



GOVERNMENT OF ODISHA
DEPARTMENT OF WATER RESOURCES

ANNUAL REPORT OF RUKURA CANAL DIVISION,
ROURKELA

Executive Engineer,
Rukura Canal Division,
Rourkela

WORK NOTE

RUKURA IRRIGATION PROJECT

Rukura Irrigation Project is a Medium Irrigation Project contemplated for integrated development Brahmani Basin in the draught prone tribal area of Bonai Sub-Division in Sundargarh District in the State of Odisha. The project intercepts a catchment area of 171 Sq. Km. It is proposed to construct one Earth Dam of 1185 Mtr. length including a spillway of 52m.length across Rukura Nallah and one Head Regulator. The project on completion will provide Irrigation to an area of 5463 Ha. during Khariff & 2185 Ha. during Rabi in 74 villages in Bonai and Gurundia Block (57 in Bonai and 17 in Gurundia Block) of Sundargarh district through one Main Canal of Length 10.872 Km. & distribution network of length 110.268 Km.

Details of Annual Irrigation of the Project.

	<u>Gurundia Block</u>	<u>Bonai Block</u>
- Khariff = 5463 Ha.	1071 Ha.	4392 Ha.
- Rabi = 2185 Ha.	428 Ha.	1757 Ha.
Total = 7648 Ha.	1499 Ha.	6149 Ha.

HYDROLOGY

- Catchment Area :- 171 Sq. Km.
- MWL/FRL :- 186 M.
- Length of Dam :- 1185 Mtrs.

DETAILS OF COMMAND AREA OF CANAL

- Gross Command Area (GCA) :- 8214 Ha.
- Cultivable Command Area (CCA) :- 5750 Ha.

IRRIGATION POTENTIAL

- Total Irrigation Potential :- 7648 Ha.
- Kharif :- 5463 Ha.
- Rabi :- 2185 Ha.

AREA AFFECTED

- Submerged area at FRL/ MWL :- 668.45 Ha.
- Private land submerged :- 153.45 Ha.
- Revenue Land submerged :- 171.76 Ha.
- Forest area submerged :- 343.24 Ha.

For construction of the project, all statutory clearances from Govt. of India have been obtained:-

- T.A.C. of C.W.C during 09/1993 & 12/2013
- R&R clearance from MoTA during 08/1995
- Environment clearance during 11/2008
- Stage-II forest clearance during 12/2008
- Investment clearance during 06/2009 & revised in 07/2014

Administrative Approval:-

Govt. of Orissa has accorded administrative approval for Rs.155.48 Crores for the project in DOWR Lt. No. 11110/WR Dt. 19.03.2008 & revised administrative approval for 256.09 crores approved vide DoWR Lr. No. Irr. Med(N)- 09/2013 (PI) 2298/WR dt. 03.02.2015.

Project Funding:

The project has been accorded Central Assistance under AIBP during 2009-10 vide Govt. of India, Ministry of Finance Department of Expenditure, Plan Finance-I Division, New Delhi vide F. No. 41(1)/ PF-1/ 2009-581 dt. 20.01.2010 amounting to Rs. 155.48 Crores. The revised cost of the project amounting to Rs. 256.09 Crores has been approved by CWC in December 2013 in 122nd TAC.

STAFF POSITION OF RUKURA CANAL DIVISION,ROURKELA-4

Sl. No.	Name of Post	Sanction Strength	Existing	Name of incumbent holding the post	Remarks
1	2	3	4	5	6
DIVISION OFFICE					
1	Executive Engineer	1	1	Sri Balakrushna Purohit	
2	Asst.Executive Engineer (Estr.)	1	1	Sri Aswini Kumar Panda	
3	Divisional Accountant	1	1	Sri Sanjay Kumar Choudhary	
4	Head Clerk	1	0	Sri Anda Bhasra,Sr.C.	Salary drawn aginst H/C post
5	Scnior Clerk	2	2	Smt Ratni Ekka Sri Saroj Kumar Panda	
6	Junior Clerk	4	2	Sri Azad Kumar Tripathy Sri Sudhir Ku.Sahoo	2 Nos Vacant
7	Junior Stenographer	1	0		Vacant
8	Draughtsman	1	1	Sri R.OmanaKuttan Pillai	
9	Tracer	1	0		Vacant
10	Daftary	1	0		Vacant
11	Peon	7		Sri Bata Krushan Prusty Sri Babaji Ch. Sahoo Sri Marsel Oram Kispatta Sri Chitaranjan Bagarti Sri Pardesi Saha Sri Amar Mirda Sri Amar Mirda	
12	Night watchman-Com-Sweeper	1	1	Sri Manmohan Kumbhar	Deputation to C.E.& B.M.U.M.B,Burla

RUKURA CANAL SUB-DIVISION NO-1

1	Deputy Executive Engineer	1	Vacant	Sri Padma Lochan Samal	I/C
2	Asst.Engineer	2	2	Sri Binod Bihari Patel Sri Biranchi Lakra	
3	Junior Engineer	2	1	Sri Suresh ku. Pattanayak	1 No Vacant
4	Junior Clerk	1	0		Vacant
5	Peon	1	1	Sri Dileswar Munda	

RUKURA CANAL SUB-DIVISION NO-2

1	Asst.Executive Engineer	1	1	Sri Prasant Kumar Patel	
2	Asst.Engineer	2	2	Sri Dharendra Ku.Mohapatra Sri Bishi Kesan Deheria	
3	Junior Engineer	2	1	Sri Baikuntha Kisan	1 No Vacant

