The Hindu- 12- May-2023

Rejuvenation of waterbodies key to improving water resilience, says study

The Hindu Bureau
CHENNAI

Waterbodies are the key to recharging groundwater level and developing flood resilience. Building storage capacity in tanks, rainwater harvesting, and wastewater reuse will improve water resilience in the State. These are some of the solutions that find mention in the Sundaram Climate Institute (SCI)'s report, "Making India Water Resilient – Lessons from Madurai" based on five years of study covering over 2,118 households and about 100 waterbodies.

The report was released during an event at the Madras Management Association in the city on Thursday.

Citing various reports, including the one by Union Ministry of Jal Shakti, the study noted that nearly half of Tamil Nadu's 1,06,957 waterbodies were not in use. In her presentation, Mridula Ramesh, founder, SCI, said per capita availability of water in India was dipping and the issues of water and climate got accentuated during El-Nino years. The urban water demand could surge by 20%-30% in the next few years.

Widening gap

The widening gap between rising water demand and seasonal supply can be bridged by building storage in waterbodies and treating sewage for reuse.

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>
> **MRIDULA RAMESH**
> SCI founder

In Madurai, nearly 84% of the sewage is untreated and reuse of half the quantum would boost its water resilience.

Dysfunctional RWH

The study found that nearly 52% of Madurai's households had dysfunctional RWH systems. About half of the households surveyed tapped groundwater for their needs. Nearly 43% of the households spent ₹400 a month on drinking water.

Most households did not have knowledge on water consumption or sewage recycling.

The study found that 50 waterbodies in Madurai recharged groundwater in locations up to 200 feet in the vicinity. Community connect must be built in urban areas to save waterbodies. Tank tourism could be one option to create over 100 jobs in every lake on the lines of Kodaikanal lake.

Rajendra Singh, water conservationist and environmentalist, elaborated on the various works done by Tarun Bharat Sangh in rejuvenating rivers. Narrating his experiences in Rajasthan, he said nearly 17 lakh youths returned to villages after waterbodies were restored and wells were recharged.

'Real bank'

Emphasising on solutions based on indigenous wisdom, he said water was the real bank. Community-driven decentralised water management and linking crop and rain patterns would solve water woes. Rejuvenation of water sources would resolve climate change issues.

Noting that half of India's need may go unmet in a decade, Amit Chandra, chairman, Bain Capital, highlighted four pillars for water management – recycling, demand and supply sides management and innovation and technology. Efficient water use with meters and wastewater use like Singapore and Namibia would make way for water resilience.

