Jal Jeevan Samvad

May | 44th Edition | Year 2024

Har Ghar Jal
Jal Jeevan Mission

Building Partnership
Changing Lives

Special Feature
Water Conservation

Contents

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Har Ghar Jal
Jal Jeevan Mission

Note from the desk of

Additional Secretary & Mission Director...

New Delhi
31st May, 2024

आपो हि ष्ठा मयोभुवस्था न ऊर्जे दधातन ।
महे रणाय चक्षसे

O water! Because of your presence, the atmosphere is soothing,
and you bestow us with happiness and nourishment.

(Rig Veda 10.9.1)

The ancient wisdom encapsulated in this verse from the Rig Veda finds profound relevance in our contemporary endeavours as we commemorate the substantial advancements being realised by Jal Jeevan Mission. In recent months, rural India has witnessed a transformative evolution, as the mission has successfully provisioned tap water connections to more than 76% of rural households. This achievement transcends mere statistical significance, embodying a paradigm shift towards sustainable service delivery that fundamentally enhances the quality of life for millions.

However, our journey does not conclude with this milestone. The need now is to strengthen this foundation by emphasising robust operations and maintenance (O&M), pioneering water conservation methodologies, and integrating advanced technological innovations. By prioritising these facets, we can ensure the sustainability of our water resources for future.

In this context, JJM is ardently committed to a comprehensive spectrum of water conservation endeavours. Across the nation, rainwater harvesting structures have been instituted, contributing significantly to the augmentation of groundwater reserves and securing a reliable water supply. Concurrently, the efficacious management of grey water is imperative for sustainable water utilisation. The creation of soak pits and magic pits has emerged as a pivotal intervention, facilitating the treatment and reuse of grey water, thereby alleviating the strain on freshwater resources.

Moreover, the mission underlines the paramount importance of rigorous water monitoring and quality assurance. We are steadfast in our commitment to providing safe drinking water. The deployment of efficient water monitoring systems, including water traffic billing mechanisms, is being progressively adopted to meticulously track and optimise water consumption.

One of the essentials of our strategy is the active participation of communities. The establishment of over 2.14 lakh Village Water and Sanitation Committees (VWSCs) exemplifies our endeavour to inculcate a sense of ownership and accountability in water resource management among the populace. This grassroots involvement is indispensable for the enduring success of our mission.

Effective water management necessitates a confluence of efforts from diverse governmental departments. The collaboration among the Public Health Engineering Department (PHED), and the Gram Panchayats, bolstered by the support of KRCs and ISAs along with VWSCs, epitomises a synergistic approach to implementing sustainable water management practices.

India, as one of the preeminent users of groundwater, confronts the pressing challenge of groundwater depletion. The Jal Shakti Abhiyan has been instrumental in this regard, spearheading campaigns to augment groundwater reserves through rainwater harvesting and other conservation techniques.

The demands imposed by climate change worsen water stress in numerous regions, rendering our water conservation efforts even more critical. Simple yet impactful actions such as repairing leaks, installing water-efficient fixtures, and promoting conscientious water use can markedly mitigate water stress and abate water scarcity.

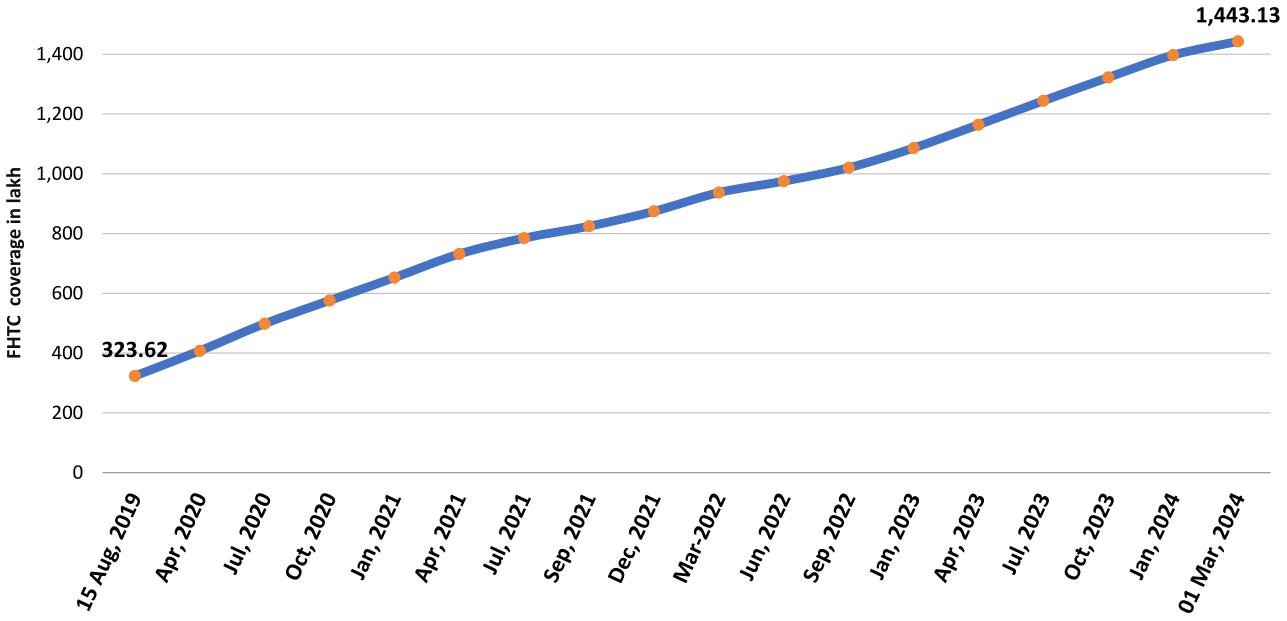
A vital component of our mission is to engender behavioural change towards water conservation. Educating communities about the imperatives of water-saving practices and inculcating good habits can engender a significant impact. This entails promoting practices such as turning off taps when not in use, and being cognizant of daily water consumption.

In summation, collective action is indispensable to surmount the water management challenges we face. This month's edition of Jal Jeevan Samvad is dedicated to the theme of water conservation, featuring insightful articles from various States/ UTs that elucidate their interventions in villages and the resultant positive outcomes. These narratives underscore the critical importance of community involvement and the myriad strategies employed across the nation to conserve water.

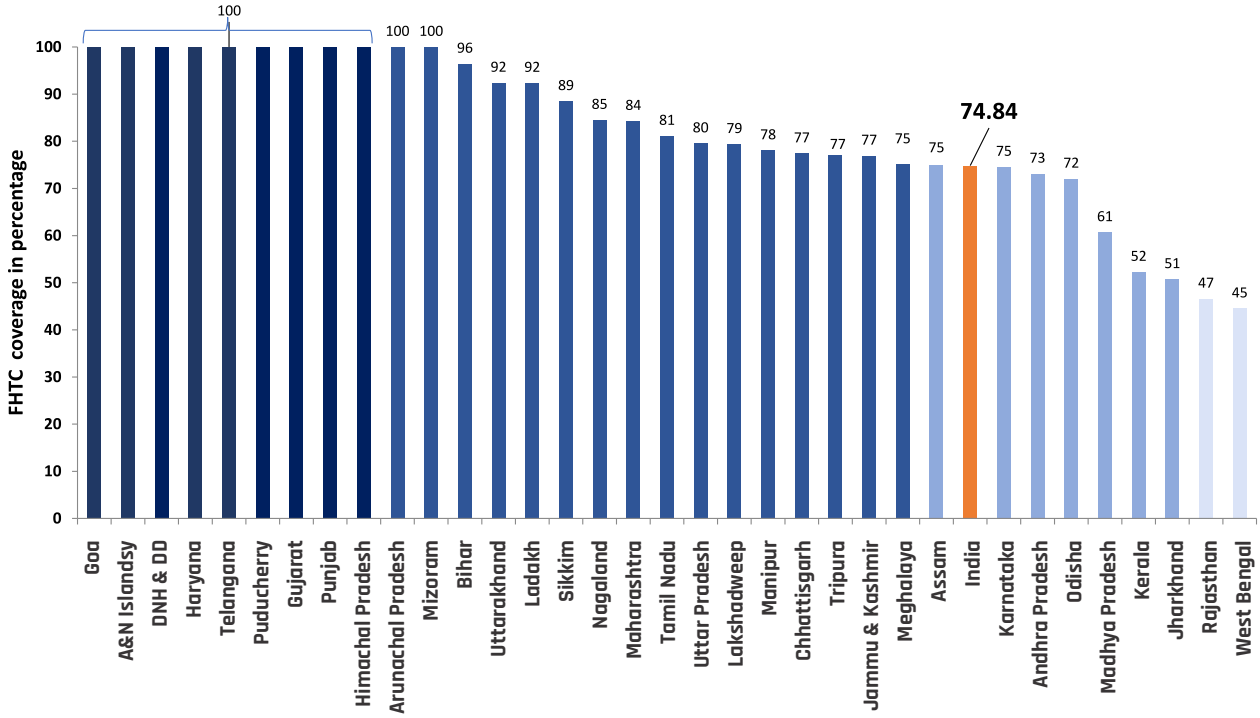
I am proud of the strides we have made. Nevertheless, I request all stakeholders — government officials, community leaders, and community people, to intensify their commitment to water conservation. The path ahead demands unwavering effort, innovation, and a collective sense of responsibility. Together, we can ensure sustainable access to safe drinking water for every household and secure a brighter future for generations to come.

[Chandra Bhushan Kumar]

Progressive coverage - Functional Household Tap Connection (FHTC) (as on 31.05.2024)



Comparative FHTC coverage status of States/ UTs (as on 31.05.2024)



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As on 31st May, 2024

Source: JJM-IMIS

India | Status of tap water supply in rural homes

Total number of households (HHs)	Households with tap water connections as on 15th Aug 2019	Households with tap water connections as on date
19,30,80,850	**3,23,62,838** (16.76%)	+89,016 **14,81,66,929** (76.74%)

Households provided with tap water connection since launch of the Mission

11,58,04,091 (72.05%)

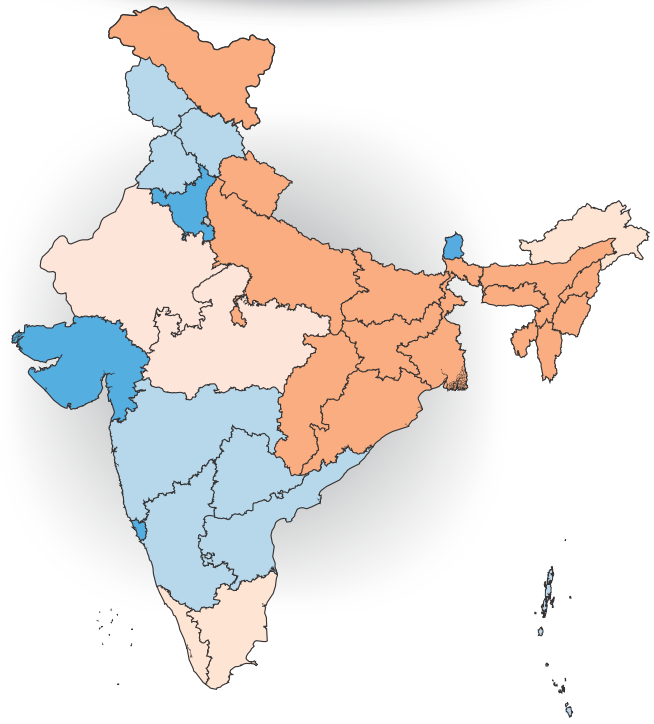
Har Ghar Jal [100% HHs with tap water connections]

100% FHTC States/ UTs

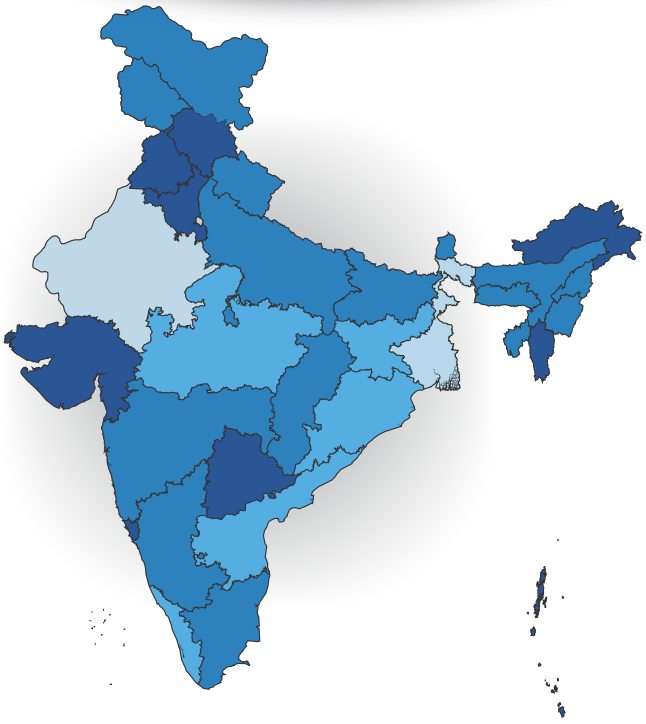
Goa, A & N Islands, Puducheerry, D&NH and D&D, Haryana, Punjab, Telangana, Gujarat

100% FHTC Districts	100% FHTC Blocks	100% FHTC Panchayats	100% FHTC Villages
190	1,851	1,05,751	2,21,019

As on 15th August, 2019



As on 31st May, 2024



0 to <10% | 10% to <25% | 25% to <50% | 50% to <75% | 75% to <100% | 100%

Promoting Community Participation for Sustainable Water Conservation and Long-term Water Resource Management under Jal Jeevan Mission

- **Ajaya Mohapatra**, CEO, We The People[1], Key Resource Centre (KRC) under NJJM

Introduction

At the outset of the training of Level- 3[2] functionaries conducted by We The People-KRC under the Jal Jeevan Mission (JJM), the resource persons generally start with the slogan —

"जल ही जीवन है, जल है तो कल है"

(jal hi jeevan hai, jal hey toh kal hai)

which means 'water is life' and 'life exists on earth when there is water', water is the lifeline of civilisation, essential for sustenance, hygiene, agriculture, and industrial activities. It sets the agenda for the training and ignites the minds of the community-level functionaries to reflect on the importance of sustainable water conservation and long-term water resource management through community participation. The ever-growing population demands rapid urbanisation, deforestation, environmental degradation[3], and climate change[4]; that has resulted in water scarcity which has become a pressing global issue. The schemes under Jal Jeevan Mission are designed for 30 years, which requires attention of the administration on the issue of water conservation and water resource management. The management of water includes strengthening of ground water, surface water and rainwater for sustainable and long-term water supply in all the rural households through community participation. Thus, it's not just limited to individual

We The People- KRC's Training of Level- 3 functionaries on O&M of RWSS and source sustainability under the Jal Jeevan Mission (JJM) at the District Reasi, Union Territory of Jammu and Kashmir in the Financial Year 2023-24

[1] We The People is an empanelled Key Resource Centre (KRC) under the National Jal Jeevan Mission (NJJM) offering training to L2 and L3 functionaries on JJM in India. Since 2021, We the People- KRC trained over 10,000 Level-3 functionaries and 1000 Level-2 functionaries under JJM. Besides, it offers livelihood promotion services in India. It works in 21 States/ UTs in partnerships with the union and state governments, industries, international agencies and civil society organisations.