4	Junior Clerk	1	1	Sri Kodandadhar Jena	
5	Peon	1	1	Smt Sita Soren	

RUKURA R&R SUB-DIVISION

1	Asst.Executive	1	0	Sri Prasant Kumar Patel	I/C
2	Asst.Engineer	1	1	Sri Ajay Ku.Sahaya	
3	Junior Engineer	2	1	Smt. Susmita Bag	
				Sri Subrata Ku.Mohapatra	Absent since 01.03.2016 Contractual

RUKURA DAM SUB-DIVISION

1	Asst.Executive	1	1	Sri Padma Lochan Samal	
2	Asst.Engineer	2	2	Sri Ramesh Kumar Naik	
				Sri Kulamani Majhi	
3	Junior Engineer	1	1	Sri William Ekka	

RUKURA SPILLWAY SUB-DIVISION

1	Asst.Executive Engineer	1	0	Ex. Pradipta Ku. Patel	Deputation to to S.I.Divn,SNG.(Sri Padma Lochan Samal I/C)
2	Asst.Engineer	2	2	Sri Rudramani Dehhury	
				Sri Rajesh Ku.Rath	
3	Junior Engineer	1	1	Smt Rinkey Pandy	Contractual

Executive Engineer
Rukura Canal Division
Rourkela-4.

Approval of Rehabilitation & Resettlement Action Plan:

The Rehabilitation & Resettlement action Plan of the project has been approved by RPDAC during 08/2009 & Govt. in DoWR during 03/2010.

LAND STATUS:-**LAND ACQUISITION:-**

Total No. of Cases -103 Nos.	Area -1018.20 Ac.
Possession handed over -54 Nos.	Area - 820.20 Ac.
Balance -49 Nos. (Payment is progress)	Area – 198.00

(a) Dam Base & Reservoir:

Nature of Land	No. of Village	Total Requirement		Possession Received		Balance	
		No. of Cases	(Area in Ac.)	No. of Cases	(Area in Ac.)	No. of Cases	(Area in Ac.)
Private Land	4	9	379.02	5	366.32	4	12.70
Govt. Land	4	4	424.26	2	225.18	2	199.08
Forest Land	4	Nil	847.80 (343.239 Ha.)	Nil	847.80 (343.239 Ha.)	Nil	Nil

(b) Main Canal:**Details of Land Position:**

Nature of Land	No. of Village	Total Requirement		Possession Received		Balance	
		No. of Cases	(Area in Ac.)	No. of Cases	(Area in Ac.)	No. of Cases	(Area in Ac.)
Private Land	11	11	124.68	11	124.68	0	0
Govt. Land	12	29	53.22	15	37.66	14	15.56

(c) Distribution System:

No of Distributary	-	03 Nos. (Total Length =23.16 Km)
No of Minor	-	11 Nos. (Total Length =37.984 Km)
No of Sub-Minor	-	33 Nos. (Total Length =49.124 Km)
Total:		47 Nos.(Total Length = 110.268 Km)

Nature of Land	No. of Village	Total Requirement		Possession Received		Balance	
		No. of Cases	(Area in Ac.)	No. of Cases	(Area in Ac.)	No. of Cases	(Area in Ac.)
Private Land	53	83	514.5	34	329.20	49	185.30
Govt. Land	55	155	130.39	65	34.04	90	96.35

Payment of L.A. Compensation:-

A sum of Rs. 2742.97 lakhs has been deposited with L.A. & RRO by end of January, 2016. Payment of Land compensation is under progress and Rs. 1305.18 Lakhs has been disbursed up to Jun, 2016.

**RUKURA IRRIGATION PROJECT
STATUS AS ON MARCH -2016**

SINo.	Item of Work	Agreement quantity (cum)	Executed quantity as on March, 2016 (cum)	Agreement Amount (in Lakh)	Expenditure incurred up to March, 2016 (in Lakh)	Proposed date of Completion
1 .EARTH DAM						
	Earthwork	1010.208	1010.25	2945.67	2547.65	March 2017
	Stone work	31039	30193.195			
2 .SPILLWAY						
	Earthwork	71200.00	64013	4964.73	4609.12	March 2017
	Cement Concrete	86700.00	83665.65			
3 .Main Canal						
	Length in km	10.872 Km	10.772 Km	1205.93	1109.22	Completed
	No. of structure	79 No	79 N			
4 .DISTRIBUTION						
	Length in Km	110.14	49	4414.55	2070.26	March, 2017
	No. of structure	1277	438			

DISTRIBUTION SYSTEM

- 1 Total No. of package- 16
- 2 Total agreement cost of packages- Rs 4414.55 lakhs

ALLOTMENT AND EXPENDITURE DETAILS AS ON 30.03.2016 (FOR THE YEAR 2015-16)

Sl No.	Sub-Head	Allotment received under 789	Expr under 789	Balance left	Allotment received under 796	Expr under 796	Balance left	Allotment received under 800	Expr under 800	Balance left	Total allotment received	Total Expr. Upto 30.03.2016	Balance Left
1	31003 T&P	100000	93644	6356	400000	138184	261816	200000	136521	63479	700000	368349	331651
2	32006 M&E	150000	147945	2055	900000	899431	569	450000	448952	1048	1500000	1496328	3672
3	37029 BUILDING	200000	158601	41399	1500000	1500000	0	800000	800000	0	2500000	2458601	41399
4	37034 C&B	18605000	18603646	1354	13000000	13000000	0	22800000	22800000	0	54405000	54403646	1354
5	37081 D&A	21072000	21072000	0	20000000	20000000	0	53600000	53600000	0	94672000	94672000	0
6	37091 Disty.	25000000	13775752	11224248	104717000	96395474	8321526	31431000	3042169	28388831	161148000	113213395	47934605
7	37106 LA	5000000	5000000	0	62500000	62500000	0	2500000	2500000	0	70000000	70000000	0
8	37115 RRA	5000000	5000000	0	30000000	29990784	9216	5000000	4789054	210946	40000000	39779838	220162
9	37125 Spiiway	18546000	12126273	6419727	153300000	151702030	1597970	51000000	51000000	0	222846000	214828303	8017697
	Total	93673000	75977861	17695139	386317000	376125903	10191097	167781000	139116696	28664304	647771000	591220460	56550540
10	CAD	0	0	0	3605000	2605167	999833	3825000	898043	2926957	7430000	3503210	3926790
	Grand Total	93673000	75977861	17695139	389922000	378731070	11190930	171606000	140014739	31591261	655201000	594723670	60477330
	Work Charged												
	Salary											2452691	

