



GOVERNMENT OF INDIA
CENTRAL WATER COMMISSION



11th Report under General Monitoring (Year 2013-14)

Und-II Project (Gujarat)



MONITORING DIRECTORATE, GANDHINAGAR
NARMADA & TAPI BASIN ORGANISATION, GANDHINAGAR
March 2014



Government of India
Ministry of Water Resources
Central Water Commission



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DETAILS OF VISITS BY CWC OFFICERS

Sr No	Date of Visit	Visit By Shri	Year	Status Report Published
1	14-16 March 2001	P B Patel, Director & A Mazumdar, Assistant Director	2001-02	March 2001
2	24-26 February 2003	S C Singhal, Dy. Director & A Mazumdar, Assistant Director	2002-03	February 2003
3	26-27 August 2004	S C Singhal, Dy. Director & A Mazumdar, Assistant Director	2004-05	October 2004
4	28 October 2005	N Subba Rao, Director & Aditya Sharma, Dy. Director	2005-06	January 2006
5	5 June 2007	N Subba Rao, Director & Aditya Sharma, Dy. Director	2007-08	July 2007
6	8-9 July 2008	A B Pandya, Director, Y S Varshney, Dy. Director & H C Rathod, Assistant Director	2008-09	September 2008
7	28 August 2009	Aditya Sharma, Director Y S Varshney, Dy. Director	2009-10	June 2010
8	8 March 2010	Shakti Sarraf, Director & H C Rathod, Assistant Director	2010-11	November 2011
9	28 February 2012	H C Rathod, Assistant Director	2011-13	March 2012
10	10 October 2012	H C Rathod, Assistant Director	2012-13	January 2013
11	3-4 February 2014	H C Rathod, Assistant Director & A R Amin, Junior Engineer	2013-14	March 2014

LIST OF ABBREVIATIONS

A/c	:	Approach Channel
C.A.	:	Catchment area
C.B.L.	:	Canal Bed Level
CCA	:	Culturable Command Area
Ch.	:	Chainage
Cumec	:	Cubic Meters per Second
ETP	:	Establishment, Tools and Plants
F.R.L.	:	Full Reservoir Level
F.S.L.	:	Full Supply Level
GCA	:	Gross Command Area
GoG	:	Govt. of Gujarat
ha	:	Hectare
H.F.L.	:	High Flood Level
ICA	:	Irrigable Command Area
km	:	Kilometer
L.A.Q.	:	Land Acquisition
LBED	:	Left Bank Earthen Dam
LBMC	:	Left Bank Main Canal
LIS	:	Lift Irrigation Scheme
m	:	Meter
Mcum	:	Million Cubic Meters
mm	:	Millimeter
MLD	:	Million Liters per Day
NABARD	:	National Bank for Agriculture and Rural Development
O.S.D	:	Officer on Special Duty
O.T.S.	:	Overall Technical Sanction
R.B.M.C.	:	Right Bank Main Canal
R.B.E.D.	:	Right Bank Earthen Dam
P.P.M.	:	Programme and Progress Monitoring
RIPC	:	Rajkot Irrigation Project Circle
R.L.	:	Reduced Level
SOR	:	Schedule of Rates
Sq. Km	:	Square Kilometer
T/C	:	Tail Race Channel
Th cum	:	Thousand Cubic Meter
Th sqm	:	Thousand Square Meter

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**CENTRAL WATER COMMISSION
NARMADA AND TAPI BASIN ORGANISATION
MONITORING DIRECTORATE, GANDHINAGAR

UND-II IRRIGATION SCHEME (GUJARAT)

11th STATUS REPORT – (General Monitoring)

EXECUTIVE SUMMARY

Und – II Irrigation Scheme is being monitored by this Directorate from the year 2001 and this is the eighth status report of the project. This status report has been prepared based on the project visit by a team of officers from Monitoring Directorate, Gandhinagar on 3rd & 4th Feb. 2014

