

## **STATUS REPORT ON SARDAR SAROVAR PROJECT**

**(December, 2015)**

### **1. Background**

The Narmada Water Disputes Tribunal (NWDT) in its final order in December 1979 has given detailed directions regarding Apportionment of the Utilizable Quantum of Narmada Waters, Sharing of Power, Costs, Benefits and setting up a machinery for implementing the decisions of the Tribunal. The Central Government has accordingly framed a scheme, called Narmada Water Scheme, which *inter-alia* consists of the following three Authorities/Committees

1. Narmada Control Authority (NCA)
2. Sardar Sarovar Construction Advisory Committee (SSCAC)
3. Review Committee of NCA (RCNCA)

The Secretary to Govt. of India, Ministry of Water Resources is the Chairman of NCA and SSCAC with representatives from Party States of Gujarat, Madhya Pradesh, Maharashtra, Rajasthan and various Central Govt. Ministries/Organizations as Members.

Union Minister for Water Resources, Govt. of India is the Chairman of Review Committee for NCA (RCNCA) with Chief Minister of party states of Gujarat, Madhya Pradesh, Maharashtra, Rajasthan and Union Minister for Environment as Members.

#### **Narmada Control Authority (NCA)**

Narmada Control Authority (NCA) is an inter-State administrative authority, established for the purpose of implementation of the decision and directions of the Narmada Water Disputes Tribunal.

The Authority coordinates construction programme of the Sardar Sarovar Unit-II (Canals) with a view to obtain expeditiously optimum benefits during and after the completion of the construction of the projects, keeping in view the availability of funds. Earlier the Authority also co-ordinated the construction programme of the Narmada Sagar (now, Indira Sagar) Project. The Authority also co-ordinates in power generation scheduling and sharing of power of SSPP, Reservoir Regulation of Narmada Basin, Monitoring of R&R of SSP and Environmental Safe Guard Measures of SSP & ISP etc.

#### **Sardar Sarovar Construction Advisory Committee (SSCAC)**

Sardar Sarovar Construction Advisory Committee (SSCAC) performs the advisory function over the construction programme of the Sardar Sarovar Project.

#### **Review committee of Narmada Control Authority (RCNCA)**

The RCNCA may review any decision of the NCA and also may grant stay of any order of the NCA pending final decisions on review.

## 2. Sardar Sarovar Project:

The Sardar Sarovar Project is an inter-State multi-purpose project on the river Narmada in Gujarat. It is a joint venture between the States of Gujarat, Madhya Pradesh, Maharashtra and Rajasthan. Although the Project was originally envisaged in the year 1946, due to the dispute regarding sharing of waters of the Narmada among the co-basin States, its implementation could not be initiated. Under the Inter-state Water Disputes Act, 1956, Narmada Water Dispute Tribunal (NWDT) was, therefore, set up in 1969 to adjudicate on the dispute relating to sharing of water of the inter state river Narmada and its valley. The NWDT, considering the development of the water resources of the basin as a whole, gave its award in 1979 allocating share of Water of Narmada based on 75% dependability and Power of Sardar Sarovar Project as under:

STATE	Share of Narmada Water (in 75% dependable year)		Share of Power from SSP (1450 MW)
	Million Acre Feet	Percentage	Percentage
Madhya Pradesh	18.25	65.18	57
Gujarat	9.00	32.14	16
Rajasthan	0.50	1.79	---
Maharashtra	0.25	0.89	27
Total	28.00	100.00	100

After further deliberations on all aspects, including environmental and forests, the Project was approved by the Government of India after clearance from Environment & Forests angle in 1987. Salient features of the Project are at **Annexure-I**.