[2] Level- 3 functionaries under the JJM refers to the community level training primarily represented by the elected representatives of gram panchayats, members of Village Water and Sanitation Committees (VWSC), Anganwadi Workers and ASHAs (Accredited Social Health Activist).

[3] Environmental degradation is the deterioration of the environment through depletion of resources such as air, water and soil; the destruction of ecosystems and the extinction of wildlife. https://archive.unescwa.org/environmental-degradation.

[4] Climate change refers to long-term shifts in temperatures and weather patterns. Such shifts can be natural, due to changes in the sun's activity or large volcanic eruptions. But since the 1800s, human activities have been the main driver of climate change, primarily due to the burning of fossil fuels like coal, oil and gas. https://www.un.org/en/climatechange/what-is-climate-change.

A Level-3 functionary of Bilaspur district, Chhattisgarh facilitating PRA exercise on Participatory Planning and preparation of Village Action Plan during a training and exposure visit organized by We The People- KRC, FY 22-23

social responsibility but demands collective endeavour necessitating public-private partnership and multi-stakeholders' engagement including government at all levels (centre, state and local government), private sector, industry, and civil society organisation.

Jal Jeevan Mission (JJM) stands as a beacon of hope for millions of Indians who have been deprived of access to potable drinking water in rural India. The Mission aims to provide potable water through household tap connections in every rural home in adequate quantity (minimum 55 litres per capita per day) of prescribed quality (BIS:10500[5]) on regular and long-term basis. As per the data put out by the Department on JJM Dashboard before the launch of JJM on 15th August 2019 merely 16.76% (3,23 Crore) of rural households had access to water tap which has today reached 76.51% (14,77 crore) with an addition of 71.78% (11,53 Crore)[6] as on 15th May 2024 since the launch of JJM. Hence, JJM aims at provisioning not just potable water to rural households but also ensuring water in the long-run through sustainable resource management by community participation.

However, achieving these ambitious goals requires more than infrastructure development. It emphasises decentralised, demand-driven, community-owned and community-managed rural water supply systems and necessitates public-private partnerships and multi-stakeholders' engagement. This article delves into the significance of community participation in sustainable water conservation and long-term water resource management under the Jal Jeevan Mission and strategies thereof.

Strategies for Sustainable Water Conservation and Long-Term Water Resource Management under JJM

Empowering Communities: The Mission focuses on the empowerment of communities. JJM believes in bottom-up approach emphasising on community engagement, participation and ownership at planning, implementation, and post-implementation phases including operation, maintenance and management of in-village water supply systems. The willingness of community is reflected through resolution passed in the Gram Sabha to provide tap water connection in every rural home. Community engagement will be foremost criterion for developing and planning the water supply system in villages.[7]

[5] https://cpcb.nic.in/wqm/BIS_Drinking_Water_Specification.pdf

[6] https://ejalshakti.gov.in/jjmreport/JJMIndia.aspx.

[7] Page 31 of the Operational Guidelines for the Implementation of Jal Jeevan Mission, Department of Drinking Water and Sanitation National Jal Jeevan Mission, Government of India, Ministry of Jal Shakti, New Delhi 110 003, December 2019.

We The People- KRC facilitated PRA exercise for ensuring community participation in water resource management through a human chain in Kondagaon district, Chhattisgarh in FY 22-23

In the planning phase, JJM focuses on the development of Village Action Plan (VAP) ensuring preparation by the community especially women and its approval in the Gram Sabha meeting. JJM guidelines mandate that "a VAP will be prepared by Gram Panchayat or its sub-committee, i.e. VWSC/ Paani Samiti/ User Group, etc. with support from ISA, PHED/ RWS Department, DWSM based on baseline survey, resource mapping and felt needs of the village community. VAP will be the main document of the village for all water supply and related work, and on its approval by the Gram Sabha, all funds from different sources will be dovetailed to implement various components of VAP from different sources of funds including JJM." JJM further emphasises that "the VAP will be approved in the Gram Sabha, when 80% of the village community present in the meeting agrees to the prepared plan." This clearly indicates that at the heart of JJM lies the empowerment of communities. Thus, by involving communities, JJM not only ensures sustainability of water supply projects but also fosters a sense of ownership and responsibility among the rural households.

a lot off efforts were made at State and District level to ensure community participation and engagement at the village level Capacity building trainings were organised to create awareness and address knowledge gaps. Detailed information about 'Har Ghar Jal' programme, role of Sarpanch, Gram Panchayats, Village Water and Sanitation Committee and the community was explained.

Special emphasis was laid on the post-implementation phase, especially during the handover of the RWSS to the Gram Panchayats. As per the JJM protocol for effective operation, maintenance and management of the rural water supply systems, Gram Panchayats were reluctant to take the handover of the RWSS. The experience of We The People-KRC, while conducting the Level-2 and Level-3 functionaries training across 15 states and UTs for the last three years indicate that the elected representatives of Gram Panchayats, especially the Sarpanch and the Panchayat Secretary, are apprehensive about taking handover of the RWSS either due to lack of adequate skills, and or because of technical capacity and financial resource availability at the Gram Panchayat level to shoulder the responsibility of Operation & Maintenance of RWSS.

JJM Dashboard data indicates that 2,18,857 villages have reported as 100% FHTC villages; however, only 1,17,739 (53.80%) villages are HGJ certified. Therefore, it is pivotal for the community especially gram panchayats and VWSCs/ Paani Samitis to own the infrastructure created under JJM for its effective O&M including source sustainability, water conservation and water resource management.

An exposure visit to Drass Block, Kargil district on water conservation and water resource management initiatives in the Himalayan Region. L-3 Training organized by We The People- KRC for Kargil district, UT of Ladakh in FY 23-24

[8] Page 17, 18 & 20, ibid.

[9] Page 21, ibid.

An exposure visit of Level-3 functionaries of Shahdol district, Madhya Pradesh to a multi-village scheme water resource management and technology adoption conducted by We The People-KRC in FY 22-23

Strengthening Community-Led Water Management: Community involvement in water conservation fosters social cohesion and collective action, strengthening bonds among rural households and promoting a sense of ownership over shared resources. By working together to address water-related challenges, communities build resilience and solidarity, laying the foundation for sustainable development. Further, strengthening community-led water management committees— VWSCs to collaborate with SHGs, Village Organisations (VOs), Cluster Level Federations (CLFs), and Farmers Producer Organisations (FPOs) at the village or gram panchayat level fosters decentralised decision-making and ensures accountability in water conservation initiatives. These committees, comprising representatives from diverse social groups, oversee the planning, implementation, and monitoring of water projects and promote transparency and inclusivity.

Convergence: Source sustainability, water conservation, and water resource management require substantial infrastructure cost, technical expertise and human resources in the revival, repair and maintenance of existing water bodies and the construction of new water bodies. The community lacks the financial resources and technical expertise to integrate indigenous knowledge systems into modern conservation efforts unless facilitated by the line departments. JJM recognises the value of traditional water harvesting and management practices, integrating indigenous knowledge systems into modern conservation efforts. By combining traditional wisdom with contemporary technologies, communities can optimise water utilisation and mitigate the impact of water scarcity. PHED/ Rural Water Supply Department must collaborate with other line departments, primarily Rural Development and Panchayati Raj Department, Forest Department, Agriculture Department, and Fisheries Department to dovetail human, technical and financial resources under various centrally and state-sponsored schemes to support the community in source sustainability, water conservation and water resource management.

Further, the line departments' partnerships with Gram Panchayats, Village Water and Sanitation Committees (VWSCs), Self Help Groups (SHGs), Voluntary Organisations (Vos), Cluster Level Federations (CLFs) and Farmers Producers Organisation (FPOs) ensure community participation in developing Gram Panchayat's Annual Action Plan (GP-AAP), and its integration into Gram Panchayat Development Plan (GPDP), for dovetailing resources under various Centrally Sponsored Schemes (CSS) such as Mahatma Gandhi National Rural Employment Guarantee Act (MNREGA), Swachh Bharat Mission – Grameen (SBM-G), Rashtriya Krishi Vikas Yojana (RKVY), Watershed Development Component (WDC) of Pradhan Mantri Krishi Sinchayi Yojna (PMKSY), Pradhan Mantri Kaushal Vikas Yojna (PMKVY), Compensatory Afforestation Fund Management and Planning Authority (CAMPA), District Mineral Development Fund (DMDF), Member of Parliament Local Area Development (MPLAD), Member of Legislative Assembly Local Area Development (MLALAD), 15th Finance Commission Grants, etc. through convergence. Further, the NJJM may extend the role of KRCs and Implementation Support Agencies (ISAs) in building capacities of the gram panchayats and VWSCs during the post-implementation phase which

[10] Level-2 functionaries refer to the DWSM officials, Superintending Engineers, Executive Engineers, Asst. Engineers, Junior Engineers, Water Utility Managers and Water Testing Laboratory Personnel from Public Health Engineering Departments (PHED)/ Rural Water Supply Departments (RWS)/ Public Works Departments (PWD), etc.

[11] Page 43 of the JJM Guidelines, 2019.

[12] Technical/ Expert Committee Report, Roadmap for the measurement & monitoring of water service delivery in rural areas, Government of India, Ministry of Jal Shakti, Department of Drinking Water & Sanitation, National Jal Jeevan Mission, March 2021.

VWSC of Saliam village, Aibawk Block, Aizawl District explained the incremental water tariff billing system to Level-2 functionaries of PHED, Mizoram and its impact on O&M and source sustainability under RWSS. We The People- KRC conducted the training at Aizwal, Mizoram, FY 23-24

goes beyond the current mission period to handhold the community in preparation of AAP, water budgeting, its integration into GPDP and convergence of CSS for source sustainability, water conservation and water resource management, and O&M of RWSS.

Building Awareness and Capacity, and Incentivisation for Behavioural Change: Effective community participation begins with awareness. Many rural areas lack access to basic information about water conservation practices, water resource management, optimal utilisation of available water resources including supplied water to the households and the importance of preserving water resources. Hence, the States/ UTs continue to engage KRCs and ISAs to conduct awareness campaigns, workshops, and training sessions to educate communities about water conservation techniques, sustainable usage practices, and the significance of maintaining hygiene and sanitation by utilising 5% of the support grant under JJM released by the centre to the States/ UTs for capacity building as one of its components. By empowering individuals with knowledge, and required skills, the States/ UTs can cultivate a culture of conservation within communities. Further, introducing incentive mechanisms can enhance community participation and promote behavioural change towards water conservation. From rewards for water-saving practices to recognition for outstanding contributions, incentives motivate individuals and groups to actively engage in JJM activities, driving collective action for sustainable water management.

It is evident from several studies that due to sustained capacity-building initiatives of the KRCs and ISAs at the community level, there has been increased awareness about JJM and enhanced community participation in the collection of water tariff for operation, maintenance, and repair of water supply systems, water conservation and water resource management initiatives. During the post-follow-up training of Level-3 (community level) functionaries of Anuppur, Shahdol and Umaria districts of Madhya Pradesh conducted by We The People found that almost 60% of the Gram Panchayats/ VWSCs trained, were able to start collecting monthly water tariff or enhanced water tariff collection with the support of women self-help groups (SHGs), initiated awareness campaigns to educate households to save every drop of water by protecting their water taps, close the taps when not in use, use the grey water for kitchen gardening, etc. as an impact of its initial three days training followed by handholding support.

Technology Adoption and Innovation: Harnessing technology and innovation can enhance community engagement and optimise water conservation efforts. From mobile applications for real-time monitoring to low-cost water purification technologies, leveraging cutting-edge solutions empowers communities to address water challenges effectively and adapt to changing environmental conditions. It is expected that investment in measurement and monitoring of water service delivery results in savings on O&M costs improves service delivery and instils necessary behaviour change in rural water supply departments and VWSC/ Paani Samiti towards better service delivery. It can help solve several issues in rural water supply such as – high scheme failure rate, contamination, source drying up, frequent outages, inequitable distribution, nonrevenue water and wastage. It can help provide near real-

[14] https://blog.mygov.in/water-conservation-rainwater-harvesting/

time alerts and reports to the community, engineers, and officials to provide quick responses to mitigate outages and reduce scheme failure.

Hence, the need of the hour for JJM 2.0 would be to take necessary measures for a pan-India roll-out of the installation of smart measurement and monitoring systems for the rural water supply systems at the village level. To start with NJJM can roll out the technology adoption plan for the 100 districts, 809 blocks, 65,185 Gram Panchayats, and 1,17,893 villages which have been certified as 100% FHTCs or 'Har Ghar Jal'.

