



**GOVERNMENT OF ODISHA
DEPARTMENT OF WATER RESOURCES
BHUBANESWAR**

**ANNUAL REPORT
OF
MACHHAGAON CANAL DIVISION,
KAIJANGA, JAGATSINGHPUR
FOR THE FISCAL 2015-16
UNDER OIIAWMIP - TRANCHE - II.**

**EXECUTIVE ENGINEER
MACHHAGAON CANAL DIVISION
KAIJANGA**

1. INTRODUCTION

A. Sub-Project Location

The Government of Odisha through the Government of India has availed a Multi-tranche Financing Facility (MFF) Loan from the Asian Development Bank (ADB) approved in September' 2008 to partly finance the implementation of the Odisha Integrated Irrigated Agriculture and Water Management Investment programme (OIIAWMIP). The executing agency for the project is the Department of Water Resources (DOWR), Government of Odisha. The Machhagaon Irrigation Scheme is located in the flat, low-laying delta of the Mahanadi River. The Scheme is supplied by the Machhagaon Main Canal, which offtakes from the Mahanadi Barrage at Cuttack. The command area is bounded by the Kathajori (Biluakhai, Devi) river to the South & West, by the Hansua Nullah to the North and by the Saluan Nullah to the West. The 52.425 Km long Machhagaon Canal runs parallel to the Kathajori River for much of its length and inspection is facilitated by Cuttack - Jagatsinghpur Road and the Jagatsinghpur-Balikuda road.

The Canal command area is 36,417ha which is included under the proposed rehabilitation project.

B. Description of Existing Irrigation System

1. Existing Irrigation System

The Machhagaon Canal dates back to the mid -19th century and was originally built for both irrigation & navigation. However, when the locks fell into disrepair, navigation ceased and the canal is now used extensively for irrigation. The design capacity of the canal at the Head works is 39 m³/sec. In the Kharif season, canal water is used for supplementary irrigation and between 70 to 80 percent of the command area is cultivated mainly under paddy. In the Rabi season only 25 to 30 percent of the command area can be irrigated and the main crop is pulses. The salient features of the scheme are given below:

Original command area	-	51460ha.
Revised command area (in the year-2008)	-	36417ha.
Revised design discharge (in the year-2008)	-	38.10 m ³ /sec
Revised design discharge (app. D.S. of 2011)	-	39.00 m ³ /sec
Length of main canal	-	52.425Km.
No of distributaries from Main Canal	-	10 Nos
Minors taking-off from Main Canal	-	8 Nos
Sub-minors from Main Canal	-	32 Nos
Field channels from Main Canal	-	34 Nos
Locks (Cross Regulator falls)	-	4 Nos
Escapes	-	3 Nos
Total number of outlets in command area	-	1863 Nos
Average command area per outlet	-	10.04ha.

The condition of the main canal, distributaries and ancillary structures has deteriorated, resulting in reduced flows, distribution problems and increased maintenance. The scope of the proposed works include the rehabilitation of 52.425Km of Machhagaon Main Canal and 13 (Thirteen) nos. of distributaries of namely Dy-2, Dy-7, Dy-8, Dy-10, Dy-10H, Dy-13, Dy-13C, Dy-15, Dy-15A, Dy-16, Dy-19, Dy-19(A) & Bhagalpur Disty. and the repair / up-grading of structures, comprising 56 head regulators (HR), 62 Village Road Bridges, 6 Weirs, 25 Cross Drainage structures (DS), 3 Escapes, 20 Cross Regulators (CR) and 17 Bathing ghats. In addition 26 new village road bridges

(VRB), 1100m Guard wall, 902 Outlets, 157 Bed bars, 29 Bathing ghats and one cross regulator structure have been identified to be constructed newly.

A summary of the main canal and thirteen distributaries include in the sub-project are given in table.

