

FOR OFFICIAL USE ONLY



Government of India
Ministry of Water Resources
Central Water Commission
Narmada and Tapi Basin Organisation



सर्वोदय - लाभा कायदा को अंतर्गत 26वां अधिनियम
प्राप्त पिता 2013-14
26th Monitoring Report under AIBP - Year 2013-14
(First Report)

सर्दार सरोवर (नर्मदा) परियोजना 3 गुजरात
Sardar Sarovar (Narmada) Project (Gujarat)

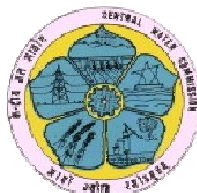


Monitoring Dte
Narmada and Tapi Basin Organisation
Gandhinagar

फरवरी 2014
February 2014



Government of India
Ministry of Water Resources
Central Water Commission
Narmada and Tapi Basin Organisation



**26th Monitoring Report under AIBP-Year 2013-14
(First Report)
Of
Sardar Sarovar (Narmada) Project (Gujarat)
Monitoring Period: 17-18 April 2013**

**26th Monitoring Report under AIBP-Year 2013-14
(First Report)**

Of

sardar sarovar (narmada) project (gujarat)

Sardar Sarovar (Narmada) Project (Gujarat)

Monitoring Period: 17-18 April 2013

Monitoring Period: 17-18 April 2013

February 2014
February 2014

સર્દાર સારોવર નર્મદા કાંચકી કોઅંતર્ગત 26th મોનિટરિંગ રિપોર્ટ

પાણી પિતવાના વર્ષ 2013-14 26th Monitoring Report under AIBP Year 2013-14 (First Report)

of
સર્દાર સારોવર (નર્મદા) પીરવાજાનું ગુજરાત
Sardar Sarovar (Narmada) Project (Gujarat)

મુલાકાતી સામગ્રી Contents

Section	Particulars	Page No.
	List of Annexure	2
	List of Plates	2
	Abbreviations used in the report	3
Part-I	EXECUTIVE SUMMARY	
1.0	NWDT Award	04
2.0	Sardar Sarovar Project	04
3.0	SSP under AIBP	06
4.0	Physical & Financial progress of the Project between 25 th & 26 th Monitoring Report	09
5.0	Physical Progress since AIBP support to SSP	10
6.0	Measures undertaken by Govt of Gujarat for Speedy Implementation	11
7.0	Points needing Attention	11
Part-II	MONITORING REPORT	
1.0	NWDT Award	14
2.0	Sardar Sarovar Project	14
3.0	Change in Scope, if any	16
4.0	Organization Set Up for the project	16
5.0	Contractual Arrangements	17
6.0	Quality Assessment	17
7.0	Land Acquisition and R&R	18
8.0	Environmental Clearance	18
9.0	Techno-Economic Appraisal	19
10.0	Estimated Cost	19
11.0	External Assistance	19
12.0	Physical Programme & Progress of AIBP Works	19
13.0	Irrigation Potential / Benefits	34
14.0	Financial Programme & Progress	35
15.0	Financial Management	36
16.0	Monitoring of Project at State Level	36
17.0	Compliance of Issues/Action Points contained in Previous 25 th status Report	37
18.0	Issues in Implementation of AIBP Works	37

List of Annexure

Annex No	Particulars	Page No.
I	Salient Features of the Project	40
II	Memorandum of Understanding	45
III A	Year-wise Irrigation potential created and utilized	48
III B	Branch wise details of IP Created and IP Utilised	49
IV	Physical progress of works, as at the end of March 2013	51
V	Quarterly physical progress of works as against the programme	53
VI	Quarterly financial progress of works as against the programme	55
VII	Status of Land Acquisition	56
VIII	Summary of R&R activities in Gujarat	57
IX	Compliance of the 25 th Monitoring Report	59

List of Plates

Plate No.	Plates	Page No.
1	Canal System of Sardar Sarovar Narmada Project	65
2	Status of Canal System- Phase –I	66
3	Status of Canal System- Phase –IIA	67
4	Saurashtra Branch Canal & its Network	68
5	Status of Canal System– Phase-IIB	69
6	Status of Canal System- Phase-IIC	70

ABBREVIATIONS USED IN THE REPORT

°C	:	Degree in Centigrade
AIBP	:	Accelerated Irrigation Benefit Programme
ACA	:	Additional Central Assistance
CCA	:	Cultural Command Area
CHPH	:	Canal Head Power House
CLA	:	Central Loan Assistance
cumec	:	Cubic Meters per Second
ETP	:	Establishment, Tools and Plants
Ha	:	Hectare
ICA	:	Irrigable Command Area
km	:	Kilometre
LBC	:	Left Bank Canal
LIS	:	Lift Irrigation Scheme
m	:	Meter
Mm ³	:	Million Cubic Meters
mm	:	Millimetre
MW	:	Megawatt
RBC	:	Right Bank Canal
RBPH	:	River Bed Power House
SOR	:	Schedule of Rates
SSP	:	Sardar Sarovar Project
tmc	:	Thousand Million Cubic Feet
TCM	:	Thousand Cubic Meter
Tsqm	:	Thousand Square Meter

kayakarl sār

**EXECUTIVE
SUMMARY**

Sardar Sarovar (Narmada) Multipurpose Project

26th Monitoring Report under AIBP

(1st Monitoring Report for 2013-14)

Executive Summary

1.0 NWDT Award

The Narmada Water Disputes Tribunal (NWDT) was constituted in October 1969 to adjudicate upon the dispute regarding sharing of the Narmada waters amongst the States of Madhya Pradesh, Maharashtra, Gujarat and Rajasthan. The NWDT gave its Award in December 1979. The Tribunal assessed the utilizable quantum of the Narmada water at the SSP Dam site at 75% dependability as 28 MAF (34536 Mm³.) and gave its decision regarding apportionment of water among the party States, as shown below in **Table-1**.

Table 1: Water share of co-basin States of Narmada basin

State	Water Share	%
Madhya Pradesh	22511.00 MCM(18.25 MAF)	65.18
Gujarat	11101.00 MCM(9.00 MAF)	32.14
Rajasthan	616.00 MCM(0.50 MAF)	1.78
Maharashtra	308.00 MCM(0.25 MAF)	0.89
TOTAL	34536.00 MCM(28.00MAF)	100

The above apportionment relates to actual withdrawals by party States and not consumptive use. It was also decided that within their share of water, each party State is free to make changes in the pattern of water use and in the areas to be benefited within or outside the Narmada basin in its territory. As per the basin planning recommended by the NWDT, 30 major dams are to be constructed in Narmada basin up to SSP apart from a number of medium and minor schemes. The water allocated and utilized by co-basin States during the hydrologic year 2011-12 as taken from NCA report is as under:

Table 2: Narmada Water Status during 2011-2012

Sl. No	State	Share of utilisable flow among party States in 2011-12 ¹		Actual Withdrawals during 2011-12 ¹		Observed flow at Garudeswar during 2011-12 ²	
		MCM (MAF)	%	MCM (MAF)	%	MCM (MAF)	%
1	Madhya Pradesh	27224.63 (22.07)	65.18	7056.70 (5.72)	54.00		
2	Gujarat	13425.85(10.88)	32.14	5734.50 (4.65)	43.89		
3	Maharashtra	372.94 (0.30)	0.89	-	-		
4	Rajasthan	745.88 (0.60)	1.78	274.98 (0.22)	2.10		
	TOTAL	41769.30 (33.85)	100	13066.18 (10.59)	100	21732 (17.62)	52.03

Note 1: As per AWA of Narmada Basin, Water Year 2011-2012, NCA, Indore.

2: As per Water Year Book 2011-2012, NBO, CWC.

2.0 Sardar Sarovar Project

Sardar Sarovar(Narmada) Project (SSP) with Gross Storage Capacity of 9497.95 MCM (7.7 MAF) and Live storage Capacity of 5822.12 MCM (4.72 MAF)is a major

multipurpose project envisaging construction of a concrete gravity dam across river Narmada near village *Navagam*, two power houses and a very vast canal system spread in two States of Gujarat and Rajasthan. It envisages generation of 1450 MW of power and annual irrigation of 17.92 Lakh Ha in Gujarat and 73157 Ha in Rajasthan. The project would meet drinking water needs of 9633 villages and 131 urban centres in Gujarat and 124 villages in Rajasthan around the irrigation canal. The cost of various components at 2008-09 price level as approved by Planning Commission are as follows:

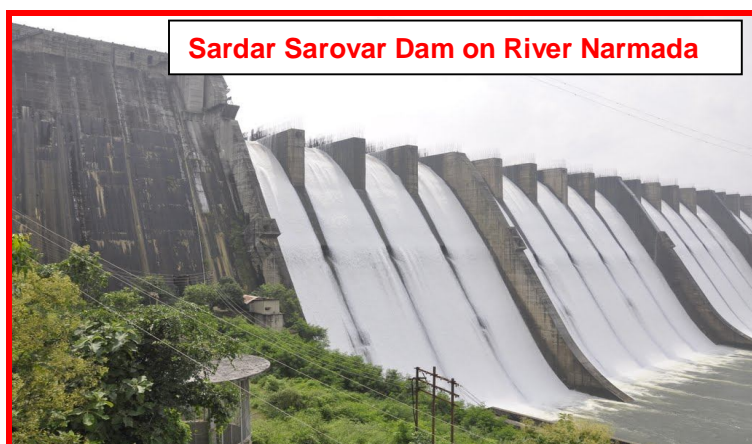


Table 3: Component-wise cost of SSP

Sr. No.	Particulars	Cost Rs (Crores)
1	Unit-I (Dam)	8384.85
2	Unit-II A (Main Canal)	5798.28
3	Unit-II B (Branch and Distribution System)	21600.76
4	Unit-III	2910.89
5	Share of Narmada Sagar debitable to Sardar Sarovar Project	545.68
	TOTAL	39240.46

In Gujarat, the Narmada Main Canal (NMC) off-takes from Sardar Sarovar Dam at a full supply level (FSL) of 91.44 m (300 ft.) and traverses through a length of 458.412 km before entering Rajasthan near village Silu in district Jalore. In Gujarat, it has 38 branch canals and their distributaries, minors and sub-minors aggregating a network of length about 75000 km. In Rajasthan, the canal runs for a length of 74 km. The 458.412 km long Narmada Main Canal (NMC) is designed to carry a maximum discharge of 1133 cumecs at a FSL of 91.45m (300 ft) at head regulator. This would taper down to 75 cumec at the tail end at Gujarat-Rajasthan border. Salient features of the project are given in **Annexure-I**.

Investigations for SSP started in the year 1980 as per the Narmada Water Disputes Tribunal Award in December, 1979. The work on main dam of Sardar Sarovar Narmada Project was started in 1988. The dam has been completed upto an RL 121.92 m as against top RL 146.50m. The two power houses have been completed. As regards the canal system in Gujarat, it is planned to be completed by March 2016, as per the present MoU signed under AIBP by the Governments of India and Gujarat on 16/10/2012. The project is being executed by Sardar Sarovar Narmada Nigam Ltd. (SSNNL), which is a limited company wholly owned by Government of Gujarat incorporated in 1988.

The entire canal network is lined to avoid water logging. The Canal Head Power House (250 MW) and River Bed Power House (1200MW) are already functional. Overall progress/ achievement in respect of various components are as given in **Table-4**.

Table 4: Progress /Achievement of Sardar Sarovar (Narmada) Project

Item	Envisaged	Created/ Achieved as on 31 Jul 2013
Total Storage MCM (MAF)	Gross storage- 9497.81 (7.70) Live Storage- 5834.37 (4.73)	Gross storage- 6559.65 (5.318) Live Storage- 2859.21 (2.318)
Total Irrigation Potential	17.92 Lakh Ha	7.58 Lakh Ha (Up to Minor Level) (on 30 th sept'13)
Power Generation	1. River Bed Power House (RBPH)- 1200 MW (Installed Capacity) (6 units of 200 MW each) 2. Canal Head Power House (CHPH)- 250 MW (Installed capacity) (5 units of 50 MW each) Total-1450 MW (Both the Power Houses viz. RBPH and CHPH are already commissioned and is functional since 2004-2005)	25100.692 Million Units through RBPH and 3385.83 Million Units through CHPH are generated.
Drinking Water Potential MCM (MAF)	1307.5 (1.06) for Domestic and industrial use.	1862.56 (1.51) from 1-7-2012 to 30-06-2013

3.0 SSP under AIBP

Sardar Sarovar (Narmada) Project, Gujarat has been receiving Central Assistance under Accelerated Irrigation Benefit Programme (AIBP) since 1996-97. The latest MoU was signed between Govt of India and Gujarat in October-2012. A copy of the MoU along with components covered under it is placed at **Annexure-II**.

Central Water Commission is entrusted with the monitoring of the project under AIBP. The First Monitoring Report of the Project was brought out in January 1997. This is the 26th Monitoring Report prepared by Monitoring Directorate, CWC, Gandhinagar. The ongoing canal works in the command area of Saurashtra Branch Canal, Valabhipur Branch Canal, Limbdi Branch Canal, Botad Branch Canal, Morbi Branch Canal and Maliya Branch Canal were inspected by Director, Monitoring Directorate, Central Water Commission, Gandhinagar and discussions were held with Project officials. This status report is prepared based on the inputs received from project officials, inspection of the ongoing works and the status of works during the project monitoring visit by Director (Monitoring), CWC, Gandhinagar.

3.1 Physical Progress

An irrigation potential of 7.58 lakh Ha as against total of 17.92 lakh Ha has been achieved till 30th September, 2013 out of which 1.87 lakh Ha (01-7-2012 to 31-3-2013) is reported to be under utilization. Gross storage achieved through this project is about 6559.65 MCM, out of which live storage capacity is 2859.21 MCM. Hydro power plant unit installed at dam site produce 25100.692 Million units through River Bed Power House and 3385.83 Million units through Canal Head Power House. Urban and rural areas benefited by 1862.56 MCM of Drinking water through SSP. Physical progress of works, including those

not covered under AIBP, as at the end of March-2013 is given at **Annexure-IV**. Quarterly physical progress of works as against the programme envisaged by the executing agency is appended in **Annexure-V**. Year-wise Irrigation potential created and utilized is given in **Annexure-III A**. A district wise achievement of Irrigation Potential for Sardar Sarovar (Narmada) Project is given as below in **Table 5**.

Table 5: District wise Irrigation Potential achievement of Sardar Sarovar (Narmada) Project

Sr. No	District	Proposed potential	Potential Created up to 31/07/213	Potential Achieved %	Reasons for shortfall/ Remark
1	Ahmedabad	327697	103471	31.58	The project is ongoing and as per MoU signed on dated 16/10/2012, the works are planned to be completed by 2015-16.
2	Banaskantha	157985	29867	18.90	
3	Bharuch	165888	140128	84.47	
4	Narmada	18873	18873	100	
5	Bhavnagar	51065	5814	11.39	
6	Gandhinagar	12925	12251	94.79	
7	Kachchh	112779	0	0.00	
8	Kheda	36909	36539	99.00	
9	Anand	122	0	0.00	
10	Mehsana	52228	24386	46.69	
11	Patan	198168	57029	28.78	
12	Panchmahal	3725	3700	99.33	
13	Rajkot	44503	2589	5.82	
14	Surendranagar	351010	46430	13.23	
15	Vadodara	258123	252073	97.66	
	Total	1792000	733150	40.91	

The branch wise status of IP Created and IP Utilized are at Annexure-IIIB

3.2 Financial Progress

3.2.1 Central Assistance

Central Assistance or Loan Assistance under AIBP started from the financial year 1996-97. During financial years 2002-03, 2003-04 and 2004-05, the Project received assistance under Fast Track component also. No CA was provided during year 2009-10 because revised cost estimate were not approved and revised investment clearance by the Planning Commission could not be received by the project. The year wise details of CLA/CA sanctioned and released and the expenditures incurred by SSNNL under AIBP are as in **Table 6**

Table 6: Year wise AIBP Assistance for SSP

Year	CLA sanctioned by GOI	CLA released by GOI	Expenditure on SSP works included under AIBP		
			Works	Establishment	Total
1996-97	95.00	71.25	376.21	56.07	432.28
1997-98	300.00	177.00	602.52	63.02	665.54
1998-99	410.00	410.00	743.06	88.10	831.16
1999-2k	267.00	267.00	550.29	91.87	642.16
2000-01	400.00	400.00	585.81	94.50	680.31
2001-02	480.00	480.00	640.11	100.75	740.86
2002-03	903.00	903.00	626.34	69.31	695.65
2002-03 Fast Track		188.00	188.13	34.11	222.24
2003-04 Fast Track	557.00	557.00	1350.00	92.13	1442.13
2003-04 Fast Track		92.50			
2004-05 Fast Track		92.50	185.74	31.94	217.68
2004-05	600.00	438.00 ^{#1}	904.36	91.93	996.29
2005-06	177.6	339.60	668.90	72.52	741.42
2006-07	315.9	121.89 ^{#2}	956.14	75.48	1031.62
2007-08	750.23	585.72	797.42	87.21	884.63
2008-09	0.00 ^{#4}	251.90 ^{#3}	574.23	86.13	660.36
2009-10	0.00	0.00	240.11	36.02	276.13
2010-11	401.58	361.42	747.08	112.06	859.14
2011-12	1130.216 (recommended) ##	0.00	1727.36	259.10	1986.45
2012-13	1351.39 (recommended)	1285.934	2251.502	337.725	2589.227
TOTAL		7022.714	14715.312	1879.985	16595.3

#1 Rs 162.00 crores of 2004-05 were released in 2005-06 as arrears of 2004-05

#2 Rs 162.42 crores of 2006-07 were released in 2007-08 as arrears of 2006-07

#3 Rs 251.90 crores of 2007-08 were released in 2008-09 as arrears of 2007-08

#4 No release could be made as the proposal for 2008-09 was received from the State at the fag end of the financial year and the observations/comments conveyed by Mon. Dte., CWC, Gandhinagar could not be complied with by the State in time.

out of Rs 3007.90crore demanded by the state for the year 2011-12 amount of Rs. 1130.216 crore was recommended by the CWC headquarter to the MOWR . But no financial assistance was released for SSP during FY 2011-12

3.2.2 Expenditure

As per the new MoU (2012-16), the total financial requirements for completing the canal network upto Minor is Rs. 8254.36 crore and for 2012-13 the requirement as given by SSNNL is Rs. 3300 crore. Government of Gujarat has made a budgetary provision of Rs. 5000 crore for Sardar Sarovar (Narmada) Project during financial year 2013-14. In addition, in the Annual Plan 2012-13, a provision of Rs. 4000 crore has been made for this Project as an extra budgetary resources.

A summary of Financial Progress for the year 2012-13 up to March-2013 for the components under AIBP, is given in **Table 7**.

Table 7: Expenditure under AIBP (Since 1996)

(Rs. In Crores)

Sr. No	Item	Components		Total Expenditure up to September-2012 (25 th Monitoring report)	Expenditure during FY 2012-13 (up to March-2013 from 25 th Report)	Cumulative Expenditure upto March-2013
1.	Works	Unit – II	Main Canal	13362.198	1353.114	14715.312
		Unit – IV	Branch Canal & Dist. System			
2.	Establishment (Unit – II & IV)	Main Canal and Branch Canal & Distribution System		1677.018	202.967	1879.985
	Grand Total			15039.216	1556.081	16595.30

Quarterly financial progress of works as against the balance cost (MoU -2011) and the programme envisaged by the executing agency is appended in **Annexure-VI**

4.0 Physical & Financial progress of the Project between 25th & 26th Monitoring Report

(a) Physical Progress:-

(i) Total irrigation potential created under AIBP that was about 5.61 Lakh Ha up to the end of September-2012 (as reflected in 25th monitoring report), rose to **6.735 Lakh Ha** by the end of March-2013.

(ii) The total IP utilisation that stood at 1.93 Lakh Ha (2011-12) up to the end of September-2012 (as reflected in 25th monitoring report),. The same is 2.015 Lakh Ha by the end of March-2013 during 2012-13 (April-12 to March-13).

(b) Financial Progress:-

(i) The total cost of works under AIBP (Unit-II A and IIB) is Rs 27399.04crore as approved by Planning Commission at 2008-09 price level, out of which Rs16595.30 crore has been spent up to March-2013 and the total CLA/CA released upto2012-13 is Rs.7022.714crore. As per revised MOU for 2012-16, the total financial requirement for completing the canal network up to minors is Rs. 8254.36 crore and for 2013-14 the financial requirement as given by SSNNL is Rs. 2700 crore as per MoU.

(ii) CLA released by GOI since 1996-97 till date is Rs. 7022.714 crore..

(iii) The CLA requested by GOG for the FY 2012-13 was Rs. 1351.39crores, out of which Rs.1351.39 crore was recommended by the CWC HQ to the MOWR. Rs. 1285.934 crore Central Assistance was released in FY 2012-13.

(iv) Total expenditure on SSP work included under AIBP was Rs. 15039.216croreupto the end of September-2012, out of which work component was of Rs. 13362.198 crore and establishment component was of Rs. 1677.018crore.(As reflected in 25thMonitoring Report).

(v) Total expenditure on SSP work included under AIBP now stands at Rs. 16595.30 croreuptoMarch-2013, out of which work component is Rs. 14715.312 crore and establishment component is Rs. 1879.985crore.

5.0 Physical Progress since AIBP support to SSP

The physical progress made in AIBP components since AIBP support was provided to SSP is given in **Table 8**.

Table 8: Year wise Physical Progress- IP Creation.