## 3. PROGRESS IN CONSTRUCTION OF THE PROJECT

3.1 Progress of work on various components of Sardar Sarovar Project up to **December, 2015** is as follows:

Sl. No	Component	(%age completions)		
		Excavation %	Concreting %	
1.	Main Dam	100.00	96.43	
2.	River Bed Power House	All the 6 Units each of 200 MW commissioned.		
3.	Canal Head Power House	All the 5 Units each of 50 MW commissioned.		
4.	Vadgam Saddle Dam	Work completed		
5.	Irrigation Bye-pass Tunnel works.	100.00	100.00	
6.	Canals Phase-I (Ch. 0 to 144.50 km)	Earthwork %	Lining %	Structural concrete%
	a) Narmada Main Canal	Work completed		
	b) Branch Canals	Work completed		
	c) Distribution System	94.74	91.02	98.52
	d) Sub-Minors	82.11	77.79	82.54

7	Canals Phase-II (A) (Ch. 144.50 to 263.165 km)	Work completed		
	a) Narmada Main Canal			
	b) Seven major structures			
	c) Branch Canal			
	Saurashtra Branch Canal and its branches	97.20*	93.35*	97.48*
d) Distribution system	78.24*	73.37*	98.12*	
8.	Canal Phase-II (B) (Ch.263.165 km to 357.196 km)	Work completed		
	a) Main Canal			
	b) Major Structures (Three)	Work completed		
	c) Branch Canals	99.99*	99.98*	100
	d) Distribution system	84.49*	87.06*	79.27*
9.	Canal Phase-II(C) (Ch.357.196 km to 458.318 km)	Almost completed		
	a) Main Canal			
	b) Major structure	Almost completed		
	c) Branch Canals( Work carried out on EPC Basis )*	77.24*	81.98*	91.61*
	d) Branch Canals ( Other than EPC )*	89.18*	94.36*	91.23
	e) Kutchchh Branch Canals. ( Other than EPC )*	74.53*	80.17*	70.31*
	f) Distribution System ( Other than EPC )*	88.95*	96.37*	92.86*
10	<b>Narmada Canal project in Rajastahn.</b>	Works completed. Total EW 6279.32 TCM, Lining 2011.74TSM and Structure 64 Nos.		
	a) Narmada Canal (0 to 74 Km.)			
	b) Distributariies (Flow & Lift) including Distributaries, Minors and Sub-minors. (Total length 1793.062 Km.)	98.93	98.91	Total No. of Structure-2580, progress upto Sept., 2015 is 2469 Nos.

\* Revised by SSNNL.

### 3.2 Progress on Raising the Height of Sardar Sarovar Dam

Taking into account the recommendations of the Environment Sub-group and R&R Sub-group of NCA, the Narmada Control Authority in its 76<sup>th</sup> Meeting held on 08.03.2006 decided that "The Sardar Sarovar Narmada Nigam Limited (SSNNL) is permitted to raise the height of the spillway of Sardar Sarovar dam to EL 121.92 m as per the approved design. The project authorities should comply with the

*conditions laid down by the two Sub-groups of NCA and complete the above construction by the end of June, 2006. The project authorities should ensure that the non-overflow blocks are raised to safe elevations or suitable measures are taken so as to avoid over topping of these blocks. Particular care is to be taken by all the party States in preparing the contingency plans to provide timely safeguards in case of any untoward incident and to ensure that there is no submergence before rehabilitation.”*

In pursuance of this decision, the SSNNL has completed the raising of Sardar Sarovar Dam spillway blocks up to 121.92 m by the end of December-2006. Further, NCA in its 86<sup>th</sup> meeting (emergency) held on 12<sup>th</sup> June 2014 decided that

*“The Sardar Sarovar Narmada Nigam Limited is permitted to carry out Phase-I proposal comprising construction of piers, overhead bridge and installation of gates in open or raised position at SSP as per the approved design. The project authorities should comply with the conditions as laid down by the two Sub-groups of NCA. Particular care may be taken in preparing plan to provide timely safeguard in case of untoward / unforeseen incident,”*

A statement showing the levels of different dam blocks attained as on 31<sup>st</sup> **December, 2015**, is enclosed at **Annexure-II**.

### **3.3 Narmada Main Canal**

Works on Narmada Main Canal (NMC) from Head Regulator to Gujarat Rajasthan border (Ch. 0 to 458.318 km) is almost completed. Narmada Water has reached Rajasthan on 18.3.08 by completing one monolith of major canal syphon works and bye-pass arrangement at khari canal syphon. Works of 74.0 Km. Narmada Main Canal in Rajasthan is also completed.

