



Sujalam Sufalam Yojana

Championing Water Security in North Gujarat







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Index

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|---|----|
| ■ Prologue | 3 |
| ■ Water scenario before Sujalam Sufalam Project | 6 |
| ■ Nomenclature of the ambitious project | 11 |
| ■ Details of Sujalam Sufalam Yojana | 14 |
| ■ Mammoth Task to implement SSY | 18 |
| ■ Shri Narendra Modi's vision and views on Sujalam Sufalam Yojana | 20 |
| ■ Benefit of Sujalam Sufalam Yojana | 27 |
| ■ Feedback from beneficiaries of SSY | 28 |
| ■ Rivers and Lakes being filled under SSY during Summer | 36 |
| ■ Surendranagar district on the path of Sujalam Sufalam | 43 |



Prologue



Sujalam Sufalam Yojana (SSY) envisaged, introduced and implemented under the visionary leadership of former Gujarat Chief Minister and current Prime Minister of India Shri Narendra Modi with a noble cause of economic empowerment of farmers.

The basic idea of this ambitious Yojana (project) was to utilise additional flood water of Kadana dam situated on Mahi River for irrigation and drinking water to villages and cities falling in the arid North Gujarat region.

“Farmers try out many difficult ways to get water. The fact is that farmer spends seven lakh rupees to build a tube well. They get water in it after almost a month's time. Later on, sand starts pouring in and everything goes in vain in few days. Who will save the poor man





“Farmers try out many difficult ways to get water. The fact is that farmer spends seven lakh rupees to build a tube well, water comes in a month and sand starts coming in the afternoon. Who will save the poor man wherever he goes,”

wherever he goes,” said Shri Narendra Modi while introducing Sujalam Sufalam Project.

After taking the reign of Gujarat in October 2001, Sujalam Sufalam was one of the most important development projects during Shri Narendra Modi's initial phase as Chief Minister of the state. He gave priority to Sujalam Sufalam Yojana with the sole aim to rejuvenate arid areas of the state through supply of water in adequate quantity.

Keeping the economic development of farmers in mind, a 332 km long Sujalam Sufalam Spreading Canal from Kadana dam in Panchmahal district in Central Gujarat to Rah village of the bordering Banaskantha district in North Gujarat was constructed. Besides, 14 Narmada Main Canal based lifting pipeline projects were made part of this ambitious project which has been proven game changer for the





prosperity of North Gujarat region as well as parts of central Gujarat and Saurashtra region (Surendranagar district). Arid North Gujarat region comprises 19.63 percent of the total area of the state.

Today Irrigation & Drinking water is being supplied to 661 villages through Sujalam Sufalam Project. It also quenches the thirst of people residing in eight cities. Due to the project, 3, 65, 759 acre area have been benefitted in eight districts including Mahisagar, Aravalli, Kheda, Gandhinagar, Sabarkantha, Mehsana, Patan and Banaskantha.



Water scenario before Sujalam Sufalam Project



Despite being one of the leading state in industrial and agricultural production, many parts of Gujarat were water scarce. The states per capita availability of water 900 M3 is much below national average of 1545 m3. Gujarat's topography, hydrological, climatic and soil conditions have regional variations in terms of availability of water. Most of the districts in the state are water deficits.

The wide heterogeneity in Gujarat's topography, climate and soil conditions results in geographical imbalance in water resource endowments. Hence, 70 percent of the state is arid or semi-arid and prone to droughts including that of North Gujarat, Saurashtra and Kutch regions. As a visionary leader, Shri Narendra Modi knows this





fact very well, and he made it a point to overcome these challenges by creating additional sources for water.

In every three years, these regions witnessed a deficit of rainfall. Over dependence of rain water not only affected agriculture adversely but severe drinking-water shortages were making people's life even harder. Especially in North Gujarat, the ground water level went down as low as three to four meters, which resulted into huge demand for electricity for water. Moreover, low and poor quality water resources created problems of fluoride, nitrate, alkaline and polluted groundwater, unhealthy for the people living in the region.

Ahead of the implementation of Sujalam Sufalam Yojana, a total of 12 districts of the state were identified as dry land and dry sub-area with frequent drought and acute water shortage. Due to dearth of water heavy setbacks in health, nutrition, education and the environment reported.





These challenges continuously intensified with the increasing population in these water scarce areas. It also translated into changes in lifestyle and dietary habits, alterations in the socio-

economic profile of the state and agriculture intensified around the production of water-intensive crops.

In such scenario, then Narendra Modi government in Gujarat sought to overcome some of the development challenges posed by physical water scarcity. After a well structured thought process at all levels of the government officials, experts advises, suggestions from stakeholders and people at large finally Sujalam Sufalam Yojana (SSY) was conceptualised as one of the solutions to counter frequent droughts and the perennial problem of water scarcity in the state.





“I know what kind of difficulties people face when water is not available. As Chief Minister I used to visit villages as part of Girls Education campaign (Kanya Kelavani Abhiyan). I saw daughters of Gujarat spending half a day in bringing water from distant areas instead of studying in the schools. I know the pain. Nothing can be seen here except Babul tree (*Vachellia nilotica*). Believe me, your brother sitting in Gandhinagar would get you out of this problem,” said Shri Narendra Modi in a public meeting organised in Panchmahal district in reference to Sujalam Sufalam Yojana.

In the North Gujarat region, groundwater was available at 30 meters before late 1970s. By the beginning of new century groundwater level in all the districts of the region went down as low as 150 to 250 meters. Over extraction and pollution of water created the threat of transformation of region into desert. Another threat of mass migration of more than 50 lakh people due to water scarcity was





looming on the region. Nearly 2500 MW of electricity for water was used per day to fetch groundwater in the region. Groundwater was not potable in most of the villages. Farming was solely dependent on rain fall as in view of inadequate water in the major reservoirs of the region including Dharoi, Dantivada, Sipu, Mukteshwar, Hathmati etc. were kept for drinking water supply.