1. PROJECT IN BRIEF:

- 1.1. Und-II irrigation scheme is located across river Und near village Majoth in Dhrol taluka of Jamnagar district.
- 1.2. The project comprises of 2867 m long earthen dam across river Und on both the banks and 623 m long masonry spillway in the river gorge portion with 54 no. radial gates for passing design flood of 16450 cumecs. The reservoir impounds gross and live capacity of 37.12 Mcum and 30.20 Mcum respectively at F.R.L .
- 1.3. Canal system in the left and right bank command will irrigate CCA of 6642 ha on its full development, benefiting 8 villages in Jamnagar district. The total length of LBMC is 5.295 km and that of RBMC is 8.22 km.
- 1.4. Total catchment area up to the dam site is 1513.78 sq km, out of which 1132.62 sq km is intercepted by Und-I project. This project has been designed for net catchment area of 381.16 sq km Entire river basin is in Saurashtra region of Gujarat State and there are no interstate aspects in this project.
- 1.5. The project was administratively approved by the State Govt. for an estimated cost of ` 9.24 Crore at price level of 1984-85. The latest revised estimated cost of the project is ` 70.10 Crore at price level of the year 2005. The revised estimate is yet to be approved.
- 1.6. The project work was started during the year 1986 and its target date of completion previously was June, 2006 modified during last year visit in Feb,. 2012 and now revised to June, 2013.
- 1.7. The State had posed the project for assistance under rural infrastructure development to NABARD for estimated cost of ` . 24.56 Crore. The project was under the assistance of NABARD from April-1995 onwards. Expenditure incurred up to December, 2000 on components posed for NABARD assistance was ` 23.64 Crore against which reimbursement of ` . 23.105 Crore (up to 11/2001) was received.

2. ORGANISATIONAL SET UP:

Superintending Engineer, Rajkot Irrigation Project Circle (RIPC) is overall in charge of the project. He is assisted by Executive Engineer, Und Irrigation Division, Jamnagar for execution of Und-II project along with other schemes. There is one Sub-Divisional Officer at Dhrol for execution of Und-II project. Quality control aspects are looked after by Quality Control Subdivision No-5, Jamnagar.

3. PHYSICAL PROGRESS:

The component wise progress of project is as under:

Sr No	Item	Work completed in percentage	Remarks
A.	Head works:		
i)	Earthwork	100%	
ii)	Spillway	100%	
iii)	Spillway gates	100%	
B.	Canal system:		
i)	R.B.M.C	100%	
ii)	Distribution system under RBMC	100%	
iii)	L.B.M.C	100%	
iv)	Distribution system under LBMC	95%	Minor-1 is proposed to be dropped
v)	Potential created so far	5141 ha	

All land required for the purpose has been acquired.

4. FINANCIAL PROGRESS:

Latest estimated cost of the project which is yet to be approved by the Project Authority to the ` 70.10 Crore at the 2005 price level. Cumulative expenditure incurred up to December 2013 is ` **70.268** Crore. Budget provision for the current year 2013-14 is ` 1.62 Crore, out of which expenditure of ` 0.72 Crore has already been incurred up to December 2013.

5. ISSUES IN FOCUS:

- 5.1 Land acquisition for the dam seat, borrow area and submergence area has already been completed. Land acquisition for road is also completed. There are no schedule tribe oustees in the Und-II Irrigation Project. As for as the schedule cast oustees are concerned 35 families affected. All the oustees have been rehabilitated in near by areas.
- 5.2 Total 73.77 ha land for canal is required for which final award has been declared and 52.94 ha land is required for Right Bank Canal and Distributaries system. Land Acquisition for Right Bank Canal System has been completed and payment of entire compensation for ` 49.25 Lakh has been made.

- 5.3 Out of total 73.77 ha, 20.83 ha land is required for Left Bank Canal and Distributaries system. Land acquisition for Left Bank Canal System has been completed and payment of entire compensation for ` 19.57 Lakh has been made.
- 5.4 Both the canals (LBC & RBC) have been almost completed except some portion of lining work and some additional C.D.Works which are planned to be completed during the year 2014-15. A minor of left canals bank distributaries system is proposed to be dropped.
- 5.5 The irrigation potential created so far by the project is 5141 ha which 97% of total IP to be created, while the potential utilized is 3200 ha up to December 2013.