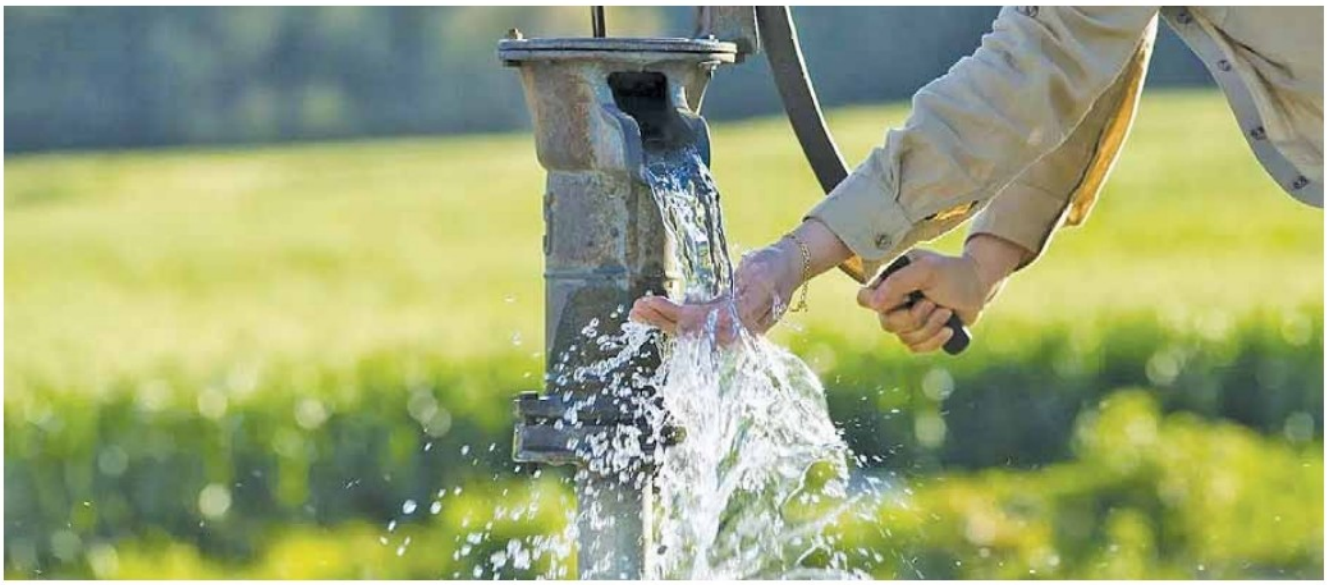
Ravichandran Purushothaman, president (India region), Danfoss Industries; J. Srinivasan, distinguished scientist, IISC. Bangalore; Mridula Ramesh and Muthiah Murugappan, CEO, EID Parry's India Ltd. shared their experiences with N.K. Ranganath, water ambassador, Grundfos Pumps India, at a panel discussion.

The Pioneer- 12- May-2023

Groundwater scene in India looks good

SUBODH YADAV

Our steps for sustainable groundwater management are in the right direction and these are bringing a paradigm shift towards positive change



"Even as life cannot sustain without water, virtue too depends ultimately on the rain"-Tiruvalluvar. Rain, when infiltrates the earth's surface and reaches the water table, becomes groundwater. Anthropogenic activities coupled with climate change had resulted in unabated exploitation and rapid decline in groundwater levels in some parts of the country over the past few decades. It led to the realisation of the need to effectively quantify and manage this finite & invisible natural resource.

In 1982, the Government of India constituted the 'Ground Water Estimation Committee' (GEC) drawing members from various States / Central organizations engaged in hydrogeological studies and groundwater development. The Committee submitted its recommendations in the year 1984 and suggested a methodology for the assessment of dynamic groundwater resources, which is commonly referred to as GEC 1984. The methodology underwent comprehensive revisions in 1997 and 2015. GEC 2015 is being followed for the assessment of groundwater resources from 2017 onwards. Assessment exercise is done at periodical intervals jointly by State Ground Water Departments and Central Ground Water Board under the guidance of the respective State Level Committee on Ground Water Assessment.

In the year 2017, 24.21 lakh sq km mappable area was assessed for groundwater. The total area was divided into 6,881 assessment units. Annual groundwater recharge was estimated to be 431.86 Billion Cubic Meters (BCM) while the extractable groundwater resource, after accounting for base flow, was 392.70 BCM. Annual groundwater extraction stood at 248.69 BCM. The stage of groundwater extraction (percentage annual groundwater extraction to annual extractable groundwater resource) was 63.33%. Although the stage of groundwater extraction was within the safe limit (<70%), there were high spatial variations. 4,310 (62.64%) assessment units were in the safe category while 1,186 (17.24%) assessment units were in the overexploited category, extracting annual groundwater resources more than the annual groundwater recharge and with declining water level trends.