Nomenclature of the ambitious project



The Sujalam Sufalam project which is a boon for the people of most of the North Gujarat districts, has interesting history in its nomenclature process. The name was given to the ambitious project based on the national song 'Vande Mataram' composed in Sanskrit as well as Bengali language by Bankimchandra Chatterji as a tribute to those who struggled for the freedom of India. 'Vande Mataram' became the Mantra to give freedom to the country before independence. The first verse of the national song 'Vande Mataram' means – Mother (land) I bow to thee. The first two words in the second stanza – Sujalam Sufalam literally mean water (Sujalam) and fruits (Sufalam). The name given to this ambitious project was well thought and symbolizes people's freedom from water scarcity and going





“Sujalam
brings
Sufalam to
the fields.”



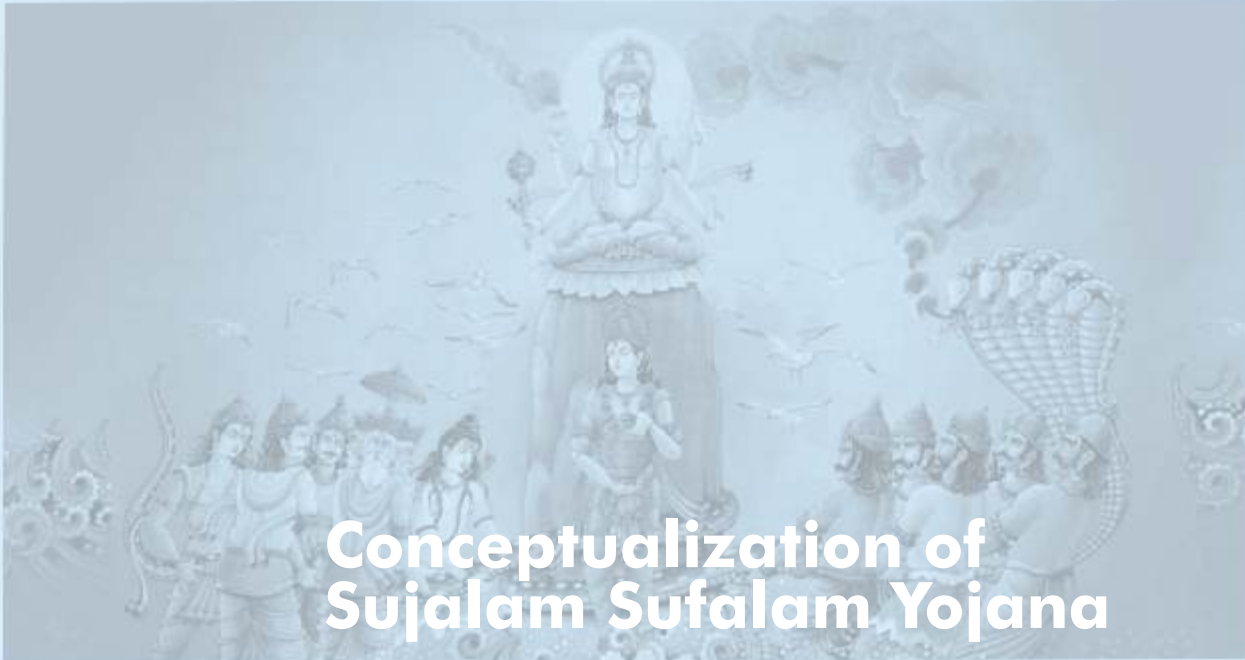
towards prosperity through availability of water (Sujalam) and orchards (Sufalam). It was Shri Narendra Modi's suggestion to give the meaningful name to the project close to his heart. Symbolically commencement of SSY blew the trumpet for

economic freedom of the farmers of India.

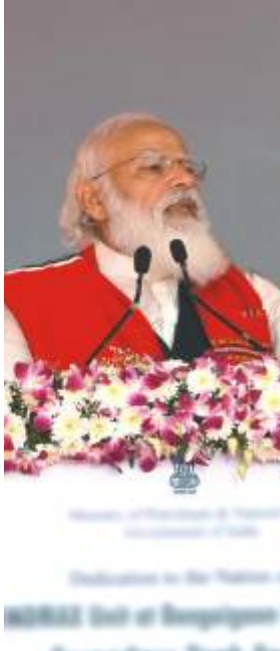
Explaining the nomenclature, Shri Narendra Modi said Sujalam means 'Sujal' – pure (high-quality) water and Sufalam means 'Sufal' – good (quality) fruit. “It is a simple project as its name suggest – if high-quality water is available, high quality harvest would definitely come. Half part of the project would belong to us (government) and other half would be yours (beneficiaries). Sujalam (water supply) would be our part and Sufalam (harvest) would be yours,” he said in simple words to the rural folks.

“Sujalam brings Sufalam to the fields.” - Shri Narendra Modi.





Conceptualization of Sujalam Sufalam Yojana



Sujalam Sufalam Yojana was conceptualised during a workshop of senior officials of Government of Gujarat. Top bureaucrats were present in the 120 hours long workshop held in the financial year 2001-02. They collectively brainstormed about the possible solutions of the water scarcity problem of the state after Shri Narendra Modi's inaugural speech on the issue. Shri Modi shared his vision to improve the water scenario in Gujarat and availability of water in all its dimensions with cost efficiency. Shri Modi stressed on recognizing the need to make water available for drinking and farming purpose. Out of the vision of making major areas of the state drought free, finally Sujalam Sufalam Yojana was conceived the way Amrit (nectar) was taken after Samudra manthan (churning of ocean). The purpose of the highly ambitious project was to make water available to the vast area of the state to improve farming practices and groundwater level, saving the money of farmers they generally used to spend towards construction of tube wells and bringing the living standard of rural community up.