NP-2700

NP-2059

Expr. During 2015-16

Works 591220460
Estt. 2452691
Total 593673151

900000 900000 0
1400000 1390002 9998

Work Wise Present Status Of Rukura Irrigation Project

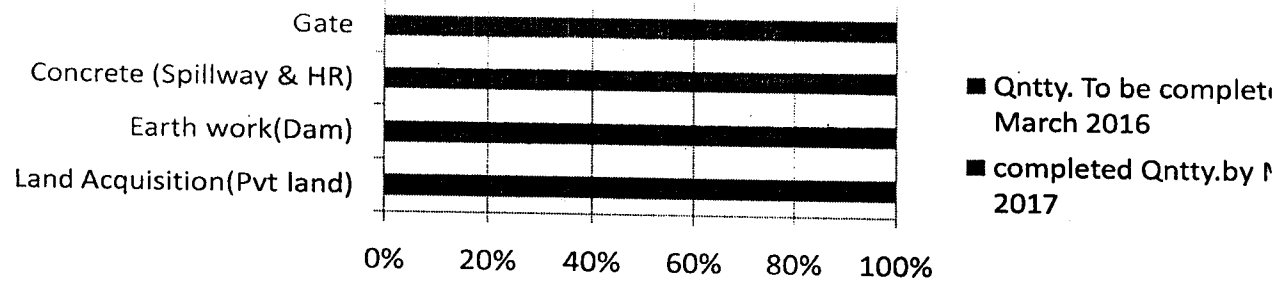
Sl. No.	Name of Work	Agreement Amt. Deviation Amt. (in Lakhs)	Date of Commencement	Stipulated Date of Completion	E.O.T Sanctioned up to	Expenditure up to March-2015 (in lakhs)	Expenditure During 2015-16 (in lakhs)	Total Expenditure up to March-2016	Balance (in Lakhs)
1	2	3	4	5	6	7	8	9	10
DAM & APPURTMENT									
1	Const. of Earth Dam of RIP	2679.24 2945.67	08.12.2010	07.12.2012	31.03.2016	1683.93	863.72	2547.65	398.02
2	Const. of Spillway of RIP	2411.64 4964.73	23.07.2010	22.07.2012	31.03.2016	2941.2	1667.92	4609.12	355.61
MAIN CANAL							2531.64		
3	Const. of Head Regulator and Main Canal from Rd 0.00 km to 2.50km including structures of RIP	563.98 613.23	19.08.2011	18.02.2013	16.06.2015	422.86	162.56	585.42	Completed
4	Const. of Main canal from RD 2.5 km to 10.872 km including structures of RIP	641.95 683.35	17.02.2011	16.08.2012	31.03.2015	502.81	20.99	523.8	Completed
5	Const. of Minor Bridge of Rukura Main Canal crossing at RD 298.075 km of NH-23 (NOW NH 143) Biramitrapur to Barkot Road.	233.61	16.07.2015	15.07.2016	Does not arise	0.00	232.94	232.94	0.67
DISTRIBUTARIES & MINOR							416.49		
6	Const. of distributary system with its structures of RIP consisting of Badgogua distributary from Rd 0.00m to RD 5400M (PKG-1)	315.98	01.06.2013	30.09.2014	Applied upto June 2016	43.00	27.74	70.74	245.24
7	Const. of Jamerposh distry. From RD 0.00 to 3.00km including structures off-taking at RD 4570m of Main Canal of RIP (Balance Work) (PKG-2)	262.89	23.11.2014	27.03.2016	Applied upto June 2016	31.48	143.5	174.98	87.91
8	Const. of Jamerposh distry. From RD 3.00 to 5.010km including structures off-taking at RD 4570m of Main Canal of RIP (PKG-3)	246.57	20.04.2013	19.08.2014	16.01.2015	232.85	6.42	239.27	Completed
9	Const. of Jamerposh distry. From RD 5.010 to 6.990km including structures off-taking at RD 4570m of Main Canal of RIP (PKG-4)	153.84	20.04.2013	19.08.2014	Applied upto June 2016	100.17	11.89	112.06	41.78