2. Main Canal - Distributaries : Machhagaon Canal System

Table

Sl. No	Canal System as per existing Nomenclature	Offtaking R.D. in Km.	Command area (CCA) in Ha.	Designed discharge of canal in cumecs as per approved D.S.	Length of Canal in Km.	Identification as per Q & CCA Criteria
1	2	3	4	5	6	7
1	Machhagaon Main Canal	11.355 of TMC	36417.00	39.000	52.425	Main Canal
2	Distriburary - 2	7.798 of MMC	1358.62	1.059	8.120	Distributary
3	Distriburary - 7	25.417 of MMC	1863.67	1.450	18.960	Distributary
4	Distriburary - 8	26.034 of MMC	2300.00	1.790	15.685	Distributary
5	Distriburary - 10	31.660 of MMC	5909.81	4.610	15.000	Distributary
6	Distriburary - 10(H)	6.200 of Dy-10	1482.00	1.156	12.739	Distributary
7	Distriburary - 13	41.721 of MMC	4070.000	3.175	12.134	Distributary
8	Distriburary - 13C	5.135 of Dy-13	1797.000	1.256	13.052	Distributary
9	Distriburary - 15	52.425 of MMC	1881.000	1.467	7.690	Distributary
10	Distriburary - 15(A)	52.376 of MMC	1816.000	1.416	12.560	Distributary
11	Distriburary - 16	40.415 of MMC	1508.000	1.176	5.242	Distributary
12	Distriburary - 19	19.940 of MMC	5445.63	4.230	31.905	Distributary
13	Distriburary - 19(A)	1.274 of Dy-19	2123.000	1.656	22.240	Distributary
14	Bhagalpur Disty.	14.500 of MMC	1643.75	1.282	12.170	Distributary

Executive Engineer
Machhagaon Canal Division, Kaijanga.

DEPARTMENT OF WATER RESOURCES

Data on Canals & Distributaries under Machhagaon Canal Division, Kaijanga.

Name of the District - Jagatsinghpur

**Blocks covered : Cuttack, Raghunathpur,
Biridi, Jagatsinghpur,
Balikuda, Tirtol & Earsama**

Length of main canal : 52.425 Km.

**Length of 13 distributaries : 187.497 Km.
(Dy-2, Dy-7, Dy-8, Dy-10,
Dy-10H, Dy-13, Dy-13C,
Dy-15, Dy-15A, Dy-16, Dy-19,
Dy-19A & Bhagalpur Ditsy.)**

**Executive Engineer
Machhagaon Canal Division, Kaijanga.**

REPORT ON MACHHAGAON CANAL DIVISION

SALIENT FEATURES

This is a newly created Division, which is functioning since 10.08.2012 to look after the REM works of Machhagaon Main Canal and 13 (Thirteen) Nos distributaries under Tranche – II of ADB assisted funds with head quarters at Kaijanga.

It is proposed to take up the Rehabilitation, Extension and Modernization works of Machhagaon Canal on ADB assisted funding under OIIAWMIP scheme in tranche – II. Accordingly, the DPR has been prepared for a project cost of **Rs. 89.50 cores** for taking up the REM works of Machhagaon Canals, to provide better Irrigation facilities to **36,417.90Ha.**

The jurisdiction of Machhagaon Canal Division, Kaijanga comprises of 3 Nos. of Sub-Divisions i.e. (1) Machhagaon Canal Sub-Division-I, Kaijanga, (2) Machhagaon Canal Sub-Division-II, Balia & (3) Machhagaon Canal Sub-Division-III, Jagatsinghpur. These three nos of Sub-Divisions are looking after the Renovation, Extension and Modernization of Main Canal and 13 Distributaries of Machhagaon Canal.

The tenders for all the REM works of Machhagaon Main Canal and 13 Nos of Distributaries are completed. There are total 07 (Seven) Nos of civil work packages. The ongoing works of the packages are depicted in table -1.

