

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

### **Proceedings of the Twenty- Sixth(26<sup>th</sup>) Water Talk held on 21<sup>st</sup> May 2021**

- National Water Mission (NWM) has been organizing a seminar series-‘Water Talk’ -to promote dialogue and information sharing among participants on a variety of water-related topics. The ‘Water Talk’ is intended to create awareness, build capacities of stakeholders and encourage people to become active participants in the conservation and saving of water. NWM has so far organized 25‘Water-Talks’ on a range of topics dominating the sector concerns.
- **Twenty -Sixth(26<sup>th</sup>) Water Talk** in this series was held on 21<sup>st</sup>May 2021 on a virtual platform, which witnessed more than 650 participants, was organized by NWM with the support of Water Digest, the official media partner for the webinar. The talk was delivered by **Shri Mahendra Modi- IPS(Retd.), Ex-D.G.P. U.P.** Shri G. Asok Kumar, Additional Secretary and Mission Director, NWM and officials of NWM attended the webinar along with more than 650 participants. The webinar included participants from across the country from various spheres of life. The talk was also live-streamed through Facebook on 11 social media platforms of various organizations under DoWR, RD & GR. It was noted that there were over 15,000 total viewers in this e-water talk
- Shri G. Asok Kumar, Additional Secretary & Mission Director, NWM welcomed the participants to the 26<sup>th</sup> Talk of the ‘Water Talk’ series. He gave a brief overview of the ‘Water Talk’ initiative and mentioned how the switch from the physical to digital platform has amplified the reach of the talks both geographically & numerically with people participating from all across the world from countries like Australia, China, Nigeria. Hon’ble Prime Minister launched the ‘**Jal Shakti Abhiyan: Catch the Rain**’ campaign with a tagline- ***Catch the Rain, where it falls, when it falls*** through a digital event attended by all District Collectors and Sarpanchs across the country. PM, in the launch event addressed officers, Sarpanchs and grassroot level workers to join the campaign and work vigorously towards conserving water and reviving water structures for practicing rainwater harvesting in the coming monsoon. PM called for a ‘Jan Andolan’. Shri Asok Kumar introduced the speaker, **Shri Mahendra Modi**, often known as ‘Jal Guru’ for his tremendous contribution to the water sector.
- The topic of the e-talk by **Shri Mahendra Modi** was “**Raising Water Table: Pre-requisite to Jal Jeevan Mission**”. The Government has been implementing a number of water-related schemes, Jal Jeevan Mission being one of them. All water related schemes would require leveling up of the underground water tables. Hence, it is pertinent to work towards water conservation and improving the groundwater levels. The responsibility to conserve water doesn’t just lie with government, citizens are equally accountable for it. Many budget-friendly water conservation models have been developed and implemented by Shri Mahendra Modi across the country in the

last few years. Some of these systems include rainwater recharge system, wells revival system, ponds rejuvenation system, improved drainage system, usage of rainwater for toilets, multi-story drinking rainwater system, construction of trenches and check dams, green movement. Bringing the focus on Rainwater Harvesting, he proclaimed- *“If you catch the rain, you will not need a water train.”*The traditional design for recharging trench with bore-well method has been prohibited by the Hon’ble National Green Tribunal and U.P Government under the Groundwater & Regulation Act 2019 due to its inability to filter the harmful chemicals and bacteria from reaching the aquifer. The sand filters are only capable of filtering silt from the water, not harmful pollutants and dissolved chemicals from acid rain. Hence, the aquifer must not be recharged directly.