Details of Sujalam Sufalam Yojana



The innovative idea of diverting surplus water of Kadana and Narmada to deficit basins through spreading canals, lift irrigation pipelines and high level canals is at the core of Sujalam Sufalam Yojana. The surplus water would also use for salinity ingress prevention measure, filling check dams and farm ponds. It is an integrated approach to augment water resources in water deficit and over exploited areas. Under SSY micro and macro level measures like inter basin transfer from surplus to deficit basin through various means are being done.





The 332 Km long spreading canal from Kadana dam to the village Rah in Banaskantha district and pipeline projects are used to transfer surplus water from Narmada and Kadana river basins to deficit basins. The main benefit of this Spreading Canal & Pipelines is for filling seven reservoirs and 1,111 ponds in North Gujarat region. Due to this, irrigation is augmented in 3.7 lakh acres area. Drinking water supply to 661 villages and eight towns is possible because of it. Sujalam Sufalam Spreading Canal crosses 21 small / big rivers.

In the span of a decade 1, 85,680 MCFT water is lifted from Narmada main canal and 91530 MCFT water released from Kadana reservoir. This total 2, 77,210 MCFT water is lifted for filling Sujalam Sufalam spreading canal and village tanks.





14 lift irrigation pipeline projects, part of SSY benefit additional 70,000 hectares of land for irrigation purpose. Through these pipelines 737 ponds / village tanks are being filled by the water from Narmada main canal. It also proved immensely beneficial to recharge a plethora of tube wells across the North Gujarat region.





Under SSY, 33.35 km long Panam High Level Canal is being constructed with 94 km long network of distributaries. Almost 90 percent work has been completed for this high level canal which would recharge 88 wells, fill 48 check dams apart from irrigation benefits in 18000 hectares of 57 villages. 18.4 km long Kadana High Level Canal too is part of SSY which is equipped with 33.37 km long piped distribution network. Nearly 3800 hectares of land belonging to 44 villages would be benefitted because of this canal. Its piped network would connect 24 ponds, 17 check dams and 900 recharge wells and give additional indirect benefit to 1260 hectare area.



Mammoth Task to implement SSY



Land acquisition for the 332 km long Sujalam Sufalam Spreading Canal, lift irrigation pipeline network and high level canal was a mammoth task for the success of Sujalam Sufalam Yojana. Narendra Modi government could able to persuade the stakeholders about overall benefits of the project and gave them satisfactory, rightful and deserving compensation for the acquired land. Besides, the officials and implementing authorities have to take permission from farmers to lay pipeline in their farms after convincing them. The pipeline laying process couldn't have completed without the cooperation of farmers.

Another big task was to take clearances from forest department for the Sujalam Sufalam Yojana. The implementation authority made it a point to design entire project meticulously in a way that they had to





take minimum clearances from the forest department. More than 600 structures was constructed for SSY in a short span of three years as the spreading canal not only crossed 21 rivers on its 332 km journey but seven railway crossings, three national highways, four state highways, four drainage siphons, four aqueducts, four district road bridges and 12 rural road bridges.

In span of just three years enormous earth work of more than 600 lakh cubic meter was excavated and mobilized through heavy equipment & machinery and deployment of workforce in thousands. As per an estimate earthwork quantity was large enough to spread out three meter wide across the equator. For the project 40 lakh bags of cement used for the 8.6 lakh cubic meter of cement concrete work. The project consumed 46,660 tons of steel. At some places, depth of excavation was almost 20 meter, which is more than a seven storied building.



Shri Narendra Modi's vision and views on **Sujalam Sufalam Yojana**



Shri Narendra Modi felt the pain of farmers. In a function he expressed his feelings saying: "I may not be born to a farmer, but I have been raised by one. Hence, I understand what suffering is. I understand what grief is. And that is why I have resolved to fight the water crisis."

Knowing his 'Matrubhoomi' (motherland) Gujarat thoroughly, Shree Narendra Modi understood the value of water in a water scarce region. He is clear about using every drop of water carefully. SSY was also part of this thinking process to utilize flood water for irrigation and drinking purpose rather allowing it to flow in the Arabian Sea.





“Let's consume water like it is God's grace. Let us collect and drink the nectar raining on the earth, in the form of rain.” – This is the belief of the visionary leader Shri Narendra Modi. As Chief Minister of the state, Shri Modi wanted Gujarat to be projected as a model of development for the entire country.

When Shri Modi took the reign of Gujarat, Gujarat's soil was thirsty, son of the soil was in agony, villages were struggling for every drop of water, the women of the villages wandered from village to village for a pot of water, villagers hurry-scurried when the water tanker arrived, sometimes there were fights for a pot of water, and in the end, it was fate that decided how much water each would get. The state's agriculture sector was in an even more dire state for the thirst for water. Where does the land get water from when there is no water to even drink? To add to Gujarat's misfortune is that out of 10 years, barely three years there is good rain.





“Sacrifice of farmers didn't go in vain. Sujalam Sufalam Yojana was born out of their bloods. We have put in hard work of 10 months to find out permanent solution of water scarcity in North Gujarat. SSY would make dry land fertile and recharge groundwater in the region”

Shri Narendra Modi envisioned a multi-pronged and permanent solution for the water problem of Gujarat. As the top leader of the state he launched a grand campaign to enrich the underground water level by harvesting and collecting rainwater with the idea of leading water in the villages and its outskirts to stay within, that too with a distinctive approach of public participation. Under this campaign, check-dams were lined up on the outskirts of villages as well as on the rivers in other districts, deepening of village lakes, ponds in farms and on outskirts were done.

