



Har Ghar Jal

Jal Jeevan Mission has seeded a new consciousness around water in rural India. It has redefined the role of government from provider to facilitator, of communities from beneficiaries to custodians, and of infrastructure from an end to a means. Water, once a vector of deprivation, is fast becoming an instrument of dignity, resilience, and empowerment. That is the promise, and the power, of 'Har Ghar Jal'.

Water, the most fundamental of natural resources, has always shaped the destiny of civilisations. In India, where rivers have inspired faith, rituals, livelihoods, and politics, water is not just a resource, it is a cultural and developmental imperative. Yet, access to safe, adequate, and regular drinking water has eluded millions of Indians for decades, particularly in rural areas. The launch of Jal Jeevan Mission (JJM) in August 2019 marked a historic intervention by the Government of India to rectify this injustice and institutionalise a new grammar of rural water governance.

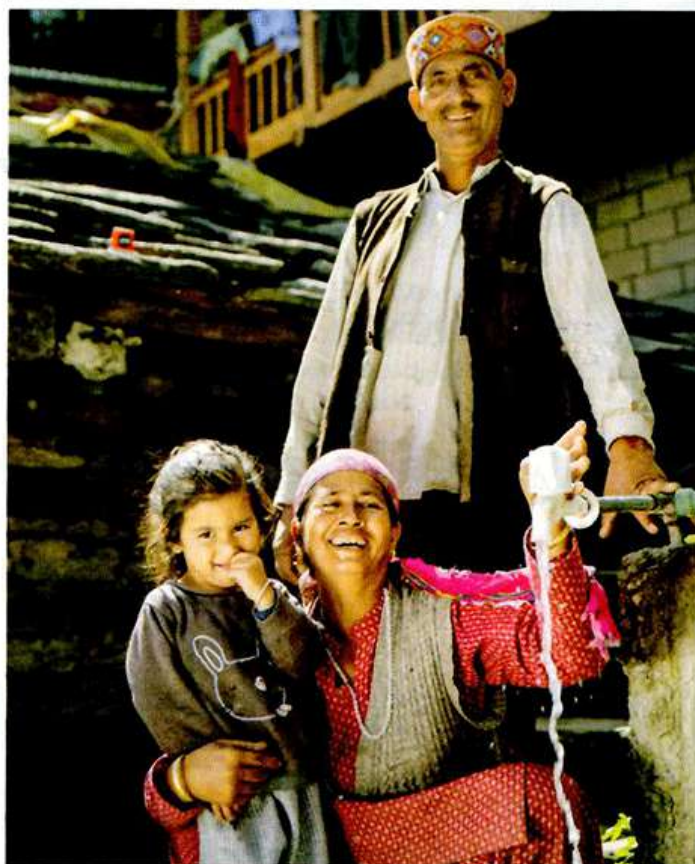
JJM was envisioned with a clear, quantifiable target: to provide a Functional Household Tap Connection (FHTC) to every rural household. But beyond the numerical ambition lies a deeper structural transformation – one that brings sustainability, equity, decentralisation, and community participation to the centre of India's rural water discourse.

What the Data Tells Us

As of May 2025, over 15.62 crore rural households, accounting for nearly 80%, have been provided with piped water supply under JJM. In a country where, until a few years ago, women walked miles for water, this statistic signifies a silent but monumental shift.

Eight states and three Union Territories (UT) - Goa, Arunachal Pradesh, Haryana, Punjab, Telangana, Mizoram, Himachal Pradesh, Gujarat, Andaman &

Nicobar Islands, Puducherry and Dadra & Nagar Haveli and Daman & Diu have achieved 100% coverage. Uttarakhand, Ladakh, Bihar, Nagaland, Sikkim and Lakshadweep are above 90% and all other States and UTs and above 50%.



Clean tap water reaches homes in the hill

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Many aspirational districts, once lagging in development indices, have demonstrated remarkable pace and innovation under JJM. 79.13% of the households in these districts now have tap water connections. This was only 7.77% in 2019. In schools and *anganwadis* too, the current coverage is more than 89.57% and 85.54% respectively.

Yet, JJM is not a scheme of short-lived milestones. It's true metric of success lies in the sustainability of service delivery, ensuring that taps do not run dry, that water meets prescribed quality standards, and that systems are managed locally with accountability.

From Infrastructure to Public Service

Infrastructure creation is an essential first step. But water security cannot be reduced to hardware installations. Functionality in JJM is measured by three interlinked outcomes: quantity, quality, and regularity. This means that every tap must provide at least 55 litres per capita per day, meet BIS 10500 drinking water standards, and operate with consistency.

Functionality assessments conducted periodically reveal important insights. While infrastructure coverage may be high in several regions, service reliability still varies due to factors such as source fragility, power availability, grievance redressal systems, and varied operations and maintenance (O&M) mechanisms.

