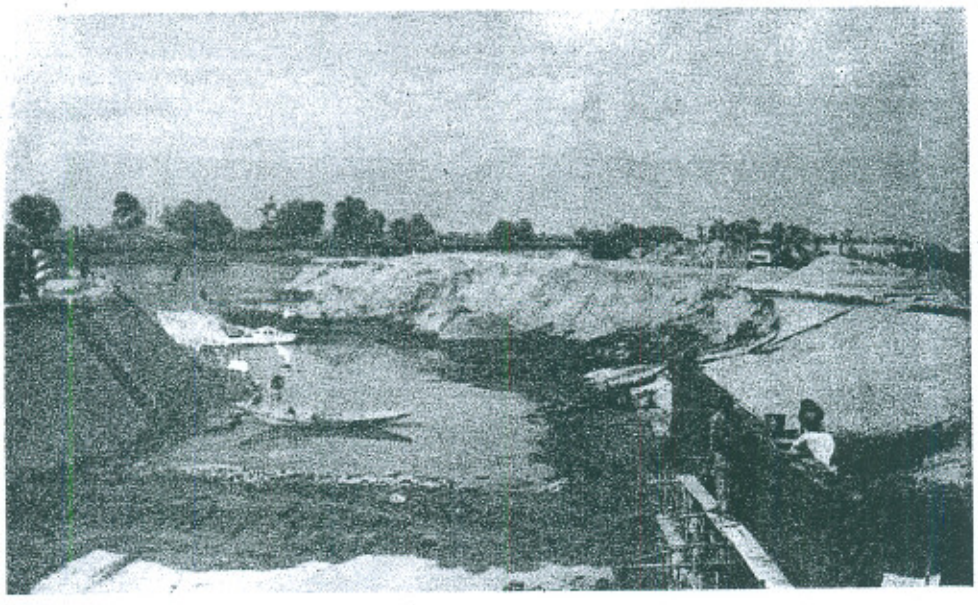
Duro Fall as newly constructed after repeated damages at the old structure.



Silt heaps Excavated from Naulakhi Branch downstream of its Head Regulator.

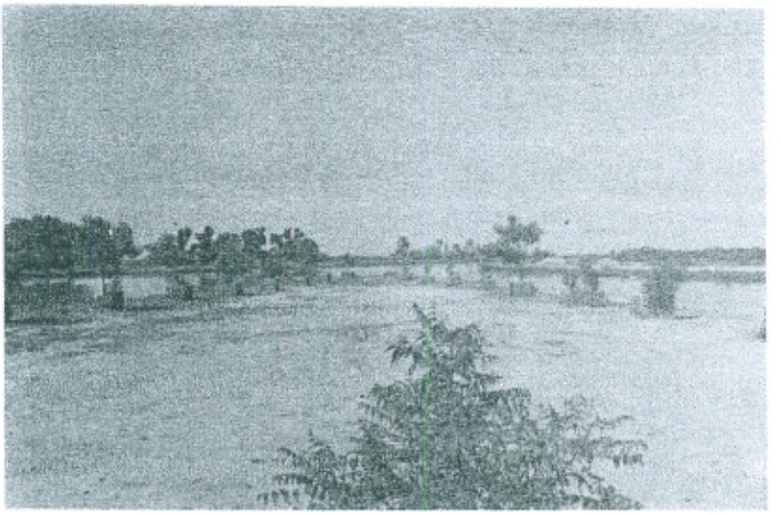


Fazlani Regulator R.D. 33 Nasir Branch. Silt heaps being removed downstream of the Head Regulator of Tando Sumro-I Distributary

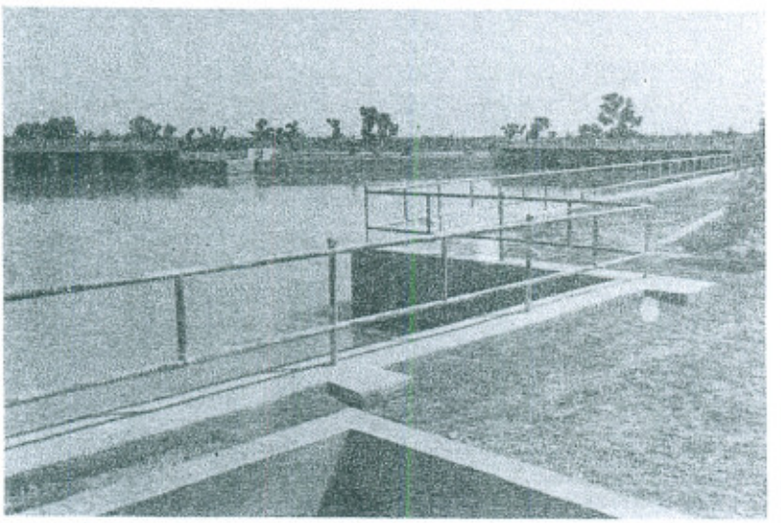


Naulakhi By-pass Channel showing silt heaps on the approach side. A spur is being constructed on the right and a silt vane on the left to fight the menance.