Restoration of Gujarat's heritage property, Sami Vav in the form of 'Jal Mandir', was almost as if the Water Gods were invoked, and the results of these efforts are satiating the people of Gujarat even today.

The Rs. 6000 crore Sujalam Sufalam Yojana was the part of Shri Narendra Modi's vision to give water to every village of Gujarat. Shri Modi encouraged farmers to construct farm ponds. He wanted to quench thirst of villages of Gujarat. Addressing a Sujalam Sufalam Farmers' rally at Majara in Himatnagar district in February 2004, Shri Narendra Modi remembered those farmers who lost their lives for water and went on to say:





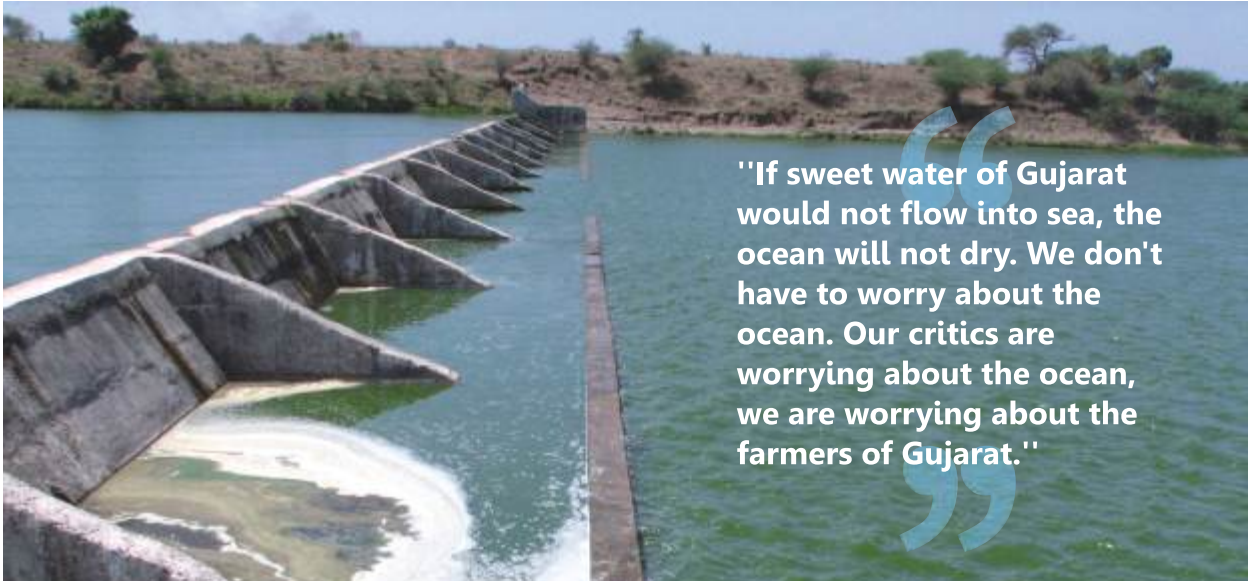
“The way blood bank is created to give blood to a person injured in an accident, we need to work for water storage. Everyone need to save rain water and shouldn't allow a single drop of water in vain.”

“Sacrifice of farmers didn't go in vain. Sujalam Sufalam Yojana was born out of their bloods. We have put in hard work of 10 months to find out permanent solution of water scarcity in North Gujarat. SSY would make dry land fertile and recharge groundwater in the region”

Shri Narendra Modi was of the opinion to create water bank in lines with blood bank. In the groundbreaking ceremony of Radhanpur branch canal in November 2004, he stressed on creation of water bank to curb the spreading of desert. “The way blood bank is created to give blood to a person injured in an accident, we need to work for water storage. Everyone need to save rain water and shouldn't allow a single drop of water in vain.”

“Farmers have strength to grow gold on barren land if they are given adequate water. If they got water at right time, they are ready to pay any price. Hence the state government gave priority to water. Sujalam Sufalam is one of the projects related to water. Through this project flood water flowing in the sea have been diverted to water deficit area” – November 9, 2004





"If sweet water of Gujarat would not flow into sea, the ocean will not dry. We don't have to worry about the ocean. Our critics are worrying about the ocean, we are worrying about the farmers of Gujarat."

"In the case of Sujalam Sufalam Yojana, first time government decided to go among the people (beneficiaries) with the blueprint of a project. In the past, schemes used to be announced by political leader and implemented by officials. There was no accountability on how many people benefitted and how many didn't get anything. Surprisingly nobody was bothered such practices." – February 27, 2004

"Details related to Sujalam Sufalam Yojana were prepared after consultation with around 25000 experienced and progressive farmer leaders. We presented our plan to utilise flood water flowing in the sea for cultivation. The farmer leaders appreciated the innovative project. I am confident about the positive results. But issue doesn't end here. We have resolved not allowing a single drop of water to flow into the sea. If sweet water of Gujarat would not flow into sea, the ocean will not dry. We don't have to worry about the ocean. Our critics are worrying about the ocean, we are worrying about the farmers of Gujarat," said Shri Narendra Modi during a function.

Some of Shri Narendra Modi's famous quote as Chief Minister of Gujarat on Sujalam Sufalam Yojana:





“With the dreams like Sujalam SufalamYojana, heroes of our freedom fight Bhagat Singh, Sukhdev, Rajguru and others spent their youth in jail. Water is necessary to perform 'Vande Mataram' (salute to motherland). We have now Sujalam Sufalam Yojana, and we have now water.”

“We want to make villages to thrive and flourish. For that purpose Gujarat government has come with Sujalam Sufalam Yojana. We are determined to make our farmers prosperous. We want our motherland to be fertile. Our freedom fighters gave sacrifices chanting Vande Mataram. Now our country has got freedom. Now we have to go a step further from Vande Mataram to Sujalam Sufalam to bring prosperity in our villages.”