Incremental Water Tariff Billing System: The States/ UTs must introduce an incremental water tariff billing system for water conservation and efficient water resource management while considering from an equity and social justice perspective thereby prioritising access to affordable water for low-income households. An incremental water tariff billing system is a pricing structure for water consumption where the cost per unit of water increases as usage surpasses predefined thresholds or tiers. This approach aims to encourage water conservation by charging higher rates for higher levels of consumption, thereby incentivising consumers to use water more efficiently. Incremental water tariff systems are commonly implemented by utilities and governments as a means to manage water demand, promote conservation, and ensure sustainable water use.

From an equity perspective, incremental water tariffs can be designed to prioritise access to affordable water for low-income households by implementing lifeline tariffs or lower rates for a basic water allowance. This ensures that essential water needs are met without imposing undue financial burdens on vulnerable populations. Moreover, the revenue generated from higher-tier rates can be reinvested into water infrastructure and services, benefiting the community as a whole. This can contribute to social justice by improving water accessibility, quality, and reliability for underserved areas. Overall, the Incremental Water Tariff Billing System balances the goals of conservation, affordability, and equitable access to water resources, thereby promoting social justice within communities.

An exposure visit of Level-2 functionaries of PHED, Mizoram to Sailam village, Aibawk Block, Aizawl District to learn about water conservation and water resource management model. Training organised by We The People- KRC at Aizwal, Mizoram in FY 23-24

Govt of Karnataka introduced an incremental water tariff billing system for the domestic and non-domestic (institutional, commercial, and industrial) consumers by making necessary provisions in its O&M Policy. Many other States/ UTs are in the process of introducing incremental water tariff billing systems for water conservation and water resource management.

Rainwater Harvesting: Rainwater harvesting is a simple strategy by which rainfall is gathered and stored for future usage. The process involves the collection and storage of rainwater with the help of artificially designed systems, that run off natural or man-made catchment areas e.g. rooftops, compounds, rocky surfaces, hill slopes or artificially repaired impervious/ semi-pervious land surfaces. The collected rainwater from surfaces on which rain falls may be filtered, stored and utilised in different ways or directly used for recharge purposes. Rainwater Harvesting is unrestricted from any kind of impurity, with relatively less storage cost and no maintenance cost involved except for periodical cleaning.

With depleting groundwater levels and fluctuating climate conditions, this measure can go a long way to help mitigate the adverse effects of rising water scarcity. Reserving rainwater can help recharge local aquifers, reduce urban flooding and most notably, ensure water availability in water-scarce zones. The States/ UTs continue to encourage large community participation in rainwater harvesting and with the support of gram panchayats, NGOs, ISAs and SHGs can launch regular awareness campaigns for rainwater harvesting.

Sailam village of Aibawk Block, Aizawl District, 77 km away from Aizwal, has adopted the culture of rainwater harvesting through community participation. The VWSC of Sailam village encouraged all 171 residents

to adopt rainwater harvesting. As a result, though Sailam village follows the incremental water tariff billing system for all, however, the households in the village pay significantly lower amounts of water tariffs during the rainy season by harvesting rainwater and recycling it for domestic use. Mr Lalropuia, Superintending Engineer, Rural Watsan Circle, PHED, Mizoram while narrating the success story of Sailam village, said that regular collection of water user charges by the VWSC of the Sailam village fosters a sense of ownership and accountability among water users. He added that regular revenue generation, community participation and VWSC's leadership led Sailam village towards the path of institutional, financial, operational and source sustainability. It has encouraged individual households to value and conserve water resources, promoting responsible consumption and sustainable usage patterns.

Water Budgeting: Water budgeting is a management tool used to assess, allocate, and track water resources to ensure efficient and sustainable use. Similar to financial budgeting, water budgeting involves estimating inflows, outflows, and available water resources within a specified area or system over a defined period. It is commonly employed in various contexts, including agriculture, rural/urban water supply, and environmental conservation. Water budgeting serves as a valuable tool for policymakers, water managers, and stakeholders to make informed decisions regarding water resource management, allocation, and planning. By quantifying water availability, demand, and utilisation patterns, water budgeting facilitates the identification of potential challenges and opportunities for improving water efficiency and sustainability. It also supports the development of integrated water management strategies aimed at achieving water security and resilience in the face of growing water-related challenges such as population growth, climate change, and competing water demands.

Hence, the line departments - PHED, RWS department, and Dept. of RD&PR with the support of KRCs must build the capacity of the Gram Panchayats and VWSCs on water budgeting and facilitate community awareness and participation in annual water budgeting at the gram panchayat level to jointly assess water availability, demand, and utilisation patterns, and identify potential challenges and opportunities for improving water efficiency and sustainability.

Water Audit for Water Conservation: A water audit is a systematic assessment of water use within a defined area or a system, aimed at identifying opportunities for improving water efficiency, reducing waste, and conserving water resources. Conducting a water audit is a fundamental step in developing effective water conservation strategies for various sectors such as residential, commercial, industrial, and agricultural.

By introducing the process of conducting a comprehensive water audit and implementing targeted conservation measures at the village and gram panchayat level through community participation, consumers (domestic and non-domestic) can reduce water waste, improve efficiency, and contribute to the sustainable management of water resources. Effective water conservation helps mitigate the impacts of water scarcity and supports environmental sustainability, resilience, and long-term viability. Hence, the line departments - PHED, RWS department, and Dept. of RD&PR with the support of KRCs must build the capacity of the gram panchayats and VWSCs on water audit.

Conclusion: The success of Jal Jeevan Mission hinges on the active participation of communities in water conservation efforts. By empowering communities, building awareness, promoting community-led decision-making, capacity building, and encouraging behavioural change, JJM is not just providing water; it's nurturing a sustainable water ecosystem where communities are the guardians of their resources. As India marches towards its goal of universal access to potable water, the role of community participation under the Jal Jeevan Mission becomes increasingly indispensable in ensuring long-term water supply sustainability.

Training of Level-2 functionaries of PHED, Meghalaya on O&M of RWSS under JJM conducted by We The People- KRC, FY 23-24. In the middle of the front row: Shri Marcuise N Marak, Hon'ble Minister, I/C PHED, Govt. of Meghalaya, Shri Md. Syed A Razi, Commissioner and Secretary, and Mission Director, PHED, Govt. of Meghalaya, and Smt. B. M. Lyndem, Chief Engineer, PHED, Govt. of Meghalaya

Harnessing Women's Leadership for Water Conservation: A Perspective from Nagaland

- **Utkarsha Rathi**, NJJM with inputs from **Kethonu Theyo**, Phek District chemist, PHED Nagaland

Introduction:

Water conservation is a pressing issue globally, and in Nagaland, it holds particular significance due to challenges in access to clean water. Within this context, water quality testing emerged as a pivotal tool in conservation efforts, ensuring efficient management and preservation of available water resources. In this article, we explore the critical role of women towards water conservation efforts in Nagaland, with special emphasis on the importance of water quality testing which is an important aspect of sustainable water management practices.

Women play multifaceted roles in water conservation efforts in Nagaland, contributing significantly to sustainable water management be it engaging the community, wherein women are primarily at the forefront, or advocating the policies and investment that prioritise water conservation and quality management. Women are working tirelessly for a sustainable water secure future in the rural areas of Nagaland. Women are often at the forefront of community mobilisation efforts, raising awareness about the importance of water conservation and promoting behaviour change initiatives to reduce water wastage and pollution. Their voices amplify the urgency of addressing water-related challenges and materialise support for sustainable water conservation practices. Not only being adept in traditional knowledge and practices of water conservation, women are also keen to upskill themselves and learn the modern skills of water management practices. Capacity-building programs empower women to take leadership roles in conservation initiatives. Their involvement ensures that conservation efforts are culturally sensitive and aligned with community needs and priorities. Women are key agents in educating their communities about water conservation practices and imparting skills for water quality testing and monitoring.

Women in Rezaba HQ village on water management practices and importance of water quality

Water quality testing is indispensable for water conservation due to numerous reasons:

- **Identification of Pollution Sources**: Testing helps identification of sources which pollute water, such as agricultural runoff, industrial discharge, and improper waste disposal. Water testing facilitates targeted remediation action which prevents further contamination;
- **Monitoring of Conservation Initiatives**: Regular testing allows monitoring of conservation initiatives' thereby ensuring interventions which yield desired outcomes in terms of improved water quality and conservation of water resources;
- **Protection of Ecosystems**: Maintaining water quality is crucial for the health of aquatic ecosystems and biodiversity. Testing helps detect pollutants that pose threats to aquatic life, guiding conservation efforts to safeguard fragile ecosystems;

- **Public Health Protection**: Clean water is essential for public health, and testing ensures that water supplies meet quality standards for safe consumption, reducing the risk of waterborne diseases and promoting community well-being.

Community-Driven Water Solutions in Razeba and Zapami Village, Phek District, Nagaland

Nagaland, a northeastern state of India, is home to diverse indigenous communities that rely heavily on natural water sources for drinking, sanitation, and agricultural purposes. However, despite the abundance of water resources, the state faces significant challenges related to its quality. Razeba HQ, a village in Nagaland, exemplifies the transformative impact of women-led water conservation efforts. Nagaland experiences significant seasonal variations in rainfall, which can affect water availability and quality. During the monsoon season, heavy rainfall can lead to runoff and surface water contamination in the hamlet as well, confronting multiple challenges, including water contamination from agricultural runoff and limited infrastructure for water treatment and distribution. while dry seasons may result in water scarcity and increased reliance on stagnant water sources.

A Water Conservation Reservoir was built in Zapami village of Phek District The funds for constructing of the reservoir were provided from rural development for carrying out development works under Mahatma Gandhi Rural Employment Guarantee Act (MGNREGA). The reservoir is helping rural community not just fulfil their drinking water requirements but also catering to agricultural water requirements and promotes seasonal farming. The construction of reservoir has brought about immense satisfaction and fulfilment of their long desired demand of potable water.

The demand for water was led by women as they are its primary managers. The village developed and implemented a comprehensive water conservation plan, which covers water testing, educating the community and building the infrastructure. Government department in Nagaland have initiated water conservation and water quality monitoring programs to assess the state of water sources and identify areas of contamination. FTK training programs have been implemented to equip local technicians with the skills needed to conduct the testing in remote areas which is quintessential, particularly during the monsoon time.

Such efforts supplement the *Jal Shakti Abhyan: Catch the Rain* mission. It exemplifies and epitomises this year's theme, *Nari Shakti se Jal ki Shakti*, wherein the power of women is harnessed to ensure adequate and quality water not just today, but for generations to come.

Through concerted efforts, villages in the Phek District witnessed significant improvements in water quality and conservation. Women's leadership and active participation were instrumental in achieving sustainable outcomes.

In Nagaland, women play a pivotal role in water conservation, leveraging their leadership, knowledge, and advocacy to promote sustainable water management practices. Prioritising water quality testing empowering women as agents of change are essential for conserving and equitable distribution of water resources.

Water Conservation Reservoir Inaugurated at Zapami Village, Phek District

Sowing Resilience: Cultivating Self-Sufficiency and Dietary Diversity through Backyard Gardening

- **Chandrika Patnaik,** Junior Manager, Gram Vikas

As the government emphasises on the need of waste water management, all out efforts are being made by the department to create awareness amongst the community to reuse water generated in kitchen and bathing area. An Adivasi habitation in Odisha has taken lead in this. They are growing vegetables in their backyard by releasing the water from kitchen into the garden as part of wastewater management system. The initiative has provided them with vegetables for daily consumption, surplus food is shared with their neighbours. This initiative goes a long way in improving the food security and dietary diversity.

An Adivasi habitation, in Jagannathprasad block, Ganjam district of Odisha, Mandapathara is on a hillock. Residents walk down the hill through unpaved roads, for about a kilometre, to reach the main road. They walk another three kilometres to reach the nearest weekly market in Khajuripalli village to buy vegetables.

But 45-year old Chandrakala Mallik no longer has to make this weekly trip. She lives with her husband and daughter in a small village Mandapathara. For the past few years, she has been using her backyard to grow onions, garlic, tomatoes, brinjals, lady's finger, bitter gourd, beans and pumpkin.

"I have been doing kitchen gardening for many years. Before I started growing vegetables in my backyard, I used to walk 4-kilometres to buy vegetables from the weekly *haat*. It was tiresome and difficult carrying two bags of vegetables every week. My husband works as a daily wage labour and walks long distance to look for work in other villages. So, I don't burden him with buying vegetables on his way back home in the evening. We are now eating vegetables grown in our yard."

Prior to 2012, the village faced water scarcity every summer. The 22 households depended on the Tutibara river, half a kilometre away from the village. Women dug holes along the river banks for water, which they then collected in vessels and carried home.

Today, with support from Gram Vikas, the village got a piped water supply system. Pipes were laid, and every household got water supply. In order to reduce the consumption of electricity, solar system has been installed and solar energy is being generated. Today, all households are getting 24×7 piped water supply through taps.

Initially, the wastewater from Chandrakala's kitchen accumulated in the backyard. It caused foul smell and attracted flies. But now she uses it to irrigate the beds with the vegetable plant, "I started my garden from growing onions and garlic."

Training households in wastewater management is integral to Gram Vikas' sanitation and hygiene programme. Under Swachh Bharat Mission – Grameen toilets were constructed. Today we through Jal Jeevan Mission we are getting piped water supply, the residents are

Chandrakala standing in her backyard with vegetables, inspiring others

trained. in setting up backyard nutrition gardens.

"Staff from Gram Vikas visited our village many times and explained to us how the type of food we eat can affect the health of women and children. They trained us to set up vegetable gardens in our backyards and become self-reliant. They guided us in procuring quality seeds at subsidised rates to plant the seeds and grow our own vegetables. Most of the households were encouraged to grow cauliflower, cabbage, peas, beans, tomatoes, ladyfinger, brinjals, and radish in their backyards and live a healthy life."

Every day, Chandrakala spends two hours in the garden. Today, I am getting enough produce to last us for six months.Chandrakala standing in her backyard with vegetables, inspiring others Photo credit: *Mihir Kumar Bhuyan, Gram Vikas*Kitchen gardening has decreased my weekly food expenditure on vegetables. I am able to use this money saved on other needs of the family.