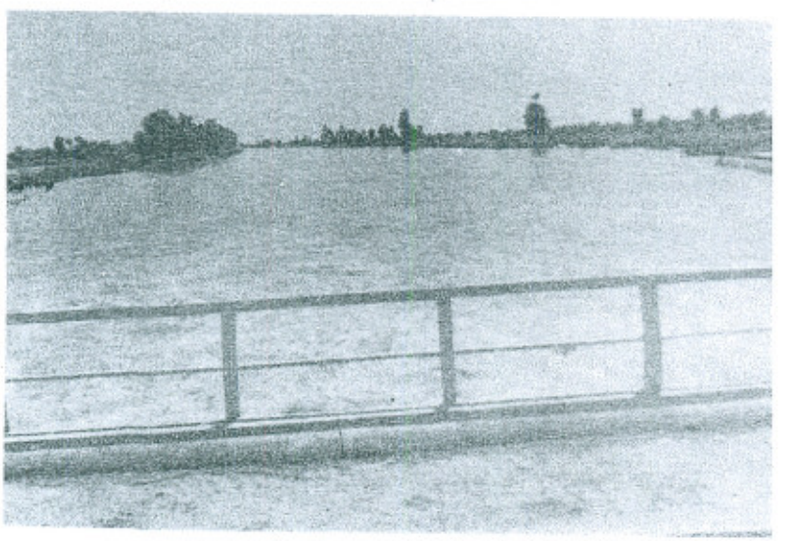
ROHRI CANAL IN PICTURES



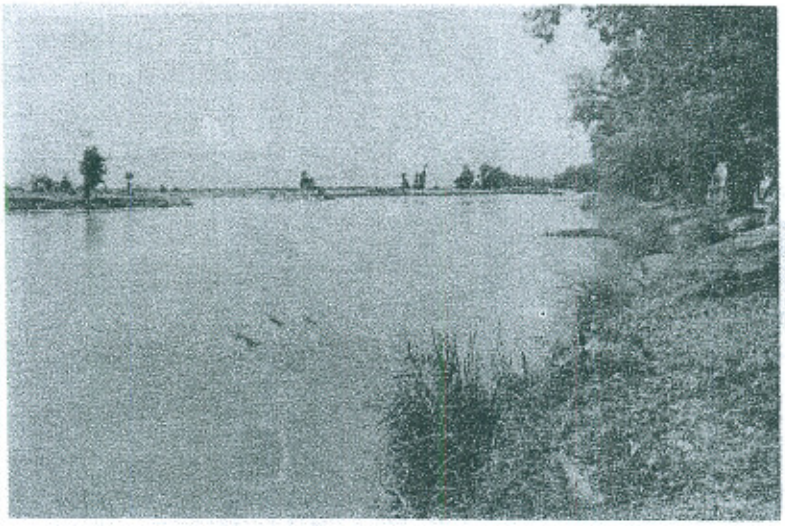
Upstream view of Canal bifurcation (RD.3221) - Rohri Main Canal.



Upstream view of Bye-Pass Kandiaro Regulator at RD.328- Rohri Main Canal.



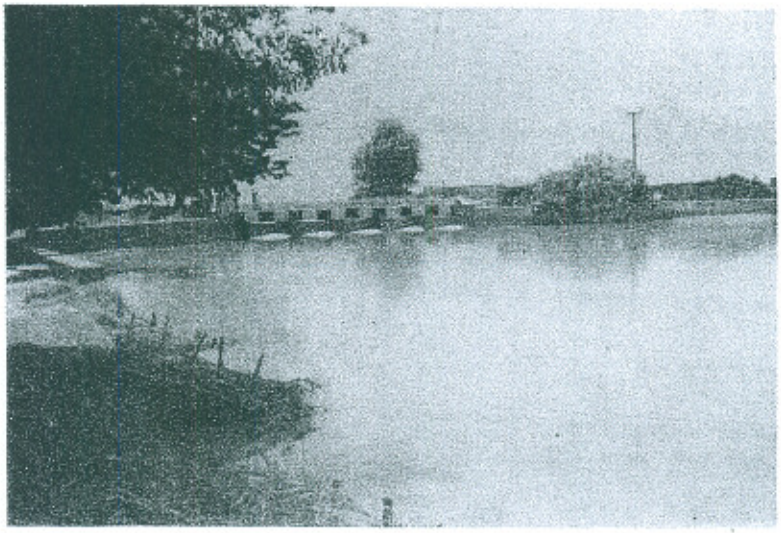
Downstream View of Canal from Naushero Regulator showing side Scours at R.D. 425 - Rohri Main Canal.