“If the farmers of Gujarat are prosperous, villages will prosper. If the villages of Gujarat are prosperous, tomorrow of Gujarat will prosper.”





“Sujalam Sufalam Yojana is not a word set for me. Sujalam Sufalam is not slogan for me. It is reverence for life. It is my faith and belief. I have been attached emotionally with the project. I am experiencing vibrations of this small system which has potential to bring radical changes in people' life.”



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for me. It is reverence for life. It is my faith and belief. I have been attached emotionally with the project. I am experiencing vibrations of this small system which has potential to bring radical changes in people's life. It has potential to make Gujarat disease free, water sufficient and prosperous.”

“We are working with the determination to keep all the rivers, lakes and ponds falling in the path of Sujalam Sufalam Spreading canal with full of water right from Kadana dam to Banas River.”

“Through Sujalam Sufalam Canal water from Kadana has to be taken up to Abu, and want to see entire belt green.”

“The Sujalam Sufalam Yojana couldn't materialize without people's participation and cooperation.”

“In a single sentence Sujalam Sufalam Yojana can be described – 'bring water to each and every field.' The way blood reaches every part of human body, water should reach to every corner of Gujarat.”

“Just like road network, we require water network.”



South Gujarat – Sujalam Sufalam – Shri Narendra Modi's thought process

Very few people can imagine that maximum benefit of Sujalam Sufalam would get South Gujarat region !! Since the conceptual stage of SSY, Shree Narendra Modi actually believed in this theory. Today it has been proven right also.

Considering the path of SSY, prima Facie it is difficult to digest as directly South Gujarat region has nothing to do with Sujalam Sufalam Yojana. However if one think deeply, automatically things would get clear how Sujalam Sufalam Yojana will prove beneficial for South Gujarat.

Addressing a public rally Shri Narendra Modi explained South Gujarat angle of SSY aptly. Excerpts of the then Chief Minister of Gujarat, Shri Narendra Modi's speech:

People of water scarce regions like Kachchh, Saurashtra and North Gujarat are migrating. They are leaving their native places despite having farming land in search of livelihood. They look for a place with abundant availability of water. The closest place with plenty of water they find would be Surat, Valasad and other places in South Gujarat. If this process would continue for longer period would happen to a small region after 100 years. It would create imbalance in the region.

Sujalam Sufalam Yojana has potential to stop this mass migration at least from North Gujarat. SSY's impact would definitely reduce migration process for next many years to come. Balanced development is necessary. Fruits of development should be distributed equally. Everybody should have share in the pie. It is the duty of government to make balanced development plan. Sujalam Sufalam Yojana was part of it. The project spread the message of save water, supply water and wisely utilise water.



Benefit of Sujalam Sufalam Yojana

As per the official data ground water development has improved from 75 percent (semi critical) to 64 percent (safe) in most of the beneficiary areas. Over exploited blocks reduced from 40 in 1997 to 25 by the end of year 2017. During the same period critical talukas reduced from 12 to 5, semi critical talukas reduced from 63 to 11. Safe blocks increased from 103 in 1997 to 194 in 2017.



Due to Sujalam Sufalam Yojana depletion of groundwater level restricted. Earlier in the North Gujarat region groundwater was being depleted by 3 to 4 meters per year. Implementation of SSY not only started recharging process of groundwater but it also reduced electricity bills of farmers for irrigation. Twelve districts of Gujarat including Panchmahal, Mahisagar, Dahod, Gandhinagar, Ahmedabad, Surendranagar, Kutch, Mehsana, Patan, Aravalli, Sabarkantha and Banaskantha are now having alternative of drinking water and irrigation needs in form of Sujalam Sufalam Yojana.

Sujalam Sufalam Yojana has become synonym of agricultural prosperity in North Gujarat. Water storage





has not only brought water revolution in the region but also brought agriculture revolution here.

Availability of irrigation water in Banas river after the Sujalam Sufalam Yojana has translated into increase income of farmers in the vicinity of the river. As a result of Narmada water flowing in Banas River, farmers' income is increased from Rs. 3000 per acre to Rs. 30,000 - Rs. 35,000 per acre. As Banas river recharged through Narmada water, migration of people in residing on both the banks of Banas river almost stopped.

Thirty years back groundwater was available at 30 meters. Over the period of time ground water have gone down further to 100 meters and in some cases as low as 200 meters also. Groundwater was taken out through artesian wells all across the regions. Experts feared that constant depletion of groundwater would turn the region in to desert in next couple of decades.





People have never ever imagine, farmers would take three crops in a year even in the case of inadequate rains. Seeing lakes and ponds fill to the brims in summer was only a dream. But in North Gujarat people have become habituated to see such scenes. Gujarat Government's decision to implement Sujalam Sufalam Yojana to utilise additional water as well as store rain water impacted agriculture economy positively in the region.

Moreover, in Surendranagar 134 Checkdams were constructed having Storage capacity of 38 MCM and benefitting 18296 ha area. Whereas, in Kachch district 55 Bandharas were constructed having storage capacity of 76.65 MCM and benefitting 37870 ha area.

Sujalam Sufalam Yojana is contributing in enhancement of net sown area covered under micro irrigation. Gujarat has emerged on the top of the list with highest (19 percent) net sown area covered under micro irrigation in India. SSY has played important role in agriculture production growth of 255 percent between the years 2000 to 2015.





Inter basin transfer of water to the scarcity hit areas and areas facing acute shortage of water by successful implementation of Sujalam Sufalam Yojana have

given very good result in terms of increase in agriculture production, rise in water table and arresting depleting ground water. These entire factors resulted into boosting the overall economy.

