

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

**Proceedings of the Thirteenth Water Talk held on 22<sup>nd</sup> May 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. NWM had organized 12 ‘Water-Talks’ on the range of topics dominating the sector concerns. The list of speakers and topics they deliberated upon are annexed.
- Thirteenth Water Talk in this series was held on 22<sup>nd</sup> May 2020 on a virtual platform-‘GoToWebinar’ due to Covid-19 pandemic in the country. The talk that witnessed more than 400 participants was organized in NWM office with the help of Water Digest, the official media partner for the webinar. The talk was delivered by Shri VK Madhavan, Chief Executive, WaterAid, India. Shri U.P. Singh, Secretary (D/oWR, RD & GR) M/oJS, Shri G. Asok Kumar, Additional Secretary and Mission Director, NWM attended the webinar along with 412 participants. The webinar included participants from across the country from various spheres of life.
- Shri **G. Asok Kumar**, Addl. Secy. & MD, NWM, New Delhi, welcomed the speaker, Shri VK Madhavan and the participants to NWM’s first ever virtual Water Talk. He spoke about the objective of water talk series and took pride in sharing that NWM had the successfully organised 12 water talks in the past one year, ever since the First Water Talk on 22<sup>nd</sup> March 2019. NWM has now compiled the essence of all previous water talks delivered by eminent speakers in a book which will be published soon.
- Shri **VK Madhavan**, guest speaker, thanked NWM for the opportunity to speak in the webinar. His topic for the seminar was urban water crisis. He began his presentation by stating that India is a federal structure and in affect the responsibility to ensure water to all its citizens rests with the municipalities and urban local bodies. However, the crisis itself is so significant that it warrants attention particularly of all the water experts and the Ministry of Jal Shakti. He began by describing the problem and then spoke about as to why we reached this critical stage and what could be the possible solutions moving ahead.
- Drawing data from Niti Aayog’s Composite Water Management Index, 2018 & 2019, Shri Madhavan stated that 600 million Indians face extreme water stress. It is estimated that 8 million children under the age of 14 in urban India are at risk due to poor water supply. In 12 river basins where roughly 820 million people are dependent on water from river basins, it is estimated that per capita availability of water is equal to or less than the threshold for water

scarcity, 54% of our wells have declining water levels, 40% of our population will not have access to drinking water by 2030 that water demand is likely to be twice the available supply and this could lead to a 6% loss in Gross Domestic Product. India is currently ranked 120<sup>th</sup> among 122 countries with regard to Water Quality Index. 70% of our water sources are contaminated.

- After explaining the current water crisis trend, Shri Madhavan went on to address the root cause of the problem. He continued that India is the world's largest extractor of groundwater with an annual extraction rate of 251 km<sup>3</sup>, more than China(112 km<sup>3</sup>) & USA(112 km<sup>3</sup>) put together. Roughly 90% of water is used in irrigation sector, 9% for domestic use and 2% in industrial use. Almost 50% of urban water requirements are actually met by groundwater. He felt that the absence of laws regulating the use of groundwater has created incentives for people to extract and use water often indiscriminately. Every household in urban India happens to have access to a borewell so the dependence on public utilities diminishes because they have an alternate source of water. In some sense, the invisibility of groundwater has also led citizens as well as governments to start to treat groundwater as an infinite and well as an inexhaustible resource.
- Throwing light on the situation of Urban Water Bodies in the country, he referred to a comparative study on water bodies done by a Department of Geology in Anna University, Chennai. The study found that in 1893, there were 60 large water bodies in Chennai city itself. By 2017, only 28 small and large water bodies were left. It is estimated that 90% of the urban water bodies in Chennai actually declined over the past century. The situation is not very different in Delhi either. In Delhi there were estimates that there were 611 water bodies of which 274 had dried up. It's estimated that, almost one third of the water bodies (around 190) cannot be revived.
- Commenting on the infrastructure designs of the cities, he said that our cities are naturally designed to repel water. The drainage systems in our country have been designed to hold a certain quantum of rainfall. However, the significant changes in the micro-climate over the last 50-100 years have essentially have led to our cities facing very significant amounts of rainfall within a short span of time. While the number of wet days might not have declined significantly, the quantum of water received can actually vary tremendously.
- It is estimated that only one third of our entire urban population actually has access to sewer networks in urban India. A study by the energy research institute few years ago estimated that only 7% of the waste water generated by all our urban areas is treated prior to release. The entire grind, oil and waste of our cities then mixed with water is released into water bodies thereby polluting them and affecting the livelihood & lives of people downstream.
- He further pointed out that huge inequities exist with regard to distribution and reliability of water. There are 9 million households that reside in slums in various parts of urban India and

one third of these slums are non-notified. In many parts of the country, by virtue of living in a non-notified slum, you're excluded from basic facilities like water. Studies suggest that the poor spend a greater part of their income in accessing water than any other class. A study done on Bangalore and Mumbai found that there was a huge difference in the amount paid to access water depending on whether you accessed it through a pipe provided by the municipality or if you had to pay and access water on your own. It was found that one would end up paying 12 times more to purchase water in Bangalore and 52 times more in Mumbai, if excluded from the pipe network of municipality. It's estimated that Delhi's per capita availability is 220l per capita per day. However, in Sangam Vihar one would be lucky to get 30-35 per capita per day. He urged the government to also solve the problems of distribution, management of these resources.