1	2	3	4	5	6	7	8	9	10
10	Const. of Jamerposh distry. From RD 6.990 to 10.110km including structures off-taking at RD 4570m of Main Canal of RIP (PKG-5)	185.78	20.04.2013	19.08.2014	Applied upto June 2016	51.32	58.76	110.08	75.7
11	Const. of Distribution System with its structures of Rukura Irrigation Project Consisting of Kentasara Distributary From RD-00 to 3300M (Balance work) (Package-6)	133.07	19.02.2014	20.05.2015	31.03.2016	26.07	54.59	80.66	52.41
12	Const. of Distribution System with its structures of Rukura Irrigation Project Consisting of Kentasara Distributary From RD-00 to 7650M (Package-7)	171.44	23.07.2014	22.11.2015	Applied upto June 2016	42.99	6.9	49.89	121.55
13	Const. of Jibika Minor includind Structure off-taking at RD 2081m of Main Canal of Rukura Irrigation Project (Package-8)	207.32	13.01.2014	12.05.2015	Applied upto June 2016	153.68	7.09	160.77	46.55
14	Const. of Babunuagaon Minor includind Structure off-taking at RD 4450m of Main Canal of Rukura Irrigation Project (Package-9)	230.67	19.02.2014	20.05.2015	Applied upto June 2016	58.03	123.81	181.84	48.83
15	Const. of 7 Nos sub-minors,Babunuagaon Minor & 2 nos sub-Minors at RD 3148 & RD 3935mof Main Canal of RIP (Packahe -10)	277.76	01.06.2013	03.09.2014	Applied upto June 2016	72.37	38.65	111.02	166.74
16	Const. of 2No. Minors & 10No. Sub-Minors off-taking from Jamerposh Distributary & Jamkei Minor, Jamkei Sub- Minor & Banjikusum S/M of RIP (Package-11)	315.99	05.03.2014	04.08.2016	Applied upto June 2016	18.15	118.69	136.84	179.15
17	Const. of Distribution System with its Structures of Rukura Irrigation Project consisting :- 1.Badabourkela Minor 2.Daraikela Minor 3.Laxminarayanpur Minor & 4.Kenaveta Sub-Minor (Package-12)	259.17	01.06.2013	30.09.2014	Applied upto June 2016	39.36	35.11	74.47	184.7

		3	4	5	6	7	8	9	10
18	Const. of Distribution System with its Structures of Rukura Irrigation Project consisting of :- Jakeikela Minor from RD.00 M to 2235M ,Jakeikela Sub-Minor & Badagohua Sub-Minor (Package-13)	286.34	19.02.2014	20.05.2015	Applied upto June 2016	91.62	68.73	160.35	125.99
19	Const. of Distribution System with its Structures of Rukura Irrigation Project consisting of :-Kendrikela Sub-Minor -1, Kelo Minor,Kelo sub minor, kenaveta sub mionor-1& Kantasara Sub minor -I &II.(Package-14)	461.16	02.01.2013	30.01.2015	Applied upto June 2016	66.28	100.75	167.03	294.13
20	Const. of Distribution System with its Structures of Rukura Irrigation Project consisting of :-Bonai Minor ,Pandersila Sub Minor, Uperda Sub Minor & Dharanidhar pali Sub Minor..(Package-15)	419.19	02.01.2013	30.01.2015	Applied upto June 2016	57.83	76.02	133.85	285.34
21	Const. of Distribution System with its Structures of Rukura Irrigation Project consisting of :-Jakaikela Minior From RD 2235M to 7245M.(Package-16)	367.15	01.01.2014	30.04.2015	Applied upto June 2016	13.61	92.71	106.32	260.83
22	Const. of Minor Bridge for babunuagaon Minor of Rukura Main Canal crossing at RD 294.73 km of NH-23 (NOW NH 143) Biramitrapur to Barkot Road.	128.68	16.07.2015	15.07.2016	Does not arise	0.00	44.85	44.85	83.83
23	Const. of Minor Bridge for Jamerposh Distributary crossing at RD 304.92 km of NH-23 (NOW NH 143) Biramitrapur to Barkot Road.	118.26	16.07.2015	15.07.2016	Does not arise	0.00	60.87	60.87	57.39
TOTAL							1077.08	10692.82	

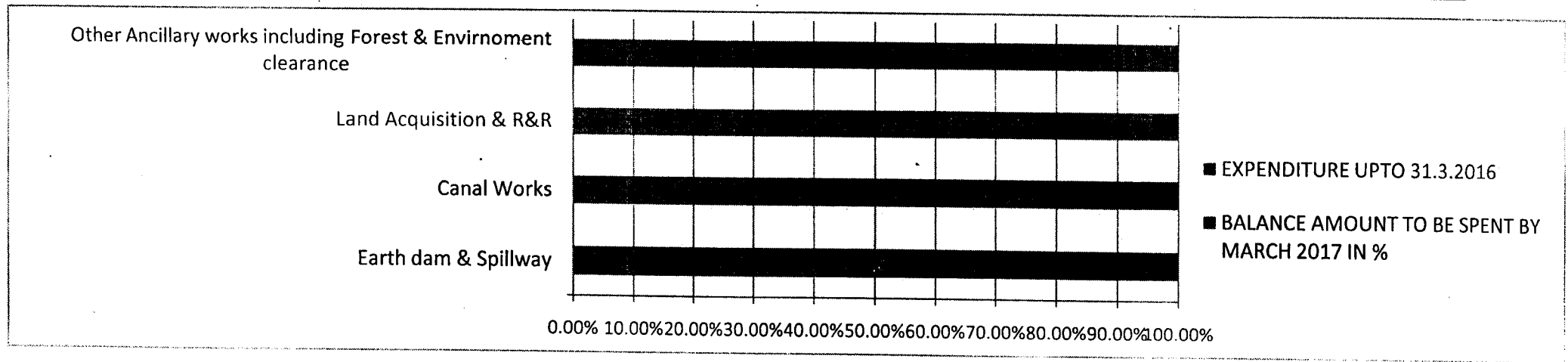

 Executive Engineer
 Rukura Canal Division
 Rourkela

PHYSICAL STATUS OF RUKURA IRRIGATION PROJECT UNIT-I HEAD WORKS (DAM & SPILLWAY) UPTO MARCH 2016/ MARCH 2017						
Sl No	Major Component of work	Agreement quantity	Quantity completed	Balance quantity	% of completed quantity	% of balance quantity
1	Land Acquisition (Pvt land)	153.45	153.45	0	100%	0%
2	Earth work (Dam)	1128.83	1067.95	60.88	95%	5%
3	Concrete (Spillway & HR)	86.69	80.63	6.06	93%	7%
4	Gate	4	0	4	55%	45%