Sl. no	Year	Irrigation Potential Creation (Ha)			Short fall during the year (Ha)
		Target (As per year wise proposal/MoU)	Achievement	Cumulative Achievement	
1	1996-97	2,000	14989	14,989	NIL
2	1997-98	16,877	11,309	26,298	5,568
3	1998-99	63,607	23,700	49,998	39,907
4	1999-2k	78,900	25,577	75,575	53,323
5	2000-01	94,146	40,116	1,15,691	54,030
6	2001-02	1,32,000	15,055	1,30,746	1,16,945
7	2002-03	1,09,728	10,350	1,41,095	99,378
8	2003-04	54,593	59,628	2,00,724	NIL
9	2004-05	38,400	77,946	2,78,670	NIL
10	2005-06	87,044	33,587	3,12,257	53,457
11	2006-07	66,865	81,840	3,94,097	NIL
12	2007-08	4,12,606	66,135	4,60,232	3,46,471
13	2008-09	20,885	20,885	4,81,117	NIL
14	2009-10	16,963	14,000	4,95,117	2,963
15	2010-11	38,479	28,892	5,24,009	9587
16	2011-12	3,04,233	21,267	5,45,276	282966
17	2012-13	2,25,000	1,28,237	6,73,513	96763

It can be seen from above that project is considerably lagging behind in terms of Irrigation Potential Creation. As against total Irrigation potential of 17.92 lakh Ha, only 673513 lakh Ha has been created up to March-2013 (i.e.37.58%).

The detailed Physical Progress up to the level of Branch Canals, Distributaries, and Minors is given under chapter#12 of the report portion.

6.0 Measures undertaken by Govt of Gujarat for Speedy Implementation

The State Government/ Project Authorities have taken a number of initiatives, some of these were brought out in the earlier monitoring report, towards speedy implementation of the Project which inter alia includes works related to the construction of canals and the distribution network and also the development of the command area network. Some of the main initiatives taken in this regard are as follows.

- 1) Land acquisition compensation to be paid at market rate.
- 2) A High Level Committee has been constituted under the Chairmanship of Humble Minister (Revenue) to speed up the land acquisition work. The progress of land acquisition is being monitored on a day to day basis.
- 3) Joint measurement and preparation of Land Acquisition proposals, Survey and Network Planning and Design works are also outsourced.
- 4) To cope up with the shortage of technical manpower, project monitoring consultants are being appointed.
- 5) To ensure quality of the works , executed, third party quality audit consultants are being appointed.
- 6) Decentralized approach of command area development work adopted.
- 7) Powers are delegated to NGOs for speedy development of the command area.
- 8) Engineering Procurement Construction (EPC) approach adopted for a speedy implementation in the construction of canal network.
- 9) District level Co-ordination Committee under the Chairmanship of District Collector, constituted with elected members/ NGOs/ WUA's participation.
- 10) Government of Gujarat has allocated an outlay of Rs. 9000 crore in 2013-14 Annual Plan for the Sardar Sarovar (Narmada) Project.

Furthermore, the Government in its effort to expedite the canal construction work has also approved tenders for 195 works amounting to Rs. 7887crore from April-2010 to March-2013 and these works are under various stages of implementation.

7.0 POINTS NEEDING ATTENTION.

7.1 Irrigation Potential Creation

As per the revised MoU, the target for creation of Irrigation Potential (IP) for the year 2012-13 was 2,25,000 Ha as against which IP created up to *March -2013* was only 1,28,237 , thus a short fall of about 96763 Ha. The pace of creation of IP is slow as compared to revised targets as per prevailing MUO. The IP created is only 6,73,513 Ha (up to March 2013) and about 37.58% of overall IP to be created. The reasons for slow pace of works vis-a-vis the targets as per revised MOU may be intimated.

It is seen that there are certain areas where focussed and concerted efforts may improve the progress for creation of IP (upto the minor level). All efforts need to be made to achieve the targets as mentioned as per the new MOU (2012-16).

7.2 Irrigation Potential Utilisation

Out of total proposed IP creation of 17.92 Lakh Ha, it is seen that up to March 2013, IP Created is 6.735 Lakh Ha. However, Irrigation Potential Utilised is only 2.015 Lakh Ha (29.9 % of Potential Created). It is suggested that all out integrated efforts need to be made to minimise the gap between Potential Created and Potential Utilised. Various measures undertaken for reducing the gap between IP Created and IP Utilised may be intimated. While discussing with project authorities, it has been mentioned about land acquisition problem at minor level being reason for bottlenecks in IP utilisation. In such cases it is suggested that the option of underground pipe lines may be tried to overcome the issue.

7.3 Land Acquisition

As reported, a major chunk of land required for the distribution system has been acquired except a portion required for Long Canal Siphon on Kachchh Branch Canal. It is necessary to ensure that minor gaps left in various types of canals, esp. in Phase-I and Phase-II, including those left for regulation works, crossings etc, are completed in time. Because of non-acquisition of this piece of land that falls in wildlife sanctuary in little Rann of Kachchh, the through connectivity of Kachchh branch canal is hampered. The gaps in connectivity of canal regulator, in turn impedes the achievement of IP creation. It is therefore suggested that the matter be pursued rigorously with concerned authorities to expedite the progress of acquisition of land and closing the gaps in canal reaches.

7.4 Tendering process

Given the mammothness of the task to complete the works as per schedule as per revised MOU, it is desirable that non-working season of monsoon is utilized to complete tendering process so that works can begin at the very onset of the working season. It is observed at some places that, various processes involved in tendering and construction are lagging behind on account of one reason or the other. During the visit it was also reported that some already awarded works could not be completed as per programme because of some court litigation with the contractors..

Topography and geo technical characteristics of the kachchh branch canal alignment poses many an engineering challenges. In view of the above it is suggested that various associated works to be started in the right earnest at war footing and project authorities may also explore possibilities of clubbing together the works of distributaries and minors with that of sub-branches.

7.5 Quality of Work and Maintenance

Heavy growth of weeds / shrubs was noticed along the Saurashtra Branch Off take near Y-Junction causing damage to brick lined portion. It is suggested that such growths be checked and lining be repaired to reduce further damage. During the visit it was also observed that at few places, the cracks in newly laid lining are developed in distributaries & minor. It is necessary to ensure that any crack in the lining be immediately repaired and also to maintain close and regular monitoring on the quality aspects, so that quality of future work is ensured.

7.6 Command Area Development

As the IP utilisation is significantly less than the IP creation all necessary measures need to be taken up to reduce the gap including the works on CAD below minor. In case where the land acquisition is a hurdle, possibility of providing pressurised irrigation system through network of underground pipes may be explored for implementation, which has numerous advantages. It may please be ensured that pari-passu development of command area with the main canal works be undertaken so that the IP Utilisation figure are improved vis-a-vis the IP Creation. Wherever in command area the conditions are conducive for adoption of sprinkler/drip irrigation system be adopted for better water application efficiency. The water, thus saved, can be utilised to increase irrigation intensive farming practices, modern inputs, technologies and participatory management approach.

7.7 Participatory Irrigation Management (PIM)

The State Government has enacted Participatory Irrigation Management Act in 2007. At present 327 Water User Associations (WUAs) have taken over irrigation management in the project command. Further, 1361 WUAs are registered and are reportedly being activated. The activated WUAs also collect water cess and 35 WUAs are engaged in carrying out maintenance in their respective areas.

The water delivery system is planned to cater to village service area (VSA). Water is to be supplied on a volumetric basis at the head of VSA. Water will be delivered only on the demand by a WUA and not by the individuals.

It is observed that utilisation of created potential is much less than IP created. In order to increase utilisation of created potential, pari-passu implementation of PIM is essential. It is desirable that more & more WUAs are activated & encouraged to take-over maintenance of the distribution network under them.

7.8 R&R

It has been reported that no R&R issues are involved in the canal system works under AIBP.

7.9 Environmental Issues.

The conditions laid down by MOEF, while according the environmental clearance & approval for diversion of forest lands for this project are stated to be complied with. No environmental issue was reported during the monitoring visit.

phāṇa pitvāna

**MONITORING
REPORT**

Sardar Sarovar (Narmada) Multipurpose Project

26th Monitoring Report under AIBP

(1st Monitoring Report for 2013-14)

1.0 NWDT Award

The Narmada Water Disputes Tribunal (NWDT) was constituted in October 1969 to adjudicate upon the dispute regarding sharing of the Narmada waters amongst the States of Madhya Pradesh, Maharashtra, Gujarat and Rajasthan. The NWDT gave its Award in December 1979. The Tribunal assessed the utilizable quantum of the Narmada water at the SSP Dam site at 75% dependability as 28 MAF (34536 Mm³.) and gave its decision regarding apportionment of water among the party States, as shown below **Table 1:-**

Table 1: Water share of co-basin States of Narmada basin

State	Water Share	%
Madhya Pradesh	22511.00 MCM(18.25 MAF)	65.18
Gujarat	11101.00 MCM(9.00 MAF)	32.14
Rajasthan	616.00 MCM(0.50 MAF)	1.78
Maharashtra	308.00 MCM(0.25 MAF)	0.89
TOTAL	34536.00 MCM(28.00MAF)	100

The above apportionment relates to actual withdrawals by party States and not consumptive use. It was also decided that within their share of water, each party State is free to make changes in the pattern of water use and in the areas to be benefited within or outside the Narmada basin in its territory. As per the basin planning recommended by the NWDT, 30 major dams are to be constructed in Narmada basin up to SSP apart from a number of medium and minor schemes. The water allocated and utilized by co-basin States during the hydrologic year 2011-12 as taken from NCA report is as under:

Table 2: Narmada Water Status during 2011-2012

Sl. No	State	Share of utilisable flow among party States in 2011-12 ¹		Actual Withdrawals during 2011-12 ¹		Observed flow at Garudeswar during 2011-12 ²	
		MCM (MAF)	%	MCM (MAF)	%	MCM (MAF)	%
1	Madhya Pradesh	27224.63 (22.07)	65.18	7056.70 (5.72)	54.00		
2	Gujarat	13425.85(10.88)	32.14	5734.50 (4.65)	43.89		
3	Maharashtra	372.94 (0.30)	0.89	-	-		
4	Rajasthan	745.88 (0.60)	1.78	274.98 (0.22)	2.10		
	TOTAL	41769.30 (33.85)	100	13066.18 (10.59)	100	21732 (17.62)	52.03

Note 1: As per AWA of Narmada Basin, Water Year 2011-2012, NCA, Indore.

2: As per Water Year Book 2011-2012, NBO, CWC.

2.0 Sardar Sarovar Project

Sardar Sarovar (Narmada) Project (SSP) with Gross Storage Capacity of 9497.95 MCM (7.7 MAF) and Live storage Capacity of 5822.12 MCM (4.72 MAF) is an inter-state multipurpose project located in Barouche District, Nidd Toluca of Gujarat 5.63 km

upstream of Nava am village. The project would provide annual irrigation 17.92 lakh Ha in Gujarat. Also special allocation of 0.86 MAF has been made for providing drinking water to 135 urban centres and 8215 villages covering current population of 18 million. Hydro power benefits to the tune of 1450 MW through 6x 200 MW river bed power house and 5 units of 50MW through canal head power house are also envisaged. Project also provides incidental flood protection. Constructions of the following engineering works are envisaged.

- i. A concrete gravity dam across river Narmada near with a gross storage capacity of 7.7 million acre feet (MAF) and a live storage capacity of 4.73 MAF with central spillway to pass a design discharge of 87000 cumec.
- ii. Narmada Main canal 458 km long upto the Gujarat Rajasthan State Border with the capacity at the head as 1133 cumecs tapering down to 78.80 cumec at Gujarat- Rajasthan State Border. Subsequently, the canal enters Rajasthan to provide irrigation to about 2.46 lakh ha.
- iii. A river bed power house comprising of 6 units of 200MW each.
- iv. Canal head power house on the right bank comprising 5 units of 50 MW each.
- v. 4 no's of natural ponds for regulation of release from canal head power house into main canal.
- vi. There are 38 branch / sub branch canals totalling 2585 km off taking from Narmada Main Canal. There are several distributaries and minors/sub-minors having total length of 5112 km and 66471km respectively. Irrigation benefits envisages under the project are as follows:
- vii. CCA 21.20 lakh Ha
- viii. Annual irrigation 17.92 lakh Ha
- ix. Benefit Cost Ratio 1.63
- x. Salient features of the project are given at **Annexure-I**.

Sardar Sarovar (Narmada) Project, Gujarat has been under Accelerated Irrigation Benefit Programme (AIBP) since 1996-97. Central Water Commission has been entrusted with the monitoring of the project under the programme. The First Monitoring Report of the Project was brought out during January 1997. This is the 26th Monitoring Report prepared by Monitoring Directorate, CWC, and Gandhinagar.

The ongoing canal works in the command area of Saurashtra Branch Canal, Valabhipur Branch Canal, Limbdi Branch Canal, Botad Branch Canal, Morbi Branch Canal and Maliya Branch Canal were inspected by Director, Monitoring Directorate, Central Water Commission, and Gandhinagar on 17th and 18th April, 2013 and discussions were held with Project officials. This report is prepared based on the inputs received from project official's inspection of the ongoing works and the status of work. Salient features of the project are given at **Annexure-I**.

2.1 The Memorandum of Understanding

A fresh MoU has been signed in October-2012 by Mower, Goo and Gog on completion of the ongoing selected canal system of Sardar Sarovar project under AIBP. Progress achieved till March 2012 was accounted for while fixing targets under the MoU-2012. Till March 2012, the expenditure on the canal system is Rs12463.81crore on works and a potential of 545276 was already created thus leaving a net IP of 1246724Ha for

further creation. Under the MoU, Mower, Goo agreed to extend Central Assistance to cover the full balance cost of Rs8254.36crore for the completion of ongoing canal system of Sardar Sarovar Irrigation Project in a period of four financial years from 2012-13 to 2015-16 subject to conditions mentioned in the MoU. A copy of the MoU is placed at **Annexure-II**.

2.1.1 Components of Works Proposed Under AIBP 2012-13

The works on Narmada Main Dam and Hydro Power Complex are already completed. The components covered under AIBP are as annexed with the MoU given at **Annexure-II** mentioned above. These include some parts of main canal, branch canals and distribution System. The entire canal system is divided in mainly two Phases as given below:

- **Phase - I : from km 0 to km 144.5**
- **Phase - II : from km 144.5 to km 458.412**

The Phase-II has been further divided in three reaches:

Phase-II A: km 144.500 to km 263.165

Phase-II B: km 263.265 to km 388.164

Phase-II C: km 388.164 to km 458.412 (Gujarat-Rajasthan Border)

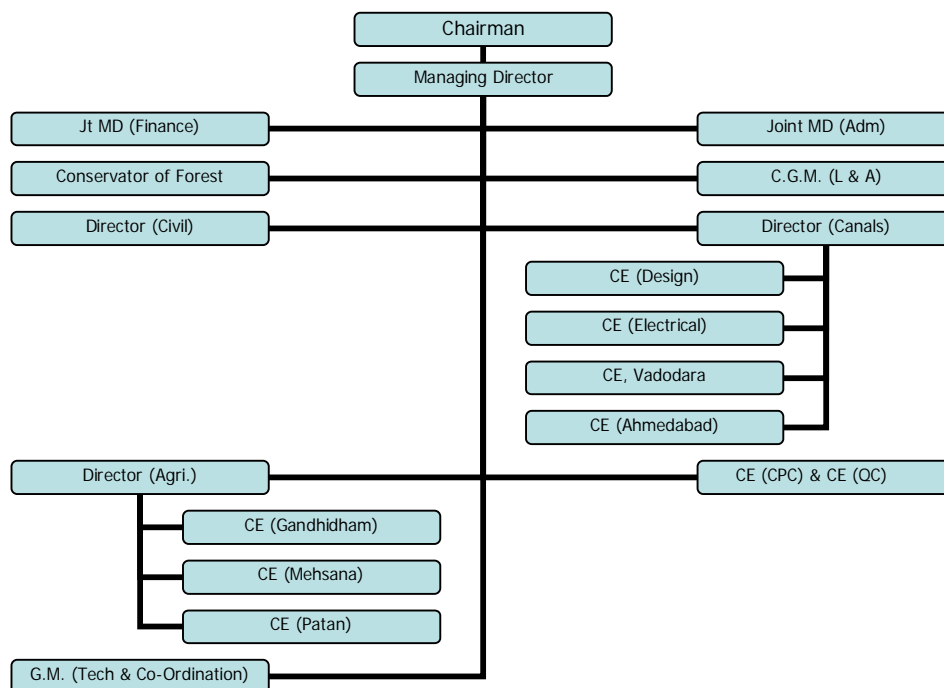
Various components falling under these phases are given in Annexure to the MoU.

3.0 Change in Scope, if any

There is no change in scope of the project.

4.0 Organisational Set-up for the Project:

The project is being executed by Sardar Sarovar Narmada Nirman Nigam Limited, a wholly owned enterprise of the Govt of Gujarat. Its organisation chart is as follows:



5.0 Contractual Arrangements

All major bids are invited by e-tendering mode so as to ensure transparency and responsiveness in the bidding process.

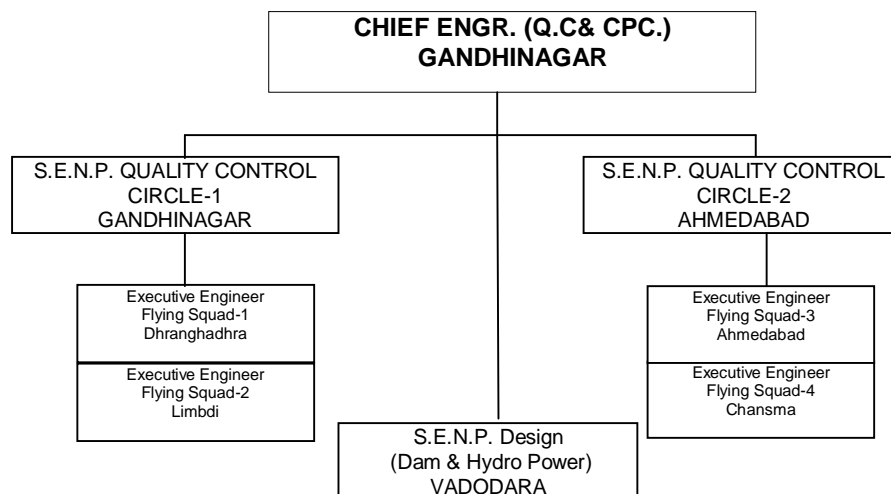
Online tender procedure is being followed for any work above Rs. 1.5 Crore by central procurement cell of SSNNL. At present two types of tendering procedure is being followed in SSNNL. (1) B-2 tender and (2) EPC tender. The tenders are invited in two bid cover system. Initially prequalification procedure is followed vigorously and after that price bid is opened and followed. Tender and Purchase Committee is empowered to take decision for tender above Rs. 25 Crore. The tenders costing less than Rs. 25 Crore processed as per Delegation of Powers in SSNNL.

6.0 Quality Assessment:

Quality Control laboratories are set up at Kevadiya Colony, Bodeli, Vadodara, Bharuch, Karjan, Ahmedabad, Sanad, Mehsana, Limbdi, Dhandhuka, Botad, Dhraghdhra, Morbi, Radhanpur, Chansma, Patan, Harij, Tharad, BhachauBhabhar, Deodar and Gandhidham. The details of quality control are given as under:

6.1 Organisation set up

Sardar Sarovar Narmada Nigam Ltd has set up a post of Chief Engineer (Quality control& CPC), working directly under Managing Director, SSNNL. At present, two Quality control Circles headed by the Superintending Engineers are working. Quality Control Circle No.1 working at Gandhinagar to look after the works of NMC from Ch. 144 to 263 km including Saurashtra Branch Canal. Quality Control Circle No.2 working at Ahmedabad to look after the works of NMC beyond Ch. 263 km. Superintending Engineer N.P.Design (Dam & Hydro Power) working at Vadodara is given additional charge to look after the work of quality control from Ch. 0 to 144 km of NMC. The organizational set up of above referred two QC circles is shown below:



6.2 There are two flying squads under the Quality Control Superintending Engineer N.P.Q.C.C.-1 & 2 i.e. total 4 Nos. of flying squads. Moreover, there is one Executive Engineer working directly under each field Chief Engineer. Also, one or more sub division offices of quality control are working directly under each field Superintending Engineer depending upon the work load.

6.3 Quality Control laboratories are set up at Kevadiya Colony, Bodeli, Vadodara, Bharuch, Karjan, Ahmedabad, Sanad, Mehsana, Limbadi, Dhandhuka, Botad, Dhraghdhra, Morbi, Radhanpur, Chansma, Patan, Harij, Tharad, BhachauBhabhar, Deodar and Gandhidham with the following testing facilities.

- I. Soil testing: (a) Grain size analysis (b) Hydrometer test
(c) Atterberg limits (d) Standard Proctor test
(e) Swelling Pressure test (f) Field dry density test.
- II Fine aggregate: (a) Gradation test (b) Fineness Modulus (c) Silt Content.
- III Coarse Aggregates: (a) Gradation test
(b) Specific gravity and water absorption test
(c) Flakiness
(d) Impact test.
- IV Bricks: (a) Dimension & tolerance (b) Water absorption
(c) Compressive strength (d) Effloresce.
- V Cement: (a) Consistence (b) Initial and Final setting time
(c) Fineness (d) Compressive strength
(e) Soundness.

6.4 The quality control manual “The guidelines for quality assurance and quality control for various canal works”, Sardar Sarovar Narmada Nigam Ltd, Gandhinagar, July, 1997 is being followed to enforce quality control norms.

7.0 Land Acquisition and R&R

7.1 Land Acquisition

The detailed status of land acquisition of private, Govt. and forest land is shown in **Annexure–VII**.