"I used to spend nearly ₹200-₹250 every week buying vegetables from Khajuripalli market. Certain times beans, cauliflower, peas, sell at a much higher rate which is roughly ₹300 a week. It was not easy for us to spend this money on vegetables, we usually had to settle for potatoes, leafy vegetables, and pumpkins, which were sold at a comparatively lower price. But now we are consuming what we want. Even expensive vegetables as we are growing them and eating fresh from our own farm."

Mani Jani harvesting vegetables in her backyard to feed her large family. Photo credit: *Santosh Kumar Rout, Gram Vikas.*

65-year old Mani Jani, another resident of Mandapathara, lives with her husband, son, daughter-in-law and four grandchildren. Like many other families in her village, Mani works as a daily wage labour at various construction sites. Daily they walk kilometres for work.

During the Corono crisis when employment was affected, they had no work therefore no income. They were completely dependent on food from their backyard garden for vegetables.

"My four grandchildren are young and required nutritious food. All the eight members in our family could survive difficult times because of the garden we had cultivated over time. I don't know how we could have managed without our backyard garden."

Initially, Mani grew vegetables in less than 0.5 decimal of land, as she did not have any help. During the lockdown, help poured from her husband and son. The cultativation area increased to 1.5 decimal with more plant beds, and wider variety of vegetables.

"Larger quantity of vegetables was grown. We even harvested surplus quantity of tomatoes, brinjal, radish, pumpkin, and green chillies which I distributed to families living close to our house. As our neighbours could not grow vegetables and did not have enough money to buy vegetables from the market, I shared the surplus with them during difficult times of lockdown."

Promoting nutrition gardens in homestead lands is an integral part of Gram Vikas' programme in water conservation and wastewater management. Once a village gets a piped water supply system along with toilets, bathing rooms, and functional household level tap connections, residents are trained to set up backyard gardens.

Basanti Mallik, Secretary of the Mandapathara Village Development Committee (VDC), says, "Gram Vikas first trained the VDC members on kitchen farming. They showed us thow to prepare beds for sowing seeds, build channels for wastewater so that it flows into the kitchen garden, plant spacing and fencing of the garden to keep away from hens and goats, nursery raising of seed-

Mani Jani harvesting vegetables in her backyard to feed her large family

lings, planning and choosing crops to enhance food security for our families throughout the year. Further families in the village and SHG were trained. Gram Vikas team visited these kitchen gardens and guided the community on ways to get a better harvest.

People were provided with information with regard to procurement of quality seeds at subsidised rates. Public was encouraged to use organic manure instead of chemicals and urea. Many people are selling their excess produce in the village *haat* and vendors prefer to buy the vegetables in our kitchen gardens, as it is fresh and tastes good."

Besides enabling efficient use of water in water-scarce regions, the homestead gardens aid in increased savings, dietary diversity, and food security.

"My kitchen garden now fulfils the wishes of my daughter and husband with a choice of their favourite vegetables, which I cook for them every day. I get to save around ₹200 every week which is now used to buy cooking oil, sugar, pulses, fish, and books for my daughter. I avoid walking long distances to the weekly *haat* and instead finish other chores at home," says Chandrakala.

Growing vegetable garden not just improves the nutrition level but also provides healthy living as water neither stagnates nor emits foul odour. The waste water is used to recharge the ground and helps in water conservation.

Jal Jeevan Mission holds Planning Meeting with Members of Rural WASH Partners Forum to Deliberate on Way Forward

A meeting chaired by the Joint Secretary, Jal Jeevan Mission, Department of Drinking Water and Sanitation, Ms Swati Meena was held on 9th May 2024 with the members of Rural WASH Partners Forum to review the progress of the programme in States/ UTs. A discussion was held on the new thematic areas which may be added under the Mission as they are important for long-term sustainability of the programme.

The RWPF State leads shared the achievements made by the respective States/ UTs, challenges encountered, ongoing initiatives and the way forward as per the progress made by each region.

In the meeting a deliberation was held on addition of new themes like WASH sustainability, sustainable financing for WASH, Gender and Livelihood and CSR. The importance of integrating these themes into mission strategies was emphasised.

The RWPF partners will be preparing the Annual Action Plan aligning their activities with Jal Jeevan Mission objectives to ensure regular supply of tap water connection in every rural household. The meeting provided a platform for partners to share their work and plan for the future to support the successful implementation of 'Har Ghar Jal' programme being implemented by Jal Jeevan Mission.

Participatory Groundwater Management – A Critical Framework for Establishing Sustainability in Rural Drinking Water Systems in India

- **Eklavya Prasad**, Megh Pyne Abhiyan

Background

This article reflects on the Participatory Ground Water Management (PGWM) framework as a way to effectively establish collective responsibility for maintaining drinking water systems and services in rural India through the Jal Jeevan Mission (JJM). It shares a compilation of learnings and experiences of Megh Pyne Abhiyan (MPA) gained from time to time using PGWM framework in Bihar, Jharkhand, and West Bengal respectively.

The content shared in this article draws from six fundamental sources, as well as the author's nearly three decades of work experience on the water. First, in the article are details of processes, arguments, and practices adopted by MPA to implement PGWM in five flood typologies in Supaul, Saharsa, Khagaria, Madhubani and Pashchim Champaran districts in the alluvial plains of North Bihar. Second, is the study undertaken by MPA on the 'State of Water in Bihar – Implications Under a Changing Climate'. Third, is the study on 'Integrating Watershed Management and Participatory Groundwater Management – Piloting Groundwater Management and Governance through the Neeranchal Programme' in Dhanbad district in Jharkhand. Fourth, is voluntary work done by MPA to highlight and address 'Fluoride Contamination in Water-stressed Gharbar panchayat in Baliapur block of Dhanbad district'. Fifth, is the study on 'Technologies and Approaches Adopted for Arsenic and Fluoride Mitigation in West Bengal'. And lastly the sixth, is recent implementation of the 'Shallow Aquifer Management Pilot' in the Dhanbad Municipal Corporation area.

PGWM framework helped in all the above to explore unknown groundwater realities, gain understanding of aquifers, and comprehend people's interaction with groundwater in different hydrogeological conditions. Local knowledge existing among different groups of rural communities regarding geology and groundwater was overlayed with scientific and technical findings and related arguments. The output helped in developing strategies to deal with the existing challenges.

The framework described above may seem simplistic or prosaic, but it actually encompasses innumerable planning, strategies, processes, and corresponding activities.

Preparation for PGWM

At the core of MPA's work is its informed social mobilisation. And this was further strengthened to implement the PGWM framework by developing the diverse skill sets of the team of dedicated workers through multi-dimensional learning exercises. Capacities were developed on the important themes to implement the PGWP framework.

- Raising consciousness on the importance of collective action;
- Developing collaborative strategies for working within and between teams;
- Determining parameters for identification of villages for implementation;
- Preparing a dossier on local health challenges as well as frequent and analysing the rare water related disasters, groundwater, surface water, drinking water, irrigation, rainfall, and sanitation scenarios;
- Accessing and documenting groundwater and geological granularities from the grassroots;
- Highlighting various techniques of generating information and knowledge from villages, panchayats, district and block administration, government departments and online and offline sources;
- Templating the procedures, techniques, and documentation of water quality testing;
- Compiling, assessing, and sharing information generated at different levels with diverse stakeholders;
- Demarcating safe and unsafe areas with respect to contaminated water sources and delineating the same graphically;

- Developing contextual alternative safe drinking water sources and sanitation facilities;
- Training of trainers for capacity building of local key resource person for decentralising and appropriating PGWP;
- Assessing PGWM intervention for the possibilities of its replication in other geographies in future;

The preparation for PGWM includes skill building on how it is implemented to facilitate social transformation along with, enhancing understanding and knowledge on rural communities, their water landscapes and challenges.

Gathering information and knowledge from the communities

The preparedness of PGWM helps plan and develop strategies (albeit with innovation), interact, and mobilise communities, and initiate collective and contextual action under PGWM. The process begins with realisation of the community as the main source of local information and knowledge. The emphasis on creating a bank of facts, figures, and descriptions from diverse rural communities rather than making them recipients of external interpretations led to a new approach to working collectively. The knowledge generated from villages through various operational processes helped in developing an open community platform to facilitate water-based interactions. (Figure 1)

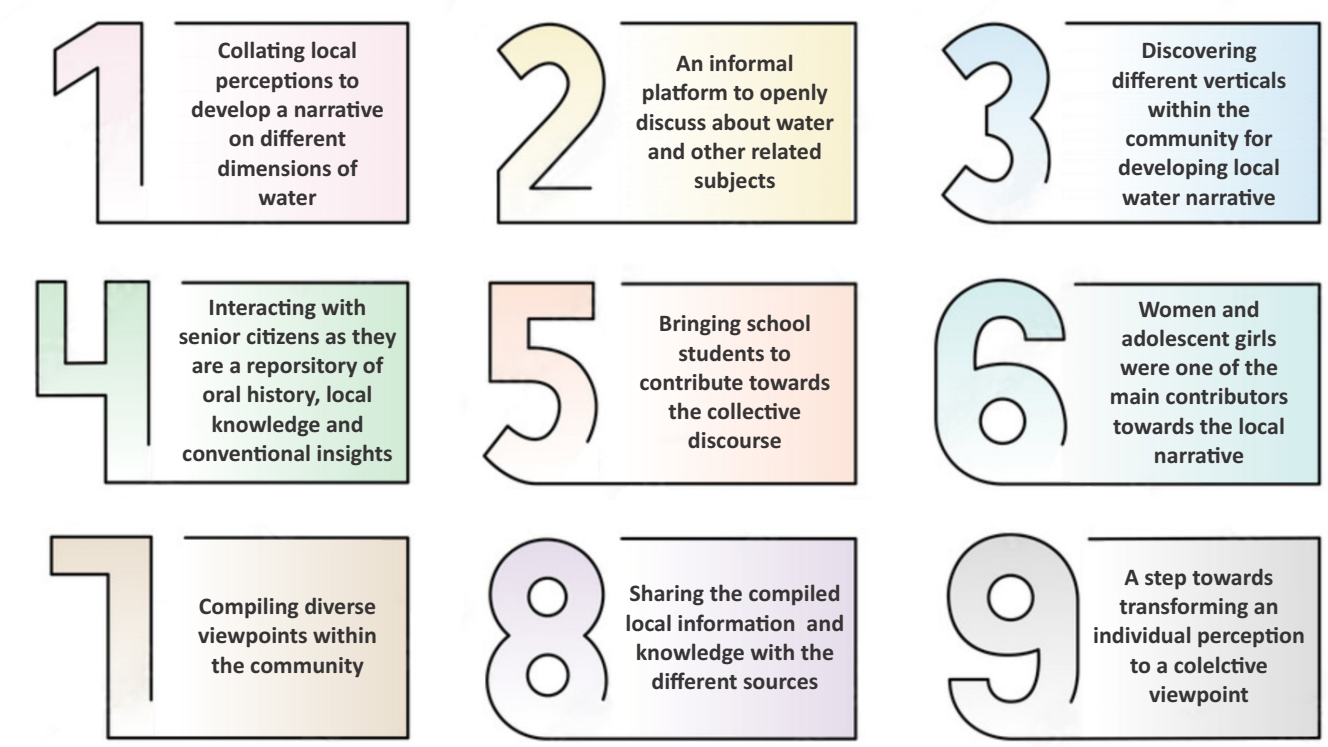


Figure 1 - Groundwater-based Participatory process of interaction with the community

Generating hydrogeological and water quality data

To prioritise access to safe drinking water, information on local hydrology and groundwater quality becomes a key component to understand and incorporate into action. Therefore, understanding was ensured by developing a collective understanding about the existing water landscape in the villages. Shared and common knowledge was created by collecting information about local water conditions from people, followed by a systematic process of research on groundwater in each season. (Figure 2)

Aggregate information about groundwater was strategically compiled and shared among rural communities to reassure them about their analytical interpretation of the resource and its inclusion in local water discourse. And also, to sensitise them about the research findings of the scenario at village and panchayat level.

Identification of Bhujal Doots and their empowerment

The complexities of safe drinking water and bringing about behavioural change of rural communities through multiple strategies regarding its sustainability is unimaginable

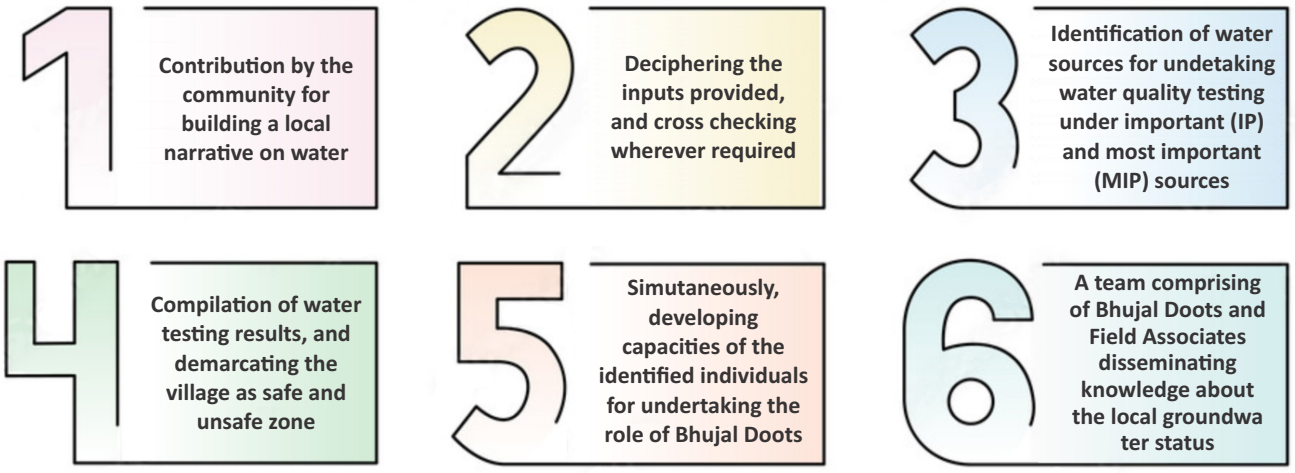


Figure 2 : Process of interactive information sharing on groundwater with the communities

without enhancing the capacities of local people and especially groundwater enthusiasts, referred to as *Bhujal Doots*. Therefore, mentoring people as Bhujal Doots with technical knowledge related to water, groundwater and related subjects was a non-negotiable task. The mentoring began with several interactions on various water-based topics. Subsequently, theme-based training was imparted at frequent intervals. Throughout the process, emphasis was placed on striking a balance between traditional and scientific knowledge and creating legitimate space for each other.

