

Government of India  
Ministry of Jal Shakti  
Department of Water Resources, River Development and Ganga Rejuvenation  
(National Water Mission)

## Proceedings of the Twentieth (20<sup>th</sup>) Water Talk held on 18<sup>th</sup> December 2020

National Water Mission (NWM) has been organizing a seminar series-‘Water Talk’ -to promote dialogue and information sharing among participants on variety of water related topics. The ‘Water Talk’ is intended to create awareness, build capacities of stakeholders and to encourage people to become active participants in conservation and saving of water.

**Twentieth (20<sup>th</sup>) Water Talk** in this series was held on 18<sup>th</sup> December 2020 and was delivered by **Shri Apoorva Oza, Chief Executive Officer, Aga Khan Rural Support Programme (AKRSP)-India** on a virtual platform. Shri G. Asok Kumar, Additional Secretary and Mission Director, NWM and officials of NWM attended the webinar along with more than 650 participants from across the country logged on to the the virtual platform and over 20,000 viewers live in the social media platforms of NWM and other organizations under DoWR.

Shri G. Asok Kumar, welcomed the participants and introduced NWM along with its 5 goals, 39 strategies and the successful campaigns like ‘Sahi Fasal’ and ‘Catch the Rain’. NWM, in collaboration with Nehru Yuva Kendra Sangathan (NYKS), recently launched “JSA II - Catch the Rain” awareness campaign which will be implemented across 623 districts of the country. He introduced Shri Apoorva Oza as an expert theoretician as well as practitioner in the field who has worked immensely towards water conservation & participatory management.

The topic of the e-Water Talk by Shri Apoorva Oza, was “*Jal hi Jeevan: Lessons from AKRSP to address Rural Water Challenges*”. The organization- Aga Khan Rural Support Programme (AKRSP)-India- primarily works in the hilly and tribal areas of Gujarat, Bihar and Madhya Pradesh. Four core areas of work of AKRSP are enhancing incomes in a way so that it is climate resilient, reduce drudgery & improved health for women, access to education & technology. The challenges faced by the organisation include declining groundwater levels, dying river in costal Gujarat, water scarcity in hilly Tribal Gujarat & MP, inadequate and untimely irrigation to Tailenders in canal irrigation schemes.

India was hit by a massive drought in 1986, a year after the inception of AKRSP. Many districts like Surendranagar, Junagadh and Rajkot were heavily affected by the drought. As a result, thousands of cattle were dying and communities were suffering which made the organization realise about the criticality of the issue of water. It was realized that no single solution was available to the water crisis as they were context e.g., for small rivers in Junagadh, water was refilled through small tanks, while in Surendranagar, which is a drought prone area, the Government was already building percolation tanks as a measure to battle water crisis. With the

Government's assistance, the organization built more than 50 large ponds and practiced river harvesting for providing drinking water, irrigation and recharge purpose. Lift irrigation was practiced in the hilly tribal areas maintaining adequate water supply.

Shri Oza elaborated on the 5 key distinct challenges faced by the organization while working on water in the interiors of certain regions of the country. The first few challenges faced in Saurashtra were related to the condition of drying of rivers, saline water and declining groundwater levels. The second challenge was the problem of water scarcity in hilly tribal areas of Madhya Pradesh and Gujarat leading to massive poverty and migration. Third challenge was experienced with the construction of big and small dams and introduction of canal irrigation. The drawback of canal irrigation schemes was that the tailenders weren't receiving adequate water and timely irrigation. The fourth major issue was faced in Bihar - the available water couldn't be utilized properly in irrigation (costly and poor) due to the poor power availability in the region. Diesel, a much costlier entity, was used as a substitute, as it was harder to transfer electricity to remote areas. The last challenge was the poor water quality in Bihar. The water contamination gave rise to many high water borne diseases.

Thereafter, he cited the example of Meghal river in Junagadh which was drying up with increasing salinity, causing major drinking and irrigation water shortage in the area. The intervention used in this scenario was an integrated approach of water harvesting through large number of check dams, large scale adoption of micro irrigation device and rooftop rainwater harvesting structures for providing drinking water. This led to an increase in groundwater recharge in sub-basins from 18% to 43%.

The second issue was faced in the hilly tribal areas of Madhya Pradesh and Gujarat. There was huge migration and poverty in rainfed tribal areas because of low access to irrigation despite the areas receiving rainfall of 1100-3000 mm annually. As a solution to this problem, an integrated approach of water harvesting was adopted through large number of check dams, boribunds and lifting devices. This model helped in increasing income by 30-50%, reduced migration, reduced GHG emissions, improved food & nutrition security, hence reduced malnutrition amongst people.

Minor irrigation projects were providing irrigation to most tribal farmers because of siltation and poor maintenance. To combat this problem, farmers were mobilized to form a canal irrigation cooperative society in coordination with the irrigation department and worked towards repairing of canals, collecting water charges amongst the community and maintaining the system. Participatory management societies recognized by Irrigation Department were established for the purpose of community monitoring. He shared that the impact could be noted in terms of increase in irrigation area by 30-80%, increased agriculture & dairy income by 250%, reduced migration, 100% recovery of water charges to irrigation department, establishment of financially self-reliant canal irrigation cooperative societies.

The next challenge was the costly and inadequate irrigation in Bihar and other tribal regions due to poor power availability. The solution for this problem was

achieved by replacing the costly diesel engine irrigation providers with solar irrigation entrepreneurs and instating solar based group wells or lift irrigation in tribal areas. It's a sustainable solution because the solar entrepreneurs were making surplus and farmers were saving money as the technology is affordable and hence, sustainable. The impact could be seen in the form of increased area under irrigation, reduced GHG emissions, increased food and nutrition security and awareness of new technologies. The impact of the solar irrigation enterprise model in Chakazi, Bihar showed a reduction in irrigation cost by a considerable 70% with higher reliability. More than 230 farmers benefitted from getting irrigation services from six irrigation providers and water use efficiency was also enhanced by reducing wastage.

A Government scheme- "Har ghar nal ka jal" was started in Bihar to counter the problem of contaminated water flowing through household hand pumps causing high water borne diseases in rural Bihar. Under this scheme, water was being supplied around 80-120 households and was completely managed by the local community. The community made sure that overhead tanks within household were also being tested periodically to check quality. Now, the scheme has been merged under the Jal Shakti Ministry's 'Jal Jeevan Mission' scheme. Water is now available to every village and managed operationally by the community themselves. This intervention has majorly brought down the intensity of water borne diseases and medical costs by 80%.

He concluded his talk by stating that all water related problems and solutions are linked with agriculture, soil and energy. He reiterated the significance of public participation and community efforts which are foundation of India's water security. The future of water management lies in waste-water recycling, water balance plans for every village and region, affordable mobile technology and water quality testing and climate resilient water management.

The talk was followed by a session of questions and answers wherein members from the audience were invited to discuss their queries with the speaker. The webinar saw some interesting and unique questions from people across the country.

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