The 17982 Ha of private land is required to be acquired for canal system under Phase-I out of which 17958 Ha has already been acquired till March-2013 and 24 Ha is yet to be acquired. Out of the total 1361 of Govt. land and 60.56Ha of forest land coming under Phase-I, 1331 Ha of Govt. land and 60.56Ha of forest land have been acquired. Similarly, for Phase-II, 36488 Ha of private land out of total required 30993 Ha has been acquired while out of the total 4672 Ha of Govt. land and 604 Ha of forest land coming under Phase-II, 3752 Ha of Govt. land and 315 Ha of forest land have been acquired. Remaining land is planned to be acquired on priority as per procedure of Land Acquisition Act.

7.2 Resettlement & Rehabilitation

A summary of R&R activities in Gujarat is given at **Annexure-VIII**.

8.0 Environmental Clearance:

All conditions laid down in the letter No. 3-87/80-I-A dated 24th June, 1987. and letter No. 8-372/83-FC dated 8th September, 1987 issued by the Ministry of Environment and Forest while according the environmental clearance and the approval for diversion of forest land for this project respectively are fully complied with. On the 3rd June, NCA was expanded and independent machinery called Environment Sub Group was created to ensure that the environment safe guard measures are planned and implemented pari-passu. Even, all the

environment related aspects are being monitored regularly by NCA and ECG of NCA. The details are given by NCA in its Annual report.

9.0 Techno-economic Appraisal

Initially, the Technical Advisory committee of MOWR in its 40th meeting held on 13-07-1988 accepted the project proposal for Rs. 6406.04 Crore (Price Level 1986-87) with BC ratio as 2.08.

Subsequently, the Technical Advisory committee of MOWR in its 103rd meeting held on 11-03-2010 accepted the project proposal for Rs. 39240.45 crore (Price Level 2008-09) with BC ratio as 1.63 and recommended the same to the Planning Commission for revised investment clearance.

10.0 Estimated Cost:

The original estimated cost of the project, as approved by Planning Commission was Rs. 6406 Crores at 1986-87 price level. The latest estimated total cost of the project as approved by the Planning Commission. As per investment clearance accorded vide its letter No. 2 (194)/ 2010 WR Dated 20-5-2010, is Rs.39240.45 crore at 2008-09 price level. As per revised estimated cost as concurred by the Central Water Commission, GoI, the total cost of the entire canal system (including CADWM works) of the project is Rs 27150.13 crore.

11.0 External Assistance

There is no foreign assistance given to this project during this year.

12.0 Physical Programme & Progress of Works

12.1 Status of works under Phase-I

The phase-I of Sardar Sarovar Project covers CCA of 4.47 lakh Ha between rivers Narmada and Mahi. The works of Phase-I covers Narmada Main canal from 0 to 144.5 km including branch canals, distributaries and minors. The works of Narmada Main canal and branch canals have been completed and the works of distributaries and minors are in under progress. The canal wise progress achieved is as under up to March-2013:

Sr No	Description of Canal	Total Nos	Total Length (km)	Completed Length (km)	Percentage completion
1	Main Canal	1	144.50	144.50	100
2	Branch canal	14	656.91	656.91	100
3	Distributaries	204	1101	1101	100
4	Minors	1285	4434	4115	92.80

A summary status of the Branch Canals with their distributaries under Phase-I is as follows.
(Length in kms)

Sr No	Name of Branch canal	Branch Canal		Command area covered in Ha.	Distributory			Minor		
		Total Length	Status		No	Total Length	Status	No	Total Length	Completed as on 31-3-2013
1	Wadia Br. Canal	3.65	Comp	9868	4	27.2	Comp	24	75.21	75.21
2	Tilakwada Br. Canal	9.85	Comp	7202	3	15.48	Comp	24	60.7	60.7
3	Mandva Br. Canal	23.34	Comp	12701	9	27.68	Comp	30	116.22	116.22
4	Bhilodia Br. Canal	23.68	Comp	13031	3	22.09	Comp	31	124.61	124.61
5	Sankheda Br. Canal	0.09	Comp	7456	3	29.2	Comp	19	64.22	64.22
6	Miyagam Br. Canal	86.6	Comp	58895	22	143.54	Comp	160	594.57	563.55
	Por Br. Canal	14.95	Comp	8591	4	17.51	Comp	24	84.48	84.48
	Untiya Br. Canal	9.3	Comp	7333	3	25.315	Comp	27	55.33	55.33
	Luwara Br. Canal	67.2	Comp	55823	29	141.005	Comp	124	525.92	426.62
	Dora Br. Canal	15.615	Comp	14166	4	30.24	Comp	42	164.74	161.75
	Sayekha Br. Canal	7.56	Comp	8058	3	19.04	Comp	28	98.43	98.43
	Denwa Br. Canal	8.13	Comp	10230	3	22.68	Comp	31	103.95	71.33
	Amleshwar Br. Canal	69.59	Comp	46194	23	138.42	Comp	186	485.92	438.21
	Sinor Br. Canal	4.45	Comp	3708	1	9.08	Comp	10	29.19	29.19
7	Gojali Br. Canal	3.9	Comp	10932	3	31.45	Comp	36	95.65	95.65
8	Vadodara Br. Canal	115.09	Comp	80227	44	216.815	Comp	225	757.99	670.40
	Kundhela Br. Canal	44.2	Comp	17143	8	27.9	Comp	51	189.41	189.41
	Jambusar Br. Canal	43.02	Comp	18559	8	35.02	Comp	45	137.81	133.89
9	Dena Br.	11.831	Comp	10602	3	16.73	Comp	28	115.34	115.34
10	Dumad Br.	6.937	Comp	6184	3	24.74	Comp	19	73	69.40
11	SakardaBr.Canal	35.135	Comp	17195	10	32.02	Comp	45	209	198.71
	Ranoli Br.	30.32	Comp	8644	4	17.99	Comp	29	121.99	121.99
12	ZumakhaBr.Canal	3.08	Comp	3105	1	6.27	Comp	10	30.72	30.72
13	Nahra Br. Canal	4.1	Comp	5237	3	13.34	Comp	18	54.7	54.7
14	DesarBr.Canal	15.29	Comp	5525	3	10.315	Comp	19	64.9	64.9
	TOTAL	656.91		446609	204	1101.07		1285	4434	4114.76

12.2 Status of work under Phase-IIA and Saurashtra Branch Canal

The work of Main Canal and Branch Canal up to NMC Chainage 263 km is completed. The work under distribution system i.e. Distributory and minors are in progress in Phase-IIA. The length-wise progress, excluding Saurashtra Branch Canal, is as follows.

Sr. No.	Type of canal	Total Nos.	Total length km.	Completed length km.	Percentage Completion
1.	Branch canals	7	218.15	218.15	100
2.	Distributaries	63	341.843	313.345	91.66
3.	Minors	359	1427.216	1275.916	89.4

Status of the Branch Canals with their distributaries under Phase-IIA is as follows.

(Length in kms)

Sr No	Name of Branch Canal	Branch Canal		Distributory			Minor		
		Total Length	Completed length as on 31-3-2013	No	Total Length	Completed length as on 31-3-2013	No	Total Length	Completed length as on 31-3-2013
1	Sanali	11.43	11.43	5	8.472	8.472	14	60.643	60.643
2	Mahemdabad	13.925	13.925	5	23.56	23.56	25	147.067	147.067
3	Ghodasar	21.54	21.54	5	12.797	12.797	25	117.84	117.84
4	Vehlal	24.58	24.58	5	30.01	30.01	40	161.285	159.905
5	Daskroi	3.87	3.87	1	10.13	10.13	13	55.475	55.475
6	Dholka	114.63	114.635	28	163.80	138.522	156	478.86	344.691
7	Sanand	28.17	28.17	9	70.654	67.439	64	274.97	259.221
	Direct Distributaries								
1	Thasra			1	2.565	2.565	22	25.021	25.021
2	Dabhali			1	3.92	3.92		35.626	35.626
3	Vajewal			1	7.73	7.73		26.357	26.357
4	Vasna Dapat			1	7.7	7.7		28.27	28.27
5	Bahiyal			1	0.5	0.5		15.8	15.8
	Total	218.15	218.15	63	341.84	313.345	359	1427.2	1275.916

Saurashtra Branch Canal

Saurashtra Branch Canal (SBC),offtaking at ch. 263.165 km of Narmada Main Canal (NMC), will cover 5.32 lakh Ha under its command in districts of Mehsana, Ahmedabad, Surendranagar, Rajkot and Bhavnagar. The work of SBC in entire 104.46 km length is completed except erection of embedded parts in some of the structures.

Water supply for irrigation and drinking purpose involves lift of about 66 m (revised from 71 m) at 5 different locations along SBC. As such, five pumping stations are planned and executed along SBC at various locations as mentioned below:

Pumping station	SBC chainage in km.	Nearby village
PS-1	68.486	Dhanki
PS-2	77.165	Lakhtar
PS-3	87.950	Bala
PS-4	93.205	Rajpur
PS-5	102.840	Dudhrel

The work of installing all CVT pumps and VT pumps at five pumping stations is completed. The work at PS-1 is completed in all respect and operative. The work of PS-2, PS-3, PS-4 & PS-5 are nearly at completion stage. The power connection to all pumping stations is made available.

A total of seven sub-branches offtake from Saurashtra Branch Canal. The work of three sub-branches viz. Narsingpura, Maliya and Vallabhipur is completed. The work of remaining four sub-branches viz. Dhrangadhra, Limdi, Botad and Morbi is under progress.

Lengthwise progress for SBC and its distributaries and minors is as follows

(Length in km)

Sr. No.	Name of Sub-branch	Length of sub-branch	Completed length of sub-branch	Distributory			Minor		
				Nos.	Total length	Comp. Length	Nos.	Total length	Comp. Length
1	Narsing-pura	32.01	32.01	5	47.898	45.78	39	172.17	90.36
2	Vallabhi-pur	118.751	118.751	31	389.44	87.25	299	1020	129.08
3	Limbdi	117.74	117.74	26	274.594	0	236	806.38	0
4	Botad	109.85	96.61	22	163.07	16.59	205	512.62	0
5	Morbi	119.01	17.92	16	123.73	50.46	160	471.90	30.39
6	Dhranghadhra	124.98	120.33	27	219.50	6.25	231	793.7	0
7	Maliya	137.93	137.93	38	147.67	6.83	105	311.97	18.41

12.3 Status of works under Phase-IIB

The work of Main Canal and Branch Canal up-to NMC Chainage 368 km is completed. The work under distribution system i.e. distributory and minors is in progress in Phase-IIB. The CCA is approximately 3.27 lakhHa and work of distribution system started during 2010-11. The canal wise progress achieved up to March-2013 is as follows:

Sr No	Description of Canal	Total Nos	Total Length (km)	Completed Length (km)	Percentage completion
1	Main Canal	1	105	105	100
2	Branch canal	8	316.6	316.577	99.99
3	Distributaries	100	800	719.50	89.90
4	Minors	683	3024	1126	37.23

Status of the Branch Canals with their distributaries under Phase-IIB is as follows.

(Length in km)

Sr No	Name of Branch Canal	Branch Canal		Distributory			Minor		
		Total Length	Completed length as on 31-3-2013	No	Total Length	Completed length as on 31-3-2013	No	Total Length	Completed length as on 31-3-2013
1	Viramgam-I	17.17	17.17	7	35.88	35.88	36	167.35	13.15
2	Viramgam-II	38.87	38.87	6	33.82	33.82	47	213.06	7.83
3	Goraiya	36.29	36.29	10	123.33	99.09	85	437.79	125.30
4	Kharaghoda	43.68	43.68	15	64.51	60.76	73	284.19	59.82
5	Jhinjhawada	57.78	57.78	19	222.56	222.19	194	917.70	274.93
6	Bolera	25.39	25.39	16	117.97	110.63	93	367.36	210.04
7	Rajpura	42.45	42.45	16	102.18	98.87	91	357.72	229.90
8	Amarapura	55.31	54.95	11	61.91	58.27	64	284.07	205.27
	Total	316.93	316.577	100	762.15	719.501	683	3029.24	1126.24

12.4 Status of works under Phase-IIC

The works of NMC is almost completed and water is flowing since March-2008. The work of radial gates and stoplog is under progress. Remaining works of NMC reach Ch. 368.431 to 388.118 km at risk and cost of original agency is divided into three packages. Work of Package 10/I is completed. Work of Package-10/II and 10/III which are outside the canal prism area are almost completed. Hence, there are no constraints in flowing of water in NMC.

The work of Radhanpur branch, Malsan, Madka and Dhima is completed while the works of Vejpur, Kutch and Gadsisar branch canal are in progress. The CCA under this phase is approximately 2.40 lakh hectare.. The Kutchha Branch Canal (KBC) is a major branch canal having a CCA of 1.13 lakh Ha under its command.

The canal wise progress achieved is as under up to March-2013:

Sr No	Description of Canal	Total Nos	Total Length (km)	Completed Length (km)	Percentage completion
1	Branch canal	6	160.82	97	60.32
2	Distributaries	83	607	60	9.88
3	Minors	386	1323	15	1.13

Status of the Branch Canals with their distributaries under Phase-IIC is as follows.

Sr No	Branch Canal	Command at canal head (Ha)	(Length in km)							
			Branch Canal		Distributory			Minors		
			Total Length	Comp. length	No	Total Length	Comp. length	No	Total Length	Comp. Length
1	Radhanpur(incl. Sub branch)	59947	65.04	65.04	27	245	60	142	432	15
2	Vejpur	35612	24.00	3.25	11	65	0	54	195	0
3	Madka	19514	19.05	19.05	11	81	0	49	192	0
4	Malsan	25034	15.78	9.66	12	70	0	39	137	0
5	Dhima	21314	14.12	0.00	10	81	0	46	167	0
6	Gadsisar	25951	22.83	0.00	12	65	0	56	200	0
	Total		160.82	97.00	83	607	60	386	1323	15

12.5 Kachchh branch Canal

The Kachchh Branch Canal (KBC) is the longest branch canal of the Narmada Canal system having total length of 357.185 km. It off takes from NMC at km 385.814 and traverses through Banaskantha and Patan District in length upto km 98.50 and thereafter crossing little Rann of Kachchh enters the Kachchh district at km 105.00. It is planned to cover 1,75,800 Ha CCA under KBC.

Status of Kachchh branch canal with their Distributory & minor is as under.

Sr No	Branch Canal	Command at canal head (Ha)	(Length in km)							
			Branch Canal		Distributory			Minors		
			Total Length	Comp length	No	Total Length	Comp length	No	Total Length	Comp length
1	KBC (0-82)	175800	82	77.00	22	138	36	107	340	30
2	KBC (82-357)	112778	275+156 (sub branch of KBC)	41.83	55	233	0	316	1071	0

Work of K.B.C. Ch. 0 to 32.97 km is already completed and water is flowing in this reach. Works of constructing K.B.C. from Ch. 32.97 km to 112.50 km, 122.219 km to 189.977 km, 201.206 km to 231.022 km, 243.839 km to 257.956 km and 354.542 km to 357.185 km are already awarded and are in progress. The work of Wandhiya Sub branch 0 to 23.74 km and Gangodar Branch Canal is also in progress.

The work of Sub Branches along with the works of Distributaries and Minors are planned to be invited shortly

In reaches from km 45 to km 55, km 65 to km 82 and Radhapur and Manapura sub-branch, RBC distributary including minors have been planned for execution under three respective EPC contracts. Works have already been awarded and is progress.

12.6 Vallabhipur Branch Canal

The ongoing canal works as shown below were inspected on 17th april-2013

1.0 Kalam Distributary (D-2). Kalam minor 1(R) & its Br. Minor, Olak Minor-1(R), Olak Minor 2(R) & Chharad Minor(L) & Br.Minor 1 & 2 of vallabhipur Branch Canal.

2.0 Gadthal Distributary (D-4). Talsana Minor(1), Bhalala Minor, Talsana Minor -2, Talsana Minor-3, Vadekhan Minor, & its Br. Minor, Talsana Minor-4, Gadthal minor-1 & Gadthal Minor-2.

Status of inspected ongoing canal works is given in **Annex-III** enclosed herewith.

Salient features of the above Canal Works are given as under.

The work of Kalam Distributary (D-2), Kalam minor-1(R) & its Br.Minor, Olak minor-1(R), Olak Minor-2(R), Chharad Minor(L) & Br.Minor 1 & 2 are visited by CWC team on dated 17/04/2013.

The work is awarded to M/s GKC Projects Ltd., Hyderabad on dtd. 13/4/2013. The works are in progress.

The Kalam Distributary is offtaking from Vallabhipur Branch Canal @ ch. 2846 m. and Vallabhipur Branch Canal is offtaking from SBC @ Ch. 70.68 Km.

Status of progress of Kalam Distributary and its minors is as under.

Sr.No	Particulars	Name of canal	Unit	Total Quantity	Completed	Under progress
1	Earth Work	Distributary	KM	5.19	3.96	1.23
		Minor	KM	21.541	3.45	18.091
2	Lining	Distributary	KM	5.19	2.074	3.116
		Minor	KM	21.541	0	21.541
3	Structures	Distributary	No	17	3	14
		Minor	No	73	3	70
4	Financial		Rs in Crores	7.101	0.63	6.471

(1) The work of Gadthal Distry, Talsana minor-1, Bhalala Minor, Talsana minor-2, Talsana Minor-3, Vadekhan minor & its Branch minor, Talsana Minor-4, Gadthal Minor-1 & Gadthal Minor-2 of vallabhipur Branch Canal are visited by the CWC team on dated 17/04/2013.

The work is awarded to Karnavati Infrastructure Pvt. Ltd., Ahmedabad on at. 18/12/09 & the works are in progress.

The Gadthal Distributary (D-4) is offtaking from Vallabhipur Branch Canal @ ch. 13182m. and Vallabhipur Branch Canal is offtaking from SBC @ Ch. 70.68 Km.

Status of progress of the work is as under

Sr.No	Particulars	Name of canal	Unit	Total Quantity	Completed	Under progress
1	Earth Work	Distributory	KM	7.027	7.027	0
		Minor	KM	41.33	34.518	6.818
2	Lining	Distributory	KM	7.027	7.027	0
		Minor	KM	41.336	24.537	16.799
3	Structures	Distributory	No	26	26	0
		Minor	No	177	118	59
4	Financial		Rs in Crores	9.327	6.740	2.587

The work is awarded to Karnavati Infrastructure Pvt. Ltd., Ahmedabad on at. 18/12/09 & the works are in progress.

The ongoing canal works as shown below were inspected by Director (Monitoring), Central Water Commission, Gandhinagar on 18th April-2013.

1. Malod Distributory (LD-2) of Botad Branch Canal.

2. Gundiylala Distributory (LD-3) of Botad Branch Canal.

Salient features of the above Canal Works are given as under:

1) The work of Malod Distributory LD-2 and Gundiylala Distributory (LD-3) are visited by the CWC team on dated 18th April 2013.

The work is awarded to M/s S.B. Patel, Vadodara. on dated 28-09-2011. & the works are in progress.

The Malod Distributory is offtaking from Botad branch Canal @ Ch 7.490Km and Botad Branch Canal is offtaking from DholiDhaja Dam.

Status of Progress of Malod Distributory(LD-2) is as Under:

Sr.No	Particulars	Name of canal	Unit	Total quantity	Completed	Under Progress
1	Earthwork	Distributory	Km	6.028	4.842	0.00
2	Lining	Distributory	Km	6.028	4.247	0.00
3	Structure	Distributory	Km	16	10	0.00

2) The Gundiylala Distributory is offtaking from Botad branch Canal @ Ch. 14.710Km and Botad Branch Canal is offtaking from DholiDhaja Dam.

Status of Progress of Gundiylala Distributor(LD-3) is as under:

Sr.No	Particulars	Name of canal	Unit	Total quantity	Completed	Under Progress
1	Earthwork	Distributory	Km	9.689	7.950	0.00
2	Lining	Distributory	Km	9.689	6.980	0.50
3	Structure	Distributory	Km	29	19	0.00

Name of Division: E.E. S.B.C.Dn.No.2/1, Dhrangadhra (Maliya Branch Canal)

12.6 Status of works visited on 17 & 18 April 2013

The ongoing canal works as shown below were inspected on 18-04-2013.

1.0 Bharada Distributory (MD-11) of Maliya Branch Canal.

Salient features of the above canal works are given as under:

- (1) Bharada Distributory (MD-11) of Maliya Branch Canal are visited by the CWC team on dated 18-04-2013 afternoon.
- (2) The work is awarded to M/S HES Infra Pvt. Ltd, Hyderabad on dated 21-10-2011 and the works are in progress.
- (3) The Bharada Distributory is offtaking from Maliya Branch Canal @ 30.925 Km. & Maliya branch canal is off taking from SBC @ ch. 69.493 km

Status of progress of Bharada Distributory and its minors is as under on dated 31-03-2013:

Sr.No	Particular	Name of Canal	Unit	Total Quantity	Completed	Under progress
1	Earth work	Distributory	KM	5.535	4.99	0.545
		Minor	KM	41.181	19.957	14.521
2	Lining	Distributory	KM	5.535	0	4.99
		Minor	KM	41.181	12.717	7.24
3	Structure	Distributory	KM	17	0	0
		Minor	KM	172	8	1
4	Financial		Rs. In Crores	9.96	2.2151	1.5859

Status of works visited on 18th April-2013
Superintending Engineer, SBC Circle No.3, Surendranagar

Name of Division: E.E. S.B.C.Dn.No.5/1, Dhrangadhra (Dhrangadhra Branch Canal)

The ongoing canal works as shown below were inspected by Director (Monitoring), Central Water Commission, Gandhinagar on 18th April-2013.

1. Vana Distributory (D-4) of Dhrangadhra Branch Canal.

Salient features of the above Canal Works are given as under:

- 1) The work of . Vana Distributory D-4 is visited by the CWC team on dated 18th April 2013.

