

Water Conservation for Prosperous Gujarat

“I may not be born to a farmer family,
but I have grown in the lap of a farmer.
Hence, I understand what suffering is. I
understand what grief is. And that is
why, I have taken an oath to resolve
the issue of water crisis in Gujarat.”

- Shri Narendrabhai Modi







Water Conservation

Shri Narendra Modi's Vision



Gujarat is India's model of development. The state embarked on a journey of holistic development catering across each and every section of the society under the leadership of the then Chief Minister of Gujarat and the current Prime Minister of India Shri Narendra Modi. The state, since then, has always strived for excellence.

Before taking over the administrative and political reins of Gujarat, Shri Narendra Modi spent years travelling and interacting with the people of

the state and understanding their concerns. He realised that Gujarat had the potential to convert adversity into opportunity, its lands were parched and so were its people. To add, the agriculture sector of the state was in a dire need of a visionary project that could transform the fate of the people, the farmers in particular. Irregular rainfalls created water scarcity, especially in Saurashtra and Kutch.

Shri Narendrabhai Modi envisioned a permanent solution for the water problem of



“ Water is God’s grace. Let us use it sustainably. Let us conserve and drink the nectar falling on Earth in the form of rain.”

- *Shri Narendrabhai Modi*



Gujarat. He launched a grand campaign to enrich the underground water level by harvesting and collecting rainwater through rainwater harvesting in villages and its outskirts and that too through public participation. Under this campaign, the government, with public support and participation, undertook the task of deepening of village ponds, various local water bodies, cleaning rivers, creating check dams etc. To add, the government went on to restore the ancient wells, popularly

called as ‘Vav’ or ‘step-well’ to store water. This campaign was no less than a game changer in Gujarat’s story for water conservation. It changed the state’s fate from being a water deficient to a water-surplus state. Agriculture then became a commercial activity, farmers prospered and with it grew avenues of earning additional income through animal husbandry and horticulture.

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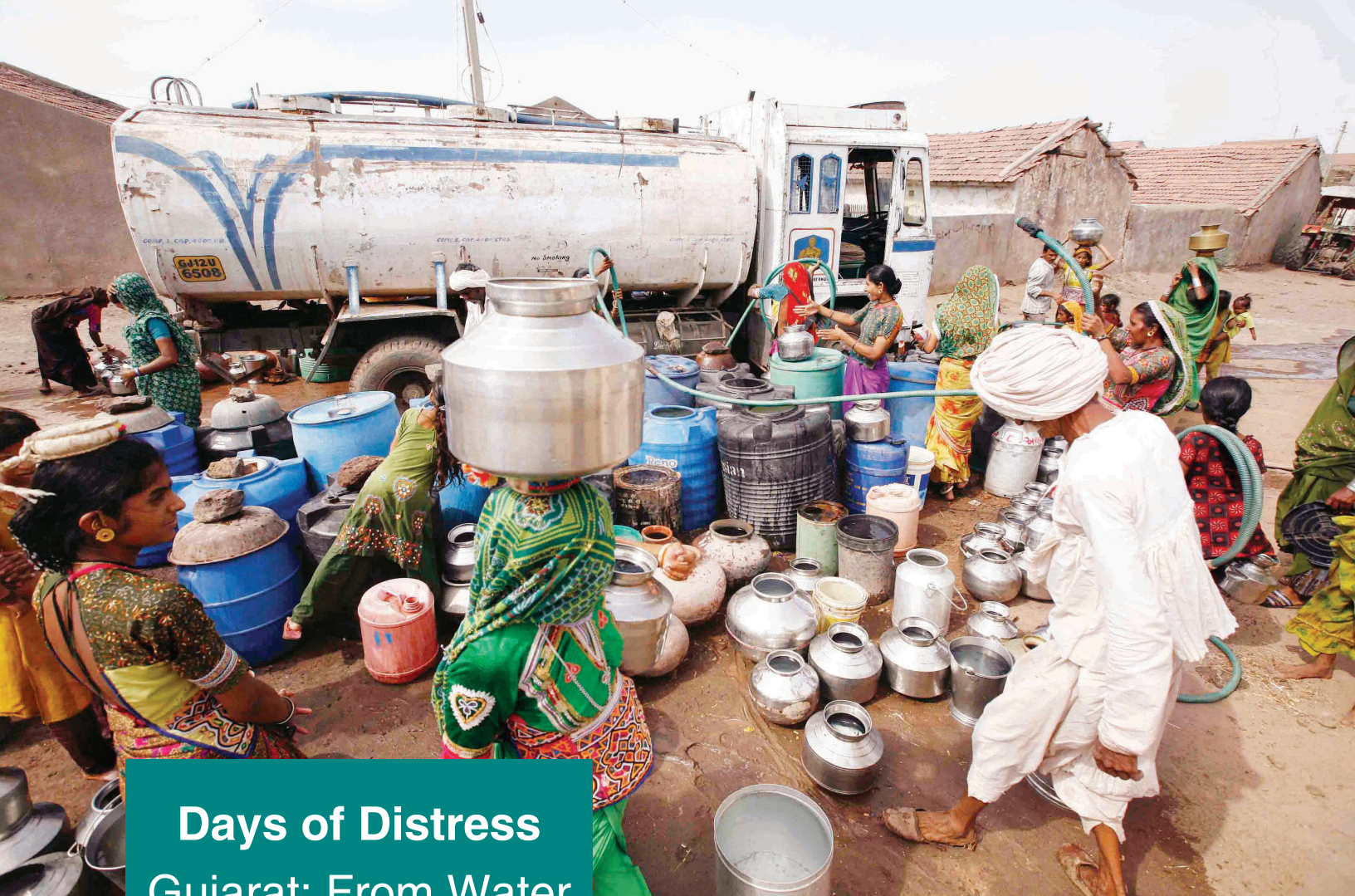
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A Saga of Success





Days of Distress Gujarat: From Water deficient to a Water surplus state

Gujarat state faced acute water crisis from 1960 to 2001-02. Farmers were in misery. Reservoirs were dry, and it did not enable farmers to irrigate their fields. There were times when people ended up in a feud over water.