*Executive Engineer
Machhagaon Canal Division
Kaijanga*

**STATEMENT SHOWING THE NAME OF OFFICER-IN-CHARGE OF THE REM
WORKS FOR THE YEAR 2015-2016 UNDER MACHHAGAON CANAL
DIVISION, KAIJANGA.**

Sl. No.	Name of Officer	Designation & place of posting	Telephone	Remarks
1	Sri Narsingha Sahoo	Executive Engineer	9437511123	The concerned Assistant Executive Engineers, Asst. Engineer and Junior Engineers are instructed to supervise the REM works of Machhagaon Main Canal & 13 Nos of Distributaries.
2	Sri Surendranath Sahoo	A.E.E. (Estimator)	9938543030	
3	Sri Youdhithira Jena	A.E.E. M.C. Sub-Division No-I, Kaijanga.	9439099558	
4	Sri Sunit Mahipal Kujur	A.E.E. M.C. Sub-Division No-II, Balia.	9437249498	
5	Sri Kailash Chandra Sethy	A.E.E. M.C. Sub-Division No-III, Jagatsinghpur.	9439565440	
6	Sri Sunil Munda	J.E. M.C. Sub-Division No-I, Kaijanga.	9938230873	
7	Miss Deepika Behera	J.E. M.C. Sub-Division No-I, Kaijanga.	9853925287	
8	Sri Bijendra Kumar Nayak	J.E. M.C. Sub-Division No-I, Kaijanga.	9438659121	
9	Sri Ganesh Chandra Samal	A.E. M.C. Sub-Division No-II, Balia.	9437312324	
10	Sri Rabindra Shanti	J.E. M.C. Sub-Division No-II, Balia.	8280129093	
11	Sri Tushar Mohapatra	J.E. M.C. Sub-Division No-II, Balia.	9861351688	
12	Miss Surekha Behera	J.E. M.C. Sub-Division No-II, Balia.	9853525393	
13	Sri Sanat Mahali	J.E. M.C. Sub-Division No-III, Jagatsinghpur	8908322320	
14	Sri Bijaya Kumar Singh	J.E. M.C. Sub-Division No-III, Jagatsinghpur	9853008146	

**Executive Engineer
Machhagaon Canal Division, Kaijanga.**

RP Implementation

Implementation of RP has been taken-up in Machhagaon Sub project as per the approved entitlement matrix. The Entitlement Enumeration Survey (EES) for the RP was taken up during December' 2012 to January' 2013 by the O&M Divisions, Jagatsinghpur Irrigation Division. Life Academy of vocational Studies (LAVS) is engaged as Civil Society organization to implement the social safeguard requirements and to assist the SIO (EE) in Implementing the RP. Disbursement of compensation to **618** Nos of affected persons (AP's) have already been made out of total 762 (AP's) under the project excluding CPR and number of structures not in existence which is shown in Table - 1.

**Executive Engineer
Machhagaon Canal Division, Kaijanga.**

The Details of works under taken by this Division during fiscal 2015-16 (Table -1)