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UND-II IRRIGATION SCHEME (GUJARAT)

11th STATUS REPORT – (General Monitoring)

Und – II Irrigation Scheme is being monitored by this Directorate from the year 2001 and this is the eight status report of the project. This status report has been prepared based on the project visit by Shri H C Rathod, Assit. Director and Sh A R Amin, Jr. Engineer Monitoring Directorate, Gandhinagar on 3rd & 4th February, 2014 and detailed discussions held with Shri S.R. Patel, Executive Engineer, Und Irrigation Division, Jamnagar and Shri B.B. Kasundra, Deputy Executive Engineer, Irrigation Project Sub-Dn.No.5/4, Dhrol, at project site where as overall discussion was held at Rajkot with Shri N. H. Kapadi, Superintending Engineer , Rajkot Irrigation Project Circle, Govt. of Gujarat, Rajkot.

1.0 PROJECT COMPONENTS:

1.1 General:

Und-II Irrigation Project across river Und is located near village Majoth in Dhrol taluka of Jamnagar district. The dam is 15 km away from Dhrol.

1.2 Project Components:

1.2.1 Earthen dam 2867 m long (1650 m on left bank and 1217 m on the right bank) and 6 m wide at the top, having maximum height of 11 m above the deepest bed, impounds gross and live storage of 37.12 M cum and 30.20 Mcum respectively at F.R.L.

1.2.2 *Masonry spillway:*

An ogee shaped 623m long masonry spillway with 54 No. radial gates of 6.10 m x 9.15 m size is located in the river gorge portion. The spillway is designed to pass the design flood of 16450 cumecs.

1.2.3 *Head Regulators:*

Head regulator for LBMC having design discharge of 2.35 Cumecs off-takes at Ch. 720 m from the left earthen dam. Head regulator for RBMC having design discharge of 2.80 cumecs off-takes at Ch. 2820 m from the right earthen dam. Both the Head regulators comprise of RCC box of 1.22 m x 1.52 m size.

1.2.4 Left Bank Main Canal (LBMC):

Left Bank Main Canal having length of 5295 m off-takes from left earthen dam, it has carrying capacity of 2.35 Cumecs at the head.

1.2.5 Right Bank Main Canal (RBMC):

Right Bank Main Canal having 8220 m length off-takes from right earthen dam. It has carrying capacity of 2.80 Cumecs at the head.

1.2.6 Distribution System:

Distribution system comprises of 5 minors in the left command and 7 minors in the right command having aggregate length of 10.04 km and 26.34 km respectively. On its full development it will benefit 8 villages of Jamnagar district, covering CCA of 6642 ha

1.2.7 Total catchment area at the dam site is 1513.78 sq km out of which catchment area of 1132.62 sq km is intercepted by Und-I Project. The project is designed for yield from the free catchment of 381.16 sq km.

1.2.8 The Project work was started during the year 1986 and its current revised target date of completion is June 2013.

Salient features of the project are appended at Annexure-I.

2.0 CHANGE IN SCOPE:

The project was originally approved for irrigation purpose. Govt. of Gujarat had accepted the demand for drinking water supply of 10 MLD for Dhrol and Jodia taluka in July, 1991. Provision has also been made for lift irrigation from the canal system during 1996.

3.0 ORGANISATIONAL SET UP:

- 3.1 Superintending Engineer, Rajkot Irrigation Project Circle (RIPC) is overall in-charge of the project. He is assisted by the Executive Engineer, Und Irrigation Division, Jamnagar for this project in addition to other medium irrigation schemes.
- 3.2 Executive Engineer is assisted in execution of the project work by one Sub-Divisional officer with head quarters at Dhrol. Quality Control aspects are looked after by Quality Control Sub-Division No.-5, Jamnagar.
- 3.3 Construction drawings are prepared by the Central Design Organization of the State Government at Gandhinagar.