Relevance of PGWM in Jal Jeevan Mission

The PGWM framework helped identify the linked, distinct, and current patterns of groundwater use and dynamics in relation to various factors (natural, geographical, hydrogeological, social, economic, political, developmental etc.). These relationships were essential to identify groundwater-based realistic arguments, challenges, and opportunities. The framework helped develop an understanding of the relationships between aquifers (local, regional and transboundary) and disasters (floods and droughts) in relation to potential and affected areas due to natural and human-induced conditions. This understand-

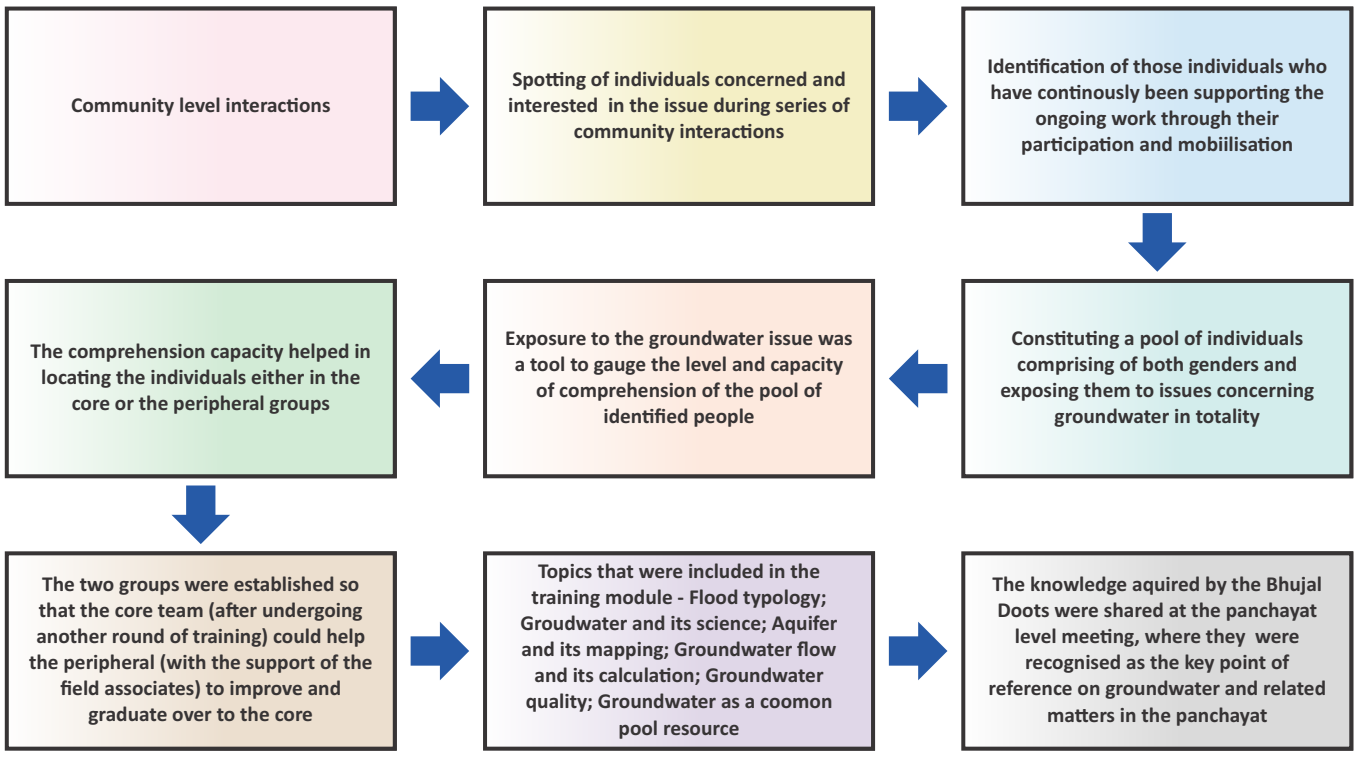


Figure 3 : Method of identification and empowerment of Bhujal Doots

ing of the interrelationships between people, sources and resources is a fundamental step that must be followed before ensuring safe drinking water in households.

Identification of flood typologies in North Bihar has been one of the most important process outcomes for the PGWM programme. This exercise has put forward an argument that did not get any recognition and space in the flood discourse within the state. While flooding and its impacts have been viewed as a uniform phenomenon, the identification of typologies has at least raised questions that allow understanding floods and its associated impacts on groundwater from an entirely new perspective. The missing narrative regarding the impact of natural and human induced disasters on access to rural drinking water systems can be adequately addressed and tackled through the PGWM framework.

The process of learning, exploring, and documenting groundwater in different geographies has iterated many simple as well as complicated questions concerning the resource. For instance, the participatory pictorial depiction about the contamination profile in the village was able to clarify doubts about contamination and trigger a process of thinking collectively about groundwater as a common pool resource. The very thought of considering a change in ownership of groundwater was an indication of people's intent to collectively deliberate and explore plausible solutions to access safe drinking water. The progress from illustration to positive transformation, certainly with other input, has created opportunities for PGWM to be scaled up in the panchayats -

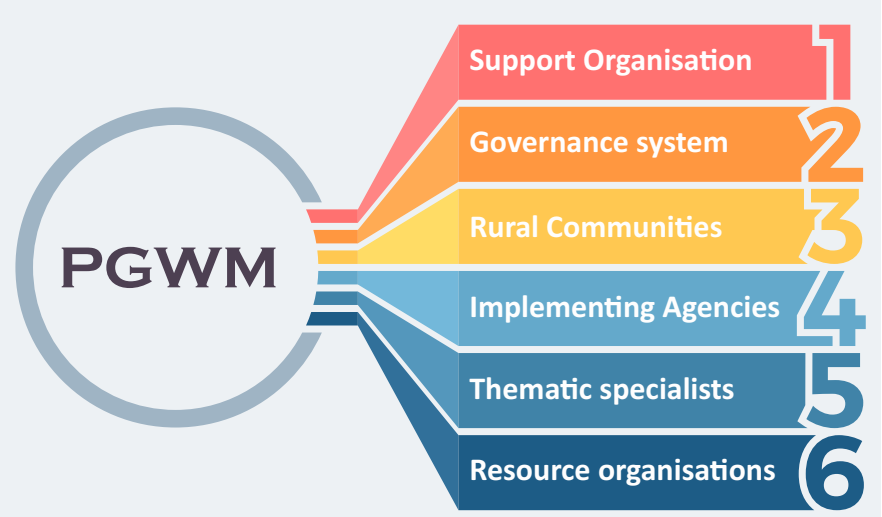
- Affected by groundwater contamination or depletion;
- Collective approach is needed to ensure access to safe drinking water free from contamination;
- Face problems of inaccessibility regarding safe drinking water during certain parts of the year;
- Located in difficult and inaccessible terrain, largely marginalised

Furthermore, the PGWM framework has essential elements that will help in linking groundwater with basic amenities – drinking water, sanitation, and health. The facts, utilities, constraints, impacts, and opportunities associated with each of these can be explored based on the importance of options that are developed either locally or contextually as a way forward through a participatory framework.

Given the undulating character and plurality (ecological and human-induced) of any region, developing a participatory framework for groundwater management is a process of evolution. The PGWM framework facilitates understanding of people and their interrelationships with groundwater (as they form the most important link) to create a pan region framework.

It must be clearly stated that the PGWM framework is not merely a collaboration between implementing agencies and rural communities. Nor is it simply a convergence of local knowledge with scientific and technical arguments and an understanding of groundwater dynamics. In fact, the participatory framework involves collaboration at multiple levels to make it effective and efficient. (Figure 4) Hence, for JJM to adopt PGWM framework will enable collaboration between support organisation (institutions, ministry, department etc.), the governance system within the state, district, block and panchayat, the beneficiary communities, implementing agencies, thematic specialists, and resource organisations.

Unless this collaboration is fully established, the integration of PGWM principles and framework with JJM cannot be effective and rural drinking water systems cannot be sustained. The developed processes of the PGWM framework can help develop people's understanding and participation for JJM from the perspectives of culture, technology, conflict, collectivism, and drinking water security. This broader integration will help create a perspective linking the PGWM framework and JJM to pollution, power, politics, and profits, and thus its effectiveness.



PGWM's collaborative framework

The Importance of Water Conservation: Lessons from the Villages of Assam

- **Madhuri Shukla & Senglung Inthemsa**, UNOPS

Continued global warming is projected to intensify the global water cycle, and to further increase the frequency and severity of droughts and floods, with very wet and very dry weather and climate events, and seasons.

According to the United Nations World Water Development Report 2024, "achieving universal coverage by 2030 will require a substantial increase in current global rates of progress: sixfold for drinking water, fivefold for sanitation and threefold for hygiene". The report also states that although major advances have been made in the adoption of new technologies, the gap between the severity of water problems, the knowledge base and skill sets available to solve them is widening in many areas. The gap in skills and capacity is even more pronounced on non-technological aspects of water management and governance, such as legal, policy and institutional development.

Behavioural Barriers to Water Conservation

Working directly with over 268 village communities in India, the United Nations Office for Project Services (UNOPS) facilitates a *Pani Panchayat* (Water Discussion), a participatory approach conceptualised by UNOPS for its project under the national flagship program Jal Jeevan Mission to trigger a dialogue on the importance of water conservation and the critical role women play in this effort.

The overall purpose of *Pani Panchayat* is to sensitise and motivate people for a gender sensitive approach to water management and promote source sustainability and water conservation. Under this approach, 4 exercises are facilitated namely; women's time use analysis, water use analysis, water budgeting and sharing water conservation techniques for source sustainability.

Women's time use analysis helps both men and women understand that women work for long hours every day and spend quite a time fetching water. The exercise also enables women to realise that their involvement in Jal Jeevan Mission would ensure time-saving in fetching water as water will be available at the doorstep and where they would like to use this time saved.

Water Use Analysis helps community map out all the water sources and the purposes for which they are being

used as well as the daily demand and availability of water for different human needs. The exercise also involves a discussion on which water sources are perennial and which sources dry out in summer. Followed by this is a brainstorming on what people do when certain sources dry out meaning what alternative sources are used? Is there any trend of sources getting dry over the years?

Finally, a Water Budgeting Exercise is to help people analyse the deficit of water availability (by estimating demand for human needs, livestock, and agriculture as against water availability through rainfall, ground water & surface water) and realise the need of saving water, source sustainability and water conservation.

A strong interest and participation of women in the discussions have been observed. By analysing their daily water use patterns, the women in these communities expressed how their practices impacted the availability and quality of water.

Daily Use Analysis

Lina Dutta Deka, a 39-year-old woman from village Bilpar, district Nalbari, Assam shared her experience after *Pani Panchayat*, "We never analysed how water was used in our households! This included everything from cooking and cleaning to bathing and washing clothes. This exercise helped us realise the sheer volume of water consumed daily and identify areas where conservation was possible. Simple changes, like fixing leaky taps or using water-efficient practices can make a huge difference."

Realising the Importance of Safe Drinking Water

The discussions also emphasised the importance of accessing safe drinking water. Contaminated water is a significant health hazard, leading to diseases such as cholera, diarrhea, and dysentery. By understanding the importance of water purification methods and the necessity of protecting water sources from contamination, the women became more empowered to take proactive measures in their homes and communities.

Community Impact

The impact of these activities extended beyond individual households. As women shared their newfound knowledge and practices with others, a ripple effect began to spread through the villages. Collective action on water conservation and safe drinking water practices led to a more informed and proactive community. The engagement of women, who are often the primary managers of household water, proved crucial in driving this change.

This participatory exercise with the villagers underscored the critical role of education and community involvement in water conservation. Through the activities led by UNOPS, particularly the *Pani Panchayat*, women were able to gain valuable insights into their water use and the importance of safe drinking water. These lessons not only empower them to change their own lives but also inspire broader community efforts towards sustainable water management. As these practices continue to spread, the villages will be better equipped to safeguard their water resources for future generations.

By promoting awareness and encouraging practical solutions, we can help ensure that safe and sufficient water remains available for all. The efforts in these villages serve as a powerful example of how community-driven initiatives can make a significant impact on global water conservation efforts.

Behavioural Barriers to Water Conservation

Flowing Towards a Greener Future: Sarpanch and Team's Commitment to Water Conservation

- **Kajal Sharma,** IEC coordinator, Durg, PHED, Chhattisgarh

Temri, a village in Patan Block, Durg District, Chhattisgarh State, comprises a total of 298 households. The proactive efforts of Sarpanch Mr. Khemlal Deshlahre and the VWSC members, including Mrs. Lata Thakur, Mrs. Anita Mandavi, Mrs. Rakeshwari Yadav, and others in Village Temri, are truly commendable.

Their commitment to raising awareness about environmental concerns such as water conservation and proper disposal of solid and liquid waste, ensures that the garbage is not discarded haphazardly in the village or around the water bodies, is noteworthy.

Awareness is generated among the community on the different types of waste generated by us as individuals especially the use of plastic, which is non-biodegradable, and can stay in the environment for many years. Accumulated waste on water surfaces can impede water penetration into the ground, leading to decreased groundwater recharge and potential water scarcity. Therefore, Sarpanch Mr. Khemlal and his team diligently clean the water bodies every six months, significantly contributing to the conservation of water.