Due to water crisis, many villagers in the state had to migrate. This gave rise to disruption of social lives creating a huge community problem. Parents would

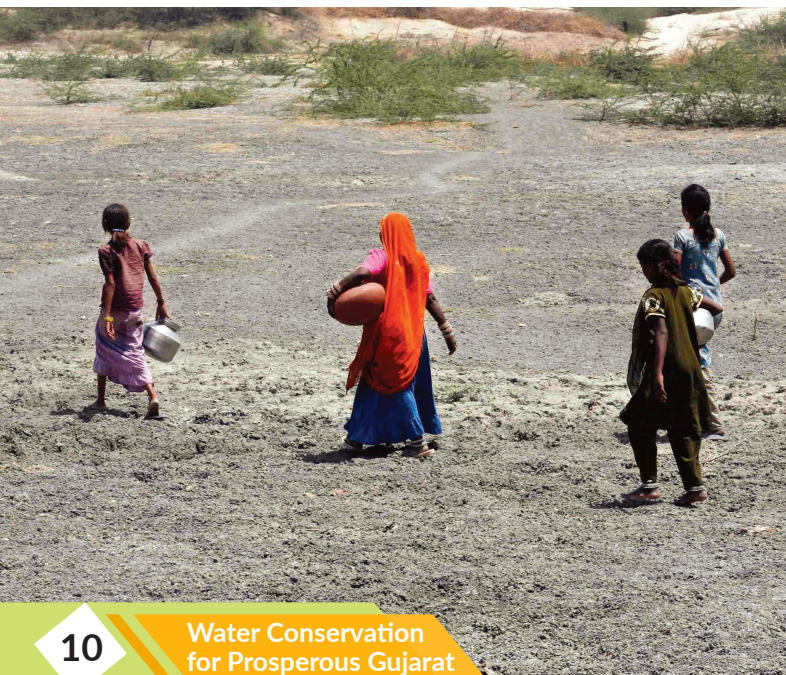
think twice before marrying away their daughter in a village having water crisis, however good the boy and family would be. A quote became prevalent in those times, that "Better shoot the daughter than marry her off in Dhandhuka".

The root cause of Gujarat's water crisis was its imbalance in the availability of natural water resources across the state. Areas with low population density were water surplus and those with high population density were water scarce in olden days.

In Central and Southern Gujarat, water availability is 38,100 MCM (69%), while it is 9,700 MCM (17%) in Saurashtra. Kutch has 1,450 MCM (3%), and in North Gujarat there is 6,300 MCM (11%). The total water surface availability in Gujarat is 38,100 MCM, while the amount of utilisable ground water is 17,500 MCM, making a total of 55,600 MCM. Apart from the natural disparity, irregular rains further aggravated the issue of water crisis.

All irrigation schemes in Gujarat are spread in its geographical area of about 196 lakh hectares Major irrigation schemes, 19; medium irrigation schemes, 90; and about 1,000 minor irrigation schemes. The irrigation capacity, the storage capacity of 19 major and 90 medium irrigation schemes is 1,637 crore cubic meters and some of minor irrigation schemes is 120 crore cubic meters. Adding another 946 crore cubic meters of water storage under the Sardar Sarovar Narmada Yojana, total storage capacity of Gujarat becomes 2,737 crore cubic meters. This water storage capacity is completely rainfall dependent. The annual rainfall pattern is irregular. The annual rainfall for South Gujarat, Saurashtra North Gujarat





Kutch is 1,447 mm, 677 mm, 720 mm, 412 mm respectively.

One of the factors for disparity visible between water availability and demand is regional imbalances in quantum of rainfall leading to scarcity in Saurashtra, North Gujarat and Kutch region on a continuous basis.

Due to low and insufficient rainfall upstream, most of the rivers of Gujarat go dry in monsoon. Owing to low rainfall, reservoirs depleted, and all the local sources of supplementary irrigation like wells and boreholes, small and big dams were also dried of water leading to a grim situation for

irrigation. As excessive pressure was on ground water extraction, water level dropped significantly. Lowering of the water table forced farmers to use higher capacity motor (70-80 HP in Saurashtra). This resulted in increase in production cost leading to huge loss to farmers.

With the exception of past few years, Gujarat has been suffering from water scarcity. The annual per-capita water availability of Gujarat is only 920 cubic meters. For holistic development of the state the solution of water problem is utmost important. Water scarce regions (Saurashtra-Kutch and North Gujarat) cover 71% of geographical area of Gujarat. If the water problem is not solved permanently in the long run, Gujarat may suffer

from drought and lead to negative growth of the state.

Each geographical area has its own peculiar problem. Whether it is Saurashtra, North Gujarat or Kutch, each had a prominent water problem and a viable solution was possible only if it was understood in detail. The situation in Saurashtra can't be solved only by mere recharging of the groundwater and alternate local source of irrigation is also needed. Saurashtra contributes substantially to the economy of Gujarat through agricultural production.

The contribution of Saurashtra becomes even more important when Gujarat's economy starts depending on the agricultural sector. This is the