Downstream View of Phul Fall and Bye-Pass Regulator (R.D.443±) - Rohri Main Canal.

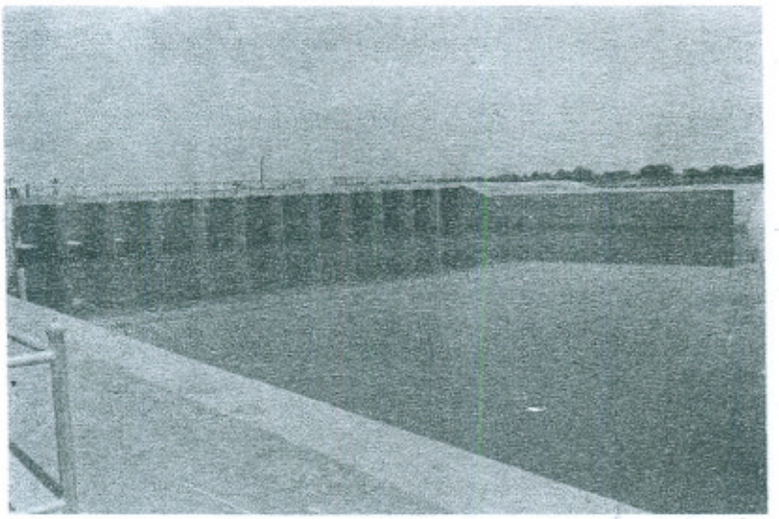


Upstream view of Old and Bye-Pass Regulator Yousuf Dahri (R.D.496±) - Rohri Main Canal.

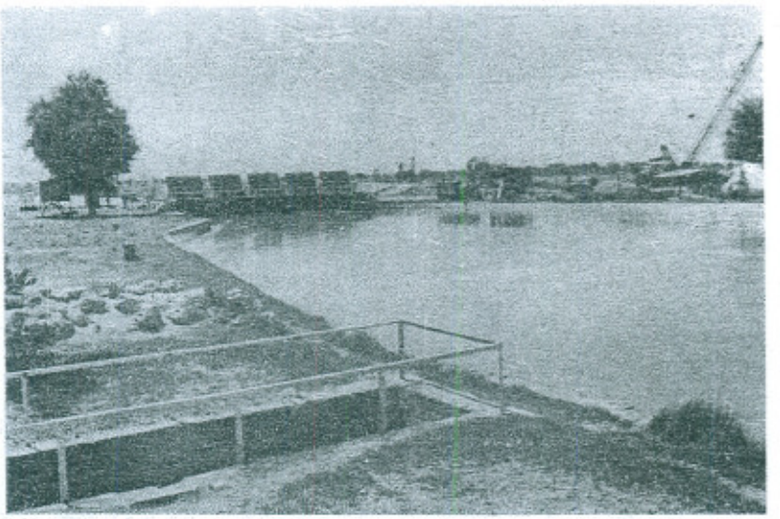


Upstream View of Duro Fall (R.D. 522±)- Rohri Main Canal.

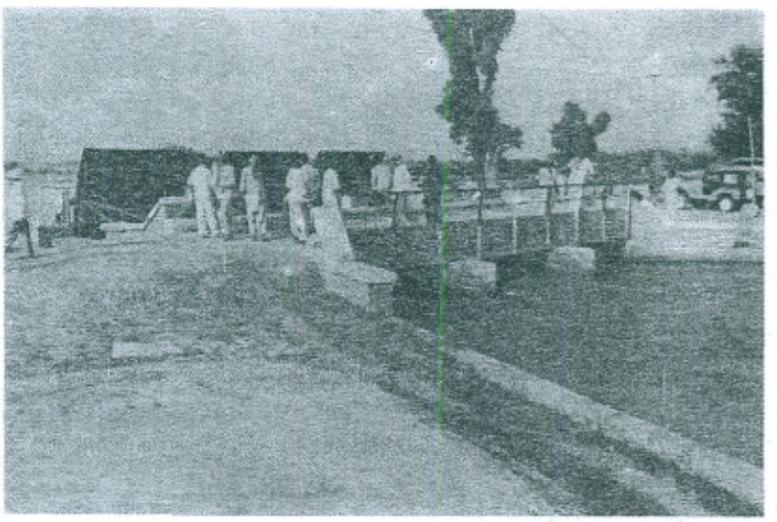
ROHRI CANAL IN PICTURES



Downstream View of newly constructed fall structure . at Duro at RD-522 - Rohri Main Canal.