Government of India's NITI Aayog under its composite Water Management Index recognized efforts of state government and recognized Gujarat as number one in water management for three consecutive years – 2015-16, 2016-17 and 2017-18.

Few years back farmers of Chotila and Sayala talukas in Surendranagar district could hardly grow cotton and Bajara crops.





Mass migration of people from these taluka was common. No body had ever imagine, rivers in these area flowing bank to bank in the scorching heat of 42 degree celsius. But SSY made it possible. Now one can see green fields in the area. Farmers are growing wheat and in some cases even sugarcane. Annual income of most of the villages increased by 10 folds from hardly Rs. 45 lakh to Rs 50 lakh to as high as Rs. 4.5 to Rs. 5 crore.

According to Jilabhai Naranbhai Rabari, resident of Sitapur village situated near Umai river, since the year 2005-06, farmers are getting benefit of SSY. Nearly 17 check dams constructed on this river remain full of water round the year, he claims adding that more than 1500 hectares of land is getting irrigation benefit and groundwater table has also risen up by at least 50 feet.





Earlier cotton production in the area was around 140 kg per bigha. With the arrival of water, cotton production has almost doubled. Apart from agriculture, people in the area can now afford to own more number of cattle.

“Since the year 1999 milk cooperative society of Sitapur village was defunct due to insufficient income of milk from the surrounding areas. Animal husbandry activities were extremely low due to scarcity of fodder. However, water conservation activities as part of SSY not only solved drinking water problem but also issues of fodder. As a result of it, villagers decided to restart defunct milk cooperative society from the year 2005. Now we have more than 275 members in the cooperative society with annual turnover of more than Rs. 80 lakhs. Before 1999 turnover was hardly Rs. 4 lakhs,” says Jemubhai Rabari.

There are many such success stories related to Sujalam Sufalam Yojana. The story of Thoriyali village of Sayala Talula has become inspiration for many other villages. The topography of Thoriyali village is like inverse plate. Due to this repudiate situation, it was difficult to conserve water despite good monsoon. Despite around 65 inches of rain in the year 1997, nearly 1000 acres of agriculture land in and around the village remained dry.





In the year 2005-06 as many as 31 big check dams were constructed on Limdi Bhogavo river flowing near Thoriyali village under Sujalam Sufalam Yojana. This move has changed the entire agriculture economy of Thoriyali and other villages in the proximity. Thoriyali got benefit of three out these 31 check dams. Now the 1000 acres of dry farming land is getting irrigation water from these dams. Farmers are now reaping high yield of cotton in the same land. Earlier they used to harvest hardly 15000 kg cotton per acre, now farmers are easily harvesting 35000 kg cotton per acre.

With the availability of water, farmers have started taking winter or Rabi crops apart from monsoon or Kharif crops. They are growing wheat and cumin. Most of the farmers have smartly increased their income by keeping more number of cattle apart from taking at least two crops in a year. SSY has played immense role to bring arid Surendranagar district on the path of green revolution. Under Sujalam Sufalam Yojana, total 134 check dams have been constructed. By filling these dams with fresh water, agriculture economy of hundreds of villages in the district drastically changed and people's annual income has got enhanced from an average Rs. 1 lakh to as high as Rs 5 lakh.





Surendranagar district on the path of Sujalam Sufalam

Identity of Surendranagar district was stretches of barren lands few years back. Irregular rain in the most parts of the district adding salts on wounds of farmers. Agriculture economy of the district was in dire state. However, over the past few years, water conservation campaign through Sujalam Sufalam Yojana as well as Sardar Sarovar project transform the agriculture economy of the parched district. Thousands of farm ponds dugged with assistance from Gujarat Land Development Corporation (GLDC) received fresh water through SSY and other water related schemes.

Surendranagar is one of the 12 districts which are getting benefits of SSY. Rivers of the districts including Umai, Brahmani, Kulaku, Vadhavan Bhogavo, Limadi Bhogavo, Godara, Sukh Bhadar, Kankavati-Khari and Jamburi were recharged with the fresh water. Check dams constructed on these rivers filled to the brim. As a result of it lives of people residing on the banks of these rivers changed for better.





Feedback from beneficiaries of SSY

Many eyebrows were raised at a time when Sujalam Sufalam Yojana was conceived. Plenty of questions were raised over the success of this ambitious project. It was like daydreaming. However, it was implemented aptly thanks to the strong political will of the Gujarat government. In fact, people started experiencing benefits of Sujalam Sufalam Spreading Canal from the year 2006-2007 onward. Heavy rains that year resulted into overflowing of the canal. Here we are presenting feedback of beneficiaries about Sujalam Sufalam project.



Kantibhai - Farmer
Village : Devrasan

Due to Sujalam Sufalam Yojana water level in the bore wells of our village has gone up. Farming has become profitable.



Jagdishbhai Gadhvi
Village : Devrasan

We were able to take hardly one crop in a season before the year 2007. Farming was solely dependent on rainfall. With the availability of water through Sujalam Sufalam Canal, most of the farmers in our village are taking three crops in a season. Availability of water has improved overall life of villagers.



Kanjibhai Patel, Sarpanch,
Village : Vil Santhoi

Not only agriculturists, labourers too got employment because of Sujalam Sufalam Canal. Now farmers can afford to keep more number of cattle. Fodder is available in adequate quantity. Increased animal husbandry activities increased milk production. Our village pond can be seen full of water round the year as it is regularly filled by water from Sujalam Sufalam canal.