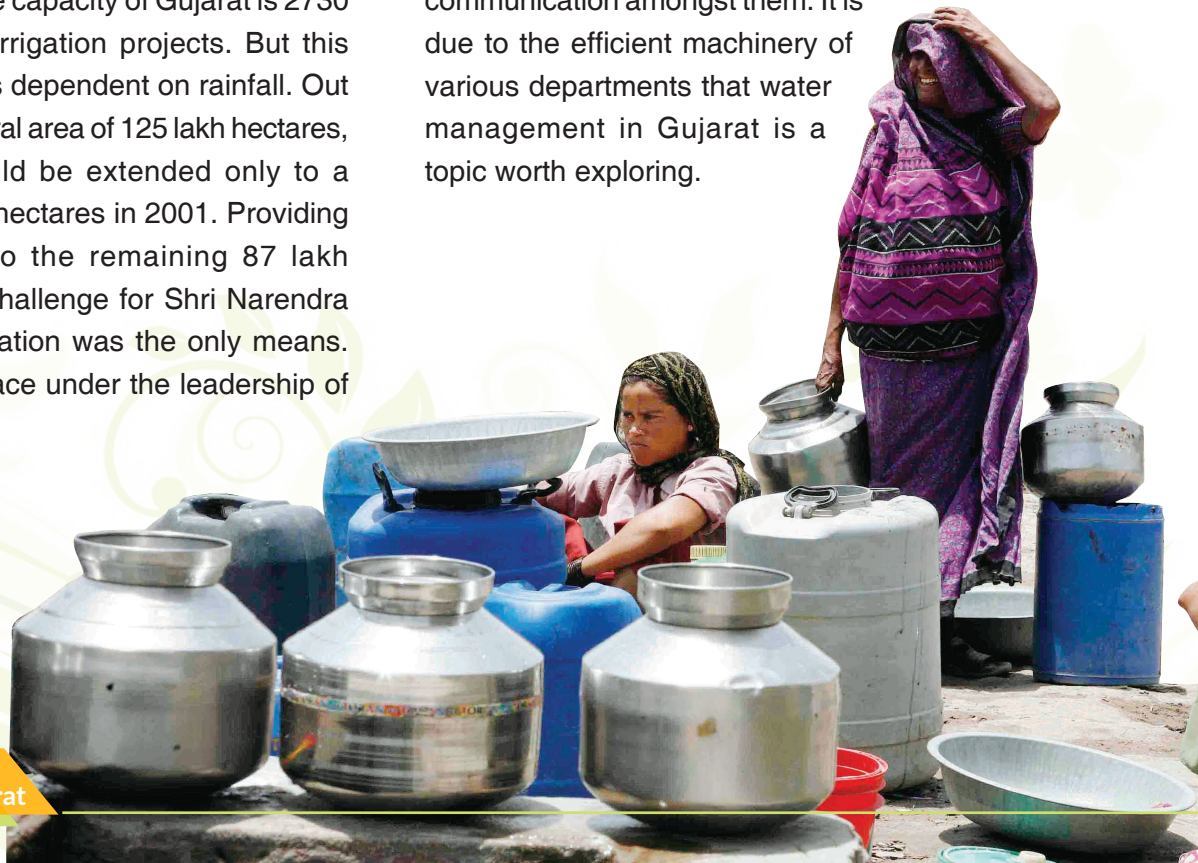


region of the state which produces maximum quantity of cotton and groundnut, the main crops of the state. In the years with good rains, the fields of Saurashtra overflow with lush green peanuts. But Saurashtra was less fortunate in spite of having valuable crop growing land as dams of the region were rarely filled up due to lack of rainfall. More than 71 small and large rivers would hardly flow after monsoon. Large rivers like Bhadar, Sukhbhadar, Shetrunji, Machchu and Aji, which were seen flowing from bank to bank during monsoon, were rarely that full post monsoon. The people of Gujarat faced this inequity for many years and ultimately migrated.

Total water storage capacity of Gujarat is 2730 crore cumec for its irrigation projects. But this reservoir storage was dependent on rainfall. Out of the state's agricultural area of 125 lakh hectares, irrigation facility could be extended only to a maximum of 38 lakh hectares in 2001. Providing irrigation facilities to the remaining 87 lakh hectares was a big challenge for Shri Narendra Modi. Water conservation was the only means. And this task took place under the leadership of

Shri Narendra Modi, the fruits of which are still reaped by the people and farmers of the state.

Gujarat has stood on the top position in India for three consecutive years as per the Composite Water Management Index (CWMI) as announced by NITI Aayog. The significance of its standing first is immense on several aspects. Analysis of strong and weak domains of the entire water sector approach adopted appropriateness of prioritization of activities, etc. that is duly reflected in the CWMI and is actually a mirror of what is being done and what should be done in a particular state. It also reflects coherence in working of different line- departments and lateral communication amongst them. It is due to the efficient machinery of various departments that water management in Gujarat is a topic worth exploring.



KACHCHH (3%)

SURFACE WATER	650 MCM
GROUND WATER	800 MCM
Total	1450 MCM

NORTH GUJARAT (11%)

SURFACE WATER	2100 MCM
GROUND WATER	4200 MCM
Total	6300 MCM

WATER RESOURCES OF GUJARAT

GUJARAT STATE

SURFACE WATER	38100 MCM
GROUND WATER	17500 MCM
Total	55600 MCM

SAURASHTRA (17%)

SURFACE WATER	3600 MCM
GROUND WATER	6100 MCM
Total	9700 MCM

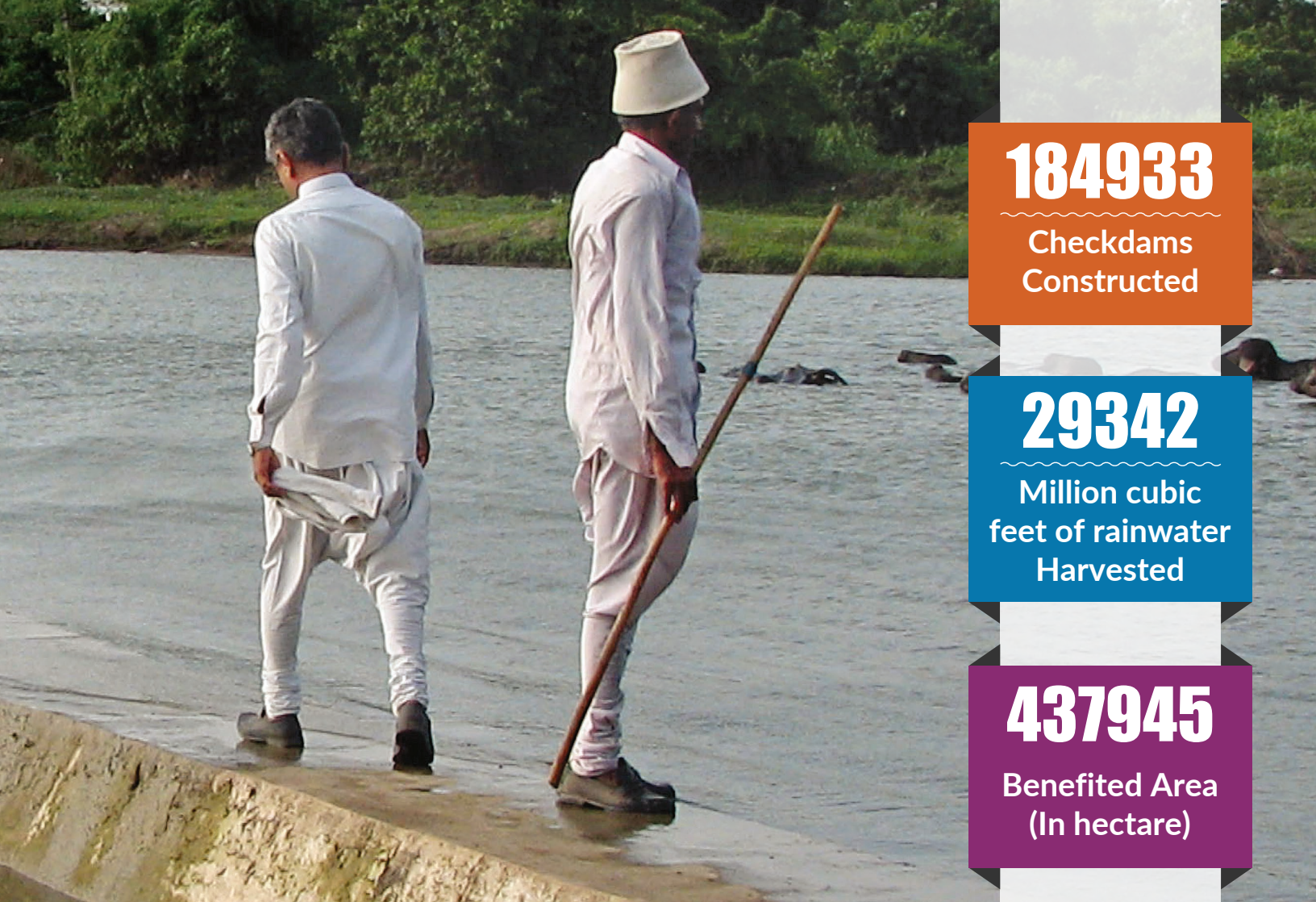
CENTRAL & SOUTH GUJARAT (69%)

