

# MUKHYA MANTRI JAL SWAWLAMBAN YOJANA: A GAME CHANGER FOR RAJASTHAN

*Rajvendra Singh*

*Research fellow parliament fellowship programme, Institute of Constitutional and Parliamentary Studies, New Delhi, India*

## **Abstract**

***Rajasthan is facing water crisis since long, more than 80% blocks are under dry zone. The increasing population and the subsequent increase in agriculture also put the high demand of water availability. Western Rajasthan is facing from salinity, fluoride and calcite problems whereas other parts are facing speedy decrease in water table level. The state launched Mukhya Mantri Jal Swawlamban Yojana to short out the problems of water scarcity by restructuring the water bodies. This paper studies four water concepts and its implications that are followed in the campaign. The paper study salient features of the scheme, the pattern of crowd sourcing and positive impacts by the campaign. The study also highlights some measures that should be followed for better implementation.***

***Keyword: MJSA , four water concept, crowd source, plantation, self-reliant***

## **1.INTRODUCTION**

Thousands have lived without love, not one without water

W.H.Auden

The desert state of Rajasthan, which has been struggling with water scarcity for long, now looking forward to address water crisis by Mukhya Mantri Jal Swawlamban Yojna by reviving old water bodies and rain water conservation. Rajasthan is the largest state in the country spread over 342 lac hectares of land, out of which 60% is under desert. Water scarcity is the most prevalent problem in the region as it receives lowest amount of precipitation in the country throughout the year. The high growth rate of the population also make situation worsen.

As State has more than 75% percent rural population which is totally depended upon agriculture and livestock for their livelihood makes more demand of solving the problem of water scarcity. Various water preservation schemes are already going on across state but lack of peoples participation in schemes has written the unsuccessful stories of solving the water scarcity problem. To serve this purpose, the government of rajasthan launched ambitious water campaign Mukhya Mantri Jal Swawlamban Abhiyan based on peoples participation and crowd sourcing. The ambitious scheme for water conservation was launched on 27 January 2016 at village Gardan Kheri in Jhalawar district of Rajasthan. Under the scheme, watershed structures would be developed at 3563 villages in first phase with and aim to make more than 21000 villages self-reliant in water.

## **2.NEED FOR MJSA**

Rajasthan is facing severe water scarcity problems, mostly all the districts are facing water crisis in Rajasthan. The driest state in the country has faced drought for 61 out of the last 68 years. As a state covering 10.4% land of the country and 5.6% of population, holds only 1.6% of water resources of the country. This shows Rajasthan is not in very good position when it comes to water sustainability. High dependency on ground water has resulted in its overexploitation and severe scarcity of water problems in the state. More than 80% of drinking water and 60 % of the water required for the irrigation is extracted from ground level sources. This heavy extraction of water as led to lowering of groundwater tables. The quality of ground water has also deteriorated as Rajasthan accounts for 51% of fluoride and 42% of saline-affected areas in the country. WHO report states that 56% of the water sources in the state are un-potable. The industries in the state are also polluting the water-Bhilwara,

Balotara, Sanganer are worst affected cities by industries.

This called for a need to launch such a campaign, which can contribute for water conservation based upon collective effort with peoples participation. To serve this purpose, the government launched Mukhya Mantri Jal Swavlamban Abhiyan (MJSA). It's vision is to guarantee a successful execution of water gathering and this works towards protection and conservation of water bodies related exercises in the rural regions of the state. Various water preservation schemes and campaigns were initiated in the past by government but all were lacking active participation of citizens. This campaign has been designed in such a way that from planning to execution are in a participatory approach till the village community level.