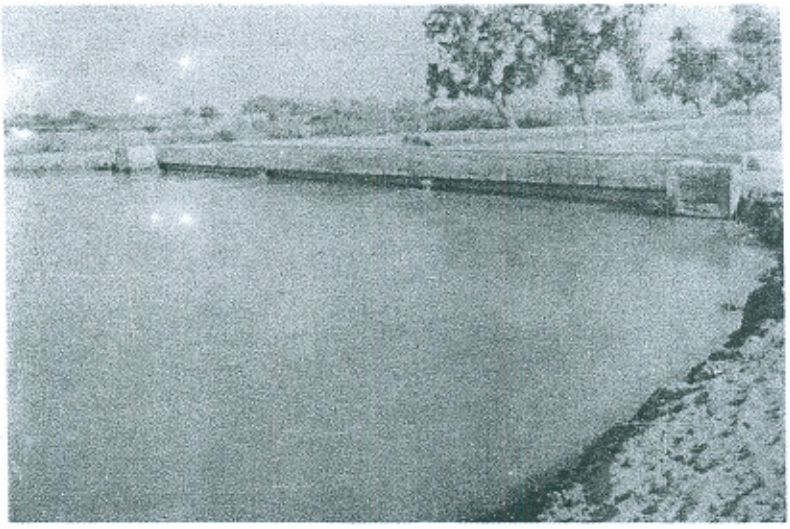


Upstream View of Sakrand Regulator at R.D. 647 - Rohri Main Canal.

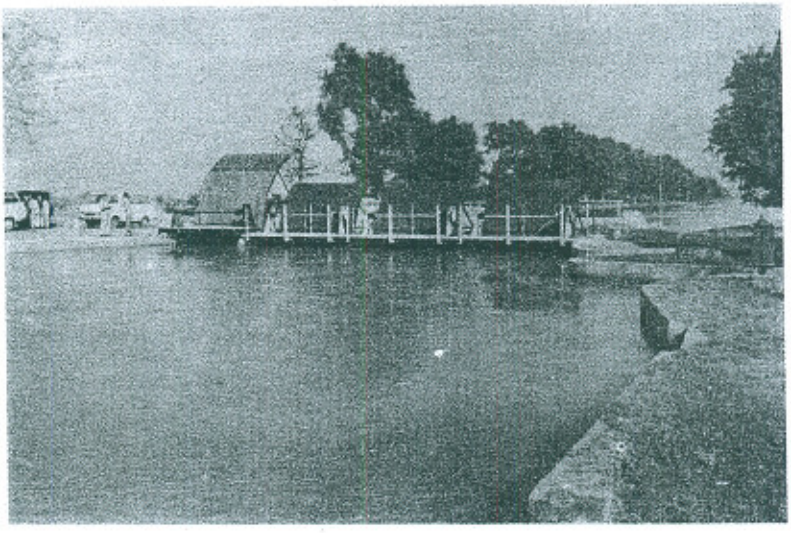


Downstream View of Oderolal Regulator at RD. 891 of - Rohri Main Canal.

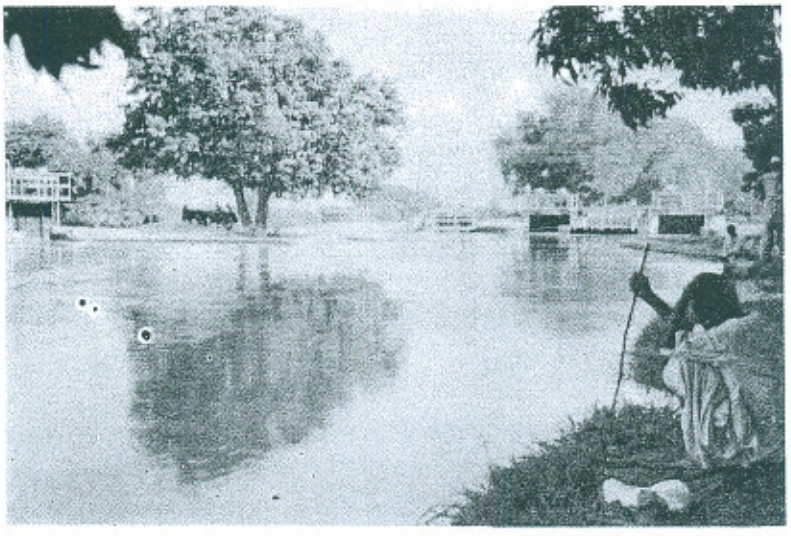
Submerged Bridge - Rohri Main Canal.