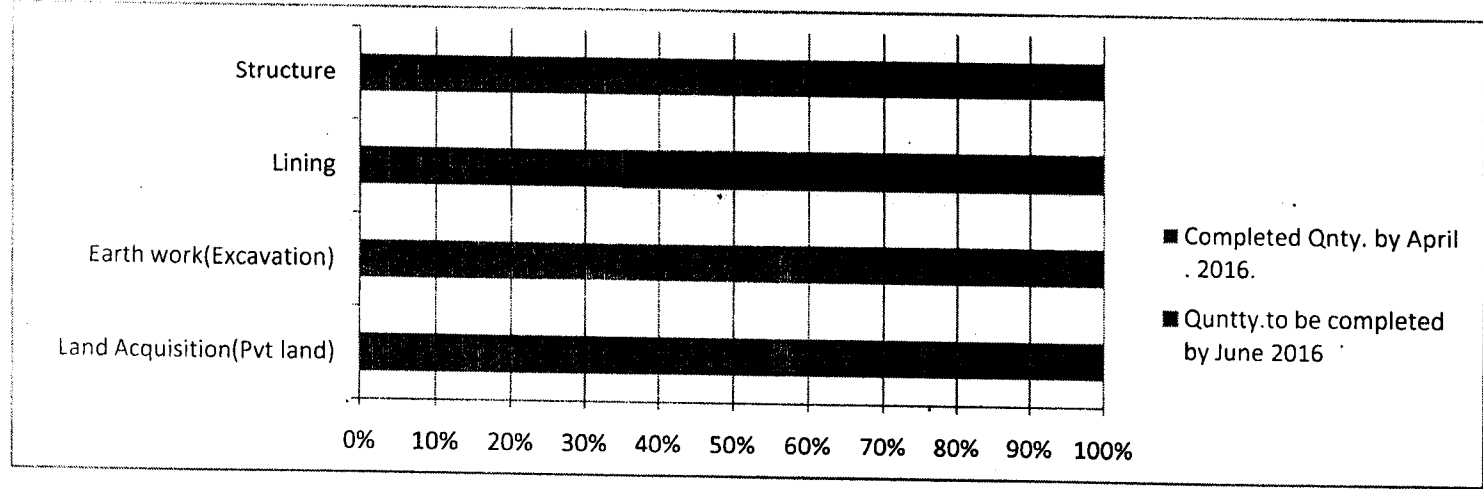
**FINANCIAL STATUS OF RUKURA IRRIGATION PROJET ,
EARTH DAM,SPILLWAY,MAIN CANAL, DISTRIBUTION SYSTEM,L A & R & R UPTO MARCH '2016/ March'2017
Rs. In Crores.**

SI No	Major Component of work	Estimat ed cost (in Cr)	Expend iture (in Cr)	Balance Amount (in Cr)	% of Expr. upto 31.03.2016	Balance Amount to be spent in %
1	Earth dam & Spillway	81.91	79.26	2.65	96.76%	3.24%
2	Canal Works	59.55	49.80	9.75	83.63%	16.37%
3	Land Acquisition & R&R	47.180	45.18	2.00	95.76%	4.24%
4	Other Ancillary works including Forest & Envirnoment clearance	67.45	67.18	0.27	99.60%	0.40%
	TOTAL	256.09	241.42	14.67		



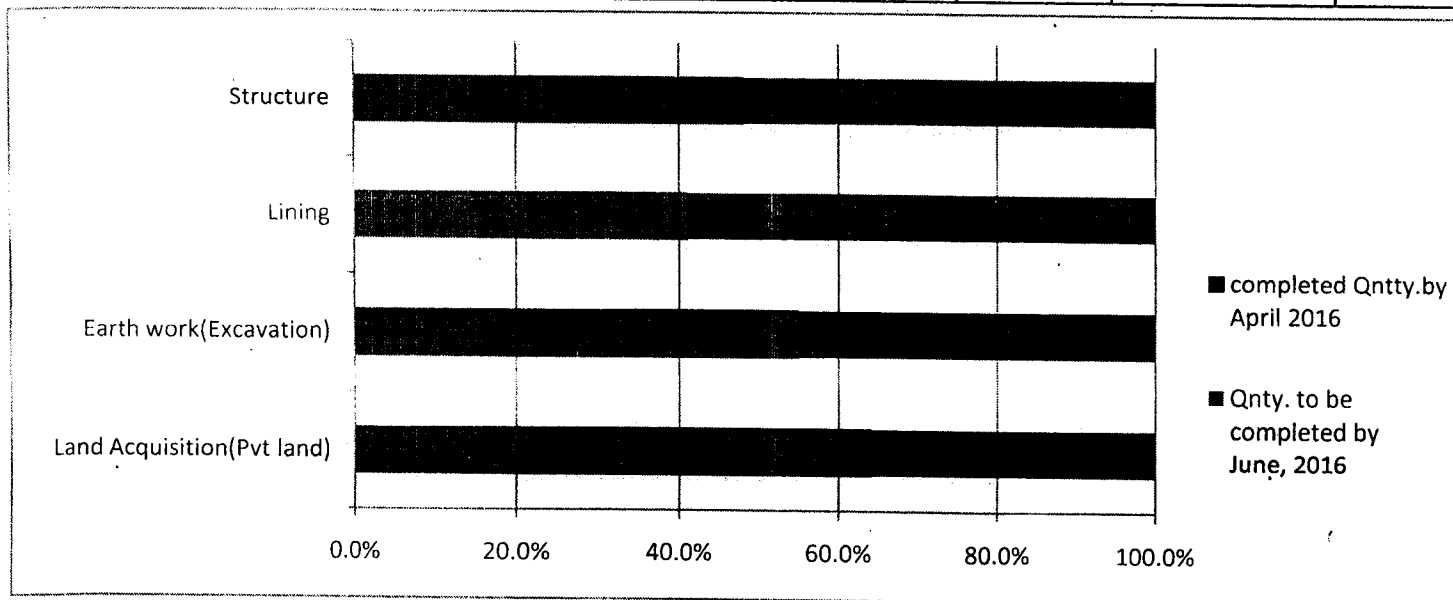
**PHYSICAL STATUS OF RUKURA IRRIGATION PROJCT UNIT-II,
MAIN CANAL & DISTRIBUTION SYSTEM UPTO APRIL ,2016/ JUNE,2016**