The work is awarded to M/s Madhucon Projects Ltd, Hyderabad on dated 12-10-2011. & the work is in progress.

The . Vana Distributory is offtaking from Dhrangadhra branch Canal @ Ch 11.348 Km and Dhrangadhra Branch Canal is offtaking from Saurashtra Branch Canal.

Status of Progress of Vana Distributory(D-4) is as Under:

Sr. No	Particulars	Name of canal	Unit	Total quantity	Completed	Under Progress
1	Earthwork	Distributory	Km	5.814	1.0	0.00
2	Lining	Distributory	Km	5.814	0.2	0.00
3	Structure	Distributory	Km	23	0	0.00

Monitoring visit of CWC on dated 18-04-2013.

Superintending Engineer, SBC Circle No.3, Surendranagar

Name of Division: E.E. S.B.C.Dn.No.6/2,Surendranagar (Morbi Branch Canal)

12.6 Status of works visited on 17 & 18 April 2013

The ongoing canal works as shown below were inspected by Director (monitoring), Central water commission, Gandhinagar on 18-04-2013.

2.0 Bala Distributory (D-1) of Morbi Branch Canal.

Salient features of the above canal works are given as under:

- (1) Bala Distributory (D-1) of Morbi Branch Canal are visited by the CWC team on dated 18-04-2013 afternoon.
- (2) The work is awarded to M/S Shashin Construction Co. Ltd. Ahmedabad on dated -23-03-2012 and the works are in progress.
- (3) The Bala Distributory is offtaking from Morbi Branch Canal @ 4.24 Km. & Morbi branch canal is offtaking from SBC @ ch. 104.330 km

Status of progress of Bala Distributory and its minors is as under on dated 31-03-2013:

Sr. No.	Particular	Name of Canal	Unit	Total Quantity	Completed	Under progress
1	Earth work	Distributory	KM	9.323	7.400	1.923
		Minor	KM	12.445	12.296	0.149
2	Lining	Distributory	KM	9.323	5.600	3.723
		Minor	KM	12.445	9.965	2.480
3	Structure	Distributory	KM	32	18	14
		Minor	KM	54	24	30

3.0 Rajcharadi Distry (D3) of Morbi Branch Canal.

Salient features of the above canal works are given as under:

- (1) Rajcharadi Distributory (D-3) of Morbi Branch Canal are visited by the CWC team on dated 18-04-2013 afternoon.
- (2) The work is awarded to Sorathia Velji Ratna & Company Vadodara on dated -12-03-2012 and the works are in progress.
- (3) The Rajcharadi Distributory is offtaking from Morbi Branch Canal @ 10.220 Km. & Morbi branch canal is offtaking from SBC @ ch. 104.330 km

Status of progress of Bala Distributary and its minors is as under on dated 31-03-2013:

Sr.No	Particular	Name of Canal	Unit	Total Quantity	Completed	Under progress
1	Earth work	Distributary	KM	13.929	11.120	2.809
2	Lining	Distributary	KM	13.929	10.800	3.129
3	Structure	Distributary	KM	36	30	6

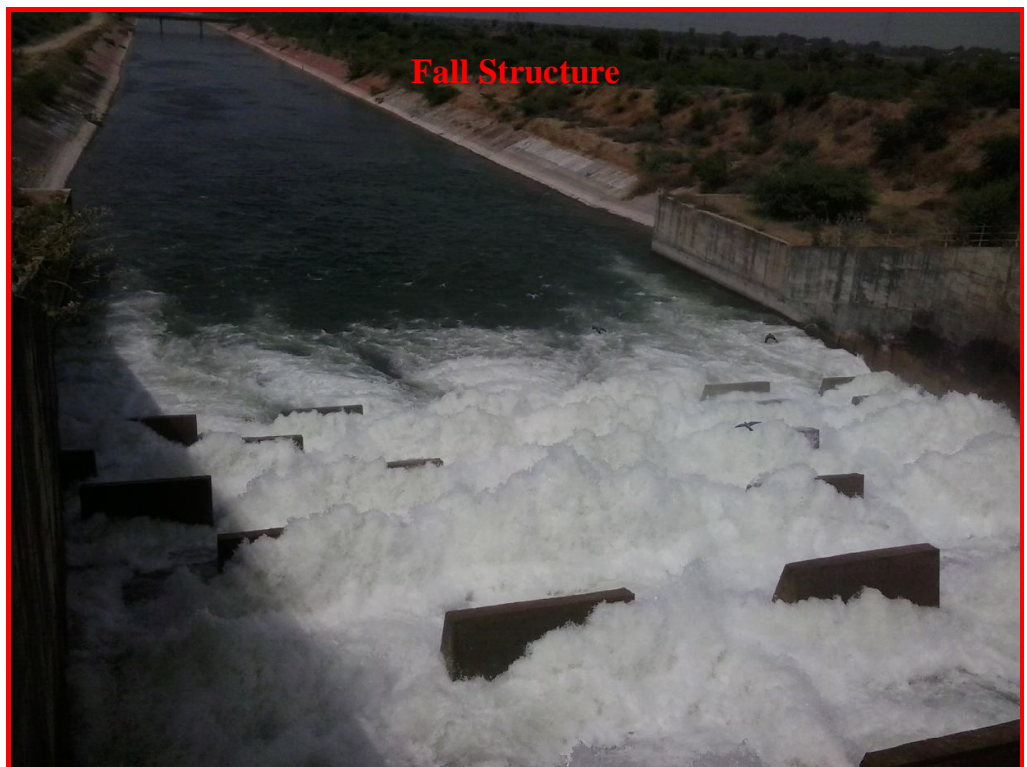
12.7 Measures for Speedy Implementation

The State Government/ Project Authorities have taken a number of initiatives, Some of these were brought out in the earlier monitoring report, towards speedy implementation of the Project which *inter alia* include works related to the construction of canals and the distribution network and also the development of the command area network. Some of the main initiatives taken in this regard are as follows.

- (1) Land acquisition compensation to be paid at market rate.
- (2) A High Level Committee has been constituted under the Chairmanship of Hon'ble Minister (Revenue) to speed up the land acquisition work. The progress of land acquisition is being monitored on a day to day basis.
- (3) Joint measurement and preparation of Land Acquisition proposals, Survey and Network Planning and Design works are also outsourced.
- (4) To cope up with the shortage of technical manpower, project monitoring consultants are being appointed.
- (5) To ensure quality of the works , executed, third party quality audit consultants are being appointed.
- (6) Decentralized approach of command area development work adopted.
- (7) Powers are delegated to NGOs for speedy development of the command area.
- (8) Engineering Procurement Construction (EPC) approach adopted for a speedy implementation in the construction of canal network.
- (9) District level Co-ordination Committee under the Chairmanship of District Collector, constituted with elected members/ NGOs/ WUA's participation.
- (10) Government of Gujarat has allocated an outlay of Rs. 9000crore in 2012-13 Annual Plan for the Sardar Sarovar (Narmada) Project.

Furthermore, the Government in its effort to expedite the canal construction work has also approved tenders for 178 works amounting to Rs. 7517crore from April-2010 to September-2012 and these works are under various stages of implementation.

A few photographs of ongoing works taken during the monitoring visit are as follows:









Drainage Siphon



Bakarthali Minor



13.0 Irrigation Potential / Benefits

13.1 Creation of irrigation potential of 17.92 lakh Ha is envisaged in a phased manner. There was no potential creation upto March 1996. Details of targets and achievements in potential creation and future programme from the year 1996-97 since its inclusion in AIBP are as under:

Sl no	Year	Irrigation Potential Creation (Ha)			Short fall during the year (Ha)
		Target (As per year wise proposal/MoU)	Achievement	Cumulative Achievement	
1	1996-97	2,000	14989	14,989	NIL
2	1997-98	16,877	11,309	26,298	5,568
3	1998-99	63,607	23,700	49,998	39,907
4	1999-2k	78,900	25,577	75,575	53,323
5	2000-01	94,146	40,116	1,15,691	54,030
6	2001-02	1,32,000	15,055	1,30,746	1,16,945
7	2002-03	1,09,728	10,350	1,41,095	99,378
8	2003-04	54,593	59,628	2,00,724	NIL
9	2004-05	38,400	77,946	2,78,670	NIL
10	2005-06	87,044	33,587	3,12,257	53,457
11	2006-07	66,865	81,840	3,94,097	NIL
12	2007-08	4,12,606	66,135	4,60,232	3,46,471
13	2008-09	20,885	20,885	4,81,117	NIL
14	2009-10	16,963	14,000	4,95,117	2,963
15	2010-11	38,479	28892	5,24,009	9587
16	2011-12	3,04,233	21267	5,45,276	282966
17	2012-13	2,25,000	128237	673513	96763

13.2 As regards utilization of created IP, it is reported by the project authorities that due to absence of a proper delivery system in parts of the command area during the interim stage of the project, the farmers have started utilizing available water resources through pumping etc directly from canal for irrigation purposes to protect their crops. It is estimated by them that about 2.015 lakh Ha of IP is under utilization from April-2012 to March-2013.

13.3 It is proposed to provide irrigation through water users association, who may receive water and distribute it, mobilise resources for management of the system and manage contract works within its area. The farmers of Water Users Associations will be catered irrigation water by Rotational Water Supply (RWS) system, proportionate to their land holdings. As reported by the project officers, formation of 1193 committees are envisaged in the command of canals in Phase-I out of which 1191 committees have already been formed and registered up to March-2013. For rest of the project formation of approximately 3649 committees are envisaged, out of which 430 committees have been formed up to March-2013.

14.0 Financial Programme & Progress

14.1 Year-wise total expenditure on the project is as follows.

Rs in crores

(i) Cumulative expenditure incurred up to March, 2002	:12663.76
(ii) Cumulative expenditure incurred up to March, 2003	: 14360.71
(iii) Cumulative expenditure incurred up to March, 2004	: 16659.28
(iv) Cumulative expenditure incurred up to March, 2005	: 18831.24
(v) Cumulative expenditure incurred up to March, 2006	: 21411.62
(vi) Cumulative expenditure incurred up to March, 2007	: 23871.88
(vii)Cumulative expenditure incurred up to March, 2008	: 24903.50
(viii)Cumulative expenditure incurred up to March, 2009	: 29553.76
(ix) Cumulative expenditure incurred up to March, 2010	: 31400.50
(x) Cumulative expenditure incurred up to March, 2011	: 34425.60
(xi) Cumulative expenditure incurred upto March,2012	: 37595.39
(xii) Cumulative expenditure incurred uptoMarch,2013	:39805.30

14.2 Central Assistance or Loan Assistance under AIBP started from the financial year 1996-97. During financial years 2002-'03, '03-'04 and '04-'05, the Project received assistance under Fast Track component also. No CA was provided during year 2009-10 because revised cost estimate were not approved and revised investment clearance by the Planning Commission could not be received by the project. The year wise details of CLA/CA requested, sanctioned and released and the expenditures incurred by SSNNL under AIBP are as below:

Year	CLA sanctioned by GOI	CLA released by GOI	Expenditure on SSP works included under AIBP		
			Works	Establishment	Total
1996-97	95.00	71.25	376.21	56.07	432.28
1997-98	300.00	177.00	602.52	63.02	665.54
1998-99	410.00	410.00	743.06	88.10	831.16
1999-2k	267.00	267.00	550.29	91.87	642.16
2000-01	400.00	400.00	585.81	94.50	680.31
2001-02	480.00	480.00	640.11	100.75	740.86
2002-03	903.00	903.00	626.34	69.31	695.65
2002-03 Fast Track		188.00	188.13	34.11	222.24
2003-04 Fast Track	557.00	557.00	1350.00	92.13	1442.13
2003-04 Fast Track		92.50			
2004-05 Fast Track		92.50	185.74	31.94	217.68
2004-05	600.00	438.00 ^{#1}	904.36	91.93	996.29
2005-06	177.6	339.60	668.90	72.52	741.42
2006-07	315.9	121.89 ^{#2}	956.14	75.48	1031.62

Year	CLA sanctioned by GOI	CLA released by GOI	Expenditure on SSP works included under AIBP		
			Works	Establishment	Total
2007-08	750.23	585.72	797.42	87.21	884.63
2008-09	0.00	251.90 ^{#3}	574.23	86.13	660.36
2009-10	0.00 ^{#4}	0.00	240.11	36.02	276.13
2010-11	401.58	361.42	747.08	112.06	859.14
2011-12	1130.216 (recommended) ##	0.00	1727.36	259.10	1986.45
2012-13	1351.39 (recommended)	1285.934	2251.502	337.725	2589.227
TOTAL		7022.714	14715.312	1879.985	16595.3

^{#1} Rs 162.00 crores of 2004-05 were released in 2005-06 as arrears of 2004-05

^{#2} Rs 162.42 crores of 2006-07 were released in 2007-08 as arrears of 2006-07

^{#3} Rs 251.90 crores of 2007-08 were released in 2008-09 as arrears of 2007-08

^{#4} No release could be made as the proposal for 2008-09 was received from the State at the fag end of the financial year and the observations/comments conveyed by Mon. Dte., CWC, Gandhinagar could not be complied with by the State in time.

out of Rs 3007.94 crore demanded by the state for the year 2011-12 amount of Rs. 1130.216 crore was recommended by the CWC headquarter to the MOWR . But no financial assistance was released for SSP during FY 2011-12

15.0 Financial Management

As per the Award of the Narmada Water Disputes Tribunal, the project cost is to be shared in given proportions among party States viz Governments of Gujarat, Madhya Pradesh, Maharashtra and Rajasthan. Govt of Gujarat has constituted a limited company viz Sardar Sarovar Narmada Nirman Nigam Limited, which manages and executes the SSP. It has been mobilizing resources through various funding agencies like Government Finance Corporation/banks and from public borrowing. The project is also receiving Central Assistance under AIBP from Ministry of Water Resources, Govt of India. It is observed that provision in the Annual Plans are generally matched by budgetary and non-budgetary resources.

The expenditure incurred by state Govt. of Gujarat on works component under AIBP is Rs 14715.312 crore upto March 2013 and total CA/CLA released by Govt. of India is Rs 7022.714 crore, including that received under the fast track programme.

The State Govt has reported that a large amount of share of expenditure due to other Party States viz Madhya Pradesh, Maharashtra and Rajasthan remains unpaid. Timely payment of shares by States is likely to augment financial resources and reduce requirement on AIBP funds.

16.0 Monitoring of Project at State Level:

The GOG constituted state level Committee to monitor the Major, Medium and Minor irrigation project in May-2006. Even, constituted a standing Committee in February-2008 to examine the reasons of cost overrunning of Sardar Sarovar Project and for giving their reports with relevant findings/recommendations to the Government.

Also, the Board of Directors of the Company (SSNNL) constituted “Project Committee” in August 2007 to monitor progress of the project/works.

The Government of Gujarat had constituted a State Level Committee to monitor the reasons of cost over run in the major, medium and minor irrigation projects in 2008 vide resolution No. MIS-2002/ 15/ Pt-4/N Dated 03/01/2008.

First meeting of State Level Monitoring Committee was held on 10th July 2009 in Gandhinagar under the chairmanship of Secretary (WR) with representative of State Govt., SSNNL & CWC.

The progress of ongoing works are also continuously monitored on a regular basis at various levels viz. at the level of the Hon'ble Minister of Govt of Gujarat to the Superintending Engineer with regard to quantity of work executed and mobilization of manpower and machinery.

17.0 Compliance of the Issues/ Action Points contained in the Previous 25thStatusReport:

A detailed note furnished by the State Govt in this regard is enclosed at **Annexure-IX**.

18.0 Issues in Implementation of AIBP Works

Close attention along with commensurate action needs to be paid/taken up in respect of the following:

18.1 Irrigation Potential Creation

As per the revised MoU, the target for creation of Irrigation Potential (IP) for the year 2012-13 was 2,25,000 Ha as against which IP created up to *March -2013* was only 1,28,237 , thus a short fall of about 96763 Ha. The pace of creation of IP is slow as compared to revised targets as per prevailing MUO. The IP created is only 6,73,513 Ha (up to March 2013) and about 37.58% of overall IP to be created. The reasons for slow pace of works vis-a-vis the targets as per revised MOU may be intimated.

It is seen that there are certain areas where focussed and concerted efforts may improve the progress for creation of IP (upto the minor level). All efforts need to be made to achieve the targets as mentioned in the new MOU (2012-16).

18.2 Irrigation Potential Utilisation

Out of total proposed IP creation of 17.92 Lakh Ha, it is seen that up to March 2013, IP Created is 6.735 Lakh Ha. However, Irrigation Potential Utilised is only 2.015 Lakh Ha (29.9 % of Potential Created). It is suggested that all out integrated efforts need to be made to minimise the gap between Potential Created and Potential Utilised. Various measures undertaken for reducing the gap between IP Created and IP Utilised may be intimated.

18.3 Land Acquisition

As reported, a major chunk of land required for the distribution system has been acquired except a portion required for Long Canal Siphon on Kachch Branch Canal. It is necessary to ensure that minor gaps left in various types of canals, esp. in Phase-I and Phase-II, including those left for regulation works, crossings etc, are completed in time. Because of non-acquisition of this piece of land that falls in wildlife sanctuary in little rann of kachchh, the through connectivity of kachchh branch canal is hampered. The gaps in connectivity of

canal regulator, in turn impedes the achievement of IP creation. It is therefore suggested that the matter be pursued rigorously with concerned authorities to expedite the progress of acquisition of land and closing the gaps in canal reaches.

18.4 Tendering process

Given the mammothness of the task to complete the works as per schedule as per revised MOU, it is desirable that non-working season of monsoon is utilized to complete tendering process so that works can begin at the very onset of the working season. It is observed at some places that, various processes involved in tendering and construction are lagging behind on account of one reason or the other. During the visit it was also reported that some already awarded works could not be completed as per programme because of some court litigation with the contractors..

Topography and geo technical characteristics of the kachchh branch canal alignment poses many an engineering challenges. In view of the above it is suggested that various associated works to be started in the right earnest at war footing and project authorities may also explore possibilities of clubbing together the works of distributaries and minors with that of sub-branches.

18.5 Quality of Work and Maintenance

Heavy growth of weeds / shrubs was noticed along the Saurashtra Branch Off take near Y-Junction causing damage to brick lined portion. It is suggested that such growths be checked and lining be repaired to reduce further damage. During the visit it was also observed that at few places, the cracks in newly laid lining are developed in distributaries & minor. It is necessary to ensure that any crack in the lining be immediately repaired and also to maintain close and regular monitoring on the quality aspects, so that quality of future work is ensured.

18.6 Command Area Development

As the IP utilisation is significantly less than the IP creation all necessary measures need to be taken up to reduce the gap including the works on CAD below minor. In case where the land acquisition is a hurdle, possibility of providing pressurised irrigation system through network of underground pipes may be explored for implementation, which has numerous advantages. It may please be ensured that pari-passu development of command area with the main canal works be undertaken so that the IP Utilisation figure are improved vis-a-vis the IP Creation. Wherever in command area the conditions are conducive for adoption of sprinkler/drip irrigation system be adopted for better water application efficiency. The water, thus saved, can be utilised to increase irrigation intensive farming practices, modern inputs, technologies and participatory management approach.

18.7 Participatory Irrigation Management (PIM)

The State Government has enacted Participatory Irrigation Management Act in 2007. At present 327 Water User Associations (WUAs) have taken over irrigation management in the project command. Further, 1361 WUAs are registered and are reportedly being

activated. The activated WUAs also collect water cess and 35 WUAs are engaged in carrying out maintenance in their respective areas.

The water delivery system is planned to cater to village service area (VSA). Water is to be supplied on a volumetric basis at the head of VSA. Water will be delivered only on the demand by a WUA and not by the individuals.

It is observed that utilisation of created potential is much less than IP created. In order to increase utilisation of created potential, pari-passu implementation of PIM is essential. It is desirable that more & more WUAs are activated & encouraged to take-over maintenance of the distribution network under them.

18.8 R&R

It has been reported that no R&R issues are involved in the canal system works under AIBP.

18.9 Environmental Issues.

The conditions laid down by MOEF, while according the environmental clearance & approval for diversion of forest lands for this project are stated to be complied with. No environmental issue was reported during the monitoring visit.