Upstream View of Palajani Regulator at RD.929 - Rohri Main Canal.

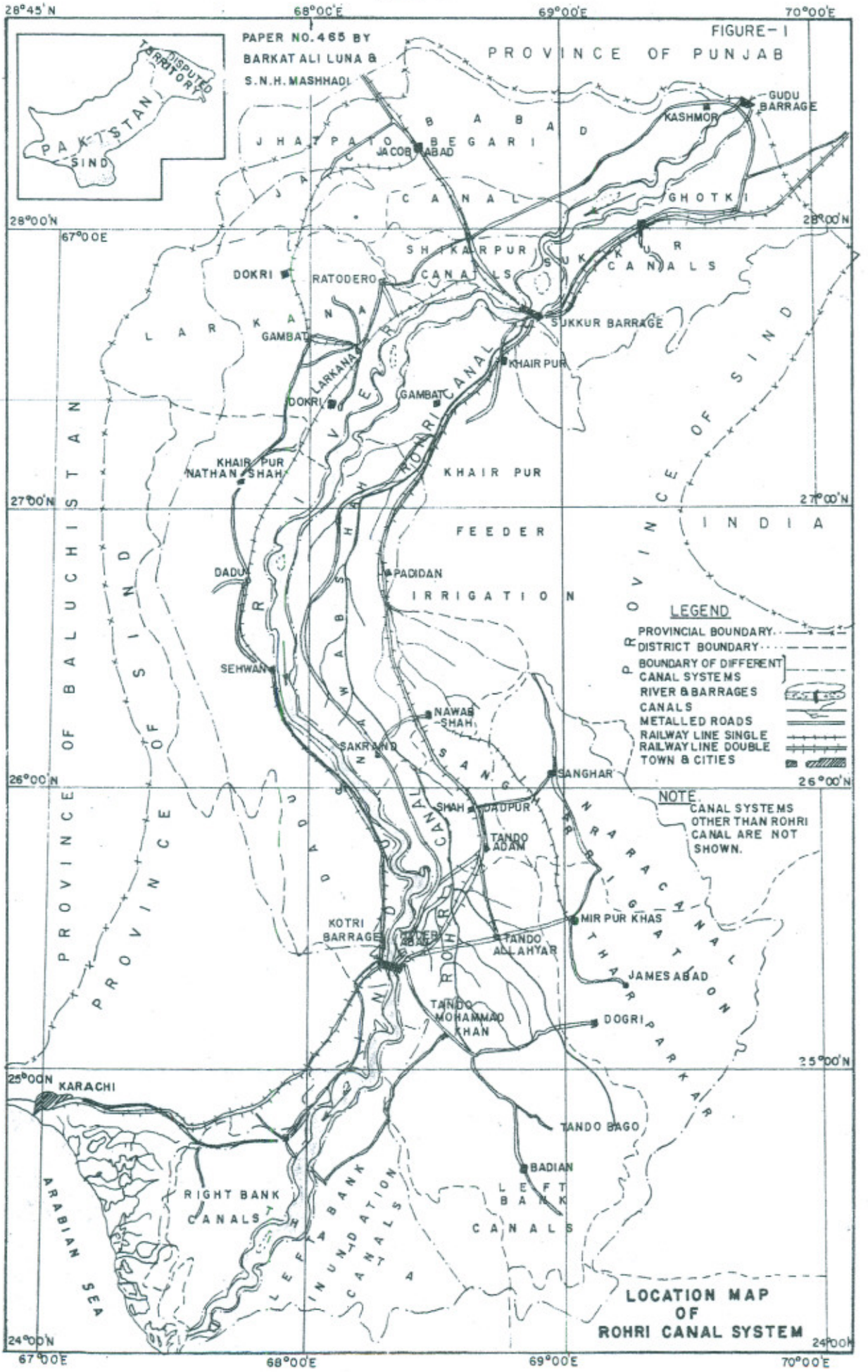


Upstream View of Khesano Regulator and Off-takes at RD.970 - Rohri Main Canal.