### 3. SELECTION CRITERIA FOR VILLAGES

- Villages where IWMP / watershed Project are sanctioned.
- Villages having scarcity of drinking water
- Villages those declared famine / deficit during last five years

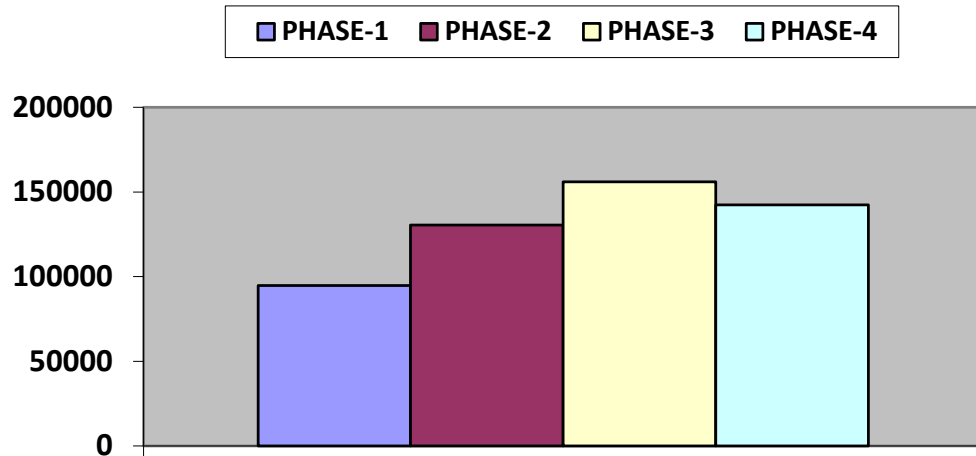
- Village having not potable water or fluoride quantity is in excess.
- Villages where drinking water is supplied by tankers during last five years.
- Villages where 70 % of agriculture land is rain fed.
- Adarsh villages under Chief Minister, MP, MLA & other schemes.
- Villages come under cluster in forest department.
- Villages willing to participate/contribute in this scheme.

### 4. PHASES

During the first year, around 3529 villages were identified on the priority basis. Total 19810 villages are covered and 529962 works are done under MJSA till now. The campaign will cover 21,563 villages in the 4 years. A permanent solution through this mission will help in creating sustainability for water and making self-sufficient the state in terms of water.

Phase	Village	Allocation Crore	Structure Construction	Specifications	Starting of Phase
1	3529	1606	94790	Pond, Wall, Check-dams	January 2016 to June 2016
2	4200 + 66 Cities	1579	130393	Roof Top Water Harvesting and Percolation Tank  Focus on step wells and pond	December 2016 to
3	4248	1866	156039	Water structure bodies Drip irrigation Use of sprinkler 60 lac Plants	December 2017 to

4	4000	1387 In Progress	142462 In Progress	Water Structure bodies Plants	Oct onwards	2018
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**FIGURE - 1: STRUCTURE CONSTRUCTION DURING PHASES**

**5.OBJECTIVES**

- Permanent solution of drinking water by making the village self sufficient in terms of water.
- To short-out water scarcity problems.
- To increase level of groundwater table and strengthen watershed
- To make projects for providing drinking water
- To increase area under irrigation and cultivation through water harvesting & conservation.
- To increase crop production and productivity
- To reduction in depletion of ground water
- To make change in the cropping pattern
- To reduction unwanted and harmful sediments in water like as fluoride
- Development of forest land, water & fauna keeping natural balances.

- Treatment of catchment area and proper utilization of available water
- Creation of new water harvesting structures.
- People’s participation in designing and implementation of projects.
- Effective implementation of water conservation and water harvesting activities in rural areas

**6.FEATURES OF THE CAMPAIGN**

- Short out of water scarcity and Making villages self-reliant in water
- Divided in five phases, Four year program, each phase of one year
- Running in all blocks across Rajasthan
- People's active participation in policy making and implementation
- Crowd sourcing of policy budget from multiple sources - Religious Trusts, Corporate CSR, Social groups, NGO,

- Total 9 Government departments are working together.
- Use of cut-edge technology and use of satellite data and drones to monitor the implementation of scheme.
- Construction of low cost water harvesting structures based on watershed approach
- Boosting Transparency through geo-tagging and mobile application.
- Online reporting of works and donations