4.0 CONTRACTUAL ARRANGEMENTS:

- 4.1 Contract for execution of works is awarded by local competitive bidding. Executive Engineer & Superintending Engineer is empowered to give technical sanction to estimate up-to ` 50.00 Lakh and ` 300.0 Lakh respectively. Their tender acceptance powers are ` 25.0 Lakh and ` 100.0 Lakh respectively with limitation of 5% & 7.5% excess over the estimated cost. Powers of sanction of extra items by Executive Engineer and Superintending Engineer are up to a value of ` five thousand and twenty thousand respectively. All tenders in excess of this limit are required to be referred to the State Government.
- 4.2 For adjudicating contractual problems, the State Government has formed Arbitration Tribunal.

5.0 QUALITY ASSESSMENT:

Quality Control work has been entrusted to a separate Sub-divisional Officer with headquarters at Jamnagar, who is under technical control of the Superintending Engineer, Rajkot Irrigation Project Circle (RIPC) & Administrative control of Executive Engineer, Und Irrigation Division, Jamnagar. The field laboratory was established at the dam site on commencement of the civil works of dam. The Sub-divisional Officer was being assisted by one Assistant Engineer and Junior Scientific Assistant. The field laboratory was having facility of testing crushing strength of concrete, sieve analysis, proctor, field density box, shear test and plasticity indices.

6.0 LAND ACQUISITION, REHABILITATION & RESETTLEMENT:

- 6.1 Land acquisition for the dam seat, borrow area and submergence area has already been completed. Land acquisition for road is also completed. There are no schedule-tribes oustees in the Und-II Irrigation Project. As far as the schedule cast oustees are concerned, 35 families are affected by the project. The oustees have been rehabilitated in near by area. A summary of R&R activities given in Table-1.
- 6.2 Total 73.77 ha land for canal is required for which final award has been declared. and 52.94 ha land required for Right Bank Canal and Distributaries system. Land Acquisition for Right Bank Canal System has been completed and payment of entire compensation for ` 49.25 Lakh. has been made.
- 6.3 Out of total 73.77 ha, 20.83 ha land is required for Left Bank Canal and Distributaries system. Land acquisition for Left Bank Main Canal (LBMC) has been completed and payment of entire compensation for ` 19.57 Lakh. has been made.

Table -1 : R & R ACTIVITIES IN UND-II PROJECT

No.	Details	Total
1	2	3
1	Villages Affected	01
	Partly	01
	Fully	00
2	Sub. Villages Likely to Resettle. (Partly)	01
3	Total No. of PAFs	35
4	No. of PAFs resettled including Non-Agri PAFs	35
	Total Expenditure (Rs. in Crore)	0.17

7.0 ENVIRONMENTAL CLEARANCE:

The project was accepted by the State Planning Commission during 1999 for an estimated cost of ` 9.238 Crore, The project authorities informed that clearance from environmental angle was not obtained as the estimated cost was less then ` 50 Crore.

8.0 ESTIMATED COST:

8.1 The project was approved by the State Government Planning Department during 1984 for an estimated cost of ` 9.24 Crore. The estimated cost was revised in 1990 when administrative approval for Rs.19.48 Cr. was accorded by GOG vides letter dated.22.05.1990. However, from time to time GOG has issued part administrative approval for different works of project as Under.

(A) Dam/spillway/HR & AC-TC for ` 1948.00 lakh, dated 22.05.90

(B) B-Land for ` 225.95 lakh dated. 08.07.1991

(C) Canal works for ` 1088.62 lakh dated 13.08.1997

8.2 Reasons for increase in the cost as reported by the project authorities are as under:

- Increase in price over long period of implementation.
- Increase in the land to be acquired as per detailed surveys
- Depth of foundation in spillway portion increased during detailed designs.
- There has been a steep rise in the establishment charges on account of revision of pay scales.

9.0 TECHNO ECONOMIC APPRAISAL:

As the scheme is medium irrigation scheme, hence state government's administrative approval is required for the same. The Original Administrative approval to the plan & estimates for Und-II Irrigation Scheme has been accorded by the Govt. in Irrigation Department, Gandhinagar vide Reso. No.IPM/3079 /161034/(154)Machhu Cell dated 11.09.1984, amounting to ` 923.76 lakh. No separate Techno Economic Appraisal has been carried out.