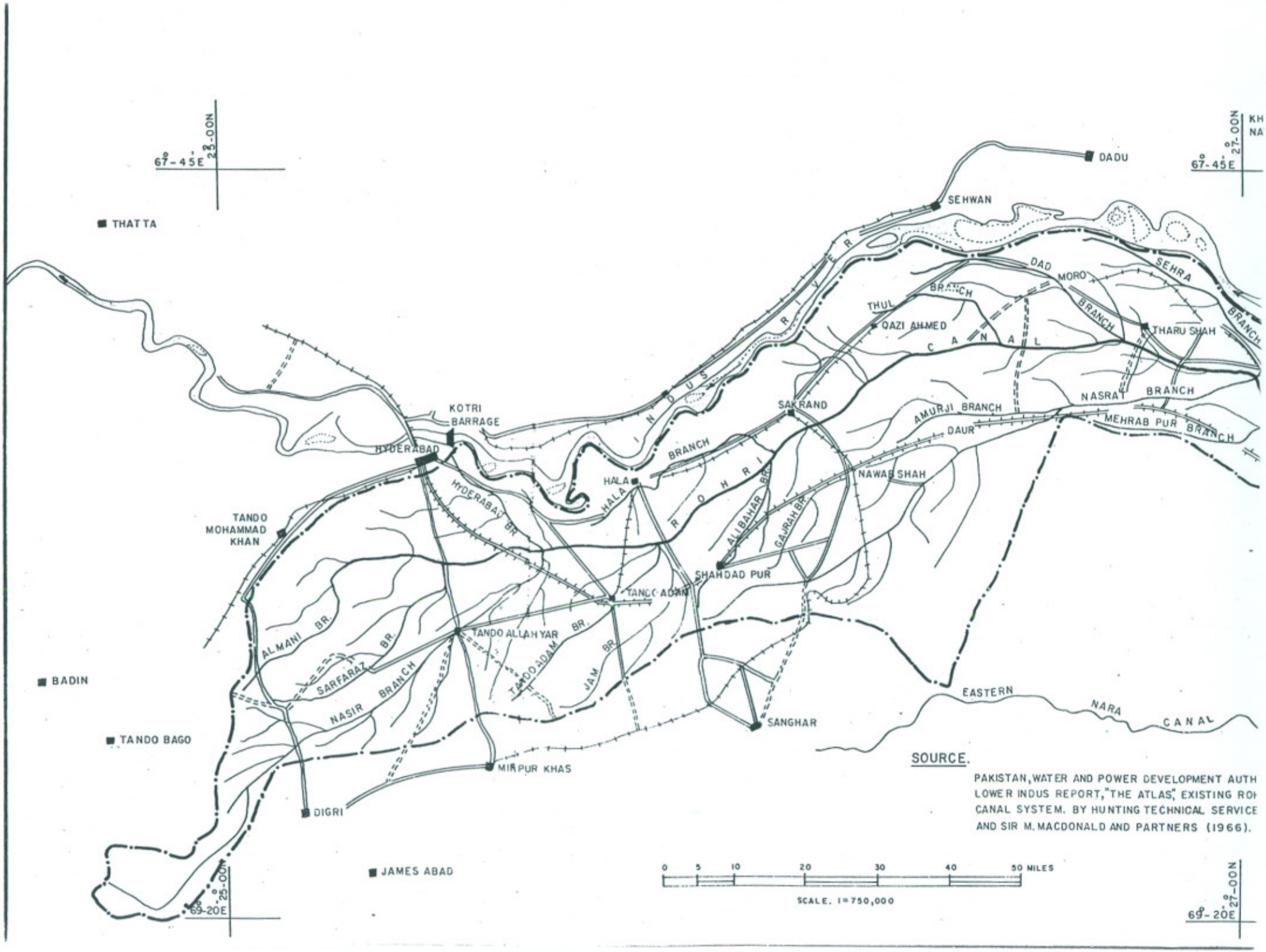


LIST OF FIGURES

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FIGURE-I
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S.N.H. MASHHADI
PAKISTAN
SIND
DISPUTED TERRITORY
PROVINCE OF PUNJAB
PROVINCE OF SIND
PROVINCE OF BALUCHISTAN
INDIA
JHATPAT BEGARI
BABA
JACOBABAD
KASHMOR
GUDU BARRAGE
GHOTKI
JAMRAO CANAL
SHIKARPUR SUKKUR CANALS
DOKRI
RATODERO
LARKANA
GAMBAT
SUKKUR BARRAGE
KHAIR PUR
KHAIR PUR NATHAN SHAH
DADU
PADIDAN
FEEDER
IRRIGATION
SEHWAN
NAWAB SHAH
SAKRAND
SANGHAR
SHAHDADPUR
TANDO ADAM
KOTRI BARRAGE
MIR PUR KHAS
TANDO ALLAHYAR
JAMES ABAD
TANDO MOHAMMAD KHAN
DOGRI
KARACHI
TANDO BAGO
BADIN
RIGHT BANK CANALS
LEFT BANK INUNDATION CANALS
LEFT BANK CANALS
ARABIAN SEA
LEGEND
PROVINCIAL BOUNDARY
DISTRICT BOUNDARY
BOUNDARY OF DIFFERENT CANAL SYSTEMS
RIVER & BARRAGES
CANALS
METALLED ROADS
RAILWAY LINE SINGLE
RAILWAY LINE DOUBLE
TOWN & CITIES
NOTE.
CANAL SYSTEMS OTHER THAN ROHRI CANAL ARE NOT SHOWN.
LOCATION MAP OF ROHRI CANAL SYSTEM
28°45'N
68°00'E
69°00'E
70°00'E
28°00'N
67°00E
27°00'N
26°00'N
25°00'N
24°00'N