Partial irrigation benefits are being achieved by releasing Narmada water from the Sardar Sarovar Dam since it has been raised up to EL 121.92 m. Govt. of Gujarat has created a irrigation potential of 9.30 Lha and Rajasthan has also created an irrigation potential of 2.051 Lha initially to utilize Narmada Waters.

### **3.4 River Bed Power House (RBPH) of SSP**

All the 6 Units of RBPH have been commissioned successfully during February, 2005 to June, 2006 and all Units are in operational condition.

### **3.5 Canal Head Power House (CHPH)**

All the five Units of CHPH have been commissioned successfully during August 2004 to December 2004 and all Units are in operational condition.

4. **Partial Benefits:** Available at 121.92 metre height of Sardar Sarovar Dam

a) **Irrigation**

Year	Potential created (Ha) (April-March)		Actual irrigation done In Ha (July to June)
	During the year In Ha	Cummulative In Ha	
1	2	3	4
Upto 2002-03	141096	141096	28336
2003-04	59628	200724	32197
2004-05	77946	278670	41168
2005-06	33587	312257	57526
2006-07	81840	394097	61941
2007-08	66135	460232	69379
2008-09	20885	481117	83061
2009-10	14000	495117	121150
2010-11	28892	524009	167757
2011-12	21267	545276	193683
2012-13	128237	673513	209057
2013-14	274782	948295	187904.47
2014-15	116843	1065138	192130.76 upto June, 2015)
2015-16 (up to December, 2015)	91974	1157112	282725

b) **Drinking water supply :**

Total 10565.685 MCM water has been supplied for drinking water supply in Gujarat during the period from January-2001 to December, 2015 while 1354.765 MCM water has been supplied for drinking purposes during the water year (July-2015 to June-2016) up to **December , 2015**

c) **Hydro Power: Energy Generation from SSP (In Million Units)**

Year	CHPH	RBPH	Total
2004-05	173.515	89.742	263.257
2005-06	189.858	1761.924	1951.782
2006-07	228.073	3372.009	3600.082
2007-08	316.874	4118.818	4435.692
2008-09	337.040	1980.633	2317.673
2009-10	520.889	1980.438	2501.327
2010-11	327.548	3261.192	3588.740
2011-12	508.550	3850.746	4359.296
2012-13	651.927	3046.312	3698.239
2013-14	660.520	5216.804	5877.324
2014-15	611.791	2297.76	2909.551
2015-16 (upto December, 2015)	534.627	1450.128	1984.755
<b>TOTAL</b>	<b>5061.088</b>	<b>32426.284</b>	<b>37487.372</b>

## 5 FINANCIAL PROGRESS: (As reported by SSNNL) is at Annexure-III

### 5.1 RELEASE OF FUNDS UNDER ACCELERATED IRRIGATION BENEFITS PROGRAMME TO NARMADA MAIN CANAL (GUJARAT)

Keeping in view the need to augment the allocation of funds for accelerating the construction of Narmada Main Canal and distributaries for early development of irrigation facilities in the command area of the project, the Government of India had decided to include Sardar Sarovar Project under Accelerated Irrigation Benefits Programme (AIBP). Under this programme Government of India has released Central Loan Assistance (CLA)/grant of Rs. 8664.224 crore, to SSNL during the period from 1996-97 to the end of March, 2015 (Rs. in crore)

I.No.	Financial Year	CLA / Grant released by GOI
1	1996-1997	071.25
2	1997-1998	177.00
3	1998-1999	410.00
4	1999-2000	267.00
5	2000-2001	400.00
6	2001-2002	574.00*
7	2002-2003	997.00**
8	2003-2004	649.50***
9	2004-2005	530.50@
10	2005-2006	339.60
11	2006-2007	121.89
12	2007-2008	585.72
13	2008-2009	251.90
14	2009-2010	000.00
15	2010-2011	361.420
16	2011-2012	000.00
17	2012-2013	1285.93
18	2013-2014	607.57
19	2014-2015	1033.944
20	2015-2016	-
TOTAL		<b>8664.224</b>

(\*) Including Rs.94.00 crore under Fast Track Programme.