The status of technical sanctions issued for different components of the project is as under:

Sr. No.	Approval	Cost (` in Crore)
1.	Original Administration Approval	9.24
2.	Part revised administrative approval for Spillway Bridge, H.R, Radial gates, Approach Channel and Tail Race Channel	19.48
3.	Overall technical sanction & detailed technical Sanction for spillway, spillway bridge & allied works	18.14
4.	Overall technical sanction for canal system	10.89
5.	Part revised overall technical sanction & detail technical sanction for head regulator	5.31
6.	Part overall technical sanction for earthen dam & Approach Channel and Tail Race Channel.	2.34

10.0 FINANCIAL ASSISTANCE, FINANCIAL PROGRAMME & PROGRESS:

The State had posed the project for loan assistance under rural infrastructure development to NABARD for estimated cost of ` 24.56 Crore. The project was under the assistance of NABARD from April-1995 onwards for Headwork and canal work components. Expenditure incurred up to December, 2000 on components posed for NABARD assistance was ` 23.64 Crore against which reimbursement of ` 21.48 Crore (up to 11/2001) was received against sanction loan amount ` 23.105. Year-wise expenditure vis as vis assistant received and allotted budget is given in the following table.

1.	Excavation	Th cum	10.32	10.32	Completed in December 2000			
2	concrete	Th cum	3.08	3.08				
C.	Right Bank Main Canal							
1.	Length	Km	8.22	8.22	--	--	8.22	Work of RBMC is completed
2.	Earth work	Th cum	57.4	57.40	--	---	57.40	
3.	Lining	Th Sqm	35.99	35.99	--	--	35.99	
4.	Structures	No.	34	34	--	---	34	
D.	Left Bank Main Canal							
1.	Length	Km	5.29	5.29	-	-	5.29	Work of LBMC is completed
2.	Earth work	Th cum	45.80	45.80	-	--	45.80	
3.	Lining	Th Sqm	10.72	10.72	-	-	10.72	
4.	Structures	No.	18	18	-	-	18	
E.	Disty. System Minors							
a	Right bank	Km	26.34	26.34	--	---	26.34	Comp.
1.	Earthwork	Th cum	161.18	161.18	-	-	161.18	Comp.
2	Lining	Th Sqm	66.73	60.000	00.00	00.00	60.00	9/2014 Rem. Work is to be planned during 2014-15
3.	Structure	No.	180	133	--	--	133	9/2014 Add.C.D.W. / Renovation as per demand and requirement of site condition is planned to be comp. during 14-15
b	Left Bank	Km	10.04	10.04	-	--	10.04	Comp.
1.	Earthwork	Th cum	74.20	72.20	2.20	2.20	74.20	Comp.
2	Lining	Th Sqm	13.10	12.12	0.98	0.98	13.10	Comp.
3.	Structure	No.	48	38	10	10	48	9/2014 Add.C.D.W. / Renovation as per demand and requirement of site condition is planned to be comp. during 14-15

The status of work progress of Right Bank Canal network is as follows:

1. Right Bank Canal : 95 % works of right bank main canal and distributaries have been completed. Chainage 0 to 8220 mt.-100% works are completed with lining. Total length of minor M-1 to m-7 is 26340mts. 100% Earth work is completed. All the remaining works of Right Bank Canal networks are planned to be completed by June, 2014.
2. Left Bank Canal :- 95 % works of left bank main canal & distributaries has been completed. Left bank main canal is completed, Distributory system of LBMC is 95% completed. Remaining works are planned to be comp. by 9/2014.
3. Fish cultivation has also been started in the UND II reservoir. Four kinds of fish namely *Rehu*, *Mrigal*, *Katla* and *Jarka* are cultivated.

Physical Programme and Progress is at **Annexure-III**

13.0 PROJECT POTENTIAL

Ultimate irrigation potential for the project is 5313 ha against which potential created is 5191 ha It is targeted to achieve full potential by June, 2014.