The Sarpanch has initiated the implementation of "3-layer recharge pits" in the village to preserve groundwater. These pits are vital for replenishing groundwater levels, particularly in regions facing water scarcity. Moreover, managing greywater through these pits supports overall water sustainability. Another significant measure taken by the Sarpanch and their team is the installation of 12 soak pits throughout the village. By directing excess water into soak pits, the village not only prevents water wastage but also avoids mud formation, which can damage roads and create unhygienic conditions. This proactive water runoff management helps in maintaining a clean environment. Lastly, the Sarpanch and the team planted 650 trees across the village, highlighting the essential role of trees in water conservation efforts.

Behavioural Barriers to Water Conservation


Behavioural Barriers to Water Conservation

Transformation through Tap Water: Villagers Delight as Tap Water Arrives in the Homes of Manjra Makra Village

- **Rachna Gahilote Bisht**, NJJM

The residents of Manjra Makra village in Niwari district, Madhya Pradesh, are elated to have tap water in their homes. As a result, this development has significantly improved their daily lives. Previously, villagers had to fetch water from wells about 2 km away, and even then, the water was not fit for drinking. With only one functional hand pump in the village, long queues were a common sight, and fetching water consumed an entire day. The biggest burden of this fell on women. School children also struggled to get clean and sufficient drinking water.

The change came through the combined efforts of Parmarth Samaj Sevi Sansthan volunteers and Jal Sahelis, who prepared a water situation report for villages lacking pipelines or water supply. Following this assessment, they collaborated with the Jal Jeevan Mission to conduct joint monitoring of the villages. After the monitoring, pipelines were installed in the villages where none existed, and water supply was ensured in areas with non-functional systems. As a result, every home in Manjra Makra village now has a tap, providing daily water through a pipeline. This access has eased the villagers' daily routines and ensured adequate water for school children. With assured water supply, the villagers are now experiencing better health and hygiene, with a notable improvement in living standards.

The successful efforts of the organisation and Jal Jeevan Mission demonstrates that community cooperation and effective implementation of government schemes can solve significant problems. This initiative sets an example for other villages, inspiring them to address the water issues in their villages.

Following Manjra Makra's success, the neighbouring village of Rajapur also started receiving tap water. Although delays initially hampered the progress of the work but the persistence of Jal Sahelis and Women Water & Sanitation volunteers, ensured the matter was resolved by approaching the authorities. Some families faced challenges when their tap connections were placed outside the village, necessitating further efforts from Jal Sahelis to ensure taps were installed within households.

The Jal Sahelis proposed various solutions, such as engaging local government officials and assisting with household tap installations. Their efforts have greatly improved villagers' lives, freeing up time for other activities and enhancing overall well-being. Villagers with access to tap water are delighted with the development, which has eased their lives and improved their social and economic conditions. However, concerns remain about the sustainability of water sources which provide water to the pipelines. Falling groundwater levels and the increasing crisis of surface water sources due to climate change highlight the urgent need for enhanced water conservation efforts. Understanding these challenges, it is crucial to implement better water conservation strategies and increase the capacity of water sources. This approach will safeguard the present and ensure a stable and secure water supply for the future.

Effective initiatives are underway in other villages as well, but there are concerns about whether these efforts are sufficient to meet critical water conservation needs. There is a pressing need to further expand and improve these initiatives, both in scope and quality.

Securing Safe water in Fluoride affected village of Jhabua, Madhya Pradesh

- **Kalpana Bilwal, Sarita Kharadi and Rashika Pullam Chetti,** INREM Foundation

Which is the worse option during peak summer: Walking a mile to get water or fetching water from your adjacent hand pump with high fluoride in it?

This used to be common in villages across India where many drinking water sources such as dugwells and handpumps dry up during the harsh summer months. Imagine this in a remote village called Ghosaliya Bada of Jhabua District of Madhya Pradesh, where fluoride is found in most of the water sources.

Jhabua district is well known for its Watershed programmes since the 1990s which pioneered water conservation efforts. However, during summer times, many villages resort to water tankers bringing Water from faraway water sources to the village.

When INREM Foundation started its work in Ghosaliya Bada in 2019, all the drinking water sources, be it private or government, were tested for fluoride. These tests revealed that all except one dugwell was contaminated with high fluoride. This was shared with the residents, however, it was found that despite knowing about issues caused by fluoride, residents continued to get fluoride contaminated water from other sources

The fluoride problem in Jhabua is a long standing one from the mid 1990s. While more than 150 villages have been reported to have high fluoride in groundwater, some of the villages also started seeing visible signs of Skeletal Fluorosis, since the 2000s. Villages such as Ghosaliya Bada have had programmes on more awareness of this high fluoride problem. However changing people's behaviours has not been very easy i.e. to shift from high fluoride affected handpumps towards safer water sources such as some of the open wells.

Why didn't the residents shift to a safe source?

The residents shared that the dugwell, although it had safe and fluoride free water, was located right next to a tree, and was surrounded with heavy growth of wild weeds. It appeared that by simply clearing the

weeds in the immediate surrounding of the well, and covering it would protect it from other possible contamination. Moreover, the dug wells are perceived to go drier in the summer and generally in use for irrigation water during the cropping seasons.

This matter was discussed in the Gram Sabha, where along with the village residents and local representatives, block and district level PHED officials were also present.Not only was it decided to protect the dugwell by covering it, a resolution was passed in the Gram Sabha Meeting to include the dugwell as a water supply scheme within Jal Jeevan Mission for household tap connections for the residents.

What makes this source safe and sustainable?

At a time when most wells dry up during summer months, this dugwell continues to be the primary drinking water source for the residents of Ghosaliya Bada as it is located downstream from a pond. The pond helps in aquifer recharge and through the tap connections from this protected dug well, the residents continue to get safe drinking water throughout the year.

Additionally, water conservation efforts for increasing the storage capacity of the pond resulted in the sustainability of water supply sources.

Now, thanks to the Jal Jeevan Mission and other water conservation programmes such as the Jal Shakti Abhiyaan, the 1700 + population of Ghosaliya Bada receive safe water at their households, free from fluoride and secured by water conservation.

A district such as Jhabua faces many challenges with water supply, conservation and ensuring water safety. This example from Ghosaliya Bada shows us that by appropriate mapping of water quality, understanding the aquifer and by ensuring recharging of the aquifer supplying water to the open well, it is possible to design and implement a sustainable water supply programme.

Problems such as Skeletal Fluorosis are now seen much less in Jhabua, thanks to bright spots such as in Ghosaliya Bada.

Heat Wave in India in 2024: Challenges and Sustainable Solutions for Water Sustainability

- **Amit Pawar,** National Lead (RWPF), inputs by **Priyanka Khanna Pawar** and **Ravi Mishra** (water.org)

Introduction

In 2024, India is grappling with an unprecedented heat wave, with temperatures soaring to 50 degrees Celsius in Rajasthan it is creating severe conditions across the country. This extreme heat wave has exacerbated water scarcity, strained power supplies, and threatened agricultural productivity. The supply of water supply is getting hugely impacted. As sources are drying up, many cities have announced that people will be getting water supply just once a day instead of two times morning and evening. It is an alarming situation. It is important that we understand the reasons behind increasing heat waves, their impacts, and sustainable solutions to address this crisis. This article explores the causes of the heat wave, its consequences, and strategies to mitigate its effects, focusing on Jal Jeevan Mission's role in ensuring water security for rural India.

Reasons Behind Increasing Heat Waves

The frequency and intensity of heat waves in India have been rising due to a combination of factors, including climate change, urbanisation, deforestation, and shifting weather patterns such as El Niño.

1. **Climate Change:** Global warming, driven by increased greenhouse gas emissions, is a primary factor behind the rising temperatures. Climate change has led to more frequent and intense heat waves worldwide, and India is no exception. The Intergovernmental Panel on Climate Change (IPCC) has warned that extreme heat events will become more common as global temperatures continue to rise.

2. **Urbanisation:** Rapid urbanisation in India has led to the development of heat islands, where cities experience significantly higher temperatures than surrounding rural areas. The concentration of buildings, roads, and other infrastructure absorbs and retains heat, exacerbating the impact of heat waves.

3. **Deforestation:** The loss of forest cover reduces the natural cooling effect provided by trees. Deforestation in India, driven by agricultural expansion, urban development, and logging, has contributed to rising temperatures and disrupted local climate patterns.

4. **Weather Patterns:** El Niño: El Niño events, characterised by the warming of the central and eastern tropical Pacific Ocean, can alter global weather patterns. During El Niño years, India often experiences hotter and drier conditions, which can intensify heat waves.

Impacts of Heat Waves

The brutal heat wave in 2024 has far-reaching consequences for health, water resources, power demand, and agricultural productivity.

1. **Health Risks:** Prolonged exposure to extreme heat can cause heat-related illnesses such as heatstroke, dehydration, and respiratory problems. Vulnerable populations, including the elderly, children, and those with pre-existing health conditions, are particularly at risk. The high temperatures have also led to an increase in hospital admissions and mortality rates.

2. **Water Scarcity:** The intense heat has caused water sources to dry up, exacerbating the already critical water scarcity situation in many parts of India. Groundwater levels have dropped significantly, and rivers and reservoirs are at their lowest levels. This scarcity affects both urban and rural areas, impacting drinking water availability and agricultural irrigation.

3. **Increased Power Demand:** The soaring temperatures have led to a surge in electricity demand as people rely on air conditioning and cooling systems to cope with the heat. As there is increased demand for water, pumping and filling of water tank takes longer so the consumption of electricity goes up. This increased demand strains the power grid, leading to frequent outages and blackouts, particularly in rural areas with less robust infrastructure.

4. **Agricultural Productivity:** Agriculture, the backbone of India's economy, is severely affected by heat wave. High temperatures reduce crop yields, increase water requirements, and stress livestock. The heat wave has damaged crops like wheat, rice, and pulses, leading to food shortages and increased prices.

Sustainable Solutions to Mitigate Heat Waves

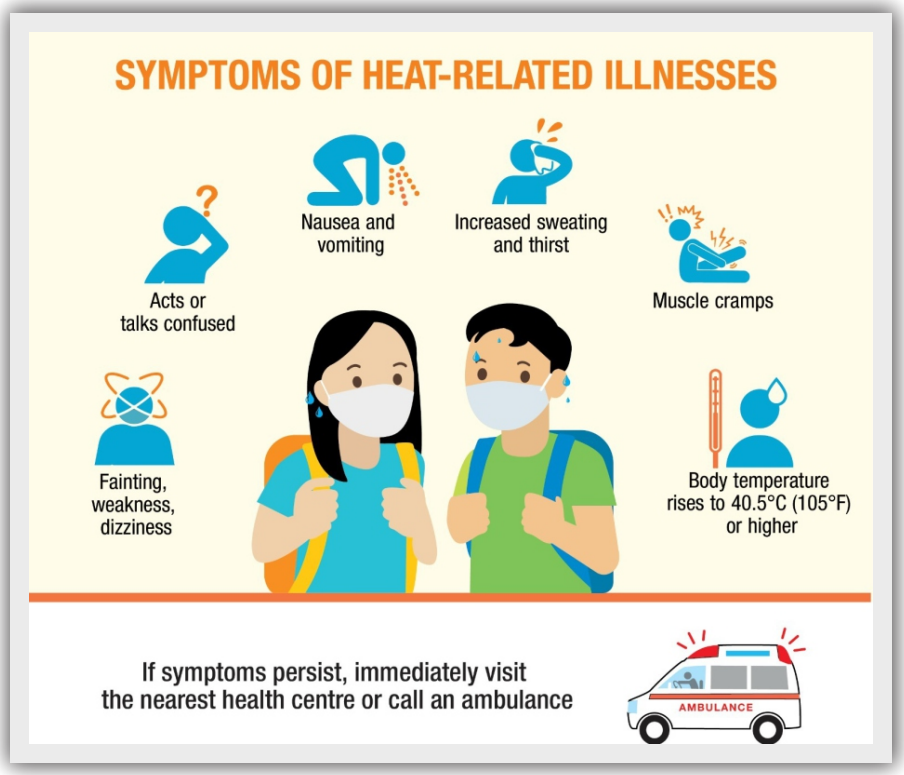
Addressing the impacts of heat waves requires a multi-faceted approach, including sustainable energy creation, green infrastructure, and effective policies to tackle climate change.

1. **Sustainable Energy Creation:** Transitioning to renewable energy sources such as solar, wind, and hydroelectric power can reduce greenhouse gas emissions and mitigate climate change. Expanding the use of solar energy, particularly in sun-drenched states like Rajasthan, can help meet the increased power demand during heat waves while reducing the carbon footprint.

2. **Green Infrastructure:** Implementing green infrastructure solutions, such as green roofs, urban forests, and permeable pavements, can help cool urban areas and reduce the heat island effect. Increasing green cover in cities through parks and tree planting initiatives for shade and lower ambient temperatures.

3. **Sustainable Planning:** Urban planning and development should prioritise sustainability to mitigate the impacts of heat waves. This includes designing buildings with energy-efficient materials, promoting public transportation, and creating green spaces. Water-sensitive urban design can enhance water conservation and management.

4. **Policies to Tackle Climate Change:** Effective climate policies are essential to address the root cause of heat waves. India needs to strengthen its commitments under the Paris Agreement, invest in climate resilience projects, and enforce regulations to reduce emissions from industries and transporta-



tion. Incentives for renewable energy adoption and penalties for excessive emissions can drive meaningful change.

Role of Partnerships

Achieving these goals requires collaboration between the government, private sector, civil society – Rural WASH Partners Forum, KRC's, and international organisations. Public-private partnerships can leverage resources and expertise to implement large-scale sustainability projects. International cooperation and funding can support India's climate action initiatives and provide the necessary technology and knowledge transfer.

The Jal Jeevan Mission: Ensuring Water Security

The Jal Jeevan Mission (JJM) is a flagship initiative by the Government of India aimed at ensuring safe and adequate drinking water through individual household tap connections. This mission is crucial for rural India, where access to clean water is often limited. As of now, JJM has covered around 76% of its target, making significant progress towards universal water access.