> SINCE WATER IS A STATE SUBJECT, VARIOUS STATE GOVERNMENTS HAVE ALSO FORMULATED AND IMPLEMENTED THEIR SCHEMES TO AUGMENT, CONSERVE AND UTILISE GROUNDWATER RESOURCES

(The author is Joint Secretary, Department of Water Resources, Ministry of Jal Shakti, Government of India)

In this scenario, the Hon'ble Prime Minister decided to form the Ministry of Jal Shakti in 2019 by amalgamating the Department of Water Resources and the Department of Drinking Water & Sanitation for better coordination, regulation and management of water resources of the country. Special focus was accorded to the groundwater sector. Government schemes like Pradhan Mantri Krishi Sinchayi Yojana (PMKSY)-Per Drop More Crop component focused on enhancing water use efficiency in irrigation. Under the Har Khet Ko Pani component of PMKSY, the Repair, Renovation and Restoration (RRR) of water bodies was focused. The government of India launched Jal Shakti Abhiyan-I in 256 water-stressed districts of the country in 2019. Under the Jal Shakti Abhiyan senior officers, groundwater experts and scientists of the Government of India worked with State and district officials to promote water conservation and water resource management by focusing on accelerated implementation of five target interventions, viz., water conservation and rainwater harvesting, renovation of traditional and other water bodies/ tanks, reuse and recharge of bore wells, watershed development and intensive afforestation.

Atal Bhujal Yojana, a Central Sector Scheme, for sustainable groundwater management, with a focus on community participation, demand-side interventions and convergence with ongoing schemes, is being implemented in 8,221 water-stressed Gram Panchayats in 80 Districts of seven States – Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh. The National Water Mission had started a campaign "SahiFa al" to nudge farmers in favour of crops that consume less water and use water more efficiently. To regulate and control groundwater extraction for commercial/ industrial purposes, The Jal Shakti Ministry has issued guidelines with pan-India applicability. The commercial entity, extracting groundwater, has to get the NOC from the Central Ground Water Authority.

Since water is a State subject, various State governments have also formulated and implemented their schemes to augment, conserve and utilize groundwater resources. Neeru Chettu–Andhra Pradesh, Jal Jeevan Hariyali Abhiyan–Bihar, Sujalam Sufalam Jal Sanchay Abhiyan–Gujrat, Mera Pani Meri Virasat Scheme–Hariyana, Jalyukt Shivar Abhiyan–Maharashtra, Paani Bachao Paisa Kamao Scheme–Punjab, Kudimaramathu Scheme–Tamilnadu and Mission Kakatiya-Telangana are few notable examples in this regard. To regulate the over-exploitation and consequent depletion of groundwater level, the Jal Shakti Ministry has circulated a Model Bill to all the States/UTs to enable them to enact suitable groundwater legislation, which includes the provision of rainwater harvesting. As of now, 36 States/UTs have adopted the rainwater harvesting provisions.

The results of active Government interventions and public participation started to reflect in the year 2020 and 2022 groundwater assessments. The total number of assessment units increased to 7,089 in 2022 from 6,881 in 2017. Annual groundwater recharge increased by 5.58 BCM to 437.44 BCM. The annual recharge from Tanks, Ponds and water conservation structures increased from 13.63 BCM in 2017 to 23.00 BCM in 2022. While annual extractable groundwater resources increased by 5.38 BCM to 398.08 BCM, annual extraction of groundwater declined by 9.53 BCM to 239.16 BCM. It shows that supply-side as well as demand-side interventions have started to improve groundwater scenarios in the country. In 2017, approximately 89% of groundwater extraction was for irrigation purposes which declined to 87% in 2022. The stage of groundwater extraction has improved to 60.08% from 63.33% in 2017. The number of safe assessment units increased to 4,780 (67.43%) from 4,310 (62.64%) while Over exploited assessment units declined to 1006 (14.19%) from 1,186 (17.24%) in 2017.

The groundwater resource assessment of 2022 has been completed in a record time of nearly 5 months (against 2-3 years) due to the introduction of innovative technology in the form of a software/ web-based application "India-Groundwater Resource Estimation System (IN-GRES)". IN-GRES helped in the faster assessment of groundwater resources by automation and digital data analysis. Further, it has been decided by the Jal Shakti Ministry to make groundwater resource assessment as an annual exercise from the year 2023 which used to take place once in 3 years. A new Groundwater Estimation Committee has been formed to revise and update the methodology deployed in groundwater assessment.