Sl No	Major Component of work	Unit	Agreement quantity	Quantity completed	Balance quantity	% of completed quantity	% of balance quantity
	MAIN CANAL & BRANCH CANAL						
1	Land Acquisition(Pvt land)	Ha	50.48	50.48	0.00	100%	0%
2	Earth work(Excavation)	Th Cum	397.28	397.28	0.00	100%	0%
3	Lining	Th m	5.930	0.00	5.93	35%	65%
4	Structure	No	81	81	0.00	100%	0%



**PHYSICAL STATUS OF RUKURA IRRIGATION PROJET UNIT-II,
MAIN CANAL & DISTRIBUTION SYSTEM UPTO MARCH 2016 / MARCH,2017**

Sl No	Major Component of work	Unit	Agreement quantity	Quantity completed	Balance quantity	% of completed quantity	% of balance quantity
DISTRIBUTARIES &							
1	Land Acquisition(Pvt land)	Ha	208.29	133.27	75.02	64.0%	36.0%
2	Earth work(Excavation)	Th Cum	1267.100	696.90	570.20	55.0%	45.0%
3	Lining	Th m	1.707	0.70	1.007	41.0%	59.0%
4	Structure	No	1277	613	664.00	48.0%	52.0%

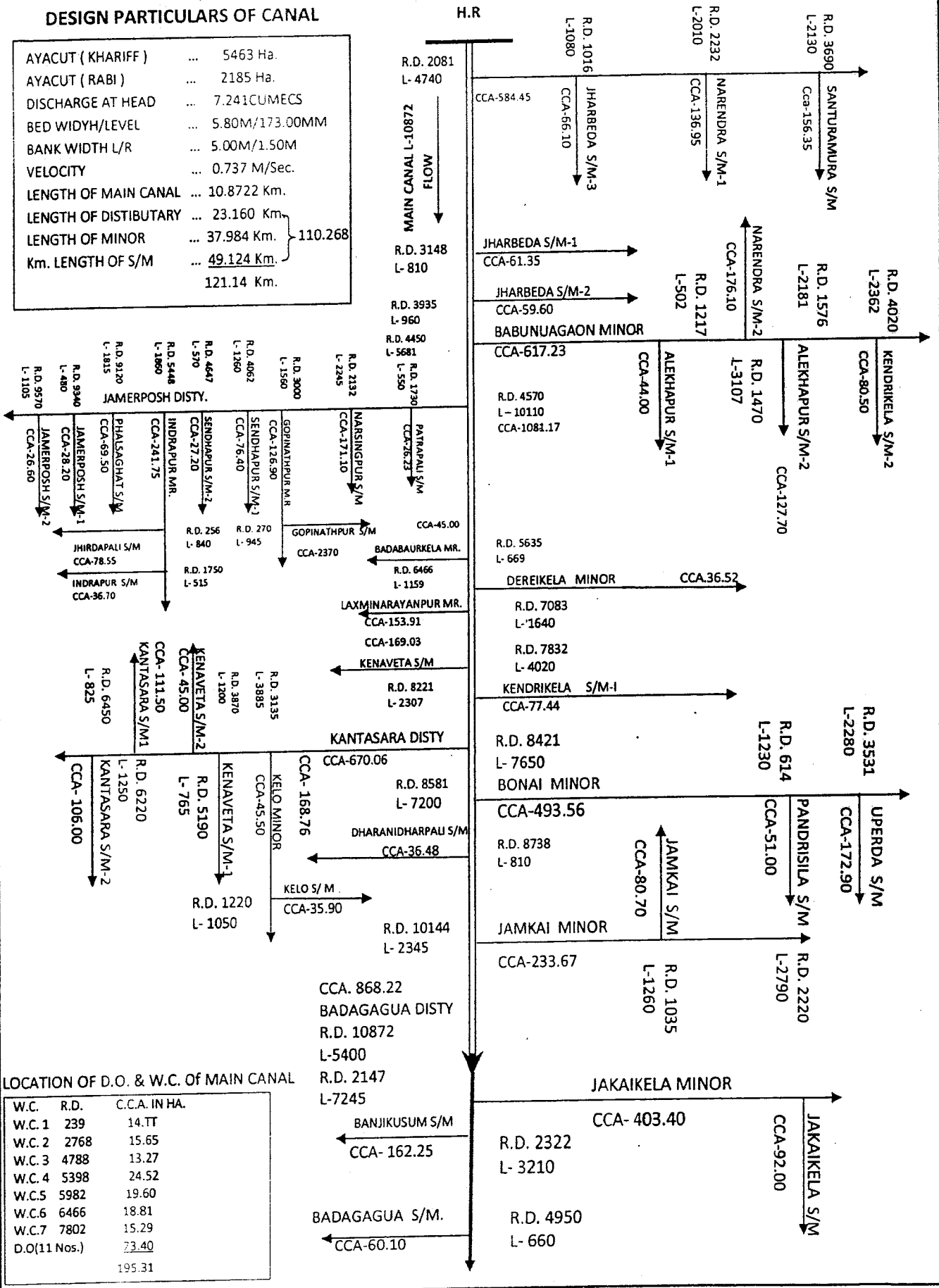


RUKURA IRRIGATION PROJECT

SCHMATIC DIAGRAM OF CANAL SYSTEM L.S. & D.S. APPROVED VIDE C.E.(D.R)
LR. NO. 2561(WE) DT. 06.08.03 REVISED VIDE C.E. (D.R.) LR. NO. 1263 (WE) DT. 27.03.2006