SURFACE WATER	31750 MCM
GROUND WATER	6350 MCM
Total	38100 MCM



Water Conservation: Beginning of an Agricultural, Economic and Social Revolution

India is still a predominantly agrarian country where most of our population is making its livelihood through farming and allied activities. In such a scenario, dependence on natural resources such as rainwater increases manifold. Located at the western end of India, Gujarat is a naturally water deficient state. Despite that, the state has made considerable progress in the field of water



184933

Checkdams
Constructed

29342

Million cubic
feet of rainwater
Harvested

437945


Benefited Area
(In hectare)

conservation in last two decades with the Government of Gujarat adopting a positive attitude, accepting challenges as opportunities and implementing the right policies. Even though the citizens of Gujarat are aware and sensitive about conserving water, yet it was very important to use water in a planned manner in order to make water available in adequate quantities and to

supply water to every corner of Gujarat.

Even though Gujarat's water management is very well organized, sensitive issues related to water management do not get resolved in a day or a few months. For this a visionary plan and time frame for implementation is needed. And Gujarat has given both- time and the visionary plan- to its people. As a result, Gujarat has come to the

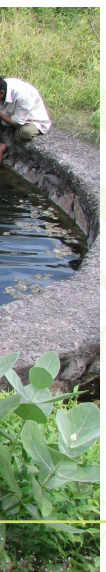




forefront with regard to water management amongst other states in the country.

With a unique water conservation initiative then Chief Minister of Gujarat and the current Prime Minister of India Shri Narendra Modi has given a new dimension to water management in Gujarat. Shri Modi understood that it is a matter of many years to construct large resources to collect water. Hence, he focused on the policy of increasing the storage capacity by cleaning and deepening existing rivers, ponds, reservoirs, check dams and canals.

The ponds and reservoirs of Gujarat that were deepened are completely filled with water today. The presence of such a large amount of water makes the farmers of Gujarat, the common people, and even the industrial sector prosperous. This happiness of the people is very instinctive because good rains bring good omens and good rains are equal to good crops.



The journey from water crisis to water conservation is outcome of the Jal Sanchay Abhiyan with the partnership of local people under the able leadership of the state. Gujarat has established a role model of water conservation through Jal Sanchay.

By 17th January 2000, Narmada resource department of Govt. of Gujarat started Sardar Patel Sahbhagi Jal sanchay Yojana to conserve rainwater for the whole state, meaning starting of constructing hundreds of check dams in all the

villages. This does not mean that it was never thought to conserve rainwater through check dams in earlier years but main point was that, the omnipresent thought of this concept of recharging underground water through check dams and to resolve, the crisis of drinking water or irrigation water is possible at local level only and was not accepted extensively in the state. And so there were only 2,500 check dams. In the period of 9 years from year 1991 – 92 to 1999 – 2000 only 1,341 check dams were constructed. At one point of time, a scheme of 90/10 – “You can build your own check Dam” was given to promote check dams. If a check dam has to be built under this scheme then the village will have to contribute 10% and the rest 90% will be funded by state government. But because of lack of political interest or lack of public awareness for water conservation, the Jal Sanchay Yojana 90/10 was not accepted widely. Afterwards Government launched Sardar Patel Sahbhagi Jal Sanchay Yojana. This scheme has received overwhelming response of people.

For water conservation & water management, Gujarat has been recognized as a role model across the country. Because of Jal Sanchay yojana, Gujarat state, under the guidance of Shri Narendra Modi has succeeded in resolving water crisis issue by building hundreds of big and small check dams. By March 2020 state has built 1,84,933 check dams. Because of this, 29,342



MCFT water could be conserved. Approximately, 4,37,945 hector land is getting benefit of indirect irrigation because of water conservation and ground water level of thousands of wells and borewells has increased because of recharging of ground water. There are many examples of borewells which were dried up are now overflowing with water. Increase in animal husbandry activities has resulted in development opportunity for dairy industry. There are so many similar benefits seen in many areas where water conservation was done. Areas of state where check dams were built can be filled with water with just 4 to 5 inches of rain. Because of this, areas where farmers are irrigating with underground water can take benefits of water conservation through recharged wells &

bore wells, to save their Kharif crops during situations of large gaps between rainfalls spell during monsoon season. This is the case with many villages. And because of this, the demands to make more and more check dams were received and accepted by the administration.

Because of this innovative method of water conservation, a change is observed in economic & social life of the state. How? Migration from such benefitted villages have almost stopped. Value of agriculture land has appreciated. Those people who were reluctant to get their daughters married in those villages experienced the change and relations have improved again. Employment opportunities have increased at local level. This has led to economic prosperity of the farmers.



The speed of water conservation abhiyan got noticed at National Level. A well-known fortnightly magazine “India Today” featured 55 wonders of India in 55 years of independence including the check dams made under Sardar Patel water conservation Sahbhagi Yojana carried out by Gujarat Government and ranked it at 13. On the other side, the speed at which Jal Sanchay Abhiyan in Gujarat was going also gathered attention at international level. In the year 2003, in Earth Summit held at Johannesburg, a paper on this subject was also presented and discussed. Benefits of check dams were also noted in an evaluation study done by IIM.

