Raj Bhushan Choudhary

Making Water Sources Sustainable

India's water story is being rewritten — not in government files, but in the daily lives of its people. From the tap that changed everything to rivers that will flow again, this is a movement driven by ASHA workers building soak pits with their own hands, by school children conducting water audits, by sarpanches mobilising entire villages to clean a pond, and by mothers who now insist on testing drinking water before use.

Water is the first element offered to a guest and the last poured during a funeral. It nourishes our fields, runs through our rituals, and sustains our dreams. Yet, over the past few decades, this elemental force, so vital and so vulnerable, has come under unprecedented stress. Erratic rainfall patterns, rising temperatures, unchecked over-extraction, pollution, and growing demands from a booming population have put our water sources under strain. For a nation that holds just 4% of the world's freshwater and sustains nearly 18% of its people, this is not merely a crisis; it's a call to action.

And India is responding. Through bold policy decisions, people-led movements, technology-led interventions, and deep partnerships, we are rewriting our water story—one drop, one village, and one mission at a time.

The author is the Minister of State for Ministry of Jal Shakti, Government of India. Email: mos-mowr@nic.in

As the Union Minister of State in the Ministry of Jal Shakti, I have had the honour to witness this transformation first-hand. The last few years have marked a profound shift in how India approaches water: from extraction to conservation, from dependency to decentralisation, from scarcity to sustainability.

Let me take you through this unfolding journey.

The Tap that Changed Everything

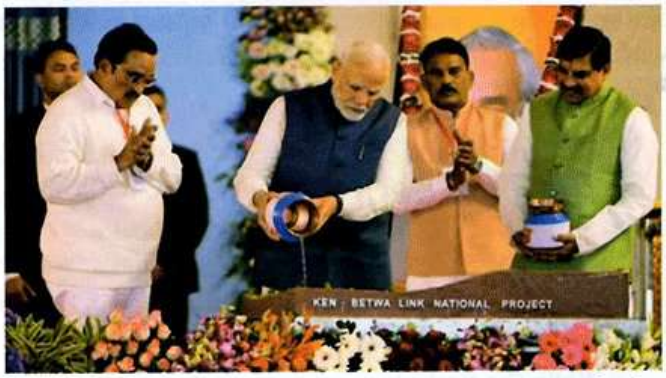
Not long ago, women and girls would walk for hours each day, balancing heavy pots on their heads, to collect water from distant wells or ponds, water that was often unsafe. The cost of this burden was invisible but immense: girls missing school, women suffering from chronic pain, families exposed to waterborne diseases, and a crushing loss of time and dignity. This is the reality that the *Jal Jeevan* Mission (JJM) set out to change.

Launched in 2019 by Prime Minister Narendra Modi, the Mission's vision was simple yet radical: to provide functional household tap connections (FHTCs) to every rural household. Today, we are proud to say that over 15.67 crore rural households have access to tap water, an achievement that is historic not just in scale but in spirit. Because JJM is not merely about laying pipes. It is about empowering communities to own and sustain their water sources. Village Water and Sanitation Committees (VWSCs), with women in leadership roles, are now managing local water supply systems, testing water quality using field kits, and drafting village water security plans. In many villages, women—once water-bearers are now water managers. This transformation is not technical; it is personal. With water in tap, girls stay in school. Mothers cook meals on time. Farmers irrigate efficiently. And an entire generation begins to dream bigger.

Recharging the Future

India's rainfall is generous but fleeting. Most of our precipitation arrives during a short monsoon window, often in intense bursts, and quickly drains away without being harnessed. Our ancestors knew the value of every drop; they built stepwells, tanks, and ponds to capture it. Over time, however, many of these traditional systems fell into neglect.

The 'Catch the Rain' campaign is our attempt to revive that ancestral wisdom and pair it with modern science. Launched as a *Jan Andolan* with the powerful call to action—'Catch the rain, where it falls, when it falls'—this initiative has galvanised lakhs of citizens to take water conservation into their own hands. The crux of this campaign is building a large-scale awareness campaign so that conservation of water becomes a *Jan Andolan*.



Prime Minister Narendra Modi lays the foundation stone for the Ken-Betwa river-linking project in Khajuraho, Madhya Pradesh

Jal Shakti Abhiyan - Catch the Rain (JSA-CTR) campaign has five focused interventions—(1) rainwater harvesting & water conservation; (2) enumerating, geo-tagging & making inventory of all water bodies; preparation of scientific plans for water conservation; (3) setting up *Jal Shakti Kendras* in all districts (4) intensive afforestation and (5) awareness generation.