### **7.INSTITUTIONAL ARRANGEMENTS**

To achieve the objectives of Mukhya Mantri Jal Swawlamban Abhiyan the government has setup various committees at different level. The state level committee has been setup under the chairmanship of honorable Chief Minister. A Directional committee is constituted under chairperson of Rajasthan River Basin and Water Resources Planning Authority for the smooth implementation of the campaign. A Task group is also constituted under chairmanship of chief secretary who will look after all the issues relating implementation. The committees are also constituted at division, district and block level under divisional commissioner, district collector and sub divisional magistrate respectively. Even at village level, the committee to look the implementation is constituted. So at each level the officers are made accountable and will be liable if there are irregularities in implementation.

### **8.FOUR WATER CONCEPT**

Every year the state receives 16.05 billion cubic meters water from rainfall, out of which 4 billion cubic meters is wasted due to running-off that means one fourth of water is wasted just without use. All block are facing depleting water table levels in the desert state. In the western Rajasthan the situation are more grave. The increasing number of bore wells for the need of growing population, is resulting in scarcity of water. Adequate recharge of the water bodies is the solution to this situation. This aspect is considered in the Four Waters Concept invented by Sri T. Hanumantha Rao. The concept promotes development of small structures for water conservation, constructed at low-cost, that is time saving with increasing efficacy. This includes the

construction of water structures such as percolation tank with NREGS works in the villages. This help in recharging the ground water and provide enough water for irrigation. The Four Waters Concept was firstly used by china in Nampi Project in Hebei province and later in Andhra Pradesh. Now days this concept is gaining momentum and various states are using this concept to solve the water scarcity problem.

The concept is evolved by integrating the "Four Waters"

- Rain Water
- Ground Water
- Surface Water
- Soil Moisture

In this concept the technology is brought out in the shape of 24 type designs and 10 Ready Reckoner Tables. This concept is participative and there is no need of engineers and scientist to develop four water bodies. Cost effective works are the basis of this concept; by using this technology, the benefits can be increased three times more and the recharge to ground water ten times more. There is no cement-based work or rocket science in method of the concept. Works are very simple and mostly consist of earthwork excavation without need of skilled engineers. The methodology of the Four Waters concept consist the treatment of catchment, renovation of the non-functional water harvesting structures, proper utilization of available water harvesting structures and creation of new water harvesting structures in rural areas. No doubt this concept will be very beneficial to the drought-prone Rajasthan for countering drought and subsequent damage.

### **9.CROWD SOURCING**

The active participation of the community is the main feature in MJSA through both policies designing and financing the projects. Any individual or organization can contribute towards the campaign through various means and resources. Special bank account and crowd funding collection system is developed to collect funds. More than Rs. 7 Crores were contiributed by the people on the very first day at the time of MJSA's inauguration. Mangalam Group donated of Rs.21 lacs to strengthen the project. Chief Minister Vasundhara Raje also

contributed her six month salary. More than 100 state administrative officers actively helped in cleaning Parshuramdwar Bawri at Amer. The Central government also funded Rs. 1,345 crore to tackle the drought and water scarcity situation through MJSA. The campaign has covered 19810 villages and received Rs. 67.30 crore as donations by crowd sourcing.

### 10.POSITIVE IMPACT

- The MJSA has emerged as an stern step to resolve the water crisis in desert state. It encompasses the importance of waste water management and rooftop rainwater harvesting as well.
- This scheme has resulted increase of 4% in groundwater level that helped agriculture and irrigation.
- It has improved the problem of soil erosion and fertility that resulted in more production.
- This has supplied water to 4.1 million people and 4.5 million animals that decreased the death due to water scarcity.
- This campaign also ended Tanker-culture at various places.
- The Rajasthan has achieved first position in using of cut edge technology for water conservation.

- After success of this programme in Rajasthan, south Africa also implemented this programme
- A government report after completion of first phase, states, there is an average rise of 4.66 feet of groundwater level in 21 non-desert districts of Rajasthan.