The groundwater resource assessment reports of the years 2020 and 2022 have confirmed that our steps for sustainable groundwater management are in the right direction and bringing a paradigm shift towards positive change. These reports and results are the outcomes of cooperative federalism as enunciated by the Constitution of India. Source sustainability has emerged as complementary to water availability. We are committed to the UN SDG Goal - ensuring the availability and sustainable management of water for all.

The Morning Standard- 12- May-2023

NGT slaps ₹100 cr fine on AP govt, sets aside clearance for reservoir

EXPRESS NEWS SERVICE
@ Vijayawada

THE Southern Zone Bench of the National Green Tribunal (NGT) slapped a fine of ₹100 crore on the Water Resources Department (WRD) of the State government and set aside the Environmental Clearance (EC) granted by the State-Level Environment Impact Assessment Authority (SEIAA) of Andhra Pradesh for the construction of the Avulapalli Balancing Reservoir.

The Tribunal said the WRD attempted to secure a No Objection Certificate (NOC) for the Avulapalli Balancing Reservoir in Chittoor district by 'misrepresenting and cheating' the SEIAA.

The Water Resources Department was asked to pay the penalty to the Krishna River Water Management Board (KRMB). The fine would be utilised for pollution abatement in the River Krishna.

The NGT also ordered the State government to immediately stop project works in Avulapalli, Mudivedu and Nethiguntapalli Balancing Reservoirs in Chittoor.

The NGT said a committee, comprising the senior-most scientist from the regional office of the Ministry of Environment, Forests and Climate Change (MoEF&CC) in Vijayawada and two senior engineers each from the Central Pollution Control Bureau (CPCB) and KRMB, would be constituted to assess the environmental damage caused and arrive at the environmental compensation to be levied on the State Water Resources Department.

The MoEF&CC may examine the possibility of bringing SEIAAs under the direct administrative control of the Union Ministry, even if the officers are drawn from the pool of State Government/All India Service officials of the concerned State

NGT

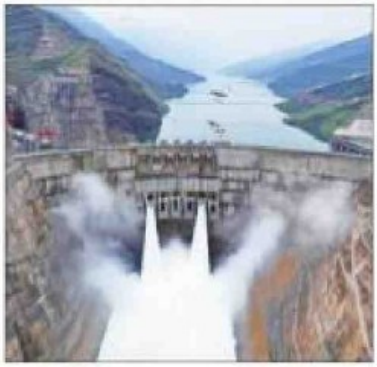
The petitioners, residents of Somala mandal in Chittoor district, approached the NGT stating that the Avulapalli Reservoir was proposed to create a new command area of 40,000 acres, apart from the 20,000 acres of the existing ayacut by storing 3.5 TMC water from Galeru Nagar Sujala Sravanthi (GNSS) Scheme.

The petitioners said the environmental clearance was given by the SEIAA 'without application of mind' and based on the misrepresentation of facts by the WRD.

Financial Express- 12- May-2023

Reservoirs' level down marginally

FE BUREAU
New Delhi, May 11



WATER LEVEL IN India's major reservoirs has marginally dropped below the previous year's level while the stored water is still much above the 10-year average, according to data by the Central Water Commission (CWC) on Thursday.

Currently no large impact on the summer crops such as paddy, oilseeds and pulses is seen as stored water is still much above the 10-year average.

According to the CWC data, water level of the country's 143 reservoirs stood at 59.79 billion cubic metres (bcm) at present, which is 34% of their combined capacity.

A year ago, the water available in these reservoirs was 59.93 bcm, and the average of the last 10 years was 48.82 bcm. "Current water level of reservoirs was 99.76% of the live storage of the corresponding period of last year and 122% of storage of the average of the last 10 years," the CWC stated.