Kanubhai Manibhai Patel
Village : Mathurkakanakanmpa,
Taluka : Bayad, District : Sabarkantha

Fifteen years back, people used to get drinking water only after water tanker used to come at our village. During summer, wells were filled by water tankers. People used to get water the next day. Ever since, Sujalam Sufalam Yojana implemented, wells have been recharged and people are getting adequate water. Now there is no need to call for water tankers in our village. Our wells are as deep as 100 feet, but now we are getting water at 20 feet. It means water level have risen up by 80 feet after SSSY implementation. Earlier we used to wait for drinking water, now water is available for irrigation also.





Jyantibhai Dahyabhai Patel

Village: Hathipur, Taluka: Bayad,
District: Sabarkantha



Prior to Sujalam Sufalam Yojana, water used to be available hardly for a month after the completion of monsoon season. Due to SSSY water has become all-season commodity. Wells of our village recharged. We can grow crops of our choice. Migration of youth from our village to cities has stopped. Agriculture production has increased by 50 percent. Last year we could take cumin and fennel seed crops.

Keshavbhai Nagajibhai Patel

Village: Madhavkanmpa,
Taluka: Bayad, District: Sabarkantha



Earlier agriculture was completely dependent on rain. We used to buy costly seeds, but couldn't get return as harvest was low in wake of inadequate water. Even return was lower than our input cost of seeds, fertiliser, labour wages and instalments of tractors. We were under huge debt. As farming was economically unviable, I decided to send my three sons of our village for livelihood. Many farmers sold their land at throw away price of Rs. 10,000 to Rs 15000 per bigha.

Now Sujalam Sufalam Yojana reached to our village. Farmers are not ready to sell their land even at Rs. 100,000 per Bigha. Water levels in our wells have come up by 50 to 70 feet. Quality of water has also improved. My two bigha land was acquired for canal work, but I don't mind. I am satisfied as water is available. We are growing vegetables and other crops.



Jayshankerbhai Ishwarbhai Joshi

Village: Jesangpura,
Taluka : Patan, District : Patan

We have started reaping benefit of Sujalam Sufalam. Our electricity bills for water have reduced. Agriculture production increased. This year we could take crops of mustard seeds and castor. Our cost have reduced by Rs 15,000 and income augmented by Rs. 30,000. We had never thought of such a scheme which would bring water up to our fields.



Maganbhai Valajibhai Patel

Village : Hathipur, Taluka : Bayad,
District : Sabarkantha

Our lives have changed for better post Sujalam Sufalam Yojana. Our area was arid. Water was not available in borewell even at 1000 feet. We could take hardly one crop in a year. Now things have completely changed. Farmers got new lease of life. They are able to take three crops in a year. Last year, we even took wheat crop. We were not able to think of sowing mustard seeds and cumin seeds. With the availability of water both these crops have become reality for farmers in our village. Before Sujalam Sufalam Yojana, annual income of our village was less than Rs. 25 lakh. Now the income escalated over Rs. 1 crore. Youngsters in our village are now happy to work in agriculture activities. Earlier they used to think about settling in nearby cities. They are finding farming as profitable profession.





Chunibhai Ravajibhai Patel

Village: Tharilat,
Taluka: Balasinor, District: Kheda



Due SSY canal wells and borewells situated as far as 12 km recharged. Our electricity bills downsized. We forced to use fluoride affected water for irrigation which was harmful for the health of people. With water is flowing adequately through Sujalam Sufalam spreading canal and pipelines, not only quality of water improved but quality of crops too get better. Productivity per bigha too augmented.

Galaji Arajanbhai Damor

Village: Ranakpur, Taluka: Santrampur,
District: Panchmahal



When Sujalam Sufalam Canal was not constructed people used to face lots of difficulties. Women have to go distant places to fetch water. Land in our area is suitable for crops like gram and wheat, but due to non-availability of water or insufficient water production of these crops was hardly 1600 kg per hectare. With the availability of water due to SSY, we are growing same crops 20 quintal per hectare on the same land. Now we are hopeful to get water 24 hours. People in our area had to migrate for livelihood, but now they are getting employment in nearby places.



Bhadresh Patel

Village: Bhandu,
Taluka: Visnagar, District: Mehsana

We not even thought of growing something in summer. Now we are growing cotton and fodder in summer season. Water is available in wells and hence we can irrigate our land even in summer. Productivity of our land has improved. Earlier we used to get harvest of 400 kg mustard seeds per bigha now we can take more than 500 kg per bigha. Agriculture is changed and it is taking us towards prosperity. Sujalam Sufalam Yojana is like a dream. We haven't even dreamt that Canal and pipeline network of SSY would transform in such huge benefits.



Rajanikant Bhimabhai Patel

Village : Antiadev,
Taluka : Bayad, District : Sabarkantha

We used to grow grass when water was not available in Vatrak canal. With the arrival of Sujalam Sufalam Canal, water is available in our wells during summer also. In my 42 bigha land there are three wells. Despite the fact, hardly 50 percent land used to get irrigated earlier. Now, wells have been recharged. My entire land can be irrigated through these three wells.





Manubhai Kanajibhai Patel

Village: Madhavkanmpa,
Taluka : Bayad, Sabarkantha

Before the announcement of Sujalam Sufalam Yojana, irrigation water used to organise from Vatrak Canal, but due to constant drought situation we couldn't get adequate water from Vatrak Dam. Water was not available in wells and borewells. In my own 102 feet deep well, water used to fill hardly five to seven feet. Apart from corn, we were not able to grow anything. Due to dearth of water, production used to remain low. Alkaline level in the water was too high. We were literally making loss in farming activities. Farming was completely depending upon rainwater. Many in our village left agriculture activities and started working as construction labourers. Some of the well-to-do farmers had to do mason work.

Our fortune took a U-turn as soon as Sujalam Sufalam Spreading canal filled to the brim. Water level in our wells and borewell came up. Agriculturists returned to their work. Farm labourers of the villages got work in their own villages. Looking to the water storage capacity of the canal, we believe that land situated nearly 10 km each side of the canal automatically benefitted. Around 80 to 90 wells and borewells in my village recharged.