(\*\*) Including Rs.94.00 crore under Fast Track Programme.

(\*\*\*) Including Rs. 92.50 crore under Fast Track Programme.

(@) Including Rs.92.50 crore under FTP of which Rs.27.75 crore is grant.

### 5.2 Release of funds under Accelerated Irrigation Benefits Programme to Narmada Canal (Rajasthan).

Keeping in view the need for early completion of Narmada Canal in Rajasthan, the Govt. of India has included Narmada Canal project of Rajasthan under Accelerated Irrigation Benefit Programme (AIBP). Under this programme, Govt. of India has released an amount of Rs. 1071.954 crore up to March, 2015.

## 6. RESETTLEMENT AND REHABILITATION PROGRAMME OF SSP

At the Full Reservoir Level (FRL) of 138.68 m. out of 244 affected villages, 19 villages lie in Gujarat and 33 villages lie in Maharashtra while remaining 192 villages lie in M.P. Further, out of 244 affected villages, only 4 villages (3 in Gujarat, and 1 in MP) are likely to come under full submergence. In M.P., out of 192 villages, less than 10% land of the village is likely to be submerged in 82 villages. In another 21 villages only houses will be submerged temporarily requiring them to be relocated at higher levels. Altogether there are 46749 PAFs in these 244 affected villages,

In all 37533 ha. of land (out of which 12,869 ha. is in the river bed or wasteland, only 11,279 ha. is agricultural land, the rest being the forest land) may be submerged. State wise breakup of above details are as under:

S.N	Particulars	Unit	Gujarat	M.P.	Maharashtra	Total
1.	Villages	No.	19	192	33	244
2.	Project Affected Families (PAFs) (Including major sons)	No.	4772	37763	4301	46836
3.	Land					
	i) Culturable	Ha.	1877	7883	1519	11279
	ii) Forest Land	Ha.	4166	2731	6488	13385
	iii) Other Land	Ha.	1069	10208	1592	12869
	<b>Total Land</b>	Ha.	<b>7112</b>	<b>20822</b>	<b>9599</b>	<b>37533</b>

In all 46836 families including major sons are likely to be affected by the project at FRL. Status of R&R at various elevations of SSP is enclosed at Annex:-IV

Progress made on Resettlement & Rehabilitation of Project Affected Families up to **December, 2015** as below:

STATE	Total Project Affected Families	Total PAFs Resettled	Balance Families to be resettled
<b>GUJARAT</b> Total (i)	4772	4765	07
<b>MAHARASHTRA</b>			
a) In Gujarat	749	749	0
b) In Maharashtra	3552	3237	315
Total (ii)	4301	3986	315
<b>MADHYA PRADESH</b>			
a) In Gujarat	5542	5542	0
b) In Madhya Pradesh	32221	32221 <sup>\$</sup>	0
Total (iii)	37763	37763	0
<b>TOTAL (i)+(ii)+(iii)</b>	<b>46836*</b>	<b>46514</b>	<b>322*</b>

(\*) This number may change after inclusion of PAFs to be declared by Grievance Redressal Authorities (GRAs)/ State Government including impact of back water level.

Note:

- \$ Special rehabilitation package (SRP) details (As on 30.09.2015).
- Number of PAFs eligible for land – 4563
- Number of PAFs allotted Govt. land -200
- Number of PAFs opted for SRP -4363
- Number of PAFs purchased land through SRP -2906
- Number of registration found fake -686 (Justice Jha commission is Inquiring the matter)
- Number of PAFs who obtained 1<sup>st</sup> installments -1457
- Number of PAFs yet to possess land (Fake + 1<sup>st</sup> installment) – 2143

## 7. Status of implementation of Environment Safeguard Measures

On the basis of information received from the party States, the status of implementation of Environment Safeguard Measures and compliance to the conditions of environmental clearance are as under:

### (I) CATCHMENT AREA TREATMENT

(Figure in Ha)