*****.

Anaayrak

ANNEXURE

**SARDAR SAROVAR (NARMADA), PROJECT
GUJARAT STATE
SALIENT FEATURES**

(I)**Location:**

- | | | | |
|-----|-------------|---|--|
| (1) | State | : | Gujarat |
| (2) | District | : | Narmada |
| (3) | Taluka | : | Nadod |
| (4) | River | : | Narmada |
| (5) | Site of Dam | : | 5.63 km. (3.5 miles) Upstream of Navagam village 120 km. (75 mile) Upstream of Bharuch City. |
| (6) | Longitude | : | 73° 45' E |
| (7) | Latitude | : | 21° 50' N |

(II)**Stream flow data:**

- | | | | |
|-----|---|---|------------------------------------|
| (1) | Width of the river | : | |
| | Channel at dam site | | |
| (a) | During high floods | : | 487.70 m (1600 ft.) |
| (b) | During summer | : | 45.70 m (150 ft.) |
| (2) | Length of the river | | |
| (a) | From source to dam site | : | 1163.57 km (723 mile) |
| (b) | From source to | : | 1311.64 km. (815 mile) |
| (3) | Average bed level of river at dam site | : | R.L.18.00m. (R.L. 59 ft.) |
| (4) | Average fall of river bed at dam site | : | 1 in 2000 |
| (5) | Maximum recorded flood on 6 th September, 1970 | : | 69375 cumec (24.5 lakh cusec) |
| (6) | Minimum recorded flow | : | 8.5 cumec (300 cusec) |
| (7) | Design flood | : | 0.87 lakh cumecs (30.7 lakh cusec) |

(III)**Hydrology:**

- | | | | |
|-----|---|---|--|
| (1) | Water shed area of the river above dam site | : | 88000 Km ² (33970 sq. mile) |
| (2) | Mean annual rainfall | : | 112 cm. (44.1 in.) |
| (3) | Annual runoff at the dam site at different dependabilities: | | |
| | 50 percent | : | 40951MCM (33.20 MAF) |
| | 75 percent | : | 33575 MCM (27.22 MAF) |
| | 90 percent | : | 24385 MCM(19.77 MAF) |

(IV)**Reservoir:**

- | | | | | |
|------|---|-------|------------------------|-------|
| (1) | Full Reservoir Level (FRL) | : | 138.68 M. (455 ft.) | |
| (2) | Maximum Water Level (M.W.L.) | : | 140.21 M (460 ft.) | |
| (3) | Minimum Draw Down Level (M.D.D.L.) | : | 110.64 M (363 ft.) | |
| (4) | Normal Tail Water Level (N.T.W.L.) | : | 25.91 M (85 ft.) | |
| (5) | Gross Storage Capacity | : | 9497.81 MCM (7.70 MAF) | |
| (6) | Dead storage capacity (below minimum draw down level) | : | 3663.44 MCM (2.97 MAF) | |
| (7) | Live storage capacity | : | 5834.37 MCM (4.73 MAF) | |
| (8) | Annual Evaporation | : | 616.74 MCM (0.5 MAF) | |
| (9) | Length of reservoir | : | 214 Km (133 Miles) | |
| (10) | Maximum width of reservoir | : | 16.1 Km (10 Miles) | |
| (11) | Average width of reservoir | : | 1.77 Km (1.1 Mile) | |
| (12) | Submergence at F.R.L. 138.68 M (455 ft) | : | 34867 ha. | |
| (13) | Submergence details | Fully | Partial | Total |
| | (a) No. of village affected | | | |
| | Madhya Pradesh | 34 | 148 | 182 |
| | Maharashtra | - | 036 | 036 |
| | Gujarat | 03 | 016 | 019 |
| | Total | 37 | 200 | 237 |

(b) No. of families affected:

Madhya Pradesh	:	7500
Maharashtra	:	1350
Gujarat	:	<u>1900</u>
Total....		<u>10758</u>

(c) Land affected

States	Culturable Land	Forest land	Land under other use	Total land under submergence
Madhya Pradesh	7883 ha. (19464 acre)	2737 ha. (6756 acre)	10208 ha. (25205 acre)	20828 ha (51425 acre)
Maharashtra	1519 ha (3751 acre)	3459 ha. (8541 acre)	1592 ha. (3930 acre)	6570 ha. (16222 acre)
Gujarat	1877 ha (4634 acre)	4523 ha. (1168 acre)	1069 ha. (2639 acre)	7469 ha. (18441 acre)
Total	11279 ha (27849 acre)	10713 ha. (26465 acre)	12869 ha. (31774 acre)	34867 ha. (86088 acre)

(V)

Dam:

- (1) Type : Concrete gravity
- (2) Length of main dam : 1210.02 M (3970 ft.)
- (3) Top R.L. of Dam : 146.50 M (480.6 ft.)
- (4) Maximum height above
Deepest foundation level
(-16.50 M to
(146.50 M top R.L.)
- (5) Spillway
 - (a) Type : Ogee
 - (b) Energy dissipation : Stilling Basin with sloping
arrangement appron.
 - (c) Crest level of : RL 121.92 M (400 ft.)
spillway
 - (d) Gates :
 - i) Type Radial
 - ii) Number and size 7 Nos. 18.30 M x 18.30 M
(60 ft. x 60 ft.)
23 Nos. 18.30 M x 17.76 M
(60 ft. x 55 ft.)
 - (e) Clear water way at : 420.9 M (1381 ft.)
crest

ANNEXURE-I

(6)	Spillway Capacity	:	84949.25 cumecs (30 lakh cusecs)	
(7)	Construction sluice			
	(a) Number	:	10 Nos.	
	(b) Size	:	2.10 m x 2.7 m (7 ft. x 9 ft.)	
	(c) Length	:	119.24 m (392 ft.)	
	(d) Discharge capacity	:	268.50 cumecs (9485 cusecs)	
(VI)	Rock fill dams in the head reach of Narmada Main Canal:			
(1)	Total length of 4 rock fill dams	:	2567 m (9078 ft.)	
(2)	Maximum height above deepest foundation level	:	55.60 m (102.41 ft.)	
(3)	Top R.L.	:	102.6 m (336.5 ft.)	
(4)	Maximum water level (M.W.L.)	:	99.10 m (325 ft.)	
(5)	F.S.L.	:	95.10 M (312.0 ft.)	
(6)	L.W.L.	:	83.89 M (275 ft.)	
(7)	Storage at F.R.L.	:	63.69 MCM 92237 Mft.)	
(VII)	Power installation		River Bed Power House	Canal Power Houses
(1)	No. of Unit	:	6	5
(2)	Rated capacity of each unit	:	200 MW	50 MW
(3)	Installed capacity	:	1200 MW	250 MW
(4)	Type of turbines	:	Francis (Reversible)	Kaplan (Conventional)
(5)	Type of Power House	:	Underground	Surface
(6)	Penstock	:		
	(a) Number	:	6 Nos.	5 Nos.
(b)	Diameter	:	7.6 m (25 ft)	6.7 m (22 ft)
(VIII)	Canal system			
(1)	F.S.L. at H.R.	:	91.45 m (300 ft.)	
(2)	Main canal			
	(a) Length	:	445 km (276 mile)	
	(b) Whether perennial or two seasonal	:	Perennial	
	(c) Whether contour or bridge canal	:	Contour canal	
	(d) Whether lined or unlined	:	Lined	
	(e) Base width in head reach	:	75.6 m (248 ft.)	

(f)	F.S.D. in head reach	:	7.6 m (25 ft.)
(g)	Discharge capacity in head reach	:	1132.66 cumecs (40.000 cusec)
(h)	Gross Command Area (G.C.A.)	:	34.286 lakhs ha. (84.72 lakhs acre)
(4)	Culturable Command Area (C.C.A.)	:	21.200 lakhs ha. (52.36 lakhs acre)
(5)	Annual irrigation	:	17.92 lakh ha. (44.25 lakh acre)

(IX) Direct Benefits:

(a)	Irrigation	:	17.92 lakh ha (44.25 lakh acre)
(b)	Increase in agricultural production and its value	:	43.60 lakh ton per annum Rs.1164 crores per annum
(c)	Hydro Power Generation	:	90% of dependability (firm power)
	Ist Stage	:	415 MW
	2 nd stage	:	60 MW
	3 rd stage	:	NIL
(d)	flood control	:	Partial

(X) Cost Estimates:

		(Rupees in crore)	
		1986-87	2008-09
(a)	Cost of Unit-I dam and appurtenant works	936.18	8384.85
(ii)	IBPT		248.91
(b)	Cost of Unit-II A Main Canal and Unit-II B for Branch canals & Dist. System	4406.64	27150.12
(c)	Cost of Unit-III Hydroelectric installations	979.95	2910.88
(d)	Cost of Narmada Sagar debitable to Sardar Sarovar	83.27	545.68
Total		6406.04	39240.44
		say 6406	

Memorandum of Understanding between the Ministry of Water Resources, Government of India and Government of Gujarat on completion of the ongoing selected Canal System of Sardar Sarovar Irrigation Project


- 1) This memorandum of understanding is made between the Ministry of Water Resources, Government of India and the Government of Gujarat for completion of the ongoing Canal System of Sardar Sarovar Irrigation Project in the next four (4) financial years under the Central Assistance (CA) programme of the Government of India.
- 2) The Sardar Sarovar irrigation Project was approved by the Planning commission in October, 1988 for Rs. 6406.04 crore to irrigate 17.92 lacs. ha. annually.
- 3) According to the State Government, the latest estimated total cost of Project at 2008-09 price level as approved by the Planning Commission is Rs. 39240.45 crore. As per revised estimated cost as concurred by Central Water Commission, GOI, the total cost of entire canal system of the project is Rs. 27150.13 crore against the approved cost of Rs. 39240.45 crore. The expenditure for Canal System of the project up to March 2012 is Rs. 15717.95 crore and a potential of 545276 ha. has already been created.
- 4) The balance cost of work components for completion of the ongoing Canal System of Sardar Sarovar Irrigation project is Rs. 8254.36 crore (upto minor canals), with a balance potential of 12,46,724 ha. The physical and financial details of the components to be covered under this programme are annexed. The year wise targets* for creation of irrigation potential will be as under:

1 st year – 2012-13 –	2,25,000 Ha.
2 nd year- 2013-14 –	3,00,000 Ha.
3 rd year- 2014-15 -	4,75,000 Ha.
4 th year- 2015-16 –	2,46,724 Ha.
- 5) The Ministry of Water Resources, Government of India agrees to extend Central assistance to cover the full balance cost of Rs. 8254.36 crore for the completion of on going Canal System of Sardar Sarovar Irrigation Project in the next four (4) financial years subject to the following conditions:
 - i) The project will be completed by the Government of Gujarat by 2015-2016. Its completion will be informed immediately thereafter to the CWC, Ministry of Water Resources and the Planning Commission for deleting the above component taken under AIBP from the list of ongoing projects.


- ii) The Central assistance will be given in two instalments, 1st, 90 % and 2nd, 10 % of total grant to be released on year to year basis.
- iii) The balance second instalment of 10 % of the grant will be released after 70 % of the agreed expenditure is incurred and physical target of potential creation of the year is also achieved and indicated in Utilisation Certificate.
- iv) The project will be closely monitored by the Central Water Commission/ Ministry of Water Resources and the release of the subsequent installment will be based on the recommendation of the Central Water Commission/ Ministry of Water Resources.
- v) The State Government shall ensure required quality control in the execution of the works. This aspect will also be covered by the Central Water Commission in their monitoring report.
- vi) The project shall be completed by the state Government within the balance cost of the project contained in the MoU and the extended time limit. Any further time and cost overrun shall be borne by the respective State Government.
- vii) Ministry of Water Resources, Government of India agrees to extend Central Assistance subject to the condition that AIBP Scheme continues in 12th Plan.
- viii) The State Government shall agree to implement all conditions of AIBP Scheme in 12th Plan.
- ix) The State Government shall ensure adequate funds for maintenance of projects constructed under AIBP, atleast for the following ten years.

Signed on the day 2012 at New Delhi

**For and on behalf of the Govt.
Of Gujarat**


(S.Jagadeesan)
**Principal Secretary (Narmada)
Government of Gujarat**

**For and on behalf of
Government of India.**


**Commissioner (PR)
Ministry of Water Resources**

* Deviation in the programme in the potential creation would be with the concurrence of CWC/MoWR.

MOU (2012-2013 to 2015-2016)
SARDAR SAROVAR MULTIPURPOSE (NARMADA) PROJECT
STATE : GUJARAT

FINANCIAL REQUIREMENT AND CREATION OF IRRIGATION POTENTIAL

Sr No	Particulars	Unit	1ST YEAR 2012-13	2ND YEAR 2013-14	3RD YEAR 2014-15	4TH YEAR 2015-16	TOTAL 2012-13 TO 2015-16
1	2	3	4	5	6	7	8
I	FINANCIAL REQUIREMENTS						
I	UNIT-II (Main Canal)						
1	Ch. 0 to 263.165 km	Rs. In Crore	160.69	69.99	0.00	0.00	230.68
2	Ch. 263.165 to 458 km	Rs. In Crore	62.68	139.234	0.00	0.00	201.91
	Total (I)	Rs. In Crore	223.37	209.22	0.00	0.00	432.59
II	Branch Canal and Distribution System						
2	Branch Canal & Distribution System (CH. 0 to 263.165 km of NMC)	Rs. In Crore	167.08	122.52	0.00	0.00	289.60
3	Six Branch Canals off taking from SBC and its Distribution System	Rs. In Crore	648.47	536.73	619.9	300.00	2105.10
4	Branch Canal (NMC reach 263.165 km to 458 km), Distribution System, K.B.C.	Rs. In Crore	2261.08	1831.53	931	403.46	5427.07
	Total of (II)	Rs. In Crore	3076.63	2490.78	1550.90	703.46	7821.77
	Grand Total of (I+II)	Rs. In Crore	3300.00	2700.00	1550.90	703.46	8254.36
II	CREATION OF IRRIGATION POTENTIAL						
C-1	PHASE - I	Hectares	20000	23037	0	0	43037
C-2	PHASE - II A	Hectares	20000	33433	0	0	53433
C-3	PHASE - IIA (Saurashtra)	Hectares	85000	125000	225000	38188	473188
C-4	PHASE - IIB and IIC	Hectares	100000	118530	250000	208536	677066
	Total of C	Hectares	225000	300000	475000	246724	1246724

Statement showing the year wise targets and Irrigation Potential created vis-vis Utilized (Area irrigated) under Sardar Sarovar Project

Year	Target (in lakh ha)	Irrigation Potential created under AIBP (in lakh ha)	Cumulative IP created (in lakh ha)	IP Utilized/Area irrigated (in lakh ha)
1996-97	0.02	0.15	0.15	
1997-98	0.168	0.113	0.263	
1998-99	0.636	0.237	0.5	
1999-2000	0.789	0.256	0.756	
2000-01	0.941	0.401	1.157	
2001-02	1.32	0.151	1.308	
2002-03	1.097	0.104	1.412	0.283
2003-04	0.546	0.596	2.008	0.322
2004-05	0.384	0.459	2.467	0.422
2005-06	0.87	0.656	3.123	0.485
2006-07	2.5	0.818	3.941	0.634
2007-08	4.12	0.661	4.602	0.78
2008-09	-	0.209	4.811	0.811
2009-10	-	0.14	4.951	1.17
2010-11	0.384	0.289	5.241	1.62
2011-12	3.04	0.213	5.454	1.86
2012-13	2.25	1.2824	6.735	2.015

Annexure-IIIB

Branch Wise details of IP Created and IP Utilized

Name of Branch	Total Irrigation Potential	Potnetial Created upto Sept. 12	Potential created from Sept.-12 to March-13	Total Potential Created upto March-2013	Potential Utilized (Water year 2012-13)	% of Potential Utilized
Wadia	9868	9868	0	9868	4239	42.96
Tilakwada	7202	7202	0	7202	2450	34.02
Mandwa	12700	12700	0	12700	3655	28.78
Bhilodia	13031	13031	0	13031	3783	29.03
Timbi	2044	2044	0	2044	2041	42.96
Sankheda	5412	5412	0	5412		
Miyagam	213000	187126	3616	190742	49660	26.04
Gojali	10932	10932	0	10932	5817	53.21
Vadodara	115928	101014	4848	105862	38332	36.21
Dena	10602	10602	0	10602	4618	43.56
Dumad	6184	5808	0	5808	3041	52.36
Sakarda	25839	24782	0	24782	11525	46.51
Zumka	3105	3105	0	3105	1371	44.15
Nahra	5237	5237	0	5237	1596	30.48
Desar	5525	5525	0	5525	2145	38.82
Thasra Dist.	2086	2086	0	2086	2041	97.84
Dabhali Dist.	2971	2971	0	2971	2131	71.73
Vajewal Dist.	2987	2987	0	2987	2987	100
Sanali	5393	5393	0	5393	5393	100
Vasna-Dapat Dist.	2882	2882	0	2882	1471	51.04
Mahemdabad	11644	11644	0	11644	4687	40.25
Ghodasar	12986	12986	0	12986	5517	42.48
Bahiyal Dist.	2000	2000	0	2000	590	29.5
Vehlal	15534	14698	45	14743	5069	34.38
Daskroi	5441	5441	0	5441	1816	33.38
Dholka	36343	18043	242	18285	7596	41.54
A.Koth	10292	10292	0	10292	6750	65.58
B. Rajpura	14995	14995	0	14995	3177	21.19
Sanand	33024	25207	1824	27031	4600	17.02
Saurashtra						
A.Narsingpura	23223	2800	966	3766	3141	83.4
B.Maliya	41561	295	0	295	0	0
C.Vallabhipur	126836	11217	3250	14467	732	5.06
D.Dhragadhra	81502	0	1477	1477	0	0
E.Limbdi	109648	0	0	0	8235	0
F.Botad	65465	0	965	965	0	0
G.Morbi	61757	0	3671	3671	0	0
Viramgam-1	14315	0	1192	1192	575	48.24

Viramgam-2	22478	0	901	901	1315	145.95
Goraiya	36090	0	13256	13256	1175	8.86
Kharaghodha	34042	400	6073	6473	2855	44.11
Zinzuwada	89990	600	22684	23284	2661	11.43
Bolera	44627	1158	6992	8150	270	3.31
Rajpura	47491	5102	12876	17978	0	0
Amrapur	37981	3200	12600	15800	0	0
Radhanpur	59996	0	0	0	0	0
Kutchchh	161257	0	6050	6050	0	0
Vejpur	28021	0	2200	2200	0	0
Madka	17593	0	2000	2000	0	0
Malsan	28352	0	5000	5000	0	0
Dhima	26042	0	0	0	0	0
Gadidar	28546	0	0	0	0	0
Total	1792000	560785	112728	673513	209057	31.04

SARDAR SAROVAR (NARMADA) PROJECT

Annexure-IV

STATEMENT SHOWING MONTHLY PROGRESS OF MAJOR ITEMS OF ONGOING WORKS

MONTH: March-2013

Sr. No	Particulars	Unit	Total Revised Quantity	Progress upto Mar'2012	Progress during 2012-2013	Progress upto March-13	% Progress	Remarks
1	MAIN DAM							
a	Excavation	LCM	64.00	63.60	0.00	63.60	99.40	
b	Concreting	LCM	68.20	65.80	0.00	65.80	96.40	
	HYDRO POWER							
2	RIVER BED POWER HOUSE (Civil Works)							
	Total Open Excavation = 17.033 LCM, U.G. Excavation = 6.88 LCM							
3	CANAL BED POWER HOUSE (Civil Works) -- Total Concrete = 1.29 LCM							
4	VADGAM SADDLE DAM WORKS -- Total Concrete = 2.10 LCM							
	CANAL SYSTEM :							
5	I.B.P.T. WORKS							
a	Excavation	LCM	7.73	7.66	0.00	7.66	100.00	
b	Concreting	LCM	1.60	1.61	0.00	1.61	100.00	
6	Phase-I Ch 0 To 144.5 Km of NMC							
6.1	Main Canal (0-144.5 Km) - Total EW = 789.79 LCM, Lining = 151.129 LSM, Concreting = 21.32 LCM							
6.2	Branch Canals (0-144.5 Km) -- total EW = 377.07 LCM, Lining = 90.57 LSM, Concreting = 467 THCM							
6.3	Distribution System (0-144.5 Km)							
	Distributories & Minors							
a	Earthwork	LCM	651.00	602.68	3.23	605.91	93.07	
b	Lining	LSM	183.14	161.68	1.52	163.20	89.11	
c	Concreting	THCM	1051.00	1026.00	5.00	1031.00	98.10	
	Sub-Minors							
a	Earthwork	LCM	177.50	145.61	0.14	145.75	82.11	
b	Lining	LSM	127.19	98.87	0.07	98.94	77.79	
c	Concreting	LCM	3.78	3.12	0.00	3.12	82.54	
d	Command area Developed	L Ha	4.47	2.64	0.00	2.65	59.25	
7	Phase-II(A) Ch 144.5 To 263.156 Km of NMC (Including SBC)							
7.1	Main Canal (144.5 to 263.156 Km) - Total EW= 753.97 LCM, Lining= 130.0 LSM, Concreting = 5.283 LCM							
7.2	Seven Major Structures - Total EW= 37.29 LCM, Lining = 1.35 LSM, Concreting = 9.49 LCM							
7.3	Branch Canals -- Total EW= 109.724 LCM, Lining= 38.234 LSM, Concreting= 1.99 LCM							
7.4	Saurashtra Branch Canal & Its Sub Branches							
a	Earthwork	LCM	1006.26	865.07	74.60	939.66	93.38	
b	Lining	LSM	204.73	156.48	40.40	196.87	96.16	
c	Concreting	LCM	24.18	19.23	2.76	21.99	90.94	
7.5	Distribution System							
a	Earthwork	LCM	826.85	253.48	114.94	368.42	44.56	
b	Lining	LSM	372.27	73.32	20.06	93.37	25.08	
c	Concreting	LCM	15.21	1.67	0.92	2.59	17.05	
d	Masonry	THCM	150.20	135.72	1.32	137.04	91.24	
e	Command area Developed	L Ha	2.00	1.05	0.00	1.05	52.33	
8	Phase-II(B) Ch 263.156 To 357.196 Km of NMC							
	Main Canal (263.265 to 357.193 Km)							
8.1	Main Canal-- Total EW= 246.496 LCM, Lining= 74.227 LSM, Concreting= 4.10 LCM							
8.2	Three Major Structures-- Total EW= 7.98 LCM, Lining= 0.35 LSM, Concreting= 4.10 LCM							