ARSHAD

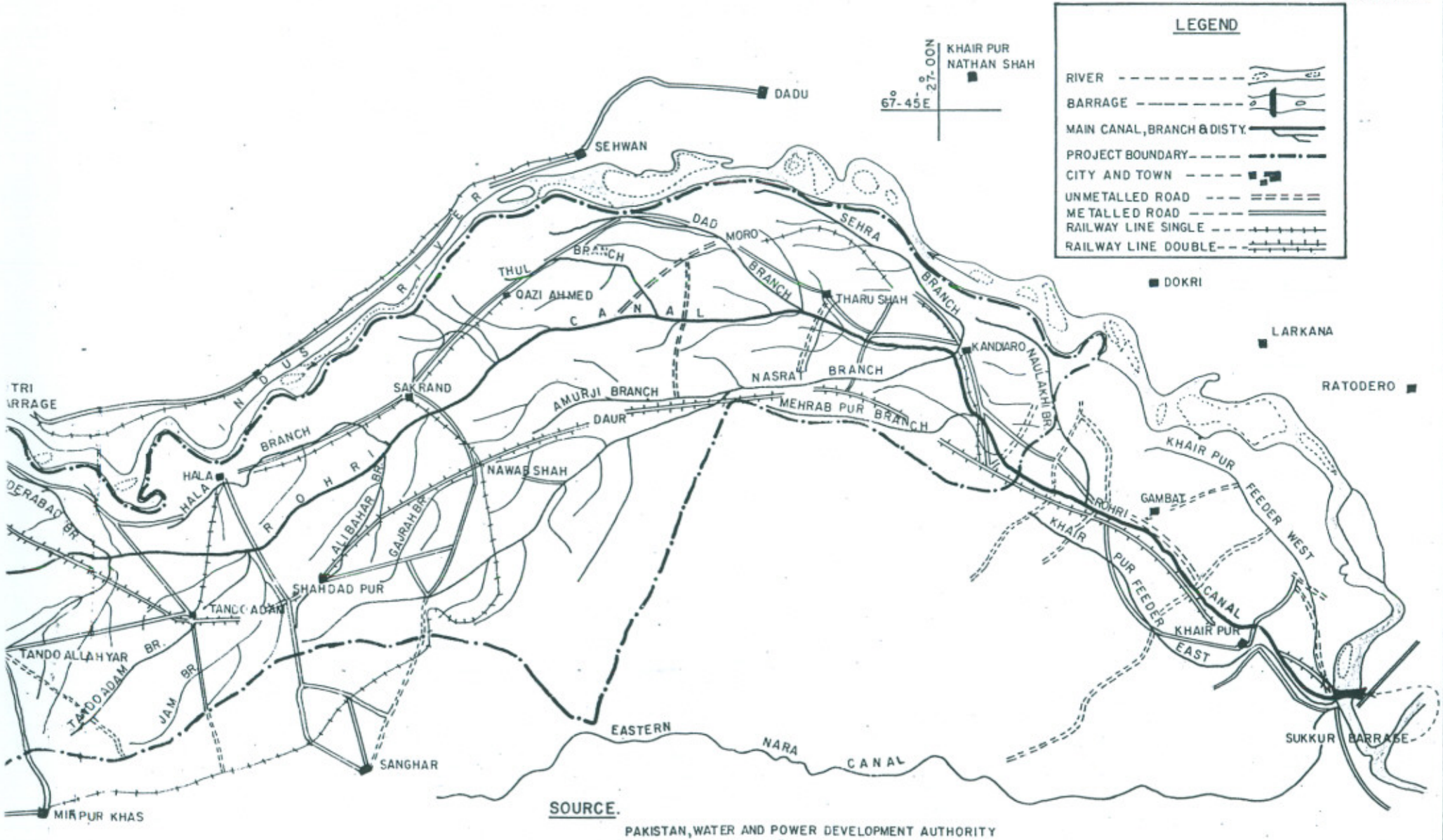


SOURCE.

PAKISTAN, WATER AND POWER DEVELOPMENT AUTH
LOWER INDUS REPORT, "THE ATLAS", EXISTING RO
CANAL SYSTEM. BY HUNTING TECHNICAL SERVICE
AND SIR M. MACDONALD AND PARTNERS (1966).