To address this, the Mission has embedded real-time monitoring, demand-responsive feedback loops, and embedded accountability through tools such as *Jal Jeevan Survekshan*. Institutionalising this level of functionality requires both capacity and culture change – reimagining Public Health Engineering Department (PHED) as agile, citizen-responsive utilities rather than legacy bureaucratic structures.

Ensuring Scheme Sustainability

Sustainability of drinking water schemes is not a static outcome but a dynamic process. It ensures uninterrupted access to safe and adequate drinking water, even during periods of stress. This is achieved through integrated planning that balances technical soundness with social equity, gender inclusivity, and local preferences. Four interdependent dimensions define this sustainability framework:

1. **Source Sustainability:** Maintaining reliable, year-round water availability through aquifer recharge, rainwater harvesting, and rejuvenation of traditional water bodies.



Clean surroundings and efficient facilities give a reason to smile

2. **Institutional Sustainability:** Strengthening institutions like Village Water and Sanitation Committees (VWSC), District Water and Sanitation Missions (DWSM), and State Water and Sanitation Missions (SWSM) to manage operations effectively.
3. **Financial Sustainability:** Leveraging convergence funds and enabling communities to recover O&M costs through locally determined, inclusive models.
4. **Social & Environmental Sustainability:** Ensuring stakeholder participation and safe disposal of wastewater, creating systems that are both people-centric and ecologically viable.

By anchoring sustainability in community-led planning and convergence-based action, JJM seeks to future-proof rural water supply systems and prevent scheme slippage across the design horizon.

No piped water system can function sustainably without a viable source. And yet, source depletion, groundwater over-extraction, and erratic rainfall patterns threaten rural water security in many parts of India. JJM addresses this by mandating plans that include aquifer recharge, watershed development, spring-shed management (especially in the Himalayan and Northeastern regions), afforestation, and renovation of traditional water bodies.

The *Jal Shakti Abhiyan* – Catch the Rain campaign reinforces this effort through convergence with the Ministry of Rural Development, Ministry of Panchayati Raj, and other key stakeholders. Source sustainability demands that communities be empowered to view water as a shared, cyclical resource, not an extractive commodity.

Case Study: Kotri Village – A Model of Sustainable Water Governance

In the heart of Rajasthan's arid landscape, nestled near the Aravalli range, in Pratapgarh the District, lies Kotri, a village that once grappled with the daily struggle for clean water. For the 550 tribal households spread across its two habitations, accessing potable water meant relying on public standposts and hand pumps under the *Janta Jal Yojana*. These sources were often plagued by turbidity and contamination, making every drop a potential health hazard.

The introduction of JJM marked a turning point for Kotri. By July 2024, every household had been equipped with tap connections, ensuring a steady and reliable supply of clean water. However, the journey didn't end with infrastructure. The real challenge lay in sustainable operation and maintenance (O&M) of the water systems. Initially, there was a lack of clarity about the community's role in water governance and minimal implementation of O&M policies.

Recognising this gap, the Village Water and Sanitation Committee (VWSC), supported by the Public Health Engineering Department (PHED) and UNICEF, stepped in. Through capacity-building exercises, strategic planning, and community mobilisation, the VWSC was empowered to take full ownership of the

village's water supply. This participatory approach began with initial engagement and mobilisation, followed by detailed capacity-building sessions on O&M, tariff collection, and financial management. A critical component was the development of a handover checklist, ensuring a smooth and well-documented transition of responsibilities from PHED to the VWSC.

Financial sustainability emerged as a key outcome of these efforts. By collecting water tariffs from residents, the VWSC accumulated Rs 11.54 lakh by March 2024, with a monthly surplus of Rs 15,000 earmarked for future O&M activities. The establishment of a dedicated bank account for water supply management further ensured that funds were available for ongoing maintenance and repairs.

A unique aspect of Kotri's success has been the role of women in ensuring water quality. Five women from the village were trained to conduct chemical and bacteriological tests using Field Test Kits. Their involvement not only contributed to ensuring safe water but also empowered them to become key decision-makers in the VWSC. This proactive approach to water safety has ensured that the community remains vigilant about maintaining high water quality standards.

With increased piped water access, comes an increase in household wastewater – greywater, from kitchens, bathrooms, and laundry areas. Recognising this, JJM integrates greywater management as a key sustainability pillar. Localised and low-tech solutions, such as soak pits, magic pits, kitchen gardens, and constructed wetlands are being promoted at the household and community level. The principle is clear: wastewater should not become waste; it must be repurposed.

In states like Uttar Pradesh, innovative community-based systems are being piloted and scaled. Greywater management also converges with other flagship schemes like *Swachh Bharat Mission-Grameen* and Mahatma Gandhi National Rural Employment Guarantee Scheme (MGNREGS), reinforcing resource pooling and integrated planning.