SI No.	PKG. No.	Name of the work	Performance during year 2015-16	Scope of Work	Work status as on 31.03.2016	Agreement No./ Name of Agency	Agt. Amount / Estimate Cost	Expenditure up to 31.03.2016	Remark
1	2	3	4	5	6	7	8	9	10
1	MAC-01	R.E.M. of Machhagaon canal from RD. 0.00 km to 14.60 km	a) Tender Processed b) Agreement Drawn Date of commt :- 25.01.16 St. date of compn:-24.1.18	a) Re-Sectioning of Canal b) New VRB Construction – 2 Nos. c) New CR – 1 No. d) New Out let- 3 Nos. Repair of Old Structure HR- 6 Nos. VRB – 2 Nos. Drainage Syphone – 2 Nos. Weir – 3 Nos.	a) Re- Sectioning in Progress b) VRB at RD 4.7 km and 6.40 km are in progress , RCC work executed up to pile cap level. c) CR at RD 14.52 km is in progress , RCC work up to pile cap completed.	01/ NCB-MAC of 2015-16/ Sri Ajit Ku. Swain , Spl. Class Contractor At/ Po. Khapuria Madhupatna Cuttack.	Rs. 8,35,93,121.00	Rs. 2,02,45,883.00	
2	MAC-02	R.E.M. of Machhagaon canal from RD. 14.60 km to 29.20 km	a) Tender Processed b) Agreement Drawn Date of commt :- 9.02.16 St. date of compn:-8.2.18	a) Re-Sectioning of Canal b) New VRB Construction – 4 Nos. c) New Out let- 11 Nos. Repair of Old Structure HR- 11 Nos. VRB – 7 Nos. Drainage Syphone – 1 Nos. Weir – 1 No. Escape – 1 No.	a) Re- Sectioning in Progress b) VRB at RD 16.7 km and 23.128 km are in progress , RCC work executed up to pile cap.	02/ NCB-MAC of 2015-16/ Sri Ajit Ku. Swain , Spl. Class Contractor At/ Po. Khapuria Madhupatna Cuttack.	Rs. 8,27,09,534.00	Rs. 1,07,67,877.00	
3	MAC-03	R.E.M. of Machhagaon canal from RD. 29.20 km to 52.425	a) Tender Processed b) Agreement Drawn Date of commt :- 9.02.16 St. date of compn:-8.2.18	a) Re-Sectioning of Canal b) New VRB Construction – 6 Nos. c) Bed Bar- 46 Nos. d) Out let- 38 Nos. e) Bathing Ghat – 29 Nos. Repair of Old Structure HR- 14 Nos. VRB – 13 Nos. Weir – 2 Nos. Escape – 2 Nos.	a) 1 No. New VRB pile casting at RD 46.00 km completed. b) 1 No. New VRB at RD 40.410 km pile casting started.	03/ NCB-MAC of 2015-16/ Sri Ajit Ku. Swain , Spl. Class Contractor At/ Po. Khapuria Madhupatna Cuttack.	Rs. 9,72,54,470.00	Rs. 1,03,77,614.00	
4	MAC-04	R.E.M. of Distry No.2 , Bhagalpur Distributary & Distry- 19 of Machhagaon Canal System	a) Estimate prepared b) Tender Processed	a) Re-Sectioning of Canal b) New VRB Construction – 5 Nos. c) New Out let- 169 Nos. d) New Guard wall- 500 Nos. Repair of Old Structure HR- 13 Nos. VRB – 6 Nos. Drainage Syphone – 1 No. CR – 4 Nos.	Tender is under finalization at Govt. level.	-----	Rs. 529.50 lakhs	NIL	
5	MAC-05	R.E.M. of Distry No. 7 & 19- A of Machhagaon Canal System	a) Tender Processed b) Agreement Drawn c) Work started 15.02.2016	a) Re-Sectioning of Canal b) New VRB Construction – 2 Nos. c) Bed Bar- 44 Nos. + 38 Nos.= 82 Nos. d) New Out let- 95 Nos. + 119 Nos.= 214 Nos. Repair of Old Structure HR- 4 Nos. VRB – 6 Nos. Drainage Syphone – 1 No. Bathing Ghat – 10 + 7 = 17 Nos CR – 4 Nos.	a) Re- Sectioning work in Progress b) VRB- 2 Nos. in progress.	04/ NCB-MAC of 2015-16/ Sri Karunakar Routray , Spl. Class Contractor	Rs. 5,07,78,389.00	Rs.1,03,96,024.00	