Sr. No	Particulars	Unit	Total Revised Quantity	Progress upto Mar'2012	Progress during 2012-2013	Progress upto March-13	% Progress	Remarks
8.3	Branch Canals (263 to 358 Km)							
a	Earthwork	LCM	106.45	100.67	3.02	103.69	97.41	
b	Lining	LSM	40.72	37.78	2.59	40.37	99.15	
c	Concreting	LCM	1.63	1.40	0.09	1.49	91.12	
8.4	Distribution System							
a	Earthwork	LCM	371.60	131.64	111.65	243.29	65.47	
b	Lining	LSM	106.82	27.90	28.29	56.19	52.60	
c	Concreting	LCM	4.47	1.24	1.02	2.26	50.64	
d	Masonry	THCM	154.02	41.01	33.26	74.27	48.22	
9	Phase-II(D) Ch 357.196 Km To 458.318 Km of NMC							
9.1	Main Canal -- Total EW= 257.13 LCM, Lining= 51.91 LSM, Concreting= 2.96 LCM							
9.2	Three Major Structures-- Total EW= 25.05 LCM, Lining= 0.59 LSM, Concreting= 5.08 LCM							
9.3	Works of Branch canals, Distributaries & Minors carried out on EPC basis (five packages)							
a	Earthwork	LCM	398.60	88.89	110.43	199.32	50.01	
b	Lining	LSM	66.36	4.38	22.67	27.05	40.76	
c	Concreting	LCM	7.10	0.43	1.83	2.26	31.83	
9.4	Branch Canals (other than EPC)							
a	Earthwork	LCM	69.60	47.61	12.15	59.77	85.87	
b	Lining	LSM	17.92	9.21	6.77	15.97	89.11	
c	Concreting	LCM	0.57	0.27	0.20	0.46	81.83	
9.5	Kachchh Branch Canal (other than EPC)							
a	Earthwork	LCM	328.45	156.09	36.08	192.17	58.51	
b	Lining	LSM	54.53	26.97	5.32	32.29	59.21	
c	Concreting	LCM	4.49	0.98	0.32	1.30	28.91	
9.6	Distribution System (other than EPC)							
a	Earthwork	LCM	107.18	30.12	51.39	81.50	76.05	
b	Lining	LSM	32.18	5.45	16.42	21.86	67.93	
c	Concreting	LCM	11.15	0.32	0.58	0.89	8.02	

10. Area Irrigated and Drinking Water Supply during the Irrigation Year 2012-13 (i.e. From July-2012 to June-2013)

Sr. No	Component	Unit	Qty upto Previous month	Progress during the month	Total Qty. during the year	Remarks
1	Area Irrigated	Hectare	173258	13894	187152	
2	Drinking Water Supply	MCM	1416.952	119.097	1536.049	

11. Status of Canal Network

Sr. No	Particulars	Unit	Total Revised Quantity	Progress upto Mar'2012	Progress during 2012-2013	Progress upto March-13	% Progress	Remarks
a	Main Canal	Km	458.32	458.32	0	458.32	100.00	
b	Branch Canals							
	(i) Other than SBC & KBC	Km	2121	1824.85	105.04	1929.89	90.99	
	(ii) Saurashtra Branch Canal	Km	104	104.46	0.00	104.46	100.00	
	(iii) Kachchh Branch Canal	Km	360	51.50	67.34	118.83	33.01	
c	Distributaries	Km	5112	1930.02	513.81	2443.82	47.81	
d	Minors	Km	18413	5362.91	1468.09	6831.00	37.10	
e	Sub-minors	Km	48058	10157.58	36.60	10194.18	21.21	

LCM= Lac Cubic Meter, LSM= Lac Square Meter, THCM= Thaousand Cubic Meter

EW= Earth Work, LH= Lac Hectare, MCM= Million Cubic Meter

ANNEXURE-V

**Accelerated Irrigation Benefits Programme
Sardar Sarovar Multipurpose (Narmada) Project, Gujarat.
Physical Planning and Progress for the year 2012-13 upto March-2013
Components taken up under AIBP : Main Canal, Branch Canals and Distribution System**

Component taken up under First Main Canal, Branch Canals and Distribution System																			
No.	Item	Unit	Latest Estimate Quantity	Progress Upto 3/2012	Target for the Year 2012-13	Planning during the year 2012-13												Progress for the year 2012-13	Cumul. Progress
						April to June (I st Qtr.)			July to September (II rd Qtr.)			October to December (III rd Qtr.)			January to March (IV th Qtr.)				
						Programme	Progress	Cum. Prg.	Programme	Progress	Cum. Prg.	Programme	Progress	Cum. Prg.	Programme	Progress	Cum. Prg.		
1.	2.	3.	4.	5.	6.	7.	8.	9.	10	11.	12	13.	14.	15.	16.	17.	18.	19.	20
Unit - II																			
Canal System																			
Phase - I (0 to 144 Km.)																			
1	Main Canal ^																		
	a. Earthwork (Exc. Only)	LCM	3.406	1.068	0.320	0.110	0.110	0.110	0.210	0.13	0.24	0.000	0.000	0.240	0.000	0.000	0.240	0.240	1.308
	b. Lining	LSM	0.884	0.764	0.120	0.000	0.000	0.000	0.120	0.07	0.07	0.000	0.000	0.070	0.000	0.000	0.070	0.070	0.834
	c. Concrete	LCM	0.072	0.001	0.000	0.000	0.000	0.000	0.000	0.00	0.00	0.000	0.000	0.000	0.000	0.000	0.000	0.000	0.001
2	Branch Canal ^^																		
	a. Earthwork	LCM	0.228	0.251	0.031	0.000	0.000	0.000	0.000	0.00	0.00	0.020	0.020	0.020	0.011	0.005	0.0250	0.0250	0.2760
	b. Lining	LSM	0.016	0.000	0.010	0.000	0.000	0.000	0.000	0.00	0.00	0.005	0.000	0.000	0.005	0.0015	0.0015	0.0015	0.0015
	b. Concrete	LCM	0.027	0.012	0.0015	0.000	0.000	0.000	0.000	0.00	0.00	0.001	0.000	0.000	0.001	0.0005	0.0005	0.0005	0.0126
3	Distribution system																		
	a. Earthwork	LCM	54.780	8.333	14.345	1.257	1.266	1.266	0.000	0.644	1.91	7.0468	0.391	2.301	6.0405	0.999	3.300	3.300	11.633
	b. Lining	LSM	24.630	4.684	5.027	0.571	0.571	0.571	0.000	0.077	0.65	2.6006	0.421	1.069	1.8563	0.531	1.600	1.600	6.284
	c. Concrete	LCM	1.910	1.427	0.134	0.006	0.006	0.006	0.000	0.003	0.01	0.0787	0.006	0.015	0.0492	0.016	0.031	0.031	1.458
Phase - II A (144 to 263 Km.)																			
4	Main Canal																		
	a. Earthwork (Exc. Only)	LCM																	
	b. Lining	LSM																	
	c. Concrete	LCM																	
5	Branch Canal																		
	a. Earthwork	LCM	27.331	13.897	10.539	5.232	3.140	3.140	0.000	0.000	3.140	2.890	0.000	3.140	2.417	2.024	5.164	5.164	19.061
	b. Lining	LSM	16.937	12.156	4.781	4.565	4.540	4.540	0.000	0.000	4.540	0.108	0.000	4.540	0.108	0.030	4.570	4.570	16.726
	b. Concrete	LCM	0.310	0.158	0.080	0.043	0.025	0.025	0.000	0.003	0.028	0.018	0.000	0.028	0.019	0.023	0.051	0.051	0.209
6	Distribution system																		
	a. Earthwork	LCM	94.393	45.042	9.762	2.190	0.485	0.485	0.461	0.000	0.485	4.569	0.218	0.703	2.542	1.485	2.188	2.188	47.230
	b. Lining	LSM	33.232	15.427	5.278	1.119	0.814	0.814	0.185	0.000	0.814	2.746	0.444	1.258	1.228	0.600	1.858	1.858	17.285
	c. Concrete	LCM	0.975	0.652	0.174	0.042	0.035	0.035	0.005	0.000	0.035	0.084	0.031	0.066	0.043	0.031	0.097	0.097	0.749
7	Six Branch Canal of SBC																		
	a. Earthwork	LCM	304.90	111.993	128.608	44.840	29.470	29.470	3.50	15.90	45.37	59.038	4.789	50.159	21.230	3.870	54.029	54.029	166.022
	b. Lining	LSM	146.79	70.599	41.864	9.830	5.640	5.640	1.28	2.43	8.07	23.024	6.140	14.210	7.730	16.010	30.220	30.220	100.819
	c. Concrete	LCM	14.08	10.035	4.041	1.340	0.480	0.480	0.14	0.4100	0.89	1.961	1.350	2.240	0.600	0.320	2.560	2.560	12.595
8	Distribution System of Six Branches of SBC																		
	a. Earthwork	LCM	438.36	31.358	205.338	61.178	31.098	31.098	0.820	8.923	40.02	53.970	22.147	62.168	89.370	35.970	98.138	98.138	129.496
	b. Lining	LSM	157.04	5.425	76.278	21.689	2.591	2.591	0.300	0.328	2.92	24.460	5.839	8.758	29.829	7.930	16.688	16.688	22.113
	c. Concrete	LCM	8.31	0.406	3.928	1.076	0.699	0.699	0.010	0.665	1.36	1.250	0.259	1.623	1.592	0.560	2.183	2.183	2.589

ANNEXURE-V

No.	Item	Unit	Latest Estimate Quantity	Progress Upto 3/2012	Target for the Year 2012-13	Planning during the year 2012-13												Progress for the year 2012-13	Cumul. Progress
						April to June (I st Qtr.)			July to September (II nd Qtr.)			October to December (III rd Qtr.)			January to March (IV th Qtr.)				
						Programme	Progress	Cum. Prg.	Programme	Progress	Cum. Prg.	Programme	Progress	Cum. Prg.	Programme	Progress	Cum. Prg.		
1.	2.	3.	4.	5.	6.	7.	8.	9.	10	11.	12	13.	14.	15.	16.	17.	18.	19.	20
Phase - II B (263 to 368Km.)																			
1	Main Canal (NM,C CH.263 to 314)																		
	a. Earthwork (Exc. Only)	LCM	64.395	64.395														0.000	64.395
	b. Lining	LSM	7.531	7.711														0.000	7.711
	c. Concrete	LCM	6.626	6.626														0.000	6.626
2	Branch Canal (NMC CH.263 TO 368)																		
	a. Earthwork	LCM	30.112	26.235	3.877	2.430	2.006	2.006	0.867	0.375	2.381	0.458	0.315	2.696	0.122	0.062	2.758	2.758	28.993
	b. Lining	LSM	20.333	17.652	2.681	1.600	2.034	2.034	0.217	0.089	2.123	0.737	0.390	2.513	0.127	0.152	2.665	2.665	20.317
	c. Concrete	LCM	0.528	0.447	0.081	0.039	0.035	0.035	0.007	0.040	0.075	0.023	0.010	0.085	0.012	0.008	0.093	0.093	0.540
3	Distribution System (NMC CH.263 TO 368)																		
	a. Earthwork	LCM	358.884	117.749	194.607	42.943	41.799	41.799	3.129	7.143	48.942	73.109	24.461	73.403	75.426	30.927	104.330	104.330	222.079
	b. Lining	LSM	104.700	28.458	66.295	8.738	3.724	3.724	1.672	0.970	4.694	26.228	7.602	12.296	29.658	13.109	25.405	25.405	53.863
	c. Concrete	LCM	3.727	1.166	2.333	0.678	0.211	0.211	0.127	0.072	0.283	0.754	0.214	0.497	0.952	0.479	0.976	0.976	2.141
Phase - II C (368 to 458Km.)																			
4	Main Canal (NMC CH.368 TO 458)																		
	a. Earthwork	LCM	232.230	231.964														0.000	231.964
	b. Lining	LSM	45.240	45.242														0.000	45.242
	c. Concrete	LCM	3.520	3.504														0.000	3.504
5	Branch Canal (NMC CH.368 TO 458) incl. KBC																		
	a. Earthwork	LCM	236.220	159.880	50.090	15.660	13.920	13.920	7.78	9.85	23.770	15.68	8.420	32.190	10.960	10.350	42.540	42.540	202.420
	b. Lining	LSM	51.180	28.003	16.760	4.750	4.070	4.070	2.66	2.01	6.080	5.21	7.280	13.360	4.150	4.070	17.430	17.430	45.433
	c. Concrete	LCM	4.042	1.007	1.540	0.190	0.130	0.130	0.26	0.17	0.300	0.60	0.370	0.670	0.500	0.360	1.030	1.030	2.037
6	Distribution System -Incl. KBC																		
	a. Earthwork	LCM	221.659	46.679	102.410	19.210	15.860	15.860	18.28	14.76	30.620	31.50	13.580	44.200	33.420	26.230	70.430	70.430	117.109
	b. Lining	LSM	61.250	6.990	25.470	3.950	5.290	5.290	3.05	2.41	7.700	8.05	7.110	14.810	8.930	7.270	22.080	22.080	29.070
	c. Concrete	LCM	4.187	0.397	1.790	0.210	0.190	0.190	0.28	0.11	0.300	0.57	0.130	0.430	0.640	0.330	0.760	0.760	1.157
7	KBC (112-133.52 km)																		
	a. Earthwork	LCM	54.700	39.170	15.531	1.000	0.775	0.775	1.000	0.758	1.533	6.000	10.183	11.716	7.531	18.286	30.002	30.002	69.172
	b. Lining	LSM	7.433	5.788	1.652	1.000	0.839	0.839	0.500	0.405	1.244	0.150	0.114	1.358	0.002	2.156	3.514	3.514	9.302
	c. Concrete	LCM	0.565	0.362	0.203	0.028	0.028	0.028	0.010	0.012	0.040	0.100	0.024	0.064	0.065	0.065	0.129	0.129	0.491
NOTE:- Estimated quantity shown in col. No. 4 is for total canal system works considered under AIBP																			

NOTE:- Estimated quantity shown in col. No. 4 is for total canal system works considered under AIBP

Target of quantity for the yeat 2012-13 shown in col.No. 6 is for AIBP component only

IP Created during 2012-13 (Upto March-2013)- 128237 Ha

ANNEXURE-VI

Accelerated Irrigation Benefits Programme Monitoring Report Sardar Sarovar Multipurpose (Narmada) Project, Gujarat. STATE : GUJARAT

Financial Planning and Progress for the year 2012-2013 upto March-2013 (As per Mou March 2010)

(Rs. in CRORES)																		
Sr. No.	Item	Balance cost as per Mou (2010)	Expen. Upto 3/2012	Outlay for the Year 2012-2013(Works)	Planned expenditure during the year 2012-2013												Progress for year 2012-2013	Cummul. Progress
					April to June (I st Qtr.)			July to September (II nd Qtr.)			October to December (III rd Qtr.)			January to March (IV th Qtr.)				
					Outlay	Expend.	Cum. Exp.	Outlay	Expend.	Cum. Exp.	Outlay	Expend.	Cum. Exp.	Outlay	Expend.	Cum. Exp.		
1.	2.	3.	4.	5.	6.	7.	8.	9.	10.	11.	12.	13.	14.	15.	16.	17.	18.	19.
Canal System																		
	UNIT-II																	
1	Main Canal (Ch. 0 to 458 km) (Unit-II)	630.44	197.85	202.910	3.850	11.846	11.846	3.500	9.072	20.918	94.650	11.935	32.853	100.910	74.011	106.864	106.864	304.714
2	Branch Canal (NMC reach 0 to 263.165 km), Distribution system & Pumping station (Unit-IV)	588.19	507.43	248.680	32.365	60.128	60.128	1.487	62.313	122.441	110.703	53.85	176.290	104.126	68.400	244.690	244.690	752.120
3	Sub Branch Canal of S.B.C., Distribution system (Unit-IV)	2955.48	894.46	942.010	159.04	127.306	127.306	36.82	102.440	229.746	380.34	131.51	361.258	365.82	229.940	591.198	591.198	1485.658
4	Branch Canal (NMC reach 263.165 km to 458 km), K.B.C., Distribution system & Pumping station (Unit-IV)	6554.69	874.70	1906.400	247.23	272.544	272.544	129.80	252.74	525.283	717.27	274.172	799.455	812.10	509.295	1308.750	1308.750	2183.450
	SUB TOTAL (UNIT-IV)	10098.36	2276.59	3097.09	438.63	459.978	459.98	168.10	417.49	877.470	1208.314	459.533	1337.003	1282.04	807.64	2144.64	2144.638	4421.23
	GRAND TOTAL	10728.80	2474.44	3300.00	442.48	471.824	471.824	171.603	426.564	898.388	1302.964	471.468	1369.856	1382.952	881.646	2251.502	2251.502	4725.942

Annexure-VII

SARDAR SAROVAR MULTIPURPOSE (NARMADA) PROJECT**STATE: GUJARAT****Physical Progress of Land Acquisition Cases as on March - 2013****Components taken up under AIBP : Main Canal , Branch canal , Distribution System**

Land Area in Hectares

Sr.No.	Item	Private Land			Government Land			Forest Land		
		To be acquired	Acquired	Yet to be acquired	To be acquired	Acquired	Yet to be acquired	To be acquired	Acquired	Yet to be acquired
	PHASE-I (CH o to 144 Km)									
1	Main Canal	3881.95	3881.95	0	443.09	443.09	0	47.06	47.06	0
2	Branch Canal	4116.82	4116.82	0	165.17	165.17	0	9.18	9.18	0
3	Distribution/Minors	9983	9959.25	23.75	753	723	30	4.32	4.32	0
	Total	17981.77	17958.02	23.75	1361.26	1331.26	30.00	60.56	60.56	0.00
	PHASE-II (144 to 458Km)									
4	Main Canal	5924.38	5880.31	44.0692	985.89	594.58	391.3098	49.77	49.77	0
5	Other Branch Canal (Incl.SBC)	12114.99	10695.36	1419.6278	2085.38	1870.06	215.3139	406.53	264.57	141.9591
6	Distribution/Minors	18448.89	14417.55	4031.3437	1600.43	1287.23	313.2045	147.80	0.87	146.9345
	Sub total	36488.26	30993.22	5495.04	4671.70	3751.87	919.83	604.10	315.21	288.89
	TOTAL	54470.03	48951.24	5518.79	6032.96	5083.13	949.83	664.66	375.77	288.89

**ACCELERATED IRRIGATION BENEFITS PROGRAMME
FOR THE YEAR 2013-2014
SARDAR SAROVAR MULTIPURPOSE (NARMADA) PROJECT, GUJARAT**

ANNEXURE - VIII

**R & R ACTIVITIES IN GUJARAT
SUMMARY OF PROGRESS
POSITION AS ON :- MARCH -2013**

I-1

No.	Details	Gujarat	Maharashtra	Madhya Pradesh	Total
1	2	3	4	5	6
1.1	Villages Affected				
	Partly	16	33	191	240
	Fully	3	0	1	4
1.2	Sub. Villages Likely to Resettle in Guj.	19	16	79	114
1.3	Total No. of PAFs	4765	4201	37694	46660
1.4	No. of PAFs to be resettled in Guj.	4765	747	5520	11032
1.5	No. of PAFs resettled including Non - Agri PAFs	4765	747	5520	11032
2.1	Agri. Lands Allotted to PAFs (No)	4726	743	5460	10929
2.2	Total Area of land allotted to PAFs (HA)	9454	1486	10920	21860
2.3	From No. of submergence villages	19	16	70	105
2.4	Total No. of Resi.sites	110	18	108	236
3.1	Subsistence Allowance (Rs. 4500 per PAFs for the year)				
	No. of PAFs : 1st Inst	4715	630	5086	10431
	No. of PAFs : 2nd Inst	4711	627	5078	10416
	No. of PAFs : 3rd Inst	4613	587	3689	8889
	Amount (Rs. In Crores)	2.07	0.30	2.14	4.51
3.2	Ex-Gratia (For Land purchas No. of PAFs)	4330	0	0	4330
	Amount (Rs. In Crores)	32.06	0.00	0.00	32.06
3.3	Productive Assets Given (Rs. 7000 per family)				
	No. of PAFs	4618	686	3885	9189
	Amount (Rs. In Crores)	2.34	0.37	2.39	5.1
	% of Sr. No. 2.1..... Percentage	97.71	92.33	71.15	

**ACCELERATED IRRIGATION BENEFITS PROGRAMME
FOR THE YEAR 2013-2014
SARDAR SAROVAR MULTIPURPOSE (NARMADA) PROJECT, GUJARAT**

ANNEXURE - VIII

**R & R ACTIVITIES IN GUJARAT
SUMMARY OF PROGRESS
POSITION AS ON :- MARCH -2013**

	I-2				
3.4	Resettlement Grant : [#]				
	PAF:	4263	234	156	4653
	Amount (Rs. In Crores)	0.62	0.05	0.03	0.7
3.5	Insurance of PAFs	4760	748	5555	11063
3.6	Employment	393	11	13	417
4.1	Residential Plots Allotted				
	500 Sq. Mt. Per PAFs	4764	747	5467	10978
4.2	Core House Constd.	4119	546	4607	9272
	By PAFs	4100	473	1715	6288
	By SSPA And SSNNL	19	73	2892	2984
4.3	No. of House Shifted	2975	605	448	4028
4.4	Home Stead Electrification				
	Fitting Provided	3515	479	3792	7786
	Connection Provided	3127	465	2214	5806
5.1	Street Lights	110	18	108	236
5.2	Approach Roads (KM)	62.61	12.04	37.73	112.38
5.3	Internal Roads (KM)	113.93	21.86	147.57	283.36
5.4	Primary Schools	111	18	108	237
5.5	Dispensary	31	18	107	156
5.6	Children Park	113	18	108	239
5.7	Drinking Water Facility Open Dugwell / Borewell	450	54	202	706
5.8	Piped Water supply	77	10	110	197
5.9	Hawada	303	43	253	599
5.10	Tree Planforms	173	26	183	382
6.0	Total Expenditure (Rs. In Crores)	189.32	34.66	240.37	464.35

[#] Payment of Resettlement Grant to MP/MAH PAFs resettled in Gujarat is paid by GOMP / GOMH respectively.