14.0 MONITORING OF THE PROJECT AT STATE LEVEL:

Monitoring of all the major and medium irrigation projects at State level is carried out by Programme and progress monitoring cell (PPM cell) headed by Officer on Special duty (OSD) of the rank of Superintending Engineer. He is assisted by one Under Secretary (Technical) and one Deputy Executive Engineer. There is no separate monitoring cell at the project level. Considering the quantum of work of monitoring of all the major and medium projects of the State, resource of the PPM Cell appears to be inadequate.

15.0 COMPLIANCE OF ISSUE / ACTION POINTS RAISED IN THE PREVIOUS STATUS REPORT

Compliance of observations of CWC's 10th Monitoring Report (year 2012-13) is appended at Annexure VI.

16.0 POINT NEEDING ATTENTION :

The work of Und-II project is almost completed. The project authorities informed that, project is likely to be declared as "Completed Project" by June 2014. The Ultimate irrigation potential for the project is 5313 ha against which potential created is 5191 ha i.e. @ 97%. Declaration of the project as complete has been ensured that project is completed by June 2014 as informed during the visit.

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UND-II IRRIGATION SCHEME

SALIENT FEATURE

1	Name of Project	:	UND-II IRRIGATION SCHEME
2	(A) Location	:	
	(i) River	:	UND
	(ii) Village	:	Majoth
	(iii) Taluka	:	Dhrol
	(iv) District	:	Jamnagar
	(v) State	:	Gujarat
		:	
	(B) Co-Ordinates	:	
	(i) Latitude	:	22 ⁰ -38'-00"
	(ii) Longitude	:	70 ⁰ -2'-30"
	(iii) Nearest Railway Station	:	Padadhari
		:	
3	Hydrology	:	
	(i) Total C.A. at site	:	1513.78 Sq km...
	(ii) Intercepted C.A.	:	1132.62 Sq km...
	(iii) Free C.A. at site	:	381.16 Sq km...
	(iv) Adv. Mean Rainfall	:	52.69 Cm.
	(v) Maximum Rainfall	:	105.56 Cm.
	(vi) Minimum Rainfall	:	12.70 Cm.
	(vii) Runoff	:	Run Off
	(a) 50% reliability	:	44.03 M.Cum.
	(b) 60% reliability	:	37.82 M.Cum. (Adopted) in design
	(c) 75% reliability	:	30.89 M.Cum.
		:	
4	Reservoir	:	
	(i) Full Reservoir Level	:	18.25 m.
	(ii) High Flood Level	:	19.11 m.
	(iii) Outlet sill Level	:	14.50 m.
	(iv) Tail water Level	:	17.25 m.
	(v) Gross Storage	:	37.12 m
	(vi) Dead Storage	:	4.25 m.

(vii)	Live Storage	:	31.87 m.
(viii)	Net Utilisation	:	28.08 M.Cum.
(ix)	Lake losses	:	11.53 M.Cum.
(x)	Carry over	:	NIL

:

5 Earthen Dam

:

(i)	Type	:	Rolled Fill Zoned Type
(ii)	Top of dam Bund T.L.	:	22.70 m.
(iii)	Total length	:	2867.00 Mt.
(iv)	L.B.E.D.	:	1650.00 Mt.
(v)	R.D.E.B.	:	1217.00 Mt.
(vi)	Top Width	:	6.00 m.
(vii)	Free Board	:	4.45 m.
(viii)	Side Slopes	:	
	(a) Up stream	:	2.50:1 upto berm RL17.00 & below berm upto ground level.
	(b) Down stream	:	2.25:1 upto berm RL17.00 & below berm 2.50:1 upto ground level
(ix)	Maximum Height from dispest stripped level	:	10.60 , (12.50 mt. at junction)
(x)	Berm width	:	15.45 m.
	(a) Up stream	:	4.50 m.
	(b) Down stream	:	5.00 m.