Objectives and Achievements: JJM aims to cover approximately 192 million households across rural India. It focuses on creating local infrastructure for rainwater harvesting, groundwater recharge, and the management of household wastewater. By promoting community-based water management, JJM encourages the active participation of rural communities in water conservation efforts.

Impact on Water Conservation: JJM's emphasis on sustainable water management practices helps in the conservation of local water sources. The mission promotes the use of technology for real-time monitoring and efficient management of water resources. Additionally, it encourages the adoption of water-efficient practices and technologies, and faucets which are water efficient and reduce water consumption and wastage.

Role of Communities: The success of JJM largely depends on community involvement. Village-level committees are formed to plan, implement, manage, operate, and maintain water supply schemes. This participatory approach ensures that water conservation measures are tailored to local needs and conditions, leading to more effective and sustainable outcomes.

Preparedness for Rains

While addressing the heat wave, it is also essential to prepare for the monsoon season. Uneven and unpredictable rainfall can lead to disasters such as floods and landslides, as seen in India last year. Effective water management strategies must include measures to capture and store rainwater, reduce runoff, and prevent soil erosion.

Rainwater Harvesting: Implementing rainwater harvesting systems in both urban and rural areas can help capture and store rainwater for future use. This not only reduces dependence on groundwater but also helps mitigate the impact of droughts.

Flood Management: Constructing and maintaining infrastructure such as dams, levees, and drainage systems can prevent flooding and manage excess water during heavy rains. Early warning systems and disaster preparedness plans are also crucial for minimising the impact of floods.

Soil Conservation: Practices such as contour plowing, terracing, and planting cover crops can prevent soil erosion and enhance water retention in agricultural lands. This helps maintain soil fertility and reduces the risk of landslides during heavy rains.

Conclusion

The brutal heat wave in India in 2024 underscores the urgent need for comprehensive strategies to address the challenges posed by extreme heat and water scarcity. By understanding the reasons behind increasing heat waves and their impacts, and by implementing sustainable solutions, India can build resilience against future climate events.

The Jal Jeevan Mission plays a vital role in ensuring water security for rural India, promoting sustainable water management practices, and involving communities in conservation efforts. Sustainable energy creation, green infrastructure, and effective climate policies are essential components of a holistic approach to mitigate the impacts of heat waves.

Partnerships between the government, private sector, and international organisations are crucial for achieving these goals. Collaborative efforts can leverage resources, expertise, and technology to implement large-scale sustainability projects and support India's climate action initiatives.

As India continues to navigate the challenges of climate change, a focus on sustainable development, community engagement, and innovative solutions will be key to building a resilient and secure future. Preparing for the monsoon season and managing water resources effectively will further strengthen the country's ability to withstand and adapt to extreme weather events, ensuring the well-being of its population and the health of its ecosystems.

Creche Facility Started for the Employees of DDWS

- NJJM

The Department of Drinking Water and Sanitation (DDWS) has started a creche facility for its employees. Working in line with the care economy which aims to provide conducive environment to the

parents and guardians of young children a creche was inaugurated by Smt Vini Mahajan, Secretary DDWS on 11th May 2024.

The work for the same was started on 23rd October 2023 with a demand survey. As the employees showed willingness for it, a visit was undertaken to the already existing creche facility at Shastri Bhawan, R K Puram and Indian Oil to understand the facilities required at the centre. A place suitable for the facility was selected after consultation with the team of CPWD which included its architect.

A 260 sq ft space was marked on the ground floor of Pt. Deendayal Antyodaya Bhawan in CGO Complex at Lodhi Road. The main requirements were – easy access, safety and security of the children and support mechanism in case of any eventuality or emergency. The creche facility can accommodate 10-12 children at a time. The design developed by the architect is in line with the National Minimum Standards and Protocol for creches (Operation & Management) and PalnaGhar scheme guidelines. The design submitted by CPWD included provision of furniture, flooring, false ceiling, elevated plans, heating & cooling system, civil and

electrical works. An amount of over Rs 30 lakh was spent in developing the facility.

Two staff are deployed at the facility on morning and evening shift basis from from 9.00 am to 7.00 pm. The staff includes a teacher and an attendant. The creche facility can be availaed by the employees at a nominal contribution to help meeting the recurring expenditure for its upkeep. The creche will take in children from age group of 6 months to 6 years. Officers at Antyodaya Bhawan have been requested to donate educational books and toys at the facility.

Secretaries and senior officers from 14 departments visited the creche on 15th May 2024. They appreciated the initiative provided for the employees by DDWS and expressed their willingness to replicate the facility in their respective Departments. The officials present were–Ms Leena Nandan – Secretary Ministry of Environment Forest and Climate Change, Ms Anita Parveen – Secretary Ministry of Food Processing Industries, Ms Nidhi Khare – Secretary Ministry of Consumer Affairs, Ms V. Vidyavathi – Secretary Ministry of Tourism, Ms Nivedita Verma – Secretary – Department of Chemicals and Petro-Chemicals, Ms Sumita Dawra , Ms Debashree Mukherjee – Secretary Department of Water Resources, River Development and Ganga Rejuvenation, Ms S. Radha Chauhan – Secretary Ministry of Personnel and Training, Ms Anjali Bhawra – Secretary Department of

Empowerment of Persons with Disabilities, Ministry of Social Justice & Empowerment, Ms Sujata Chakraborty, Ms Rachna Shah – Secretary Ministry of Textiles, Ms Anshuli Arya – Secretary Department of Official Language, Ms Seema Jain – Member Finance, Department of Atomic Energy, Ms Alka Upadhyaya – Secretary Department of Animal Husbandry and Dairying.

The key benefits of developing a crèche at the workplace are:

- On-site crèches can significantly reduce absenteeism among employees, as they are less likely to miss work due to childcare emergencies or difficulty in leaving them home unattended;
- Knowing that their children are in close proximity at a safe and secure environment, boosts employee morale leading to job satisfaction and long-term retention;
- A workplace crèche helps employees achieve a better work-life balance, making it easier to juggle between professional and personal responsibilities;
- On-site childcare facilities support working mothers promoting gender diversity and equality within the workplace by enabling more women to continue their careers post-maternity;
- On-site crèches allow women to return to work after maternity leave without the added stress of finding reliable childcare, thus supporting continuous career growth;
- It is heartening to note that the facility is not limited to women as men are also availing it which shows their role in partnering and sharing equal responsibility as care giver and parent;
- An on-site childcare alleviates the stress and anxiety associated with arranging external childcare, allowing parents to focus on their professional roles;
- By providing childcare facilities, workplaces can create a more level playing field, enabling women to compete equally for promotions and career advancement opportunities. Access to reliable child care reduces the likelihood of women taking extended career breaks, which can negatively impact their career trajectory and earning potential;
- Affordable on-site childcare can ease the financial burden on working mothers, enabling them to allocate resources on education and personal development. Crèches at the workplace foster a supportive community among parents.

Offering crèche facilities signals the department's commitment to family-friendly policies, encouraging a culture where employees feel respected and accommodated. By addressing childcare needs, workplaces can help mitigate biases that often unfairly disadvantage primary caregivers.

Secretaries in GoI making a visit to the creche

Training on Sustainability and Reliability of Rural Water Supply during Heatwave Conditions

- NJJM

A meeting was chaired by Smt Vini Mahajan, Secretary Department of Drinking Water and Sanitation with the Mission Head of States on 7th May 2024, ensuring that drinking water reaches every rural household during the heatwave. The Secretary insisted that potable water should be made available by the District Administration especially in water stressed regions ensuring that prescribed quality water reaches every rural home even in the tail end habitations on regular basis. All out efforts must be made to recharge the ground water, thereby helping strengthen water sources under Amrit Sarovar and Catch the Rain. She added that it is important to recycle and reuse the drinking water flowing out of kitchen and bathing area under greywater management.

Chief Secretary, Mission Director, Chief Engineer and other senior officers attended the virtual meet and shared progress made as per the government commitment, their concerns and challenges. Officers informed that regular drinking water is ensured even in water stressed regions, tube wells have been made functional and mobile vans are stationed to ensure supply of water at all times. A robust grievance redressal system has been set up to look into the complaints of the public.

Few States expressed their concern due to dry spell of rain which has impacted the availability of water at source. They informed that efforts are made to deploy alternative measures as interim arrangement. Some States confirmed that they have sought permission from the Election Commission to continue construction of already existing projects under rural water supply as it is an essential service.

Most States/ UTs are focusing on rainwater harvesting, recharge of existing water bodies and grey water management after recycling the water generated in household, post supply of water through taps. The rural water assets are being geo-tagged. Through regular monitoring, leakages in pipelines and taps are rectified to reduce water wastage especially in summers during the heatwave.

The Department is currently focusing on planning and way forward as over 76% of rural households now have access to drinking water through taps as the 'Har Ghar Jal' programme reaches 5th year of its implementation.

2- Day National-level Training Workshop on Information, Education and Communication under Jal Jeevan Mission

- NJJM

A two-day training workshop on Information, Education and Communication (IEC) under JJM was organised at SPM-NIWAS, Kolkata by Jal Jeevan Mission on 21st and 22nd May 2024. The workshop was conducted by Bill & Melinda Gates Foundation (BMGF) and the United Nations Office for Project Services (UNOPS) in collaboration with the Dr. Syama Prasad Mookerjee National Institute of Water and Sanitation (SPM-NIWAS). It was attended by IEC Nodals from across States/ UTs and RWPF partners working on IEC under JJM.

The workshop commenced with the inaugural speech by Smt. Vini Mahajan, Secretary – Department of Drinking Water and Sanitation (DDWS). She highlighted the importance of community involvement in planning, creation, and sustainability of water infrastructure, stressing the role of Behaviour Change Communication (BCC) within IEC. She also spoke about the need for having an effective grievance redressal mechanism, emphasising that it is not enough to supply water but to ensure that water is available in adequate quantity and of prescribed quality on a regular basis, so that people can drink it without any filters. Another important aspect she said is to create awareness on chlorination and water quality for people to accept it, to the point that they demand it.

Smt. Mahajan mentioned how Citizen Corner – a section on JJM dashboard is serving as a transparent and easy-to-use platform for ensuring quality testing and monitoring. She emphasized the use of IEC in raising awareness on various aspects like proper O&M, timely fixation of leakages to avoid contamination, significance of user charges, need for skilling, recharge of ground water and so on.

Objectives of the workshop

- Showcase key successes and future roadmaps of IEC under JJM
- Facilitate the exchange of innovative IEC practices among states and organisations
- Address challenges in IEC implementation through collaborative problem-solving

- Promote community ownership and participation in JJM through effective IEC strategies
- Integrate cultural diversity into water conservation efforts, enriching the 'Jal Utsav' spirit

To ensure long-term sustainability of the programme, public is being sensitised to take ownership of the rural water supply infrastructure created under 'Har Ghar Jal'. As rural India is moving fast towards 100% tap water coverage, social and behaviour change becomes important for conservation, judicious use of water and stopping leakages to avoid water wastage. All the community actions lead to water source strengthening.

'Har Ghar Jal' is a flagship programme of the Government of India which was launched on 15th August 2019 to ensure that every rural household has drinking water supply in adequate quantity of prescribed quality, on regular and long-term basis at affordable service delivery charges.

Assured availability of drinking water within the household will improve the health and socio-economic condition of rural population. As Jal Jeevan Mission (2019-2024) enters the 5th year of programme implementation, the percentage of rural household having access to tap water connection has increased to 76% which was only 17% in August 2019.

Through this workshop the Mission identified, shared and documented good practices and innovations in programme implementation, monitoring and communication emerging from work carried out across States/ UTs.

The workshop showcased emerging good practices, innovations related to IEC, participatory approaches from different States/ UTs and made it available for replication by practitioners in their respective regions.

The States/ UTs developed posters on IEC good practices/ innovation for display and discussion at the workshop. Case study posters were presented by the States/ UTs, sharing their key learnings to identify replicable interventions for their respective States.

The challenges encountered by the States/ UTs were shared in the workshop and potential solutions were deliberated upon. The main topics covered in the workshop included:

- Ensuring that no one is left behind in providing FHTC, safe management of grey water, ownership
- Community involvement for water conservation and source sustainability
- Institutionalising water quality monitoring and surveillance at community level
- Innovative roles of children
- Women empowerment and role of women in ensuring sustainable water supply
- Community involvement in preparation and implementation of village action plans
- Strengthening/empowering VWSCs
- Creating community ownership for O&M of water supply scheme
- Ensuring transparency in procurement and financial management at community level
- Ensuring cross-learning among different states/districts
- The role of IEC to bring behavioural changes and achieve the short and long-term objectives of the mission

Based on learnings from the workshop, participants in the group work developed state-specific IEC action plans to accelerate progress towards the implementation of Jal Jeevan Mission.

Hunting and Gathering: Discovering IEC Best Practices through RAL

- **Shailika Sinha**, NJJM

In the 2-day training workshop on IEC under JJM held at SPM-NIWAS, Kolkata, an interesting session was by United Nations Office for Project Services (UNOPS), aimed at gaining insights and understanding, through a brief overview of the organisation's Rapid Action Learning (RAL) workshop.

The RAL workshop intends to harvest learning from on-going practice and innovations on the ground under JJM and make it available to a wide range of practitioners for their wider dissemination, application and replication across different states and districts. The process has been designed by UNOPS to encourage and enable government practitioners to identify their good practices, innovations and lessons learnt and to share these horizontally peer-to-peer and between levels, drawing practical lessons from each other across districts/states.

While a classical RAL workshop generally adopts a fully participatory methodology over two days, here, in this workshop, only 2 hours and 15 minutes were allocated for the sessions. Despite the limited time, the UNOPS team aimed to maximise outcomes effectively.

Hunting and Gathering

The participants, including the State IEC officials and the RWPF partners in IEC, were divided into five regional groups: South, West, East, North-East, and North.