Sl. No.	Description	Madhya Pradesh	Gujarat	Maharashtra	Total
1	Catchment below ISP	2248600	30230	163611	2442441
2	Very High and High degraded area as identified by AISSLUI	433740	30230	100993	564963
3	Phase I area: Directly draining Very High and High degraded area	115622	29730	24298	169650
4	Phase I area: Target (after deducting untreatable area on account of being rocky/steep slope, etc.)	110997	29157	23295	163449
5	Phase I area: Achievement	110997	29157	23295*	163449
6	Phase I area: Achievement in %	100%	100%	100%	100%
7	Phase II area*: Freely draining Very High and High degraded area	318118	500	77568	396186
8	Phase II area*: Target (after deducting untreatable area on account of being rocky/steep slope, etc.)	262165	500	43125	305790
9	Phase II area*: Achievement	92792	500	33578	126870
10	Phase II area*: Achievement in %	35%	100%	78%	41%

Note: \* Balance area is untreatable.

### (II) COMPENSATORY PLANTATION:

#### a. In lieu of 13386 ha forest area diverted for submergence

Sl. No.	State		Target (ha)	Achievement (ha)	Achievement (%)
1	Gujarat	Degraded Forest Area	9300	9300	100%
		Non Forest Area	4650	4650	100%
		Total	13950	13950	100%
2	Madhya Pradesh	Degraded Forest Area	6538	6538	100%
		Non Forest Area	2199	2199	100%
		Total	8737	8737	100%
3	Maharashtra	Degraded Forest Area	12977	12977	100%
		Non Forest Area	6489	6402*	98.6%



	Total	19466	19379	99.5%
	<b>GRAND TOTAL</b>	<b>42153</b>	<b>42066</b>	<b>99.7%</b>

\* Non forest land is being indentified to substitute areas found unfit for plantations

**b. In lieu of forest area diverted for rehabilitation in Maharashtra**

Target = 4200 ha  
 Achievement = 4197.5 ha  
 Achievement (%) = 99.9%

**c. Efficacy of Plantations:** Regarding rate of survival of the plantations, the information available in this office is presented below.

Activities	Gujarat	Maharashtra	Madhya Pradesh
	SSP		
Survival percentage/ year of reporting	50% non forest areas below 50 % success as per survey of 2004	80% of non forest and degraded forest areas with 42% success (2007)	26% in non forest area and 45% in Forest area ( 2008)

**d. Progress in notification as forest area**

States	Area to be declared (ha)	Area under declaration	% Achievement
Gujarat (Under Section-4)	4650	4650	100%
Gujarat (Under Section-20)	4650	860	18.5%
Madhya Pradesh	2199	1973	89.7%
Maharashtra	10603.54	9362.95	88.0%

**(III) COMMAND AREA DEVELOPMENT PLAN**

	Gujarat	Rajasthan
Studies	Completed	Completed
Biodiversity	Completed	Completed
Health	Completed	Progressing
Preparation of Action plan	Phase-I Revised plan of 2008 approved by ESG of NCA on 26 <sup>th</sup> March 2011  Status of remaining plans  Phase II A area awaited Phase IIB area awaited Phase IIC area awaited	Plan of 2004 is under revision. TOR approved by CAD committee on 28 <sup>th</sup> April 2011 Work on improvement of the plan progressing with simultaneous implementation of suggested remedial measures.
Implementation	Phase-I progressing	Progressing

### Downstream Environment ( Gujarat State)

	Compensatory flows	Downstream Management plan
Studies	Completed	progressing
Action plan	Monitoring by SSRC of NCA	Awaited
Implementation	600Cusec being maintained through Godbole gate/ other methods	Management plan awaited. Mangrove plantations undertaken