Appreciation in agricultural land value

Now anyone can also argue on the benefits of water conservation through check dams. Anyone might question – How much benefit does a beneficiary gain through the water accumulated by a small structure of cement concrete? But the reality is that such check dams are not only a physical structure to accumulate water but have proved to be lifeline to the beneficiaries – the farmers. The socio-economic life of many villages have changed because of such 25–50 or 100 check dams built.

What has changed? Migrations have stopped in such benefitted villages. Value of agricultural land has increased substantially.

Talking about the benefits in agricultural activities, the area of Rabi crop plantation has increased from 20-22 lakh hector to 42 lakh hector. The production of wheat reached to 45.54 lakh metric ton from 13.36 lakh metric ton. The production of Gram reached to 6.35 lakh metric ton from 95 thousand metric ton. If we see productivity wise, it increased from 700 Kgs per hector to 1568 Kgs per hector. Same way the planting of cumin increased to 4.82 lakh hector from 1.09 hector and the productivity increased to 779 Kgs per hector to 472 Kgs per hector. In this way the multifold increase in production and productivity has occurred in major crops because of water management.









Narmada Saraswati Maha Sangam

The convergence of rivers Narmada and Saraswati, a prominent initiative in the entire country, was made a reality by Shri Narendrabhai Modi. The mythical and historical river Saraswati in the Northern region of Gujarat was revived with the water of river Narmada by lifting water from Narmada Main Canal and flowing into Saraswati. The rejuvenation brought to fruition the faith of millions.

River Saraswati holds religious significance as it is considered a holy place of worship by lakhs of Indians. Revival of the river has breathed new life into the pilgrimage too.

Gujarat is the breeding ground of many cultural traditions of India. Saraswati river is one such heritage

Narmada -Saraswati MahaSangam is an amazing cultural event of Gujarat: Narendrabhai Modi

- » With modern science & public partnership tomorrow Gujarat will be rich and free from water problems.
- » With synchronisation of culture & agriculture, on this holy land, both rivers of Bharat Mata are showing us the power of water in form of its daughters.
- » How will Saraswati ma, if thirsty herself, will be able to satisfy thirst of its children of this holy land! From such kind of pain, through synchronisation of modern science's power of Mantra, Tantra, Shakti And Yantra, the experiment of filling of water has succeeded.
- » Because of the water of Narmada River, Saraswati river started flowing, the glory of Matrugaya Tirth will imbibe new consciousness. With that the development of pilgrimage places, the problems of employment of lower class people will be resolved. Only because of arrival of water new path of economic elevation has opened up.



and Gujarat was lucky to have it. Extinct today, the Saraswati river was a lifeline in ancient times. In the Vedic period, it was “Sadanish” (meaning always rich with water) which used to rise from the Giriraj Himalaya and flowing towards the sea. This river was an inspiration to ancient saints for creating priceless Granthas like Vedas. This river was a witness to dharmayudha of Mahabharat. With time it became dry. In ancient Granths the mention of this river is very extensive. Even in the oldest Veda there is a mention of Saraswati.

Historian & scholar of Sanskrit language, Shri Babasaheb Apte had done a detailed research on



Saraswati river. His followers Pandit Moropant Pingle and Dr Vanikarji started campaign for Saraswati river. For this Indian History Integration Yojana was created. Scientists of ISRO took aerial photos to decide the paths of Saraswati river flow. According to this, when drilling was done near Jaisalmer, they found pure drinking water at level at 150 feet. When the analysis was done, it was found that the water was 6,000 to 12,000 years old and was as pure as the water of Ganga River. This ancient importance bearer Saraswati river was revived with the water of Narmada by Shri Narendrabhai Modi. When water of Narmada started flowing in Saraswati river, the underground water-level of surrounding villages rose and it exclusively meant that the important work of water conservation got endowed because of Narmada – Saraswati Maha Sangam. This is a successful achievement of Govt of Gujarat.





Reviving the Culture of Ponds

River & pond culture is an integral part of our social life. Wherever there is a village, a pond will always be there and near the ponds, there will be wells. A river will also be there near the village. Based on this pond & river culture, there was development of life in villages. The greatness behind the blessings of rain, raining in abundance, village pond full of water and villagers welcoming the full pond with enjoyment and exhilaration shows that the pond culture & Water God are flowing in nerves of our community life.

Ponds have been a powerful medium of our water heritage. Usually, every village has a lake at its outskirts. When the ponds would fill up, it would recharge the nearby wells or borewells and in this way, the water needs of the village were met. But, over a period of time,



ponds became shallower and villages started facing water crisis, as there was not enough water collected due to erratic rains. Hence, the state government, under the leadership of Shri Narendrabhai Modi launched a campaign to deepen the ponds in the village or its outskirts increasing its water storage capacity. The collection of water in these ponds through rain or from the water of river Narmada benefitted the villages, bringing in lakhs of rupees. This is because the recharge of groundwater facilitated irrigation, leading to increase in agricultural production.

During year 2001 – 02 to 2014 – 2015, Chief minister shri Narendra Modi who was heading the

state government, invoked the campaign of rainwater conservation through check dams on one hand and on other hand started the public campaign of making village lakes deeper. Because of that not only Water conservation capacity increased, but also rainwater storage recharged the wells which were dried since years.

Because of water storage in lakes and recharging of wells, agriculture sector of the state got great advantage. Respective villages got benefited. Irrigation facilities increased because of underground water recharge and gave rise to agriculture productivity. If we see in this context, in the period of Shri Narendra Modi governance, the culture of ponds got revived.



Restoration of Stepwells in the form of 'Jalmandir'



An integral part of the rural culture of India is the beautiful and archeologically significant 'Vav' or a stepwell. There are many such ancient stepwells in Gujarat with historical importance, and thousands of such stepwells have quenched the thirst of people during water crisis in the past. Over time, these stepwells lost their importance and some of them remained only as remnants of the ruins. Shri Narendrabhai Modi, with his vision, planned to restore these stepwells and bestowed them with the glorious title of 'Jalmandir' instead of 'Vav'.

Shri Narendrabhai Modi called for actions to repair and restore 1000 step-wells using modern technology, in a way that they could be reused. These steps taken by the state government have made the stepwells a pride of Gujarat in the form of Jalmandirs.