### 11.PLANTATION

Mukhyamantri Jal Swavlamban Abhiyan is a based upon participatory approach by community.This campaign focuses towards raising the ground water level with the help of plants so the campaign also working for plantation alongside strengthening watershed structures. The government is making intensive plantation by planting more than 25 lakh saplings. Plantation is doing around water catchment structures for thr safety of water bodies. The forest department is joining hand to plant and increase forest area under MJSA. All the water structures under MJSA are being covered by plantation to retain the water-level of the ground as it reduces soil erosion, retain nutrients and absorb the carbon dioxide. It is also boosting biodiversity of the area by protecting wildlife.

Impact of MJSA Works on number of Tanker Trips in selected villages of MJSA Phase-I

NO.	DISTRICT	WORKS UNDER PHASE - 1	TANKERS DEPLOYOED ON 01.05.2016	TANKERS DEPLOYOED ON 01.05.2017
1	AJMER	4448	218.5	441
2	ALWAR	2071	5	0
3	BARAN	1657	15	1
4	BARMER	7647	528	112
5	BHILWARA	3212	120	0

6	BUNDI	2789	11	0
7	CHITTORGARH	1745	307	0
8	CHURU	4009	101	15
9	DAUSA	975	6	0
10	DUNGARPUR	5710	4	0
11	JAIPUR	3835	90	0
12	JAISALMER	1522	14	9
13	JHALAWAD	1936	7	5
14	KOTA	993	101	91
15	PALI	1698	19	0
16	TONK	2415	5	0
17	OTHER ALL DISTRICT	47139	0	0
	TOTAL	93801	1551.5	674

### Graphical Presentation

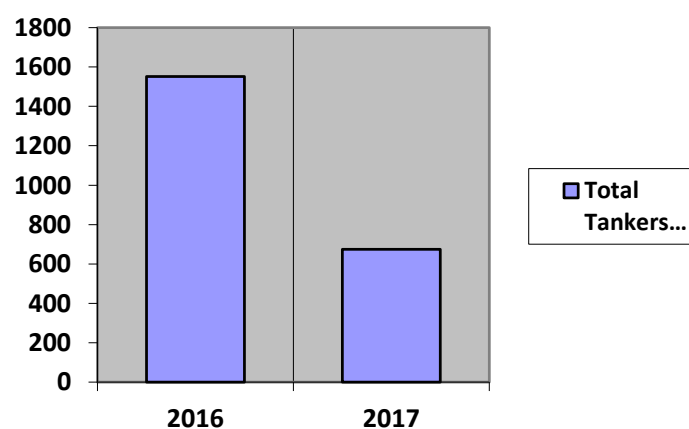


Figure 1 Decreased Total Number of Tankers in the state

### 12.WAY FORWARD

Water conservation has become need of the time as many areas are dried and situation is going worsen. Water resources are finite, and they are getting smaller every year. There are various measures through which

water can be conserved more efficiently. The best solution is wisely use of water

- Recycling and reuse of Water
- Saving the energy is also way to save water
- Use of Drip Irrigation

- Recharge groundwater through hauz, kund, nadi and ponds.
- use of water harvesting technology – roof top water harvesting
- Curb the polluting water from industries
- Restoration of traditional perennial sources of water -Stepwells, Johads, Kharins, Jhalara Bavdi
- Public awareness programmes for water conservation

### 13.CONCLUSION

The active participation by citizens opens the path for the seamless accomplishment of such an ambitious scheme. The scheme is emerged as a mass movement to tackle the water scarcity problems in the desert state. This campaign has brought a positive ray of hope in the grim situation. The state of Rajasthan which was constantly facing low rainfall, droughts and lacked in water stability needed an efficient mechanism like Four Waters Concept that is more efficient and cost effective. The scheme is working towards making Rajasthan self – reliant for water problems. By this scheme it could be possible to increase the recharge to ground water by three times and it also helped in increasing agriculture production as well as per capita income.

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