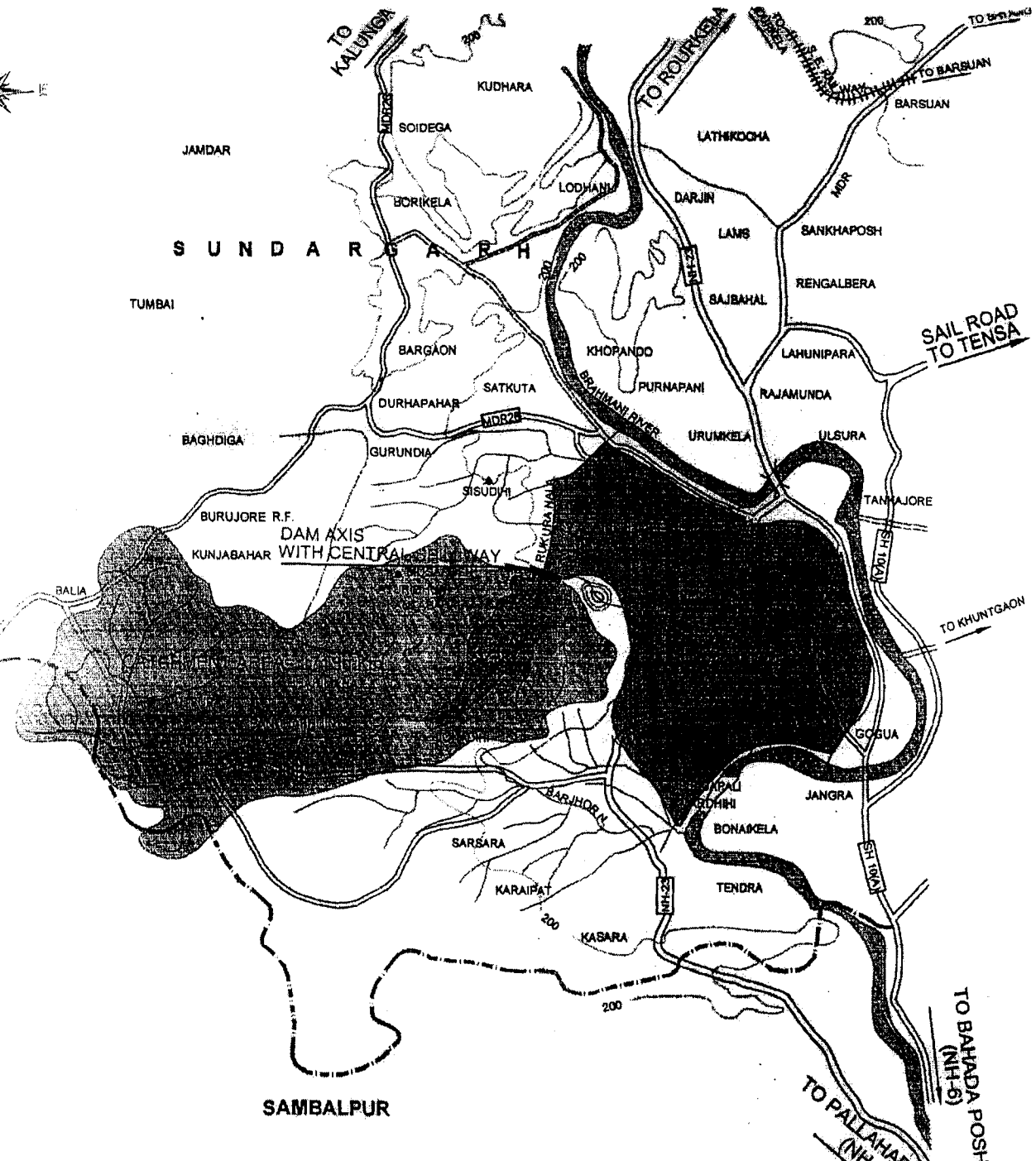
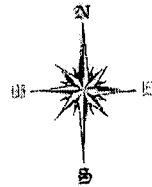
DESIGN PARTICULARS OF CANAL

AYACUT (KHARIFF)	...	5463 Ha.
AYACUT (RABI)	...	2185 Ha.
DISCHARGE AT HEAD	...	7.241 CUM ECS
BED WIDYH/LEVEL	...	5.80M/173.00MM
BANK WIDTH L/R	...	5.00M/1.50M
VELOCITY	...	0.737 M/Sec.
LENGTH OF MAIN CANAL	...	10.8722 Km.
LENGTH OF DISTIBUTARY	...	23.160 Km.
LENGTH OF MINOR	...	37.984 Km.
Km. LENGTH OF S/M	...	49.124 Km.
		110.268
		121.14 Km.