### (d) FLORA, FAUNA AND CARRYING CAPACITY Terrestrial Environment ( Land life ) :

Key Issues/Target	Achievements		
	Gujarat	Maharashtra	Madhya Pradesh
Survey of flora – fauna assessment of carrying capacity	Reprt of M.S. University ( 1992), Vadodara on submergence and other impact areas in Gujarat	Report (1994.) of Deptt. of Environ-mental Sciences, University of Pune for SSP areas in Maharashtra	Report (1993) by SFRI Jabalpur for SSP areas in Madhya Pradesh & WLI in 2008.
Preparation and execution of plans as per recommendation of EIA Studies.	Identified plant species are being preserved at MS University Botanical garden.Besides biodiversity conservation plan in sanctuary areas is also in progress.	Buffer zone plantations covering 2500 Ha is completed	Social forestry plan had been taken up to enhance fuel and fodder availability. Sixty island to be formed at FRL of SSP Reservoir are to be left undisturbed.
Rehabilitation plan for the identified wildlife impacted by submergence	Extended Shoolpaneshwar sanctuary(1989) is expected to provide shelter to wildlife on south bank	Feasibility for protecting Tornamel Forest areas in Dhule District is being looked into on suggestions from WLI experts	WLI studies recommended sanctuary at Kathiwara forest in Jhabua district, NVDA has informed that villagers are resisting.

### Aquatic Environment Up stream of SSP

Key Issue/Target	Gujarat	Maharashtra	Madhya Pradesh
CICFRI plan for pre and post impoundment stage	Studies by CICFRI entitled 'EIA of Emerging Sardar Sarovar Reservoir from Hydro-Biological and Conservational perspectives" received in NCA in November, 2013.	Studies on organic loading completed by CICFRI	Long term bio monitoring is planned for the basin
Up-gradation of the plan considering guidelines circulated	Action plan is to be revised as per discussions of 13 <sup>th</sup> meeting of the HLEG held on 16 <sup>th</sup> May, 2013.	Revised plan approved by the HLEG during its 12 <sup>th</sup> meeting held on 25 <sup>th</sup> June 2012.	Action plan is to be revised as per discussions of 13 <sup>th</sup> meeting of the HLEG held on 16 <sup>th</sup> May, 2013.
Stocking of the reservoir as per guidelines of HLEG	Stocking progressing.	Fingerlings stocked during 2005-06. to continue	Stocking started in 2007 and to be continued

Felling of trees in forest and non forest areas before submergence :	SSNNL reported that felling of trees was completed.	Except in 27 ha area, (due to local resistance) the felling of trees was completed upto 4 m below FRL	NVDA reported that felling of trees was completed
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**(e) SEISMICITY AND RIM STABILITY**

9 seismic monitoring stations along the periphery of the reservoir, 4 on either side and 1 at the downstream of Sardar Sarovar reservoir have been set up. Data from these monitoring stations are being regularly collected and put up before the Dam Safety Review Panel of Sardar Sarovar Project. ISR Gandhinagar has been entrusted the task of analysis of data from monitoring stations.

**(f) HEALTH ASPECTS**

The Health issues primarily concerns (i) Disease surveillance, (ii) regular monitoring of incidences of water borne diseases and (iii) health delivery system in the project areas both on preventive and curative fronts. Surveillance of water borne diseases is normally being carried out under Integrated Disease Surveillance Project (IDSP) and National Rural Health Mission (NHRM) of Govt. of India.

The status of implementation of health safeguards for the Sardar Sarovar Project area is as under:-

Action	Gujarat	Maharashtra	Madhya Pradesh
EIA studies	By State Council of Health and Medical Services ( SCHMS), 1994	By T.N.Medical college Mumbai and Medical college Akkalkuwa district Dhule	By Gandhi Medical College Bhopal and Indian Council of Medical Research (ICMR), New Delhi
Action Plan Health Aspects	Action plan of 1986 and draft plan of 1996	Action Plan (1987) revised in 1991,1996. and 2007, to be put up to ESG for approval	Action Plan 1988 revised in August 2003, approved by the ESG and is under implementation.
Diseases monitoring in impacted areas of SSP	Through SCHMS, besides routine district wise surveillance under IDSP or NHRM of Govt. of India.	Routine surveillance under IDSP or NHRM of Govt. of India.	Dedicated surveillance studies through NIMR of ICMR besides routine surveillance under IDSP or NHRM of Govt. of India. Reports from NIMR received regularly.
Establishment of health facilities at Dam site/ Peripheral villages.	- progressing	progressing	- progressing
Vector control measures	progressing	progressing	- progressing