A promising model is from Chirana village in Rajasthan's Jhunjhunu district, where a Decentralised Wastewater Treatment System (DEWATS) has been introduced. The system collects greywater from around

250 households through a simple pipeline network, which feeds into a large, compartmentalised tank. Here, the water passes through natural processes to reduce its biological and chemical oxygen demand (BOD and COD), making it safe for reuse. The cleaned water is then used by the community for agricultural and irrigation needs, reducing pressure on groundwater sources. This initiative demonstrates how a combination of local engagement, practical engineering, and ecological sensitivity can transform wastewater into a valuable resource.

Technology as an Enabler

In the evolving scenario of rural piped water supply governance, addressing the gaps at the State, District, and local levels is crucial for ensuring efficient and reliable service delivery. JJM has introduced real-time digital dashboards at the Village level (VWSM dashboard), District Level (DWSM dashboard), and State Level (SWSM dashboard). These dashboards empower key stakeholders, such as *Sarpanches* and *Panchayat* Secretaries at the village level, District

Collectors, *Zila Parishad* CEOs, and Executive Engineers at the district level, and State Mission Directors, Chief Secretaries, and PHED heads at the state level – with timely, actionable insights. By making critical information readily accessible, these digital platforms are bridging governance gaps and enabling more effective planning, monitoring, and management of rural piped water supply schemes. NJJM Dashboard is a public transparency tool that tracks state-wise progress, village-wise coverage, and scheme status.

Internet of Things (IoT) based water quality sensors, grievance redressal portals, mobile apps for community members, and asset-mapping tools are being used to ensure responsiveness, efficiency, and transparency. One of the key platforms under this effort is the Water Quality Management Information System (WQMIS), which provides a centralised interface for managing water quality data collected through field test kits and laboratory analysis, aiding in timely detection and resolution of water quality issues. To date, 2,183 water quality testing laboratories have been established across the country, ensuring widespread access to water testing facilities.

Complementing these infrastructural developments is a significant emphasis on community engagement. More than 24.83 lakh women have been trained to use Field Testing Kits (FTKs), enabling them to conduct on-the-spot water quality assessments in their villages.

To make data easily accessible to citizens, the Citizen Corner (available on the JJM portal) allows residents to view the status of water supply schemes, water quality data, and other relevant information about their village. The underlying philosophy, however, remains clear – technology must support decentralised governance, not centralised control. Digital tools can strengthen monitoring, but they cannot replace the collective consciousness required to manage water sustainably.

Institutionalising Participation

Perhaps the most radical feature of JJM is its attempt to invert the power pyramid of water governance. At the heart of the Mission is the belief that villagers know their water best. Over 5.14 lakh Village Water & Sanitation Committees (VWSCs) have been formed. These are 10-15 membered bodies, with 50% women representation, responsible for planning, implementation, operation, and maintenance. In many states, Self Help Groups and women's collectives are taking charge of water quality testing, minor repairs, and tariff collection.

The road ahead for JJM is deeply rooted in *Jan Bhagidari* – people's participation. This participatory model ensures that water systems are not externally imposed but internally owned, maintained, and respected. *Panchayati Raj* Institutions, VWSCs, and community-based organisations will serve as the front line in driving behavioural change, sustaining infrastructure, and creating a culture of shared responsibility.

The *Nal Jal Mitra* Programme (NJMP) is another remarkable step in this direction. The *Nal Jal Mitra* or the field-level operator are capacitated for the daily upkeep and smooth functioning of rural water systems. Acting as the operational arm of the VWSCs, NJMs are being equipped to manage pumps, valves, treatment units, and monitor water quality using field testing kits. With the support of digital tools, they record operational data, report system issues, and support preventive maintenance activities. Regular training ensures they stay updated with protocols and contribute meaningfully to efficient, transparent, and responsive service delivery.

The path ahead requires agility and convergence. Difficult geographies, such as tribal belts, LWE-affected areas, and climate-fragile zone, need precision delivery models, culturally aware messaging, and hyperlocal innovation. As the Mission moves beyond linear expansion to systemic consolidation, it must double down on two fronts: inclusive governance and adaptive resilience. Water quality challenges (fluoride, arsenic, salinity), urban-rural overlaps, and seasonality-linked stress points must be integrated into a comprehensive risk register.

The maturity of JJM will be measured not just by tap coverage, but by its ability to manage shocks, strengthen co-creation, and democratise control over one of humanity's most vital resources. JJM has seeded a new consciousness around water in rural India. It has redefined the role of government from provider to facilitator, of communities from beneficiaries to custodians, and of infrastructure from an end to a means. The future will certainly not depend on budgets alone, but on vigilance, local stewardship, and long-term ecological thinking. To sustain this vision, we must continue to invest in people, processes, and partnerships. Water, once a vector of deprivation, is fast becoming an instrument of dignity, resilience, and empowerment. That is the promise, and the power, of '*Har Ghar Jal*'. □