'Vav' is a uniquely designed architecture. It is a man-made reservoir. To get water from a well, one will need a rope, pot or other instruments, whereas, stepwells are designed such that one can go down the steps to reach the water level.

In fact, a person can easily drink water even if he has the equipment and does not want to descend the steps. Vastu Shashtra also mentions the importance of stepwells. 'Adi Kadi Vav Navghan Kuvo' located at UparKot in Junagadh is considered to be the most ancient Vav in Gujarat. It is believed to have been built between 1st to 4th century AD. Many such stepwells constructed in various regions of the state have proved to be useful in the time of crisis.



Among different methods of water conservation in the world the vav is very important. This type of water conservation method is mainly seen in India. A step well could be the simple definition of the Vav. It is known as Vav, Vavdi or vai like different names in Gujarat. In northern states like Rajasthan, Delhi, Agra vav is known as Baoli or bawli. In ancient Sanskrit inscription words like vapi or vapika were also used for vav. So we can say the word vav has come from the Sanskrit word. Architecturally vav is very complex monument. Some of the foreigners have observed that vav is also known as Bawri or Bowri. There is a well at one corner of the vav. There are steps on the other side to reach to the water level. There is a facility of resting place at some distances to see that continuous getting down on steps does not get very tiring. In between steps the columns

and pillars are placed on both sides of steps to give it more strength and to ensure there is no land slide. And so, three to seven storeyed structure is created till you reach to the well. In architectural language these floors are called koot. According to Raj Vallabh koot means making derries on peak by putting columns on vav structure. Some of the koots are also called Kotha. The architectural and engineering skills are widely used which is seen in Construction of the steps for 5 to 6 storeys to reach well water. Adalaj Vav & Patan Vav are the exclusive examples of this.

There are many vav in Gujarat. When Shri Narendra Modi ran a campaign in the direction of revival of vav by using modern technology to repair, the state government repaired and re-established 1000 vav and today, as a water temple, this vav is Gujarat's pride.



‘Sujalam Sufalam Jal Abhiyan’

In the summer of 2018, Prime Minister Shri Narendra Modi addressed the people of the nation through 'Mann ki Baat' program and spoke about water conservation. Hon'ble Prime Minister's words left a deep impact in the heart of Shri Vijay Rupani. Following the path shown by PM Narendra Modi, Shri Rupani decided to make a framework for Sujalam Sufalam Jal Abhiyan- 2018 and hence started the month long programme on Gujarat Foundation Day. While the entire administration was instructed by the CM to work for the initiative, the main responsibility of carrying out this initiative fell on the shoulders of five departments namely Narmada and Water Resources Department, Water Supply and Kalpsar Department, Rural Development Department, Urban Development Department and Forests and Environment Department.

For one month, all the ministers, officials, government staff and local citizens from their respective districts were engaged in the



Major works under Sujalam Sufalam Jal Abhiyan in 2018, 2019 & 2020

Sr. No.	Details	Achievements			Total
		2018	2019	2020	
Time Span		Date: 1-5 to 8-6-2018	Date: 23-2 to 20-6-2019	Date: 20-4 to 10-6-2020	
1	Work Done (in numbers)	18,515	11,901	11,072	41,488
2	Ponds deepened/ New ponds(in numbers)	7,552	4,727	4,309	16,588
3	Check-dam de-silting work (lakh cubic feet)	4,009	1,766	2,332	8,107
4	Increase in water storage capacity (Lakh cubic feet)	13,500	10,053	18,511	42,064
5	Man-days generated (in numbers)	77.30 lakh	22.70 lakh	30.47 lakh	130.47 lakh





Before



After



Before



After



Sujalam Sufalam Jal Abhiyan Activities and Achievements

Activities Undertaken

- Deepening of lakes, desilting of reservoir and check dams, forest ponds
- Repairing of check-dams
- Repair, maintenance and cleaning of minor schemes, canals and structures
- Construction of new ponds and check dams
- Revival of rivers
- Cleaning of areas surrounding water sources
- Cleaning of sewage lines



SSJA-3 DURING COVID-19 LOCKDOWN

- 4118 ponds were deepened
- 2368 km length of Canals and 2130 km length of Rivers, Voklas, Drains and Gutters were cleaned.
- Rain water harvesting in urban areas as well as de-silting rivers, check-dams for water conservation.
- Repairing of 1084 check dams
- cleaning of 629 sources of drinking water, tank/sump/intake structure, wtp/stp and surrounding area
- 336 NGOs were engaged

country's largest water conservation initiative. Chief Minister Vijay Rupani made an appeal to various local communities, voluntary organisations, industries, educational institutes, religious organisations, Non-Residential Gujaratis (NRGs) to come forward and undertake various works under this initiative.

Through this initiative, the government has brought into effect the age old concept of barter system wherein it allows farmers to use the moist and fertile soil for their farms in exchange for shramdan. The farmers and local people get employment through the same in addition to the finest quality of mineral rich soil for the crops.

The Sujalam Sufalam Water Conservation Initiative encompasses a number of tasks such as deepening of ponds/lakes, cleaning and maintenance of the same,

afforestation along the river banks etc. In addition to that, the initiative has been instrumental in increasing the water holding capacity of the state and creating awareness amongst people for ensuring sustainable use of water. The initiative is one of its kind wherein people have voluntarily joined hands with the government to safeguard the water requirements of the future generations.

On the first day of the maiden year of the scheme itself, there were as many as 45,000 people (shramyogis) who joined hands with the government for this noble cause.

Under the Abhiyan in 2019, the government excavated a new pond in every district with unused land in order to increase water storage capacity for the concerned districts. More than 30 rivers in the state were revived during the year through this mass movement in addition to cleaning of 1700 km of Narmada canal and cleaning of total drains that equaled a length of 740 kms.

The first two editions of this campaign kick-started with great energy and enthusiasm. Further, the campaigns were a success because they appealed to the ethos of people.

The Sujalam Sufalam Jal Abhiyaan kicked off from 20th April in 2020. However, it was different compared to the previous editions considering the crisis due to coronavirus. The Chief Minister not only ensured timely completion of various works but also ensured that necessary safety measures provided by MHA were followed during the entire

campaign.