A detailed Para-wise Compliance of 25 the Status Report for year 2012-13 on Sardar Sarovar (Narmada) Project under AIBP prepared by CWC

Contents of Para raised in 25 th Status Report on SSP under AIBP of CWC	Compliance
1	2
“7.0 Issues in Focus	
<p>7.1 Irrigation Potential Creation</p> <p>As per the previous MoU, the target for creation of Irrigation Potential (IP) for the year 2010-11 was 38,479 Ha as against which IP created up to March-2011 was only 28,892 Ha, thus a short fall of about 9587 Ha. The pace of creation of IP was extremely slow till last year. It cannot be over emphasized in view of the fact that IP created is only 5, 60785 Ha (upto September 2012) and about 31.29% of overall IP to be created.</p> <p>In view of the revised physical and financial targets finalized by the Govt. of Gujarat, new Memorandum of Understanding was executed in October-2012 between Ministry of Water Resources, Govt. Of India and Govt. Of Gujarat to complete the remaining works of SSP by 2015-2016 with IP creation of 1246724 Ha.</p> <p>It is seen that there are certain areas where focused and concreted efforts may improve the progress for creation of IP (upto the minor level). It is observed that in Goraiya Branch Canal, Rajpura Branch Canal and Jinjuwada Branch Canal, and the areas of Kachchha Branch Canal the work was going on upto minor level at a reasonable pace immediately at the start of the working season i.e. end of monsoon-2012. All efforts need to be made to achieve the targets as mentioned in the new MOU (2012-16).</p>	<p>The Project Authorities have taken the following multipronged actions, which have resulted in an expeditious execution on various activities of the project viz Land Acquisition work, Tender Finalization and implementation of the canal network up to Minor in Command Areas of the Project in conformity with the time frame recorded in the MoU.</p> <ul style="list-style-type: none"> • Land acquisition compensation to be paid at “Jantri Rate” (Market Rate) • A High Level Committee has been constituted under the Chairmanship of Hon’ble Minister (Revenue) to speed up the land acquisition work. The progress of land acquisition is being monitored on a day to day basis and review is being done every week. • Joint measurement and preparation of Land Acquisition proposals, Survey and Network Planning and Design works are also outsourced. • Engineering Procurement Construction (EPC) approach adopted for a speedy implementation in the construction of canal network. • To ensure quality of the works, executed, third party quality audit consultants have been appointed. • Decentralized approach of command area development work adopted. • District level Co-ordination Committee under the Chairmanship of District Collector, constituted with elected members/NGOs for implementing PIM. • NGO’s have been deployed for capacity building of WUA’s, so that it results in speedy development of command area. • To cope up with the shortage of technical

	<p>manpower, project monitoring consultants have been appointed.</p> <ul style="list-style-type: none"> Government of Gujarat has allocated an outlay of Rs.9000 crore in 2013-14 Annual Plan for the Sardar Sarovar (Narmada) Project. <p>As a result of above mentioned initiatives of the State Government, a total of 16980 hectares of land was acquired between April-2010 to June, 2013 for construction of canals. As a result of the same, tenders amounting to Rs. 8172 crore for 201 works have been awarded. Tenders amounting to Rs.656 crore for 8 Nos. of works are under various stages of approval.</p> <p>All efforts have been made to achieve the targets as mentioned in the MoU (2012-16) & as a result, 128237 Ha. Irrigation potential is created upto minors during year 2012-13.</p>
<p>7.2 Irrigation Potential Utilization</p> <p>Out of total proposed IP creation of 17.92 Lakh Ha, it is seen that upto Sept.-12, IP created is 5.61 Lakh Ha. However, Irrigation Potential Utilized is only 1.93 Lakh Ha (34.4% of Potential Created). Even for 5.45 Lakh Ha Potential Created during previous MOU, the potential utilized was just 34.4% of Potential Created. It is suggested that all out integrated efforts need to be made to minimize the gap between Potential Created and Potential Utilized. Various measures undertaken for reducing the gap between IP Created and IP Utilized may be intimated.</p>	<p>As the further water delivery system up to fields is not fully developed and is the main reason for less utilization. The irrigation potential (IP) created (up to sub-minors) under the Sardar Sarovar Project is 3.69 lakh hectares as on March 31, 2013. Even, in the command area of constructed Sub-Minors (i.e. lined up to 8 hectare) unlined field channels have not been fully constructed by WUA/ farmers. According to the prevailing norms of the AIBP scheme, IP is deemed to have been created once the works of construction of canals up to Minors is completed. But to harness this potential fully, construction of Sub-Minors / Field-Channels is required. Such construction is inordinately delayed because farmers at many location have been reluctant to hand over land voluntarily which has resulted in a delay and non completion of the sub minor network at many locations. However, Nigam has recently formulated a new policy for implementation of subminors, which will help increase utilization.</p> <p>Company is striving hard to imbibe the spirit of co-operatives into the formed WUA's by giving:</p> <ul style="list-style-type: none"> Farmers training at WALMI, Anand and at field. 228 nos. of training for farmers have been conducted in Phase I of the Project till date. 7935 Nos of Gram Sabha meetings

	<p>have been conducted in Phase I of the project.</p> <ul style="list-style-type: none"> 608 nos. of spearhead group meeting have been conducted in phase I of the Project till date. <p>Moreover, Company is addressing the concern of less utilization and efforts are being made to make WUA effective with the help of DLCC (District Level Co-ordination Committee). However, evolving an appropriate model addressing all the expectations is a continuous process and the DLCC frame work besides, similar experience gained in other project, in Gujarat, would also, provide necessary inputs for successful working model of WUA in future.</p> <p>Further strategies increase the utilization :-</p> <ul style="list-style-type: none"> ➤ Power are delegated to NGO's for speedy development of the command Area. ➤ District Level Co-ordination Committees under the chairmanship of District Collector constituted with elected members/NGOs/WUA's participation. <p>A total of 1661 Societies so far has been registered. These Irrigation societies are not yet fully functional. Also construction of water courses from sub minor to farms are to be constructed by the farmers are not taken up by the Piyat Mandlies. Therefore, Irrigation Management is being carried out by the staff of department. To activate and make functioning the Irrigation Co-Operative Societies, NGOs are being deployed in Phase-I and Phase-II. Upon filly activation and functional of Irrigation Co-Operative Societies , the developed potential may be utilized fully.</p>
<p>7.3 Through linkages upto Minor It is necessary to ensure that minor gaps left in the various types of canal, esp. in Phase-I and Phase-II, including those left for regulation works, crossings etc. are completed in time.</p>	<p>Any missing link left in minors for regulation works, crossing etc. are being taken up on priority and for that an approach of approving Annual Unit Rate is adopted so as to complete the work in time.</p>

<p>7.4 Land Acquisition As reported, a major chunk of land required for the distribution system has been acquired; However, the structural work on Long Canal Siphon (2.55 km) is going on in just 1 km length. The remaining 1.55 km falls in the forest land and can only be taken up after the concurrence to acquire this land is accorded by MoEF. Till such time, the IP creation in Kachchh region may not be achieved. The matter needs to be intensely pursued with MoEF in order to meet the physical and financial targets as envisaged in the revised MOU (2012-16).</p>	<p>The concurrence to acquire forest land in Kachchh Branch Canal has been accorded by the MoEF, Government of India, Bhopal for diversion of 90.2565 ha. of Sanctuary / Reserved Forest Land vide letter No. FCA- 1012/ (8-04)/ 09/ SF-102/F dtd. 28-12-2012.</p>
<p>7.5 Tendering process Given the mammothness of the task to complete the works as per schedule as per revised MOU, it is desirable that non-working season of monsoon is utilized to complete tendering process so that works can begin at the very onset of the working season.</p>	<p>Non-working season of monsoon-2012 has been utilized for tendering process. As a result of which, total 201 Nos. of works amounting to Rs. 8172 crore has been awarded and are in progress till date. However, the suggestion is noted for future also.</p>
<p>7.6 Kutchchh Branch Canals It is observed that progress in respect of distribution network under Kutchchha Branch Canal which is one of the largest branches of Narmada main canal, is, at present, very slow and needs to be expedited substantially if targets as pre revised MoU are to be achieved.</p>	<p>Planning of Network of Kachchh Branch Canal ch 82.3 to 357.185 km. is given to M/s WAPCOS, and is expedited substantially, so as targets of development of 1,12,778 ha. Command, can be achieved during the year 2015-16 as per planning given while revising the MOU.</p>
<p>7.7 Quality of Work and Maintenance During the visit it was observed that at few places the newly laid lining was cracking in one of the minors of Goriawad Distributary. It is necessary to ensure that such cracks are immediately repaired and also to maintain a close and regular monitoring on the quality aspects so that quality of future works is ensured. In one of the minors of Katra distributary the shrubs / weeds were seen to be growing on and above the lining portion and thus the lining was badly damaged and also the flow was restricted because of shrubs. The canals, branch canals, distributaries and minors should always be free from growing shrubs and weeds so that the life of such costly infrastructure is not adversely affected. All necessary measures (including institutional) for the regular operation and maintenance of the infrastructure are essential. “</p>	<p>The suggestion is noted & all field officers are instructed accordingly. Few places where lining was cracked in Goryiawad Distributary, that portion of lining is removed and is recasted. The site visit inspection of Katra Distributary was done by concerned field officer and shrubs/weeds growth on distributary were removed immediately after visit. Necessary repairing of lining is also carried out by the field office.</p>
<p>“18.0 Issues in Implementation of AIBP Works Close attention along with commensurate action needs to be paid/taken up in respect of the following</p>	
<p>18.1 Irrigation Potential Creation As per the previous MoU, the target for creation of Irrigation Potential (IP) for the year 2010-11 was 38,479 Ha as against which IP created up to March-2011 was only 28,892 Ha. thus a short fall of about</p>	<p>Response as mentioned in the response of sub para no. 7.1.</p>

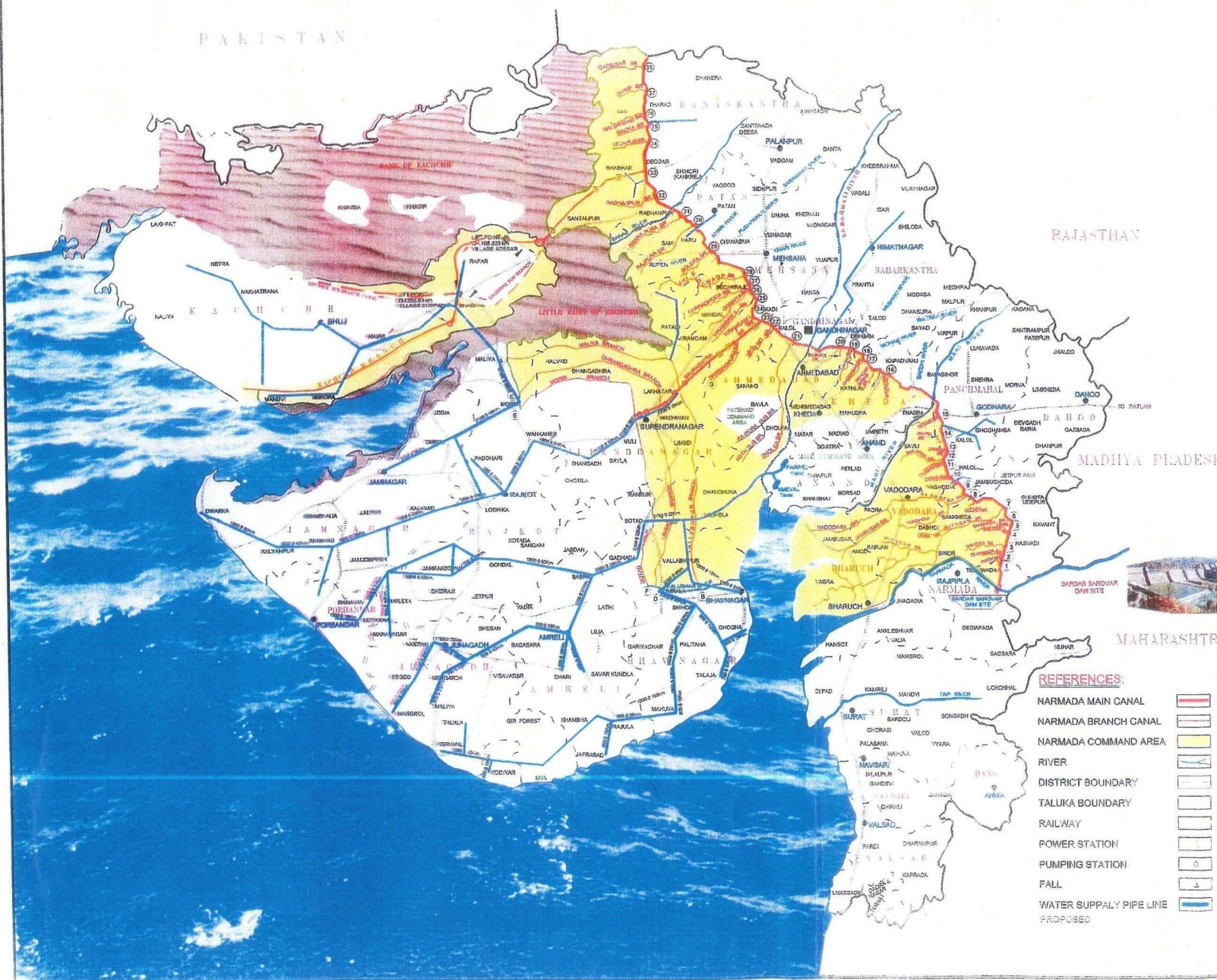
<p>9587 Ha. The pace of creation of IP was extremely slow till last year. It cannot be over emphasized in view of the fact that IP created is only 5,60785 Ha (upto September 2012) and about 31.29% of overall IP to be created.</p> <p>In view of the revised physical and financial targets finalized by the Govt of Gujarat, new Memorandum of Understanding was executed in October-2012 between Ministry of Water Resources, Govt. Of India and Govt. Of Gujarat to complete the remaining works of SSP by 2015-2016 with IP creation of 1246724 Ha.</p> <p>It is seen that there are certain areas where focused and concerted efforts may improve the progress for creation of IP (upto the minor level). It is observed that in Goraiya Branch Canal, Rajpura Branch Canal and Jinjuwada Branch Canal, and the areas of Kachchha Branch Canal the work was going on upto minor level at a reasonable pace immediately at the start of the working season i.e. end of monsoon-2012. All efforts need to be made to achieve the targets as mentioned in the new MOU (2012-16).</p>	
<p>18.2 Irrigation Potential Utilization</p> <p>Out of total proposed IP creation of 17.92 Lakh Ha. it is seen that upto Sept.-12, IP Created is 5.61 Lakh Ha. However, Irrigation Potential Utilized is only 1.93 Lakh Ha (34.4% of Potential Created). Even for 5.45 Lakh Ha Potential Created during previous MOU, the potential utilized was just 34.4% of Potential Created. It is suggested that all out integrated efforts needs to be made to minimize the gap between Potential Created and Potential Utilized. Various measures undertaken for reducing the gap between IP Created and IP Utilized may be intimated.</p>	<p>Response as mentioned in the response of sub para no. 7.2.</p>
<p>18.3 Through linkages upto Minor</p> <p>It is necessary to ensure that minor gaps left in the various types of canal , esp. in Phase-I and Phase-II, including those left for regulation works, crossings etc, are completed in time.</p>	<p>Response as mentioned in the response of sub para no. 7.3.</p>
<p>18.4 Land Acquisition</p> <p>As reported, a major chunk of land required for the distribution system has been acquired. However, the structural work on Long Canal Siphon (2.55 km) is going on in just 1 km length. The remaining 1.55 km falls in the forest land and can only be taken up after the concurrence to acquired this land is accorded by MoEF. Till such time, the IP creation in Kachchh region may not be achieved. The matter needs to be intensely pursued with MoEF in order to meet the physical and financial targets as envisaged in the revised MOU (2012-16).</p>	<p>Response as mentioned in the response of sub para no. 7.4.</p>
<p>18.5 Tendering process</p> <p>Given the mammothness of the task to complete the works as per schedule as per revised MOU, it is</p>	<p>Response as mentioned in the response of sub para no. 7.5.</p>

<p>desirable that non-working season of monsoon is utilized to complete tendering process so that works can begin at the very onset of the working season.</p>	
<p>18.6 Kutchh Branch Canals It is observed that progress in respect of distribution network under Kutchha Branch Canal which is one of the largest branches of Narmada main canal, is, at present, very slow and needs to be expedited substantially if targets as per revised MoU are to be achieved.</p>	<p>Response as mentioned in the response of sub para no. 7.6.</p>
<p>18.7 Quality of Work and Maintenance During the visit it was observed that at few places the newly laid lining was cracking in one of the minors of Goriawad Distributary. It is necessary to ensure that such cracks are immediately repaired and also to maintain a close and regular monitoring on the quality aspects so that quality of future works is ensured. In one of the minors of Katra distributary the shrubs / weeds were seen to be growing on and above the lining portion and thus the lining was badly damaged and also the flow was restricted because of shrubs. The canals, branch canals, distributaries and minors should always be free from growing shrubs and weeds so that the life of such costly infrastructure is not adversely affected. All necessary measures (including institutional) for the regular operation and maintenance of the infrastructure are essential. “</p>	<p>Response as mentioned in the response of sub para no. 7.7.</p>

manica Àm@Sa

PLATES/MAPS

SARDAR SAROVAR (NARMADA) PROJECT



SR. NO	NAME OF OFFTAKING BRANCH CANAL	CHAINAGE IN Km.	LENGTH IN Kms.	DISCHARGE OF BRANCH CANAL AT CANAL HEAD IN CUMEC	C.C.A. IN H A
1	WADIA BRANCH	9.831	3.65	6.947	9868
2	TILAKWADA BRANCH	17.871	9.92	5.934	7202
3	MANDWA BRANCH	26.263	23.77	10.711	12700
4	BHILODIA (ANGARI) BRANCH	32.674	27.32	9.980	13326
5	TIMBI BRANCH	38.523	4.76	1.680	2049
6	SANKHEDA BRANCH	45.109	0.16	5.069	6266
7	MITYAGAM BRANCH	52.316	89.80	143.480	213001
8	GOJALI BRANCH	70.152	3.99	7.00	10932
9	VADODARA BRANCH	81.810	115.09	76.040	115928
10	DIHA BRANCH	88.770	11.83	6.858	10602
11	DUMAD BRANCH	100.026	6.53	5.240	6184
12	SAKARDA BRANCH	102.956	35.13	21.780	25839
13	ZUMKHA BRANCH	105.930	2.92	2.340	3105
14	NAHRA BRANCH	111.670	4.10	3.850	6237
15	DEBAR BRANCH	126.307	15.28	5.400	9561
16	SANALI BRANCH	171.961	11.40	15.47	16848
17	MEHAMDABAD BRANCH	187.940	13.75	9.920	11719
18	GHODASAR BRANCH	202.398	21.54	15.720	15793
19	VEHLAL BRANCH	212.576	24.58	18.890	19645
20	DASKROI BRANCH	223.967	3.87	13.553	5850
21	DHOLKA BRANCH	246.336	71.38	66.544	71046
22	SANAND BRANCH	258.632	28.17	23.006	37727
23	SAURASHTRA BRANCH	263.200	104.46	424.00	524633
A	MALIYA BRANCH	70.680	137.520	28.420	41561
B	VALLABHIPUR BRANCH	70.680	116.75	69.984	136470
C	DHRANGADHRA BRANCH	88.950	126.60	59.500	81502
D	LIMBADI BRANCH	88.950	127.780	73.870	108343
E	MORBI BRANCH	104.460	117.81	38.700	61757
F	BOTAD BRANCH	104.460	108.200	42.870	35342
G	NARSINGPUR BRANCH	15.420	32.01	20.053	29666
24	VIRAMGAM BRANCH	287.063	17.19	5.708	14315
25	NEHANGAM BRANCH	277.481	10.16	11.213	11318
26	GORAVYA BRANCH	290.605	35.34	22.658	42701
27	KHARAGHODA BRANCH	292.399	43.80	19.507	35705
28	ZIKUMADA BRANCH	301.041	97.95	68.360	93988
29	BOLERA BRANCH	328.389	27.09	21.574	42200
30	RAJPIRA BRANCH	344.772	42.00	21.738	46466
31	AMARAPURA BRANCH	354.000	64.39	19.582	38904
32	RADHANPUR BRANCH	374.495	25.00	37.750	59700
33	KACHOH BRANCH	385.814	360	220	175669
34	VEJPUR BRANCH	405.722	23.00	18.400	35512
35	WADKA BRANCH	417.760	18.21	16.500	18511
36	MALSANAD BRANCH	423.732	18.00	20.243	25054
37	CHIMIA BRANCH	440.063	47.00	17.731	21018
38	QADSIYAR BRANCH	453.337	23.00	21.189	23117

REFERENCES:

- NARMADA MAIN CANAL
- NARMADA BRANCH CANAL
- NARMADA COMMAND AREA
- RIVER
- DISTRICT BOUNDARY
- TALUKA BOUNDARY
- RAILWAY
- POWER STATION
- PUMPING STATION
- FALL
- WATER SUPPLY PIPE LINE PROPOSED

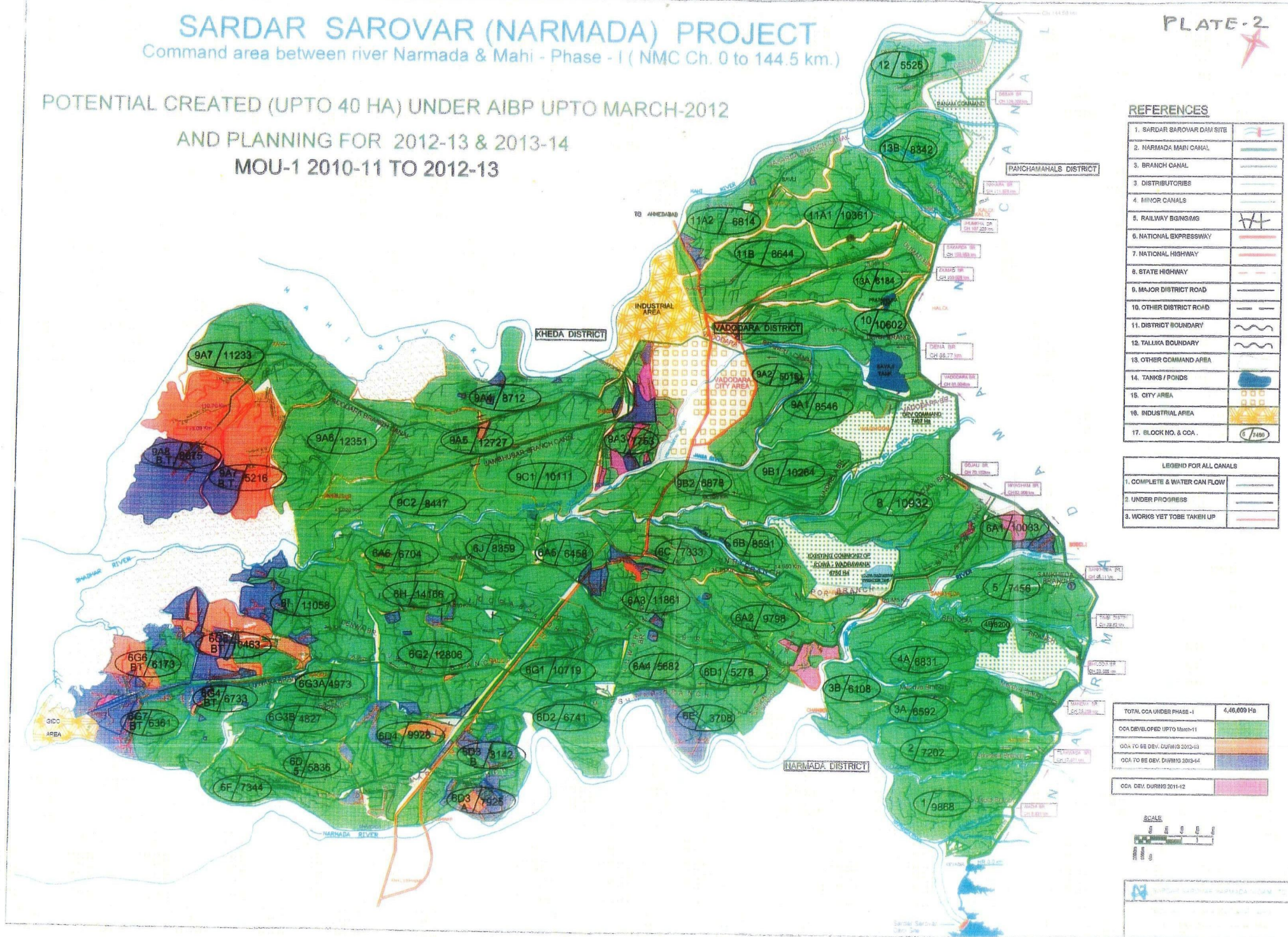
SARDAR SAROVAR (NARMADA) PROJECT
Command area between river Narmada & Mahi - Phase - I (NMC Ch. 0 to 144.5 km.)