**(g) ARCHAEOLOGY AND ANTHROPOLOGY**

The current status of protection / relocation works is as under;

	<b>Gujarat</b>	<b>Maharashtra</b>	<b>Madhya Pradesh</b>
Monuments	2 (completed)	Nil	16 completed, 4 in progress, 3 (temples) remaining due to local resistance.
Mounds	Nil	Nil	All 13 mounds upto FRL completed
Museums/Parks	Nil	Nil	One museum at Kasrawad established. 3 additional galleries in lieu of 3 other museums found unviable. A separate building in Narmada Sanskriti Kendra proposed

**SALIENT FEATURES OF SARDAR SAROVAR PROJECT**

1. **Location**

State	Gujarat	
District	Narmada	
River	Narmada	
Location	120 km upstream of Bharuch city	
  
2. **Reservoir**

Full Reservoir Level (FRL)	138.68 m (455 ft.)	
Maximum Water Level (MWL)	140.21 m (460 ft.)	
Minimum Draw Down Level (MDDL)	110.64 m (363 ft.)	
Length of reservoir	214 km	
Maximum width of Reservoir	16.1 km	
Average width of Reservoir	1.77 km	
Gross Storage Capacity	0.95 Million ha m (7.70 MAF)	
Live Storage capacity	0.58 Million ha m (4.73 MAF)	
Dead Storage capacity	0.37 Million ha m (2.97 MAF)	
  
3. **Dam**

Type	Concrete gravity	
Length of Main Dam	1210 m	
Top R.L. of Dam	146.50 m	
Maximum height above deepest foundation level	163 m	

Spillway

Type	Ogee	
Crest Level	121.92 m (400 ft.)	

Spillway gates

Type	Radial	
No. & size	23 nos. 18.3 m x 16.76 m for service spillway 7 no. 18.30 m x 18.30 m for auxiliary spillway	
Spillway capacity	84949.25 cumecs (30 lakh cusecs)	
  
4. **Power installation**

	<u>River Bed Power House</u>	<u>Canal Head Power House</u>
No. of Units	6	5
Capacity of each unit	200 MW	50 MW
Installed capacity	1200 MW	250 MW
Type of turbines	Francis (reversible)	Vertical Kaplan (conventional)
Type of Power house	Underground	Surface
  
5. **Canal System**

Length of Main Canal up to Rajasthan border.	458.318 km	
Discharge capacity at head	1132.66 cumecs (40,000 cusec)	
Full supply level at head	91.45 m (300 ft.)	
Bed width at head	73.1 m	
Full supply depth at head	7.6 m	

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6.	Direct Benefits Irrigation	Gujarat Rajasthan	17.92 lakh ha. 02.46 lakh ha.	<i>(As per NMC Status Report March, 2015)</i>
			----- 20.38 lakh ha. -----	
	Power (installed capacity)			
		(i) River Bed Power House (ii) Canal Head Power House		1200 MW 250 MW ----- 1450 MW -----
	Drinking Water	(i)  (ii)	Population of 350.25 lakh in 8,215 villages and 135 Urban centers in Gujarat including the whole of Saurashtra and Kutch region fully covered for Drinking water purposes.  In Rajasthan besides Irrigation, drinking water facility will also extended to 45.88 lakh people in 1336 villages and 3 towns situated around the irrigation canal.	
7.	<b>Estimated Cost</b> As approved by the Planning Commission at 2008-09 price level.		Rs.39240.45 crore	
8.	<b>Expenditure incurred Up to December, 2015</b>		<b>Rs. 48390.81 Crore</b>	

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**Level of different dam blocks attained on  
Sardar Sarovar Dam up to Decembber, 2015**