2500 Bigha farming land in our village is getting irrigation water regularly due to Sujalam Sufalam Yojana. We are getting water through pipelines in each farm. Due to availability of water, farmers are able to get crops in all three seasons.



Rivers and Lakes being filled under SSY during Summer



Gujarat irrigation department's planning to fill lakes and rivers through underground pipelines connecting Narmada Main Canal passing through North Gujarat region and Kheda district as part of Sujalam Sufalam Scheme translated in increase in agriculture production. Due to this scheme and efforts of irrigation department more than 200 dry lakes of Kheda, Anand and North Gujarat region filled to the brim in the month of May when temperature soars above 45 degree Celsius. Moreover Rivers in these areas including Sidku, Mohar, Vatrak, Sabarmati, Rupen, Pushpavati and Banas were filled during the same period of time by the water of Narmada River. In the





year 2010, in the full summer season during May 25th to June 2, all these rivers were flowing as if it was a monsoon season.

Since the year 2004 to 2010 as many as eight underground pipeline projects completed which connected 170 lakes in Mehsana, Patan, Sabarkantha and Gandhinagar districts. As many as 29 lakes connected through Piyaj-Dharoi pipeline, 30 lakes through Hathmati-Guhai pipeline, 32 lakes through Khorasam-Saraswati pipeline, seven lakes through Modhera Sujalam Sufalam pipeline, 25 lakes through Khorasam Sujalam Sufalam pipeline, six lakes through Andudara Sujalam Sufalam pipeline, 17 lakes through Jalundra Sujalam Sufalam pipeline and 24 lakes through Modhera-Dharoi pipelines.

During three year from 2008-09 to 2010-11 as many as 268 were started to be filled through Narmada waters under Sujalam Sufalam Yojana. As result of it, dry land in the region again became full of moisture. Moreover, 6000 cusec (per second) water released in rivers including Sidku, Mohar, Vatrak, Sabarmati, Rupen, Pushpavati and





Banas. As primary estimate conservation of over 1000 MCFT water was done.

Sixteen pumping stations to pump water from Narmada Main Canal to pipelines in order to fill lakes were constructed. In case of requirement of irrigation, this water is supplied to lakes through these pumping stations, especially in summer season. Due to this planning, not only agriculture production increased but also animal husbandry flourished. People residing in Vijapur, Manasa, Kheralu, Becharaji, Chanasma, Sami, Harij and Kankarej talukas have immensely benefitted due to these planning. In the mid of summer, people witnessed Narmada water flowing in 25 to 30 stretch of Banas river.

With availability of irrigation water through Narmada water flowing in Banas river income of farmers in nearby areas increase from Rs 3000 per acre to Rs. 30,000 – Rs. 35,000 per acre. As Banas river recharged through Narmada water, migration of people in residing on both the banks of Banas river almost stopped.





Sevantilal Thakker, a villager from Sudasan village says that agriculture prospered after Banas river recharged through Narmada water. Not only in Thakker's village but 70 percent migrated people in surrounding villages decided to go back to their village and started doing farming and animal husbandry over the past few years.

"It is a big thing to see Banas River flowing bank to bank during scorching heat of summer. Due to Narmada water thousands of acres of land have become fertile. Castor production has increased by three folds in the area. The barren dusty land transformed into fertile farms. Now crops like Bajara and fodder are being grown during summer. Milk production in the area has also increased. Milk cooperative society used to receive 250-300 liter milk earlier, now milk arrival is in the range of 10,000 to 12000 litre," says Thakker.

In real sense villages are becoming prosperous because of water through Sujalam Sufalam Yojana, says Mulajibhai Chaudhary, beneficiary of Kheralu village. "Forget farming, we had a problem of giving fodder and water to cattle. With availability of water, people have started doing farming on wasteland also. Farmers are coming





out of debt. In my own case, my annual income has gone up to Rs. 4 lakh. Now we can give good education to our children. Our living standard has also gone up," opine Chaudhary.

Government spent crore of rupees to bring water to our village, says Meghijbhai Nathubhai Chaudhary of Ambavad village adding, "Despite weak monsoon in the year 2009, we got water through Sujalam Sufalam pipeline. Lakes and rivers in our areas filled with Narmada water. We could take crops the way we would have taken in the case of normal monsoon."

Due to geological condition of the region, lakes and rivers filled with Narmada water recedes fast, especially in summer when mercury soars beyond 45 degree Celsius. But in the process groundwater table in the region comes up and the purpose of Sujalam Sufalam Yojana is to bring groundwater table up.

People of North Gujarat region witnessed good monsoon in the year 2003. Compared to that year, rain was hardly 60 percent in the





year 2009. Despite the fact, compared to 2003-04 season, sowing of different crops increased in the year 2009. It became possible because of recharged lakes and rivers through SSY. In 2003 Banaskantha received 782 mm rain and in that year sowing area of wheat was 48,600 hectares. However in the year 2009 as against 377 mm rain, sowing area of wheat was 56,900 hectare. Similar pattern was observed in Gandhinagar, Sabarkantha and Mehsana districts also. As part of Sujalam Sufalam Yojana, total 134 check dams have been constructed. These dams are regularly filled by fresh water of Narmada River during summer.



Sujalam Sufalam Yojana has potential to stop this mass migration at least from North Gujarat. SSY's impact would definitely reduce migration process for next many years to come. Balance development is necessary. Fruits of development should be distributed equally. Everybody should have share in the pie. It is the duty of government to make balanced development plan. Sujalam Sufalam Yojana was part of it. The project spread the message of save water, supply water and wisely utilise water.

- Narendra Modi