SI No.	PKG. No.	Name of the work	Performance during year 2015-16	Scope of Work	Present work status	Agreement No./ Name of Agency	Agt. Amount / Estimate Cost	Up to date expenditure	Remark
1	2	3	4	5	6	7	8	9	10
6	MAC-06	R.E.M. of Distry No.8 , 10 & 10-H of Machhagaon Canal System	a) Estimate prepared b) Tender Processed	a) Re-Sectioning of Canal b) New VRB Construction – 1 No. c) New Out let- 255 Nos. Repair of Old Structure HR- 2 Nos. VRB – 10 Nos. Drainage Syphone – 3 Nos. CR – 6 Nos.	Financial Bid opened and submitted to Govt. for approval.	-----	Rs. 560.83 lakhs	NIL	
7	MAC-07	R.E.M. of Distry No.13 , 13-C , 15 ,15-A & 16 of Machhagaon Canal System	a) Estimate prepared b) Tender Processed	a) Re-Sectioning of Canal b) New VRB Construction – 6 No. c) New Out let- 212 Nos. Repair of Old Structure HR- 6 Nos. VRB – 18 Nos. Drainage Syphone – 17 Nos. CR – 6 Nos.	Financial Bid opened and submitted to Govt. for approval.	-----	Rs. 608.33 lakhs	NIL	
8		Consultancy service for implementation of resettlement Plans for Machhagaon , Pattamundai & HLC –Range-1 under OIIAWMIP		Payment to the affected persons who have encroached the Govt land on Canal bank (762 No.)	Preparation Inception Report, updating of AP database, monthly progress Report-1, including Report submission on grievance, Identification of AP and issued Identity cards.	Life Academy for Vocational Studies , 17 AV Complex, Gadakana Mancheswar Railway Colony, Bhubaneswar.	Rs. 15,99,000/-	Rs. 6,39,600/-	
9		Implementation of R.P for Machhagaon Canal system	a) Estimate prepared b) agreement executed	Payment to the affected persons who have encroached the Govt land on Canal bank (762 No.)	Payment made to 618 Aps	-----	Rs. 70,19,875/-	Rs. 34,52,595/-	

*Executive Engineer
Machhagaon Canal Division
Kaijanga*

MACHHAGAON CANAL SYSTEMS

INDEX MAP

ANNEXURE-I



SCALE 1:200000

INDEX FOR TOPOSHEETS

73 ^H / ₁₅	73 ^L / ₃	73 ^J / ₃
	73 ^L / ₄	73 ^L / ₈
		74 ^L / ₅

OFF TAKE OF MACHHAGAON CANAL AT RD. - 12.530 Km OF TALADANDA CANAL LENGTH- 52.425 Km AREA (C&A)-34870 Ha BED WIDTH- 20.12M DISCHARGE- 41.00 Cumecs BILL LEVEL- 15.94 Mtr. F.S.D.- 2.42 Mtr.