11,175 works related water conservation were completed during the year 2020 in collaboration with public, NGOs or industries. The campaign generated 30,75,096-man days of employment for labourers at a time when all major economic activities were at a halt due to COVID-19.

CAMPAIGN SEES SUCCESS AMIDST LOCKDOWN -

1) Hitendrabhai Chaudhary of Veljar village in Tapi says, "I am thankful to the state government for starting Sujalam Sufalam Jal Abhiyan this year. I was able to get employment at doorstep through various works under this campaign. The crisis due to COVID-19 had scared me as I was wondering, 'How will I feed the family without a source of income?' At work, the district administration ensured safety measures like practicing social distancing, using masks and health check-up of all those involved on site."



2) The co-operation of the people and district administration of Lavana village in Mahisagar has resulted in an increase of 2.35 lakh cubic feet of water holding capacity in the village pond. This will benefit the farmers for irrigation, increase the level of ground water in nearby areas, and quench the thirst of livestock as well.

3) Girdhanbhai Gebubhai Vasava of Patibandhara village in Tapi is thankful to the Chief Minister Shri Vijay Rupani for commencing the SSJA amidst lockdown. He says, "I would like to express by gratitude to the Rupani government for ensuring a source of livelihood in accordance with safety protocols amidst the crisis."

Under the Sujalam Sufalam Jal Abhiyan Yojana, 41,488 works have been completed in the

state during years 2018, 2019, and 2020. Among them, more than 16,588 ponds have been deepened, distilling of 8,107 check-dams were done and 2,239 check-dams have been repaired. As a result, water conservation capacity has increased by 42,064 lakh cubic feet, and a total of 130.47 lakh man days employment has been generated. Many villages have been at the receiving end of its fruitful outcome. Also, agricultural produce of the village has reached to crore of rupees because of the increase in water storage capacity.

In this way because of water conservation and better water management, 70 lakh hectares land has been facilitated with irrigation as compared to 38 lakh hectares in the previous years, which is a great achievement for the state.



Before



After



Benefits of Water Conservation in Agriculture

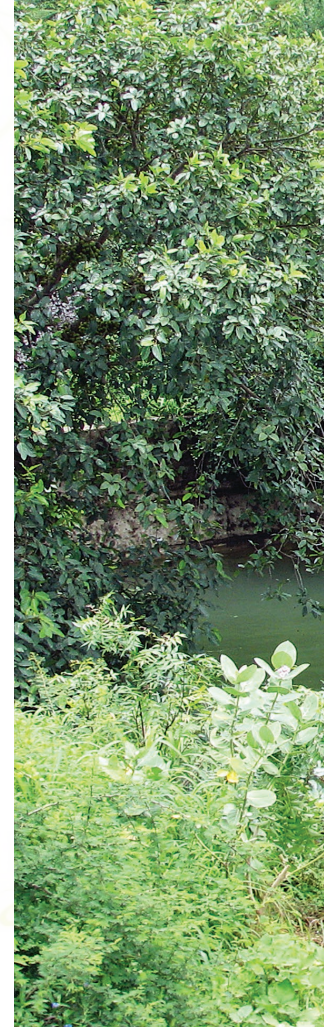
- Increase in ground water-level & underground storage
- Decrease in expenses of bore-well repair work & maintenance
- Decrease in electricity expense of farmers
- Increase in irrigation land by 7.72 lakh hectares

A Saga of Success

“ Out of 6,000 bigha land, 3,000 bigha have received benefits of irrigation through check-dams. This has resulted in an increase of agricultural income from 2 crore earlier to 6-7 crore now. There is not a single kuchcha house in the village today. There are approximately more than 200 pucca houses. More than 500 wells have been recharged in 3,000 bigha land of the village. 20 years ago, the level of ground water was very deep. Bore-wells of even 500 feet used to dry up and wells of 80 feet were abandoned. One could see the dry bottoms of the wells. People migrated to Surat that time. Villages had started becoming uninhabited. But 18-20 years ago, when check-dams were built, the village got back its lost glory. Approximately 100 families have returned to the village in last 20 years.

Kismatbhai Jivrajbhai Rajodiya

Vikalihya Gam, Botad



“ Wadla village of Vanthali taluka, Jambula village of Manavadar Taluka, and Pipli village of Keshod taluka in Junagadh district have benefitted to a great extent through Jal Sanchay Abhiyan. Underground water-level has been recharged in the surrounding areas. Agricultural income has gone from lakhs to crores. Production of cotton and peanut crops has been plenty. The farmers owning approximately 400 bigha farming land have benefitted owing to irrigation. Water-level in approximately 30 to 40 bore-wells have increased to a great extent which includes recharge of the bore-well of Gram Panchayat too. Recently, a bore-well was constructed for the purpose of drinking water. Water could be reached at about just 30 feet depth!

Bharatbhai Chavda,

Wadla, Junagadh



“ Maldharis, a community of cattle rearer, have benefitted due to check-dams. I have around 200-250 sheep and goats and nearly 300 cows. Construction of check-dams have ensured sufficient availability of water for my cattle. My monthly income has increased by Rs.25,000. Before this, we had to travel to Gir to fulfil our water requirements. But today, more than 2000 cows of the village have benefitted from Jal Sanchay Abhiyan.

Mepabhai Maldhari

Lathi village



“ Water levels of about 100 borewells and 30 wells in the surrounding places have increased. If I talk about my well, it is about 108 feet deep and the level of water is at about 20 feet from the top. Due to Sujalam Sufalam Jal Sanchay Abhiyan, water level of wells have increased by 50 feet on an average. About 5,000-acres of land has benefitted from the water stored in these check-dams.

Ratilal Kotadiya

Lathi, Amreli

“ 3 big lakes and 5 check-dams are now filled with Narmada water. This has benefitted 5,500 bigha land with Neem and Jaliya trees. About 300 borewells and wells have been recharged. We have received great benefits through various water conservation campaigns for last two years. This year, 4000 bigha of land had cotton production. If we calculate, an average about 20 quintal output from each bigha of land, then about 80,000 quintals cotton is produced. If the average cost for each quintal is calculated at Rs. 700-800, one can imagine what the total cost would be. A minimum of Rs. 6.5 crore of income is generated from cotton alone!