Of the reservoirs whose water levels are monitored by the CWC, 112 are located in the west, central and southern regions. Water levels in 21 major dams in eastern regions especially in West Bengal, Bihar, Jharkhand and Odisha, have been better than than the corresponding period of last year and less than last 10 years average.

In case of 40 reservoirs in southern region and 49 dams in western regions, water level currently is less than corresponding period last year.

However, water level currently is more than a last 10-year average. According to CWC, water level in 10 reservoirs of norther region and 26 dams of central regions have been higher than a year ago period as well as last ten year average.

Meanwhile, the government last week had set a marginally higher target of 332 million tonne (MT) of foodgrains production for the 2023-24 crop year (July-June) against the estimated output of 323.5 MT in the current crop year.

Rashtriya Sahara- 12- May-2023

मिशन फतह

केंद्र सरकार के मिशन अमृत सरोवर के तहत समय-सीमा से पहले ही 50 हजार से ज्यादा अमृत सरोवरों का निर्माण पूरा हो चुका है। 24 अप्रैल, 2022 को भविष्य के लिए वर्षा जल संरक्षण के दृष्टिगत यह मिशन आरंभ किया गया था। मिशन का उद्देश्य आजादी के अमृत महोत्सव के अवसर पर देश के हर जिले में कम से कम 75 अमृत सरोवरों का निर्माण और विकास करना है। जल संरक्षण के साथ ही भूमिगत जल का स्तर बढ़ाना भी इस मिशन का एक प्रमुख उद्देश्य है। मिशन अमृत सरोवर के तहत वर्षा जल संरक्षण एवं संचयन का संकल्प साकार करने के लिए नोडल मंत्रालय ग्रामीण विकास मंत्रालय को बनाया गया। इस मंत्रालय ने विभिन्न मंत्रालयों के साथ समन्वय करके लक्ष्य को समय-सीमा के भीतर पूरा कर दिखाया है। सबसे अच्छी बात यह है कि इस मिशन के तहत उन सरोवरों की पहले पहचान की जाती है, जिन्हें अमृत सरोवर के रूप में विकसित किया जा सकता हो। साथ ही, यह भी ध्यान रखा जाता है कि सरोवरों का निर्माण या जीर्णोद्धार इस तरह से किया जाए ताकि वे स्थानीय सामुदायिक गतिविधियों के केंद्र बन सकें। इस प्रकार मिशन अमृत सरोवर बहुद्देशीय है। एक तो जमीन के भीतर जल स्रोतों को सघन करती है, दूसरे स्थानीय स्तर पर समाज में सद्भाव और परस्परता को भी बढ़ाने में सहायक होती है। इसके अलावा, यह मिशन इस रूप में भी उपयोगी है कि स्थानीय स्तर पर लोगों की आजीविका सृजन में मददगार हो रहा है। मिशन जनभागीदारी का महत्त्वपूर्ण जरिया साबित हो रहा है। इससे मिलने वाले लाभों के इतने आयाम अब देखने को मिल रहे हैं, जिनकी पहले सोची न थी। इत्ता भर था कि वर्षा जल संरक्षण किया जाएगा और भूमिगत जल का स्तर बढ़ाने की दिशा में महत्त्वपूर्ण बढ़त भी हासिल कर ली जाएगी। लेकिन बाद में जिस प्रकार सामुदायिकता और स्थानीय स्तर पर आजीविका सृजन के पहलू भी इससे जुड़ते दिखे तो यकीन के साथ दावा किया जा सकता है कि मिशन अकम्पलिश्ड। ऐसा इसलिए कहा जा सकता है कि मिशन के तहत 15 अगस्त, 2023 तक 50 हजार अमृत सरोवर बनाने का लक्ष्य रखा गया था जिसे नियत समय से पूरा कर लिया गया। अभी तक 50 हजार 771 अमृत सरोवर बनाए जा चुके हैं।