LOCATION OF D.O. & W.C. OF MAIN CANAL

W.C.	R.D.	C.C.A. IN HA.
W.C. 1	239	14.77
W.C. 2	2768	15.65
W.C. 3	4788	13.27
W.C. 4	5398	24.52
W.C.5	5982	19.60
W.C.6	6466	18.81
W.C.7	7802	15.29
D.O(11 Nos.)		73.40
		195.31



REFERENCE :

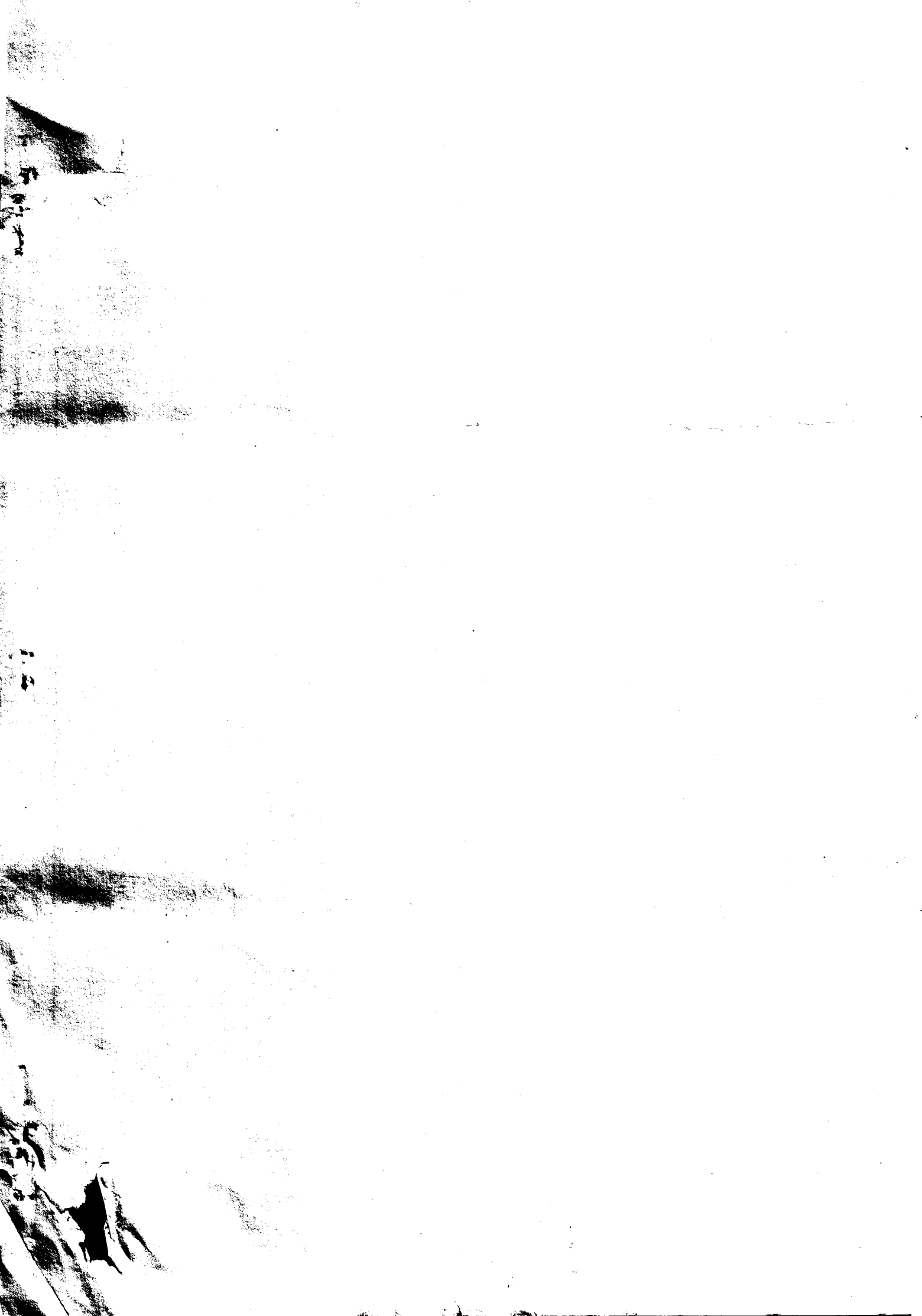
RIVER	
NATIONAL HIGHWAYS	
CANAL	
RLY. LINE	
ROAD PUCCA/KACHA	
CONTOUR	
DISTRICT BOUNDARY	
RESERVOIR AREA	
CATCHMENT AREA	
AY.GUT AREA	
DAM AXIS	
LOCATION OF REHABILITATION COLONY	
PARTLY SUBMERSED VILLAGE	

SALIENT FEATURES OF PROJECT

CATCHMENT AREA	-----	+ 171 Sq.Km.
RESERVOIR AREA	-----	+ 670.98 Ha.
DAM LENGTH	-----	+ 1133.00 M.
TBL OF DAM	-----	+ R.L. 189.00M.
FRL OF DAM	-----	+ R.L. 186.00M.
DSL OF DAM	-----	+ R.L. 175.00M.
SPILLWAY LENGTH	-----	+ 52M.
SPILLWAY CREST	-----	+ R.L. 177.00M.
MAXIMUM FLOOD	-----	+ 1442.50 Cumecs.
ANNUAL IRRIGATION (KHARIF)	-----	+ 5463Ha.
ANNUAL IRRIGATION (RABI)	-----	+ 2185Ha.
MAIN CANAL LENGTH	-----	+ 10.87 KM.
DISTRIBUTION LENGTH	-----	+ 115KM.
AYACUT AREA	-----	+ 6750 Ha

GOVT. OF ORISSA
DEPARTMENT OF WATER RESOURCES
RUKURA IRRIGATION PROJECT
INDEX MAP

S.D.
 EXECUTIVE ENGINEER





Odisha Map