Dharamveersinh Gohil
Limda (Hanubhana) Village, Botad





“ Fluoride and alkaline water were the main problems of our village. Jal Sanchay Abhiyan has eliminated this problem. Further, economic conditions of labourers have considerably improved in last three years. Each mason/labourer now has a pucca house. There are about 200 masons in the village, but no one is free today. One has to take a prior appointment for getting the work done. Masons have started earning a daily wage of about Rs. 600 to Rs. 700. Other labourers associated with them earn about Rs. 300 daily wage costing approximately Rs. 1000 for a pair. Similarly, even carpenters and blacksmiths are also getting better wages. There are about 15 carpenters in the village. The fabrication industry is flourishing in the village. Agricultural tools are being manufactured in our village now and the farmers line-up for the same. Jal Sanchay and agriculture have brought social and industrial prosperity.

Babubhai Dhamat

Liliya Gam, Amreli

Jal Sanchay: Boosting the Economy

- Mepabhai Maldhari, Lathi Village: Jal Sanchay brought increase in monthly income by Rs. 25,000.
- Increase in sale of farming equipment.
- Number of tractors increased from 1.34 lakh to 8.22 lakh. Number of trailers registered a considerable increase from 1.02 to 3.97 lakh

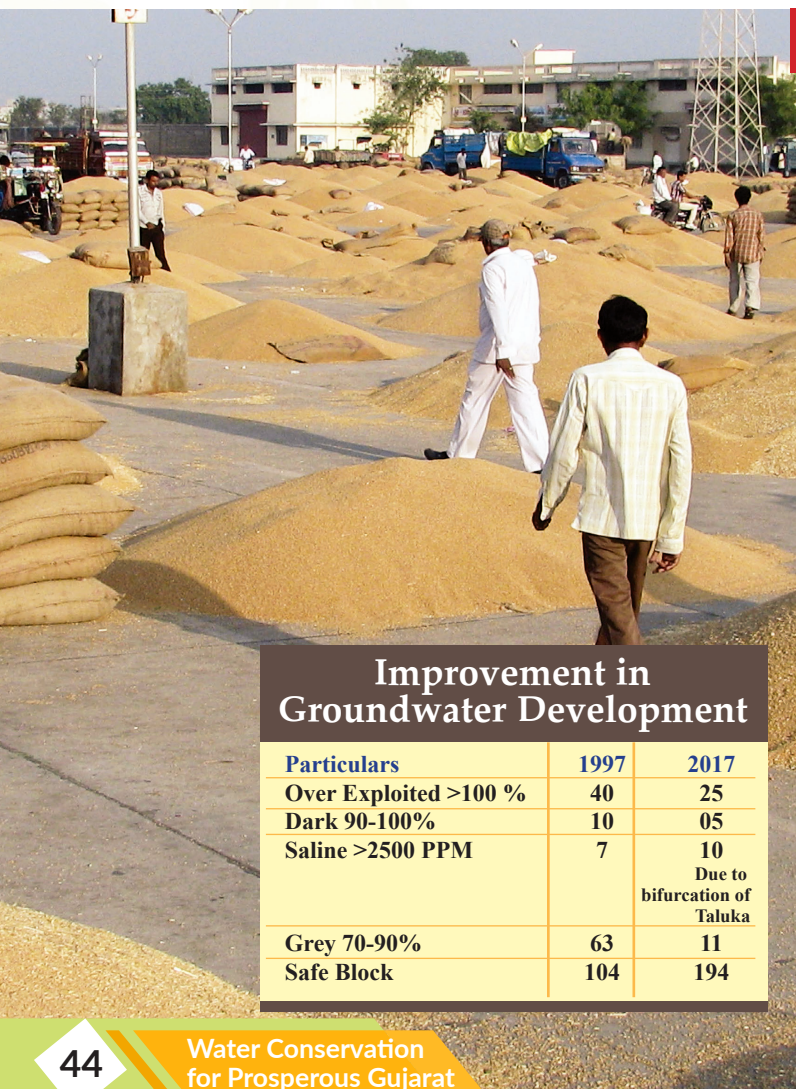
Jal Sanchay Improves Standard of Living

- Increased incomes boosted purchasing power of people in rural and urban areas. This enabled them to purchase tech-based tools and electrical equipment
- Better incomes led to modernization of houses and a higher standard of living

Outcomes of Jal Sanchay Abhiyan

Social and Economic impacts of Jalsanchay, as per the study undertaken by Indian Institute of Management (IIM)

- Well-being of about 1/3rd of the 71% beneficiaries from weak & lower section improved
- Number of vehicle owning beneficiaries doubled
- Number of tractor, harvester-owning beneficiaries increased one and half times
- Availability of water has increased because of water conservation
- Land getting irrigation facility harvested three times better in the Rabi season
- Raising groundwater level
- Increase in the time period of water availability by an addition of 3.5 months.
- Permitting an increase in daily pumping hours in Kharif and Rabi seasons, while simultaneously allowing farmers to economize on diesel and electricity consumption by using lower capacity pumps due to the raised water table.
- Improved incomes from increased land under cultivation and greater cropping intensity have also led to a wave of economic prosperity as households now have better sanitation facilities, motorized vehicles, high value farm instruments etc.



Improvement in Groundwater Development

Particulars	1997	2017
Over Exploited >100 %	40	25
Dark 90-100%	10	05
Saline >2500 PPM	7	10
		Due to bifurcation of Taluka
Grey 70-90%	63	11
Safe Block	104	194



Water Conservation: Excellent Outcome, Outstanding Honor

Gujarat is a role model for India in water conservation and management due to Shri Narendrabhai Modi's visionary planning and approach during his days as the Chief Minister of the state. The state has embarked upon an unprecedented journey of water conservation under the Sujalam Sufalam Jal Abhiyan Yojana in last three years. This has also been highlighted on the national level. The level of underground water has increased from 7 to 10 feet and the water storage capacity has increased by 42,000 cubic feet. Gujarat has maintained its first position by receiving NITI Aayog's Composite Water Management Index award consecutively for three years now.

**1st in
Country**

**Composite Water
Management Index
consecutively for
three Years**

**2nd Best State in
Country**

**Awarded by
MoWR in Year 2018
as 2nd Best State
For Water Sector**



SKOACH Platinum Award

**Platinum Award in
water Sector for
Sujalam Sufalam Jal
Abhiyan and other
measures in the Country**







Junagadh in Saurashtra region of Gujarat is famous for its 'Kesar' mangoes. A large check-dam on the banks of a river near a mango orchard. Mango orchards in the region have been revived owing to the series of check-dams constructed on the surrounding rivers.