- With regard to water quality, he pointed out a massive trust deficit exists between citizens and state with regard to our public utilities. The fear that the state is incapable of providing people with safe drinking water is making people go for individual solutions. There are two kinds of individual solutions that people adorn; purchasing packaged water or installing purification systems in households. It's estimated that the market for bottled water in 2017 was roughly Rs. 9000 crore. This indicated that people who have accessibility and affordability would rather spend money and buy water than depend on other sources. He suggested that the governments and citizens should work together to find a solution that there's a strong need for innovation, enterprise and most importantly hope and action.
- Problem is not one of water scarcity; but of poor management, poor conservation of water, poor equity in distribution of water. He stated that is the water problem that of an infrastructure problem and we must focus on the health of our institutions. He reiterated that we need to invest in training people in these institutions to acquire the right skills, the right incentives, and capacities, to be able to address an issue. If 50% of the urban requirements are met by groundwater, then our public utilities should have the skills to be able to understand how groundwater can be managed, restored, recharged. There is a need to ensure they are accountable and that they are responsive to consumers.
- Shri Madhavan pressed on the need to have good quality information about water and water technologies that help us in taking the right decisions. Taking the example of individual water purification systems, even though Delhi Jal Board would claim that the water they provide is safe for consumption, people still install reverse osmosis systems that rejects upto 50% of water. Giving some perspective into the problem, he stated that municipality spends enormous amounts of money in collecting water in purifying it, in transporting it to households and people further install purification system which rejects almost 50% of water sending it back down with the drains. This way the municipality will have to invest in treating the same water once again.
- One solution to water scarcity would be rainwater harvesting. Shri Madhavan, said that there is a need to find ways of harvesting rainwater to store it so there is access to a decentralised

source of water that can be used to recharge aquifers. It is significant to recognise the role of lakes, ponds and tanks will play in helping in recharging in aquifers.

- Quoting the example of Singapore, he said, almost 40% of the country's water requirements are met by recycling and reusing water. Shri Madhavan stated that a study done by the Indian Institute of Science in Bangalore in 2016 suggested that if Bangalore were to harvest its rainwater and to recycle and reuse its water, it could meet its entire domestic water requirements. He further there is a need to encourage people to value water by creating the right incentives for conservation and judicious use.
- He reiterated that our problem is not of water scarcity, it's one of management and having the right incentives, right institutions, starting to re-evaluate our relationships with water can help us resolve water crisis. There needs to be a change in perspective.
- Shri **U.P. Singh**, Secretary, D/o WR, RD & GR, M/oJS thanked the speaker for his valuable inputs. He also thanked Water Digest for their efforts in helping NWM organize the talk on a virtual platform. He felt that the webinar format has more benefits than physical workshops in terms of time, crowd and capacity management. He drew some examples of NGOs and individuals doing great work in reviving traditional water bodies in various parts of the country and urged public participation to combat water crisis.
- 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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**Annexure**

**List of Water Talk Speakers and respective Thematic Focus**

<b>Water Talks</b>	<b>Name of the Speaker</b>	<b>Theme of the Talk</b>	<b>Date</b>
1 <sup>st</sup> Water Talk	Shri U.P. Singh  Co Speaker: Shri Pushpendra Singh,  Shri Alok Sikka, Shri Manu Bhatnagar,  Shri Sachin Oza	'Outlining the concept of <b>Water-Talk</b> '  'Water conservation in Bundelkhand - Aapna Talaab Abhiyan'  'Agricultural water management'  'Urban water supply and management'  'Ground water management and integrated water resource management in the command area of irrigation systems of northern water stressed areas of Gujarat'	22.03.2019
2 <sup>nd</sup> Water Talk	Shri Shashi Shekhar	"Ground Water Governance- prospective, challenges and suggested interventions"	1.05.2019
3 <sup>rd</sup> Water Talk	Dr. Nayan Sharma  Shri Pradeep Gandhi  Shri S.C. Bardhan	'Upgrading Technology in Irrigation, Hydro Power, Navigation and Flood Control for Optimal Water Conservation'  'Water Conservation at Ground Level'  'Water Conservation and Management'	24.05.2019
4 <sup>th</sup> Water Talk	Dr. Anil Joshi	'Ecology Inclusive Economy'	21.06.2019
5 <sup>th</sup> Water Talk	Dr. Tushaar Shah	'Governing India's Energy-Groundwater Nexus: Old Constraints and New Opportunities'	19.07.2019

6 <sup>th</sup> Water Talk	ShriPopatraoPawar  ShriUmakantUmrao	'Hiware Bazar – A Water Budgeting model'  The Dewas Initiative: An economically viable & environmentally sustainable Water Conservation Model  'Beyond Rivers'	23.08.2019
7 <sup>th</sup> Water Talk	Shri SonamWangchuck	Water Conservation and construction of artificial Glacier known as Ice-Stupa in Leh-Laddakh Region.	20.09.2019
8 <sup>th</sup> Water Talk	ShriHeeraLal	'Water Conservation in Banda District, UP'	18.10.2019
9 <sup>th</sup> Water Talk	Dr. HimanshuKulkarni	'Groundwater Management and Governance in India'	15.11.2019
10 <sup>th</sup> Water Talk	Dr.Mihir Shah	'A New Water Strategy for India'	20.12.2019
11 <sup>th</sup> Water Talk	ShriBalbir Singh Seechewal	"Seechewal's Participatory Model of Water Rejuvenation"	17.01.2020
12 <sup>th</sup> Water Talk	Shri Ayyappa Masagi	Water Rejuvenation	21.02.2020