PLATE-2

POTENTIAL CREATED (UPTO 40 HA) UNDER AIBP UPTO MARCH-2012

AND PLANNING FOR 2012-13 & 2013-14

MOU-1 2010-11 TO 2012-13

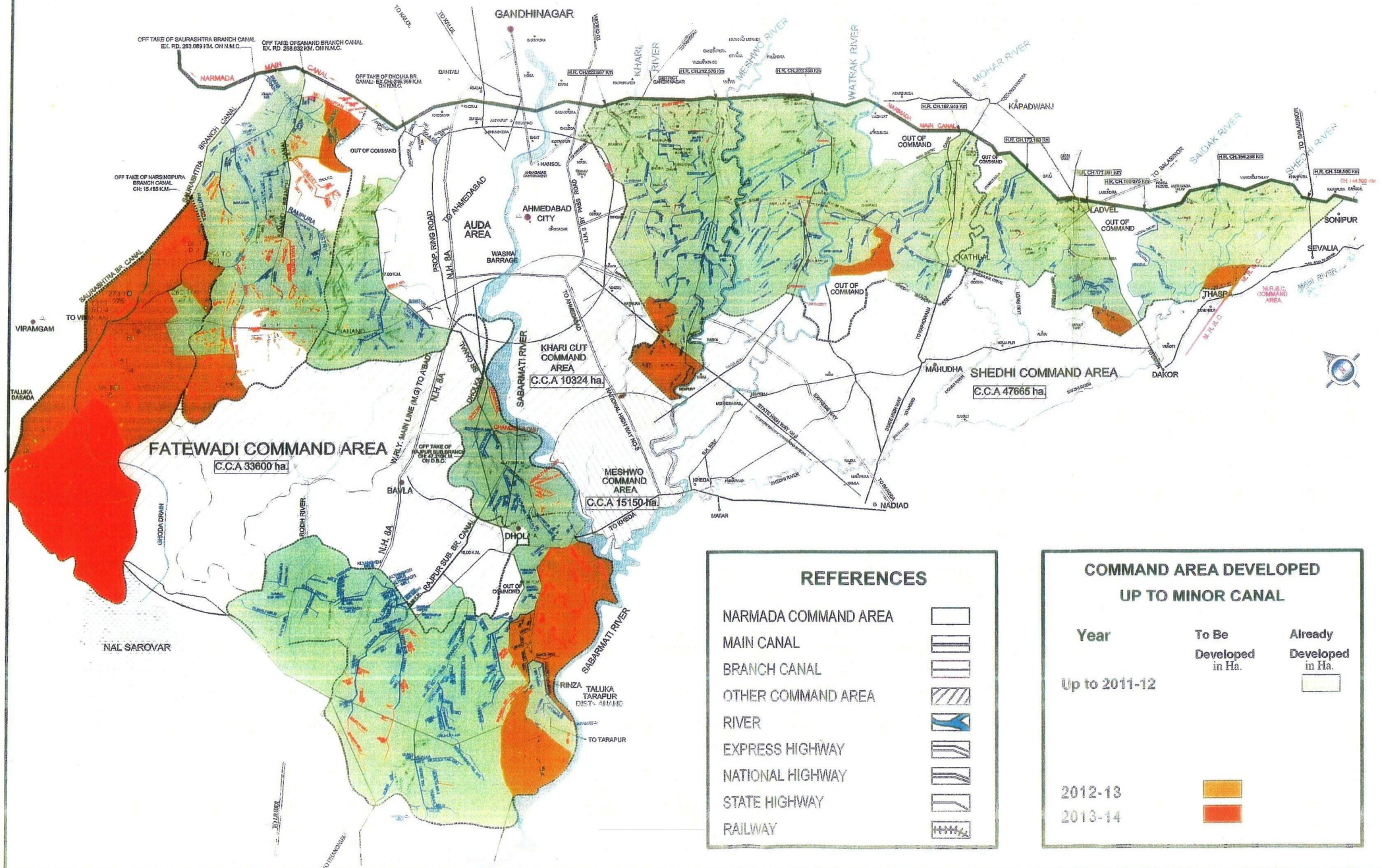


SARDAR SAROVAR (NARMADA) PROJECT

MOU-1 (VADODARA & AHMEDABAD)

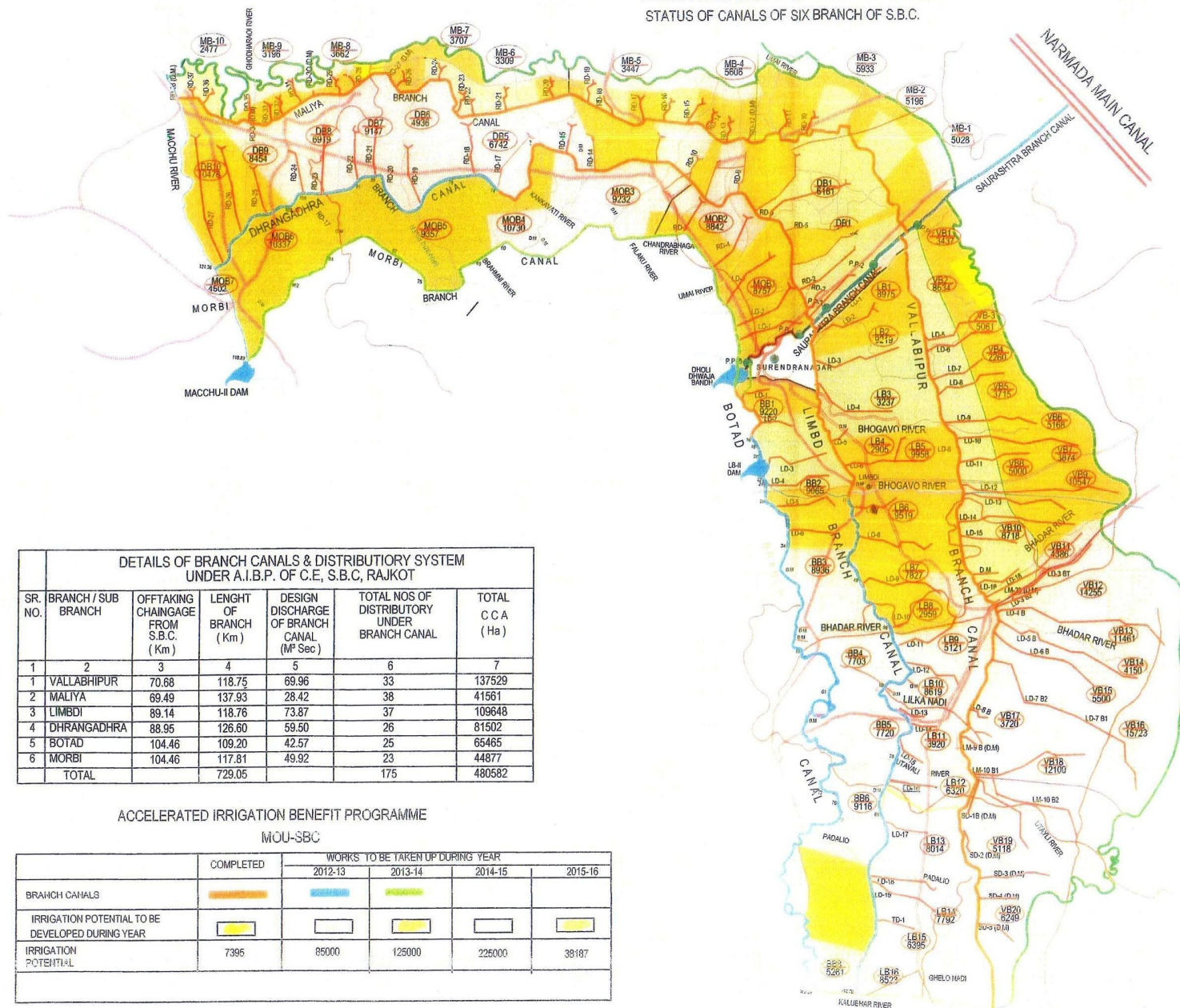


STATUS OF CANALS UNDER C.E. (AMDAVAD) (N.M.C CH.144.5 Km TO 263.265 Km.)



SARDAR SAROVAR (NARMADA) PROJECT

ACCELERATED IRRIGATION BENEFIT PROGRAMME
STATUS OF CANALS OF SIX BRANCH OF S.B.C.

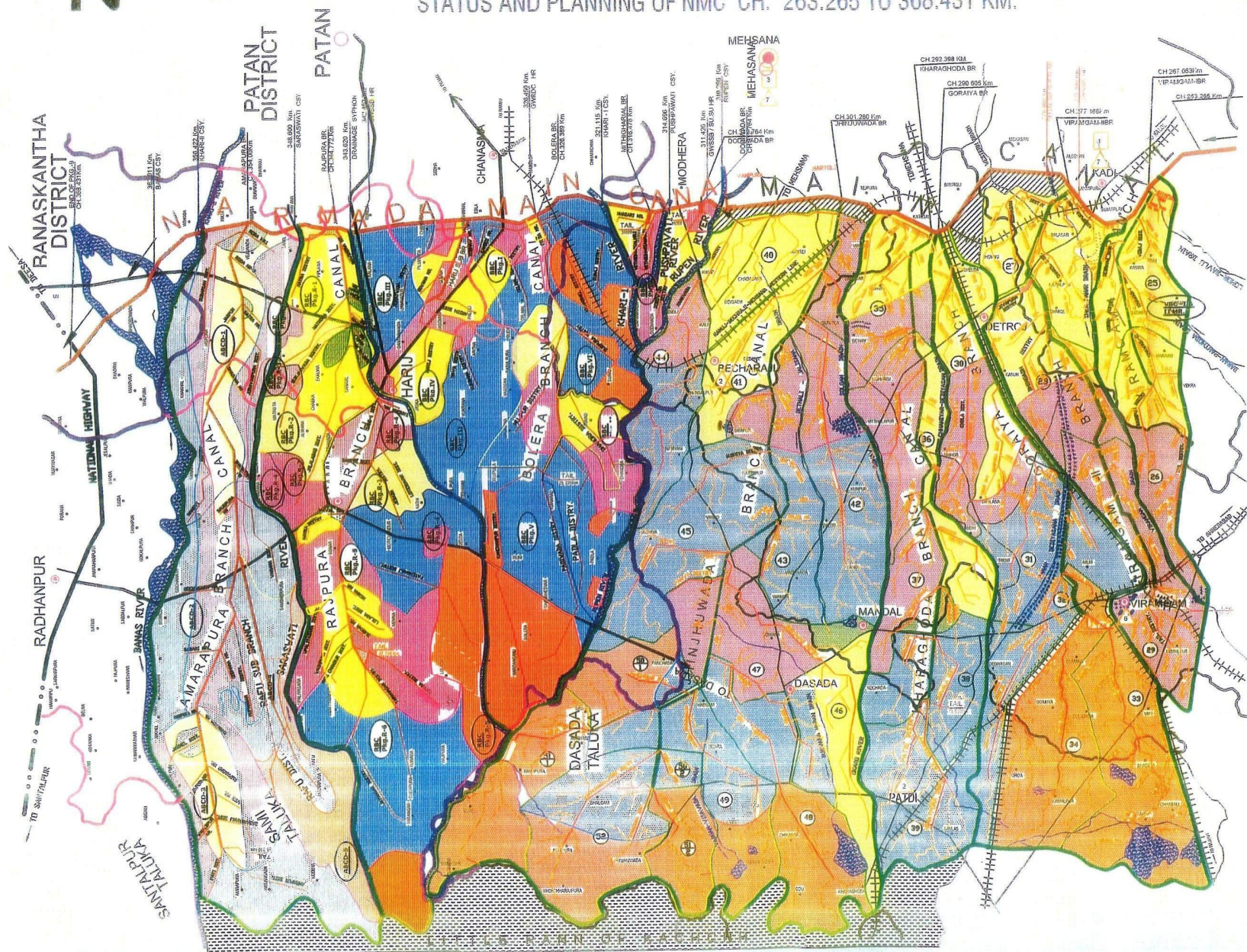


REFERENCES:-

1. NARMADA MAIN CANAL
2. SAURASHTRA BRANCH CANAL
3. DISTRIBUTORY
4. PUMPING STATION



SARDAR SAROVAR NARMADA NIGAM LIMITED
ACCELERATED IRRIGATION BENEFIT PROGRAMME 2011-12 TO 2015-16
STATUS AND PLANNING OF NMC CH. 263.265 TO 368.431 KM.

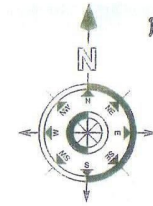


DETAILS OF C.C.A. DEVELOPMENT	
	YEAR
	2011-12
	2012-13
	2013-14
	2014-15
	2015-16

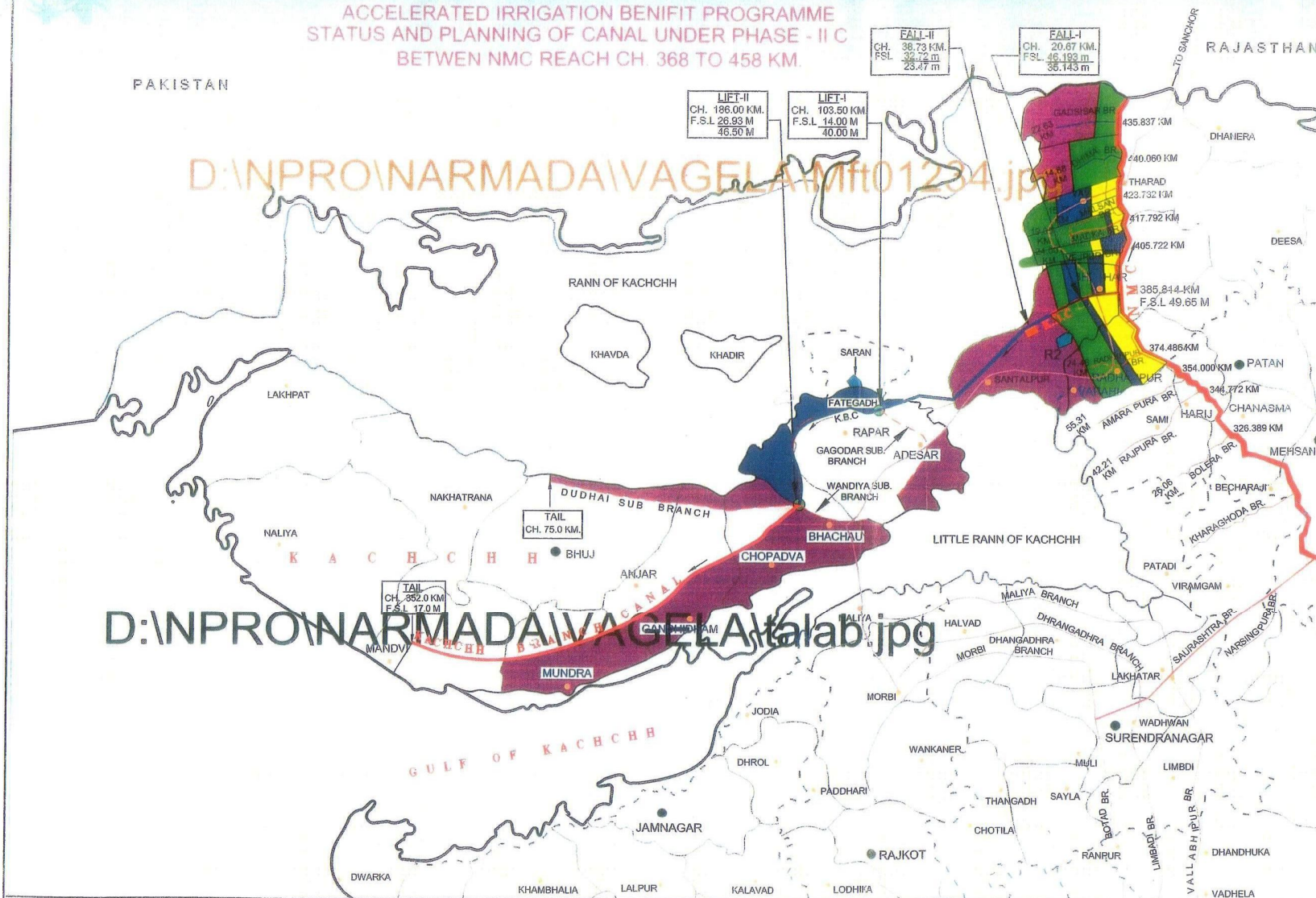
SARDAR SAROVAR NARMADA PROJECT

ACCELERATED IRRIGATION BENEFIT PROGRAMME
STATUS AND PLANNING OF CANAL UNDER PHASE - II C
BETWEEN NMC REACH CH. 368 TO 458 KM.

PLATE-6



(NORTH GUJARAT &
KACHCHH REGION)



REFERENCES

1. NARMADA MAIN CANAL
2. KACHCHH BRANCH CANAL
3. POWER STATION AT FALL (PS)
4. PUMPINT PLANT AT LIFT (PP)
5. ROAD
6. DISTRICT BOUNDARY
7. TALUKA BOUNDARY
8. COMMAND AREA

DETAILS OF BRANCH CANALS & DISTRIBUTORY SYSTEM UNDER A.I.B.P. OF C.E. CANALS - IV, PATAN

SR. NO.	BRANCH / SUB BRANCH NO.	OFF TAKING CH. FROM NMC KM	LENGHT OF BRANCH KM	DESING DISCHARGE OF BR. CANAL CUMECs	TOTAL NO. OF DISTRY UNDER BRANCH CANAL	TOTAL CCA Ha
1	Radhanpur Br.	374.486	24.475	39.774	26	59947
2	Kachchh Br.	385.814	360.00	220.00	66	175889
3	Vejpur Br.	405.722	24.00	24.596	11	35012
4	Madka Br.	417.792	19.050	15.304	10	19514
5	Malsan Br.	423.732	15.780	15.574	9	25034
6	Dhima Br.	440.060	14.680	15.720	6	21314
7	Gadsisar Br.	453.837	22.830	18.156	13	25951

ACCELERATED IRRIGATION BENEFIT PROGRAMME

WORK UNDER	COMPLETED	ON GOING	WORK TO BE TAKEN UP DURING			
AIBP	WORK	WORK	2012-2013	2013-2014	2014-2015	2015-2016
MAIN CANAL						
BRANCH CANAL						
IRRIGATION POTENTIAL TO BE CREATED (IN HECTARS)						

CHIEF ENGINEER
PATAN &
CHIEF ENGINEER
GANDHIDHAM