FIGURE - 2

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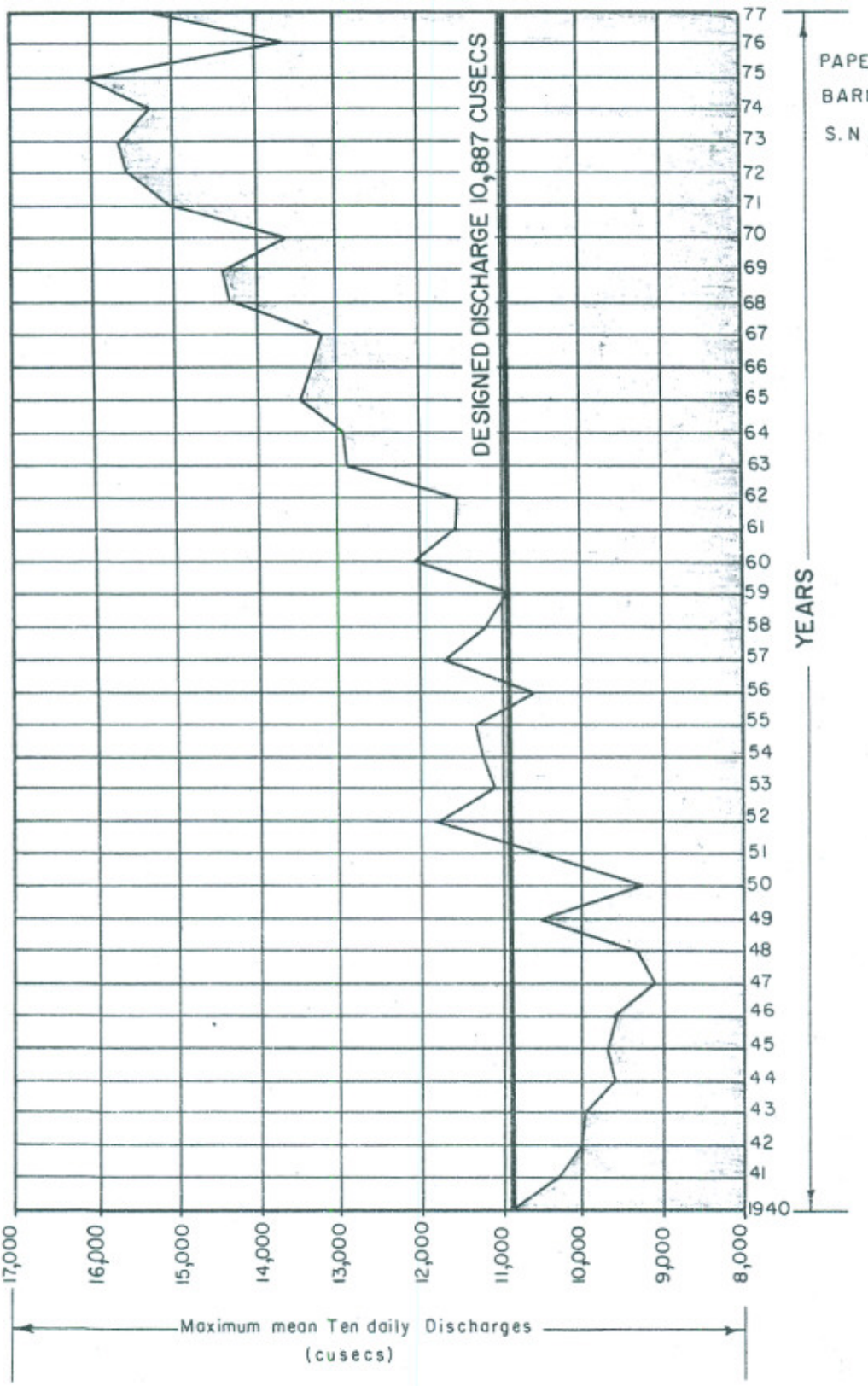
SOURCE.

PAKISTAN, WATER AND POWER DEVELOPMENT AUTHORITY LOWER INDUS REPORT, "THE ATLAS", EXISTING ROHRI CANAL SYSTEM. BY HUNTING TECHNICAL SERVICES LTD. AND SIR M. MACDONALD AND PARTNERS (1966).

REMODELLING OF ROHRI CANAL SYSTEM

EXISTING ROHRI CANAL SYSTEM

FIGURE - 3



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REMODELLING OF ROHRI CANAL SYSTEM

HYDROGRAPH OF ROHRI CANAL HEAD

ARSHAD