Block No.	Level in Meter	Span Completed	Block No.	Level in meter	Span Completed
1	146.50		33	144.50	S 19(33-32)
2	146.50		34	144.50	S 18(34-33)
3	146.50		35	144.50	S 17(35-34)
4	146.50		36	144.50	S 16(36-35)
5	146.50		37	144.50	S 15(37-36)
6	146.50		38	144.50	S 14(38-37)
7	146.50		39	144.50	S 13(39-38)
8	146.50		40	144.50	S 12(40-39)
9	146.50		41	144.50	S 11(41-40)
10	146.50		42	144.50	S 10(42-41)
11	146.50		43	144.50	S 9(43-42)
12	146.50		44	144.50	S 8(44-43)
13	146.50		45	144.50	S 7(45-44)
14	146.50		46	144.50	S 6(46-45)
15	146.50		47	144.50	S 5(47-46)
16	146.50		48	144.50	S 4(48-47)
17	146.50		49	144.50	S 3(49-48/)
18	146.50		50	144.50	S 2(50-49)
19	146.50		51(SPL)	146.50	S 1(51-50)
20	146.50		51(NOF)	146.50	
21(NOF)	146.50		52	146.50	
21 (SPL)	144.50		53	146.50	
22	144.50	S 30(22-21)	54	146.50	
23	144.50	S 29(23-22)	55	146.50	
24	144.50	S 28(24-23)	56	146.50	
25	144.50	S 27(25-24)	57	146.50	
26	144.50	S 26(26-25)	58	146.50	
27	144.50		59	146.50	
28	144.40		60	146.50	
29	144.50		61	146.50	
30	144.50		62	146.50	
31	144.50		63	146.50	
32	144.50	S 20(32-31)	64	146.50	

Concrete work done in bridge span S 18, S 19, S 20, S 26, S 27 & S 28 during this month.

- NOF block No.13 is truncated section at down stream from EL 121.0 m to EL 125.0 m
- protection work done NOF Block No. 14 to 18 from EL 134.0 m to EL 134.50 m.
- protection work done NOF Block No. 19 & 20 from EL 132.0 m to EL 134.50 m.
- protection work done NOF Block No. 21 from EL 130.0 m to EL 134.50 m.

**ANNEXURE - III****SARDAR SAROVAR PROJECT EXPENDITURE & SHARE COST**

(As on 31st December, 2015)

(Rs. in Crore)

I.	EXPENDITURE		Expenditure before allocation of Group-V (As per monthly expenditure statement)	Expenditure after allocation of Group-V
	Unit-I	Dam & Appurtenant works	551.07	8096.83
	Unit -II	Main Canal	6577.76	10379.01
	Unit -III	Hydro Power	3253.21	5716.63
	Unit-IV	Branches & Distributaries	20162.71	26890.89
		<b>Sub Total of Unit I to IV</b>	<b>30544.75</b>	<b>51083.36</b>
	Group-V	Common Expenditure	1551.18	12.57
	Group-VI	Non Shareable	(-)2705.12	(-)2705.12
	<b>TOTAL</b>		<b>48390.81</b>	<b>48390.81</b>

II.	SHARES OF BENEFICIARY STATE		
	Share of Gujarat		38503.29
	Share of 3 States		9874.95
	(a)	Madhya Pradesh	5847.61
	(b)	Maharashtra	2769.96
	(c)	Rajasthan	1257.38
	Kept unallocated		12.57
	<b>TOTAL</b>		<b>9874.95</b>
			<b>48390.81</b>

III.	DETAILS OF SHARE COST PAID AND BALANCE DUE				
			M.P.	Maharashtra	Rajasthan
	1.	Share of Expenditure	5847.61	2769.96	1257.38
	2.	Amount Received	2185.69	1489.66	730.11
	3.	Balance share (1-2)	3661.92	1280.30	527.27
	4.	Disputed Shares:			
		i. Interest	1989.42	942.37	421.48
		ii. Dykes & link channel	12.32	5.84	6.69
		iii. R&R	666.12	315.53	48.14
	5.	Total Disputed (I+II+III)	2667.86	1263.74	476.31
	6.	Balance undisputed share to be released (3-5)	<b>994.06</b>	<b>16.56</b>	<b>50.96</b>

**Source:** Statement received from the Sardar Sarovar Narmada Nigam Limited (SSNNL),

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