LEGEND

MACHHAGAON CANAL	
DISTRIBUTARIES/MINORS	
ROAD	
RIVER/NALLA	
RAILWAY LINE	



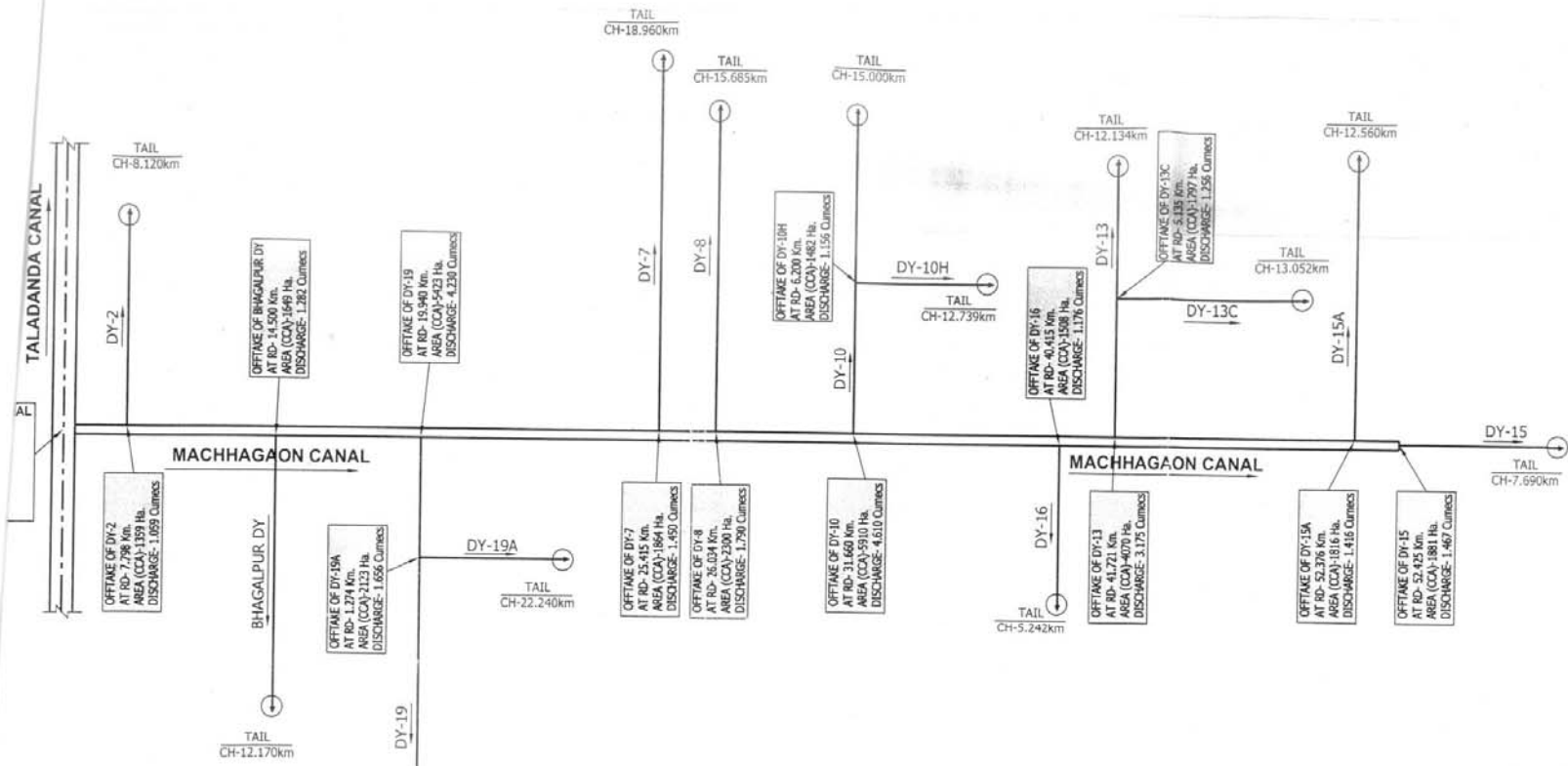
CONSULTANTS

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 MAYUR COLONY, KOTHURD, PUNE-411036
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MACHHAGAON CANAL SYSTEMS

SCHEMATIC DIAGRAM

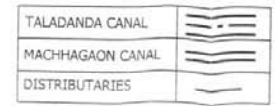
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DETAILS OF STRUCTURES

OFFTAKE DETAILS	TOTAL	REPAIRING	NEW
MACHHAGAON	130	113	13
DY-2	66	45	0
BHAGALPUR DY	51	26	3
DY-15	114	80	1
DY-7	123	92	2
DY-8	92	58	0
DY-10	134	97	1
DY-16	25	20	0
DY-13	95	61	1
DY-15A	79	51	2
DY-15B	58	40	3
DY-19A	137	130	0
DY-13C	117	80	0
DY-10H	115	85	0
TOTAL	1336	978	26

LEGEND



CONSULTANTS

[Signature]

HYDROPNEUM SYSTEMS

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