Participants, metaphorically referred to as hunters and gatherers, explored an exhibition of posters on IEC specific interventions that were at display by various States/ UTs. The objective was to gather information on IEC good practices showcased by different state and RWPF groups. Presenters from these groups explained the details of their practices, which included context, process, results, challenges, and practical tips Participants were tasked with identifying three scalable good practices for their region or state based on the understanding garnered from this knowledge-sharing activity.

Scaling IEC Innovations

Following the Hunting and Gathering exercise, participants shared the identified good practices within their groups. Each group then selected three good practices and discussed actionable ways to scale up or implement these within their regions.

Presentations by Groups

The regional groups presented their selected best practices and shared their takeaways from the workshop. A total of 13 good practices were identified for scaling up by the five groups. Notably, 'Jal Gyan Yatra' from UP was chosen as a good practice by three groups. Other key takeaways included a focus on region-specific, women- and child-centered IEC campaigns, rewarding good performance, effective monitoring of IEC activities, and covering thematic areas such as water conservation, water quality monitoring, renovation of traditional water bodies, and O&M of completed schemes.

Group-Wise Good Practices

Groups	Source of Inspiration	Good Practice		
		1	2	3
Group 1 South	Water.org, Tata Trusts, JJM-UP	Children-centric campaigns like Jal Gyan Yatra in UP	Women – Save Time, Earn Better!	Water conservation and water budgeting – GW recharge, rooftop rainwater harvesting
Group 2 West	Tata Trusts, Piramal, JJM-UP	Samman, Swabhiman, and Sanjhedari	Jal Gyan Yatra – engagement of school children for youth awareness, water budgeting, water SIP	Region-specific IEC activities
Group 3 East	JJM Assam – Jal Doots, Jhar Jal	Increase community engagement voluntarily, KPIs for impact assessment	Renovation of traditional wells	Call centre for grievance redressal, Reaching out to every rural household through students, Jhar Jal app based model for monitoring and feedback
Group 4 North-East	Meghalaya, Haryana, J&K	Awards for stakeholders, more of community involvement, data collection, impact measurement	Zero leakage campaign – Fix the issue, Fix responsibility	My Village, My Scheme, My Pride: Ownership and responsibility to ensure sustainability
Group 5 North	NITI-BIU, JJM-UP, Haryana	Behaviour Change Interventions for improving demand for water quality testing under JJM	Involvement of SHGs for Awareness about WQMP & O&M of completed schemes	Engagement of school children for awareness

Impact of Rapid Action Learning

The significance of RAL in promoting understanding and driving behavioral change is immense. This session facilitated participatory learning and the exchange of best practices, empowering participants to identify and scale effective IEC innovations that address local challenges and capitalise on community strengths. The collaborative efforts of state and RWPF groups, guided by RAL principles, highlighted the importance of community engagement and region-specific solutions in achieving sustainable water management and conservation outcomes.

Women, water conservation & sustainability of Jal Jeevan Mission: Parmarth model

- **Gaurav Pandey,** Documentation Officer, Parmarth Samaj Sevi Sansthan

Imagine a parched land where women are travelling long treks to fetch water that consumes most of their daytime, then probably we can understand the intersectionality of water and women. This is common scene in rural pockets of Bundelkhand region of India. Bundelhand region of India is a water stressed region impacted by droughts every second- third year. Water scarcity affects everyone, but its impact is particularly pronounced on women. The time spent fetching water, often at great distances, takes away from opportunities for education, employment, and personal development.

United Nations Sustainable Development Goal 6 (SDG 6) explicitly aims to ensure availability and sustainable management of water and sanitation for all, with a focus on marginalized groups, including women.

Jal Jeevan mission is launched to fulfil this aim of providing piped water supply (Har Ghar Jal) to all rural households by 2024. The mission emphasizes community participation, decentralized water management, and sustainability. It involves various strategies such as water conservation, rainwater harvesting, groundwater recharge,

Empowering women for water conservation

Parmarth has successfully introduced Jal Saheli (women Water Friends or Women water Warriors) model to engage the women for improving water conservation and water management The Jal Saheli model seeks to engage individual women responsible for carrying forward the water security agenda and provide leadership towards collective assertion for water rights and entitlements, including government schemes, through processes such as awareness generation. In this way, the Jal Saheli engages the community in preparation of water security plans and water budget. She also does liaise with panchayat, government and politicians and raises water issues at village level.

The Jal Saheli model of Parmarth is now recognized as the best NGO model by the Ministry of Jal Shakti, Indian Government. Today, the Jal Sahelis have made more than 100 Bundelkhand villages water sufficient despite the dry weather condition in the region.

Parmarth now has a cadre of more than 1200 Jal Sahelis who are working in more than 400 villages. These Jal Sahelis have become role models in their villages and have awards, accolades both nationally and internationally.

Inspiring example of Ganga Devi

A very inspiring story is of Ganga Devi of Chhatarpur district of Madhya Pradesh, India who fought with superstitions to end water crisis.

Ganga Rajput, from a humble and ordinary existence, has become a confident leader today. In her village, there used to be a large pond, Baba Talaab, a 12-acre pond originally built by Chandela rulers. However, the pond became defunct due to neglect almost four decades ago. People stayed away from reviving Baba Talaab because of a prevailing superstition – the story in the village goes that when a sarpanch (village head) tried to revive Baba Talaab, he lost both his children. This superstition kept people away from reviving the pond. With no water left in it anymore, the residents began to use the dry land for the cultivation of crops.

The village was facing a severe water crisis as there was no facility to store water. There was not a single pond in the village. The hand pumps too became dry. Water shortage became a regular feature, especially in the summers. Ganga formed a group of 25 women from the village to revive the pond. There was initial resistance to reviving the pond. Then there were objections by people who had been growing crops on the dry area where the pond once was. She told the community that it was better to die for water than to die for superstition. As part of this process, the pond was cleaned up, silt was removed, and a check dam was constructed through community participation and convergence. When it rained, water collected in the pond and helped in groundwater recharge that further helped in increasing water availability in the village. Irrigation facilities also increased and for the first time the farmers cultivated wheat during Rabi season.

Through convergence with Village Panchayat, she has been instrumental in revival of 6 other water bodies by community participation. She was honoured by the Hon'ble President of India in 2023 with Water Warrior Award.

At the heart of Jal Sahelis' work lies community-led conservation efforts. Through participatory methods such as Jal Choupals (water forums) and community meetings, they encourage dialogue and knowledge-sharing on sustainable water management practices. From rainwater harvesting to watershed management, these initiatives not only replenish groundwater but also strengthen community resilience against water scarcity. By instilling a culture of conservation, Jal Sahelis are instrumental in realizing the long-term objectives of Jal Jeevan Mission.

Parmarth's water conservation work and its impact on availability of water

Conserving water helps protect natural water sources such as rivers, lakes, and groundwater aquifers. By reducing over-extraction and pollution, conservation efforts ensure that these sources remain viable and sustainable for supplying drinking water to communities.

Water conservation methods, such as rainwater harvesting and watershed management, facilitate the replenishment of groundwater reserves. By allowing rainwater to infiltrate into the soil instead of running off, these practices recharge underground aquifers, which serve as crucial sources of drinking water for millions of people, especially in rural areas.

Parmarth has revived more than 2000 water bodies and more than 193 large Chandela tanks resulting in increased water availability. Water level in wells and hand pumps have increased and year long drinking water security is ensured by these efforts. Jal Sahelis are also actively involved in small river rejuvenation initiatives. Small rivers are crucial in ground water management as well as important as they contribute to maintaining water quality in larger bodies of water, rivers on which Jal Jeevan Mission relies for supply of drinking water.

Sharda Devi -The leader who revived a river.

Sharda Devi Jal Saheli has not only made sincere efforts to mitigate water crisis in her village, but also took leadership for rejuvenation of a local River. She mobilized the community women to come forward to construct check dam on the river to store water. She says that her village was facing acute water crisis when Parmarth team visited the village and started their interventions. She led other women to follow the suggestions made by Parmarth that helped in reduction of water scarcity in the village. She says that the constructed an earthen dam with sacks on Barua River. They filled the sacks with soil and about 5000 sacks were used to construct this earthen dam. Today Barua River which earlier was a drain, now a flowing river contributing to Betwa river – major river on which Jal Jeevan Mission is relying for drinking water supply. For her exemplary work Hon'ble president of India awarded her on International Women's Day – March'23.

Preparation of water security plans for water conservation

Parmarth has provided trainings to Jal Sahelis for preparation of water budget and also water security plans that is essential for mapping water availability and planning for water conservation efforts in the village. The Jal Sahelis actively participate in preparation of village action plan and also push forward the action in GPDP of village panchayats so that the water conservation plans are.

Parmarth is working in 85 villages of 49 panchayts of Bada Malhera in Chhatarpur district and 69 villages of 40 panchayats of Niwari block of Niwari district in Madhya Pradesh to work together with Jal Jeevan Mission and PHE department officials for the system strengthening and sustainability of both multi village schemes and single village schemes of Jal Jeevan mission in Madhya Pradesh and to showcase a model that can be replicated at state level. Jal sahelis are integral part of this system strengthening approach and they have played an important role in Village water & Sanitation Committees and in preparation of water status reports for sharing with JJM & PHE officials for sustaining of the efforts.

In the journey towards water security and sustainability, Jal Sahelis have emerged as unsung heroes, championing conservation efforts at the grassroots level. By empowering communities, leveraging local knowledge, and fostering social transformation, they embody the spirit of Jal Jeevan Mission.

Training conducted at SPM-Niwas on Quality Assurance

- NJJM

A training was organised on Quality Assurance and Quality Control Environment, Health & Safety for Jal Jeevan Mission and Swachh Bharat Mission-Grameen from 28th to 31st May 2024 at SPM-Niwas, Kolkata.

Quality Assurance is important as Jal Jeevan Mission aims to provision prescribed quality drinking water in every rural household of the country. There is an urgent need to augment capacity of human resources.

The training was imparted to 14 Rural Water Supply/ Public Health Engineering officials, State Programme Management Unit team and officers implementing JJM and SBM-G from Assam, Gujarat, Jharkhand, Madhya Pradesh, Tamil Nadu and Tripura. The topics covered in the 4-day training programme were as follows:

1. Introduction to Quality Assurance and Quality Control in water supply and sanitation projects;
2. Ensuring excellence – managing QA and QC across water and sanitation project phases;
3. Understanding BIS standards for water and sanitation materials;
4. Navigating BIS standards: essential guidelines for water and sanitation machinery and electrical equipment;
5. Comprehensive guidelines: material standards and laying norms for pipes/ fittings in distribution systems;
6. Quality control norms and material standards for tube wells, dug wells and infiltration galleries;
7. Quality control and construction guidelines for Surface water-based sources and water treatment plants (WTP) structures;
8. Roles and responsibilities of stakeholders I Quality Control and Assurance: Engineers, contractors and community involvement in water and sanitation schemes;
9. Quality control for High Value DBO contracts;
10. Quality control norms for SCADA system and IOT devices;
11. Environment, health and safety (EHS) in water supply and sanitation projects;
12. Non-conformance management handling defects and
13. Documentation and Reporting in QA and QC

Each State/ UT team made a presentation during the course of the training on the existing practices in the field to operate and maintain piped water supply scheme highlighting their role in programme execution, monitoring and maintenance.

Story Name:

Who Owns the Water?

- **Shailika Sinha,** NJJM

Source: *https://drive.google.com/file/d/1USXZp4SDd3UUnw4cpABurDmZsQwSoNLm/view* (Tamil Nadu State Board, Class 6, Term III – Who Owns the Water?)

Once upon a time, in a small, dusty village, there was a tiny bird in desperate search for a safe spot to nest. The land around her was barren, offering no shade or shelter. After long search, she found a small hole on the ground. With great effort, she widened it to lay her eggs. Under the scorching sun, she nurtured her chicks until they flew away. This might seem like the end of our tale, but it is just the backdrop for a more intriguing story about the hole itself.

"What's so special about a hole?" One might wonder! The story continues to state the same.

After the bird and her chicks had gone, the hole lay forgotten, collecting dust, until a hefty wild boar stumbled upon it. Finding it a bit uncomfortable, he dug around, shaping it to suit his needs before settling down for a deep, restful nap. He unknowingly enlarged the hole further with his movements before leaving in search of food.

Next, a group of wild dogs, drawn by the scent of the boar, arrived. They dug fiercely at the spot, mistakenly believing they could unearth the boar. Disappointed but persistent, they expanded the hole even further before leaving.

The narrative does not end here. The monsoon rains soon arrived, falling steadily for days. The thirsty earth absorbed the water eagerly, and the once insignificant hole collected rainwater, nurturing lush green grass around its edges. This attracted buffaloes, who wallowed in the mud, enlarging the hole even more until it transformed into a small pond.

A hardworking farmer, burdened by drought and poor harvest, noticed the greenery from afar one day. Upon discovering the pond, he was overjoyed at finding a water source so close to his field. He quickly turned the shallow water body into a proper pond for his crops.

The farmer's delight was short-lived, for the wealthiest landowner in the village claimed the pond as his own during a village gathering, sparking a dispute over the rightful ownership. As the community debated, all the creatures who had shaped the pond, from the smallest bird to the boar, looked on, each knowing their part in its creation.

The story concludes with a simple yet profound question for reflection: "Who truly owns the water?"

Moral of the story

The tale of the small hole transformed into a pond teaches us about the interconnectedness of nature and the impact of collective efforts. As each creature contributed unwittingly to the creation of a vital resource, it reminds us that the stewardship of natural resources is a shared responsibility. The moral of the story highlights the idea that no single entity truly owns the natural resources of the Earth; rather, they are a owned by the community and not just the present generation but also the future generations. The common resources need to be respected, preserved, and shared equitably among all beings. This narrative guides us to consider the value of cooperative efforts in conservation and the importance of sustainable practices that benefit the entire ecosystem. In a world where every small action can lead to significant changes, understanding our role in the environment's cyclical give-and-take is crucial for the well-being of all inhabitants, now and in the future.

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