- Shri Modi shared the workings of another model that could eradicate the issue of filtering as the rainwater recharging would take place in all five directions i.e. vertically downward and horizontally in 4 directions. The system is 9.5 feet deep below the ground and was developed by Shri Modi after conducting experiments in the past 15 years. It prohibits acid rain, harmful bacteria, soluble chemicals, any kind of bird droppings and insects from entering the aquifer. There are two chambers in this system. The silt in the water gets deposited in a small chamber and can be de-silted regularly whereas the recharging chamber needs to be de-silted once in 5 years. It’s a hassle-free, economical and pollution free model that can be implemented in almost all buildings in the country with some modification. This system could reduce 80-90% of the present expenditure and is currently been implemented in Lucknow, Kanpur and Sitapur.
- Another model of rainwater recharge system has been implemented at Police Enclave, Vibhuti Khand, Lucknow. This consists of a main chamber and a small chamber, made only of bricks without using any cement. This model is so effective that even in extreme summer months i.e May and June the level of water remains at 10 feet. This system has a silt settlement chamber which gets recharged every year and feeds nearby tube-wells. All the rainwater which is being collected at the water catchment area, covering a total area of 600 square meters is being recharged into the system very smoothly. As a result of which the tube-wells which were dry during the summer months for more than 60 days started giving water just after first monsoon. In 80% of area, this model works pretty well. It costs approximately Rs 1.4 Lakh. Another model at forensic science library having 1,45,00 sq feet area in Lucknow showed that within 15 days of shramdaan, 95% of the water was recharged. A gaushala in Kanchanpur village in Jhansi collects 40000 L of water through rooftop rainwater harvesting. This collected rainwater in the gaushala feeds the cows for 5 months and recharging the groundwater turning 15 acres of barren land into lush green by just recharging and with the help of shramdaan.
- The next model explained by the speaker is called the “Mahendra Koop” model (Maha + Indra+Koop). Here, ‘Indra’ denotes the Water God from Hindu mythology and ‘Koop’ means a well. Further, there are three variations in this model based on the the composition of soil and topography of the region. An abandoned well in Chinhat, Lucknow was completely dried since 18

years. The well was cleaned and a trench ring was dug around the well to recharge the rainwater flowing from lanes beside the well. Now, the rainwater recharges the well indirectly through natural seepage. The depth of the trench is 5 feet deep when covered and only 1 to 2 feet when not covered for safety purposes when it is used for drinking purposes and lies in an inhabited area. The rainwater enters the well from the middle point. The evaporation loss has been reduced by almost 95%. It will take not more than two months to revive the country's water bodies through shramdaan and government's help.

- It must be ensured that the trench, nearest to the well or hand-pump, must be 5 feet deep and the additional linked trench should be 2 feet deep to collect all runoff passing through it. It will recharge maximum water in the vicinity of the hand-pump. This will lead to massive recharging of ground water. It is beneficial to recharge rainwater as it is a pure form of water than recycling of used water which is not just complicated but expensive. This model was used to revive 14 hand-pumps in Jhansi which were completely dried in just three and a half months.
- Another significant model he explained to provide energy free Roof-Top Rainwater Direct to Multistorey buildings. It is hassle free model using a 7 stage filtration process and has the capacity to hold up-to 2,00,000- 10,00,000 L. This innovative model uses green technology and is dedicated to reverse Global Warming by reducing the temperature of the world by 2 degree Celsius. He revealed that water collected on one rooftop in Mumbai can supply the total domestic water needs of 24 storey flats for about 7 months. According to this calculation, 16 States and Union Territories of India have the capacity to provide domestic water yearly from rooftop rainwater harvesting, without using electricity. Through this process, India will be able to save at least 2.5 trillion KWH electricity every year. This model is currently functional at Lucknow, Jhansi and other districts of Uttar Pradesh.
- Delhi has an area of 1084 sq km and receives 61 cm of rainfall per annum. Successful implementation of the 'Catch the Rain' campaign in Delhi can provide 70% more water than it needs without using any electricity, as it won't be required to extract ground water. Water flows with the help of earth's gravitational pull. This model has multi-fold benefits. The filters and valves separate microbes and chemicals from acid rain from the water. There is scope for innovation as well. If the water is made to pass through additional UV filter can make it will become fit for drinking. This could be a great lesson for companies which extract groundwater for making mineral water. If this plan is implemented across the country in every building, we would be able to save about 2.6 trillion KW of electricity. 61.75% electricity used in India is thermal power despite the government efforts to promote green energy and solar energy. 53% of electricity is made from coal which is extremely polluting adding to the global warming. Hence, this model could be turned into a green movement as it saves electricity without depleting groundwater tables.
- Other benefits of implementing these models are that it will help to reduce

water logging and flooding. More than 8% of India's rainwater which flows away as runoff can be collected using these methods. A concrete water tank can be built in just 3 months and so, the problems of water scarcity, water logging etc can be arrested within three months in comparison to other projects which take years and decades to be implemented. Increase in water levels will further save electricity that is on spent lifting the groundwater for extraction.

- Apart from working water conservation, Shri Mahendra Modi has also been spearheading a Green movement in educational institutions in Uttar Pradesh. On July 4, 2015, a water conservation and plantation programme covering an area of 380 acre land was kick-started at Rani Laxmi Bai medical college, Jhansi, under the leadership of Shri Mahendra Modi and Principal Shri Narenndra Singh Sengar.
- 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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