6 Spillway

:

(i)	Type	:	Gated ogee spillway
(ii)	Crest R.L.	:	12.15 m.
(iii)	Flood Height	:	6.96 m.
(iv)	H.F.L., R.L.	:	19.11 m.
	Maximum water level as per flood routing	:	19.48 m.
(v)	Maximum flood	:	16.450 cumecs
(vi)	Design routed flood flood discharge	:	16128 cumecs
(vii)	Nos. & Size of Gates	:	32 Nos. 9.15 x 6.10 mt. size
(viii)	Flood discharge adopted in design	:	16450 Cumecs
(ix)	No. of Gates	:	54 Nos.
(x)	Size of Gates	:	6.1 x 9.15 Mt. / 20' x 30'

7 Head Regulator

	:		
(i) Nos.	:	Two Nos.	
(ii) Size of outlet	:	Left	Right
	:	1.22 x 1.52	1.22 x 1.52
(iii) Sill R.L.	:	14.30 M.	14.30 M.
(iv) Capacity	:	1.128 cumecs	2.549 cumecs
	:	R.C.C. Box	R.C.C. Box
(v) Location	:	720 M.	2820 M.

8 Canal :

	:	Left	Right
(i) Design Discharge	:	2.345 Cumecs	2.797 Cumecs
(ii) Bed slope	:	1:3000	1:3000
(iii) Section Adopted	:	1.15 M.	1:55 M.
	:	0.95 M	1.30 M
(iv) C.B.L.	:	14.30 M.	14:30 M.
(v) F.S.L.	:	15.25 M.	15:60 M.

9 Submergence :

	:	
(i) Area under submergence of F.R.L. 18.25 Mts.	:	1413.00 Ha
(ii) Cultivable area under submergence at F.R.L.	:	840.00 Ha
(iii) Total population affected	:	200 Nos.
(iv) No. of villages affected completely	:	One (Lakhtar partly affected)
(v) No. of Houses affected	:	35
(vi) Structures if any	:	NIL

10 Command Area :

	:	
(i) G.C.A.	:	8076.00 Hactor
(ii) C.C.A.	:	6642.00 Hactor
(iii) I.C.A.	:	5313.00 Hactor

10 Village Benifited

:	03 - Village Dhrol Ta. & 07 villages Jodia Taluka
	Ta. Dhrol,
:	(1) Mavapar, (2) Majodh (3) Nathu Vadla
	Ta. Jodiya
	(1) Aananda (2) Kunnad (3) Lakhtar (4) Keshiya (5) Bhadra (6) Badanpar (7) Jodiya

UND-II WATER RESOURCES PROJECT
Statement showing Distributory / Minor wise Ultimate Potential Created up to 12/2013

Sr. No.	Name of Branch	Distributory / Minor	Direct outlet	Off taking chainage	Ultimate potential	Created up to 03/2013		Additional target		Achievement during current year up to 12/2013	
						Potential	Utilised	Potential	Utilised	Potential	Utilised
1	2	3	4	5	6	7	8	9	10	11	12
01	R.B.M.C.	Minor-1	-	560 mt. of Main Canal	803	803	90	-	713	803	90
		Minor-2	-	2160 mt. of Main canal	749	749	189	-	560	749	189
		Minor-3	-	2365 mt. of main canal	428	428	-	-	428	428	10
		Minor-4	-	3634 mt. of main canal	403	403	138	-	265	403	138
		Minor-5	-	5400 mt. of main canal	385	385	118	-	267	385	118
		Minor-6	-	7305 mt. of main canal	481	481	209	-	272	481	209
		Minor-7	-	8090 mt. of main canal	242	242	94	-	148	242	94
					3491	3491	838	-	2653	3491	848

Anexure-II (2/2)

Sr. No.	Name of Branch	Distributory / Minor	Direct outlet	Off taking chainage	Ultimate potential	Created up to 03/2013		Additional target		Achievement during current year up to 12/2013	
						Potential	Utilised	Potential	Utilised	Potential	Utilised
1	2	3	4	5	6	7	8	9	10	11	12
	L.B.M.C.	Minor-1		1670 mt. main canal	122	-	-	-	-	-	-
		Minor-2		3340 mt. main canal	192	192	5	-	187	192	26
		Minor-3	-	3340 mt. main canal	185	185	17	-	168	185	37
		Minor-4	-	5140 mt. main canal	349	349	33	-	316	349	126
		Minor-5	-	5140 mt. main canal	696	646	-	50	646	646	60
					1544	1372	55	50	1317	1372	249
					5035	4863				4863	

(Canal potential 5035 + TBC 278 = Total ultimate potential 5313 ha)

Deputy Ex. Engineer
Irrigation Project Sub-Dn.No.5/4
Dhrol

Executive Engineer
Und Irrigation Division
Jamnagar

Annexure-IV (1/2)

Name of Project :- Und-II Water Resources Project

DEC- 2013 Ending.

PHYSICAL PROGRAMME PROGRESS OF AIBP COMPONENT

Sr. No	Name of AIBP	Unit	Latest Estimate d Qnty.	Quantity Executed upto March 2013	Balance Qnty ending 3/2013	Progress during the year 2013-14								Total for 2013-14		Cummulative work done 12/13	Spill over 2013-14
						Qtr. I		Qtr. II		Qtr. III		Qtr. IV					
						T.	A.	T.	A.	T.	A.	T.	A.	T.	A.		
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18
	Und-II W.R. Project																
1.	Unit—I / H.W.																
1.	Dam/barrage.																Comp.
1)	Land Acqusition	Ha	820.00	820.00	0.00	-	-	-	-	-	-	-	-	-	-	820.00	Comp.
i)	Earth work		-	-	-	-	-	-	-	-	-	-	-	-	-	-	
a)	Excavation	T.Cum	-	-	-	-	-	-	-	-	-	-	-	-	-	-	
b)	Embankment	"	749.00	749.00	0.00	-	-	-	-	-	-	-	-	-	-	749.00	
iii)	Masonary work	"	88.00	88.00	0.00	-	-	-	-	-	-	-	-	-	-	88.00	
iv)	Concrete work	"	46.70	46.70	0.00	-	-	-	-	-	-	-	-	-	-	46.70	
v)	misc. High level bridge	"	13.40	13.40	0.00	-	-	-	-	-	-	-	-	-	-	13.40	
vi)	Gates	No	54	54	00	-	-	-	-	-	-	-	-	-	-	54	
II	Unit-II/ Canal																
1.	Main Canal & Branch Canal	Kms.	13.51	13.51	0.00	-	-	-	-	-	-	-	-	-	-	13.51	Comp.
i)	Land Acquisition	Ha	25.86	25.86	0.00	-	-	-	-	-	-	-	-	-	-	25.86	Comp.
ii)	Earth work R)	Th.Cum	103.20	103.20	0.00	-	-	-	-	-	-	-	-	-	-	103.20	Comp.
iii)	Lining (R)	Th.SM.	46.71	46.71	0.00	-	-	-	-	-	-	-	-	-	-	46.71	Comp.
i)	Structure (R)	Nos	52	52	0.00	-	-	-	-	-	-	-	-	-	-	52	Comp.
2	Distribution and Minors (Length)	KM	36.38	36.38	0.00							-	-			36.38	Comp.
i)	Land Acquisition	Ha	46.76	46.76	0.00	-	-	-	-	-	-	-	-	-	-	46.76	Comp.
ii)	Earth work	Th.Cum	235.38	233.18	2.20	2.20	2.20	-	-	-	-	-	-	2.20	2.20	235.58	-
iii)	Lining	Th.Sm	79.83 R	72.12	7.71	0.98	0.98	0.00	0.00	0.00	0.00	0.00	0.00	0.98	0.98	73.10	-
iv)	Structure	No	230	171	59	10	10	0	0	0	0	0	0	10	10	181	-

Annexure - VI

Name of Project : Und-II Irrigation Project, Dist: Jamnagar (Gujarat)
(General Monitoring)

Monitoring Visit : 4th February 2014



Up Stream View of Und-II Project



Down Stream View of Und-II Project

Name of Project : Und-II Irrigation Project, Dist: Jamnagar (Gujarat)
(General Monitoring)
Monitoring Visit : 4th February 2014



Und-II Project



Lined Left Bank Main Canal