Across States/UT and districts:

- Rooftop rainwater harvesting systems are being installed in schools, government buildings, health centres, and even railway stations.
- Over 2.5 lakh *Amrit Sarovars* (community ponds and water bodies) have been created or rejuvenated, becoming centres of ecological and social renewal.
- Tools like remote sensing, GIS mapping, and real-time digital dashboards help monitor progress and ensure transparency.

This is not just about water conservation. It is a reclamation of our relationship with nature. Villages once plagued by water scarcity are now becoming water positive, and communities that once waited for the monsoon are now ready to harvest it.

The *Jal Sanchay Jan Bhagidari* (JSJB) initiative, launched under JSA-CTR, reflects the Prime Minister's resolve to make water conservation a national priority. It aims at promoting community participation in building artificial recharge structures and borewell recharge shafts to enhance water storage and boost groundwater levels. Backed by the convergence of multiple schemes and transparent monitoring, JSJB

is uniting citizens, institutions, and governments in a shared mission for a water-secure future.

Managing Wastewater

In rural India, the concept of wastewater, particularly greywater from kitchens and bathrooms, was, until recently, an afterthought. But in a water-scarce country, every drop matters. That's where *Swachh Bharat* Mission (*Grameen*) (SBM-G) Phase II comes into play.

While the first phase of SBM-G successfully made India open defecation free (ODF), the second phase of the ODF Plus Model goes beyond toilets. It focuses on solid and liquid waste management, especially the reuse of greywater and wastewater management, to ensure a truly clean and sustainable village ecosystem.

Central to this effort lie the 3 R's – Reduce, Reuse, Recycle, a simple yet powerful framework guiding villages to cut down waste, repurpose water for gardens and recharge, and treat what remains in environmentally sound ways. The result is a shift in mindset: wastewater is no longer seen as waste but as a resource that can enrich soil, support livelihoods, and make villages cleaner, greener, and more self-reliant.

Today, across thousands of *Gram Panchayats*:

- Greywater is being channelled to kitchen gardens, improving household nutrition.
- Groundwater recharge is being enabled through low-cost soak pits, leach pits, and wetlands.

Efforts are also underway to treat and repurpose industrial wastewater, turning a potential pollutant into a productive resource. Treated industrial effluents, once safely processed, are being channelised for agricultural use, helping reduce pressure on freshwater sources. This not only supports circular water use but also encourages industries to adopt responsible and sustainable waste management practices, aligned with local water needs and environmental safeguards.

Innovative technologies such as bio-remediation units in Tamil Nadu, DEWATS (Decentralised Wastewater Treatment Systems) in Maharashtra, and vermifiltration in Odisha are being adopted based on local geography and community needs. However, perhaps the most important innovation is social. Where once wastewater was seen as dirty, it is now seen as a resource which is managed by communities and transformed into something of value.

Rainwater remains our most vital natural resource. Its scientific conservation and usage are essential for effective groundwater recharge and to strengthen initiatives like *Har Ghar Jal*.

Automated Rain Gauges (ARGs) are modern instruments that can accurately measure rainfall and transmit real-time data to digital platforms. It will empower local governance institutions, such as Panchayats, to make informed decisions for water conservation, recharge planning, and distribution. This data can serve as a foundation for planning— where to build soak pits, how to design check dams, and how much water to store for the dry months ahead. It will also help in water budgeting—estimating how much water is available for drinking, agriculture, and daily use, allowing villages to manage resources wisely and avoid shortages.

With rainfall updates available on the *Meri Panchayat* App and JJM dashboard, villagers will not have to rely on guesswork. From planning water use to preparing for floods or dry spells, this small instrument will unlock big changes, ushering in a new era of trust, transparency, and self-reliance in rural water governance.

New chapter in Bihar's irrigation landscape

What Lies Beneath, Groundwater

India's agricultural miracle has been powered by what lies beneath. Groundwater accounts for more than 60% of irrigation and nearly 85% of rural drinking water. But decades of over-extraction, combined with the loss of recharge zones, have pushed many aquifers to the brink.

To address this, the Ministry launched the *Atal Bhujal Yojana* (Atal Jal), which is a community-led, data-driven groundwater management programme supported by the World Bank. Covering over 8,000 *Gram Panchayats* across seven water-stressed States/UTs, the programme empowers local communities to monitor, budget, and conserve groundwater.

Villages are mapping aquifers, creating 'Water Security Plans', and aligning cropping patterns with water availability. Farmers are being trained to shift from water-intensive crops to sustainable alternatives. Real-time IoT-based groundwater sensors, mobile apps for budgeting, and AI-driven dashboards are putting data into the hands of villagers.

This programme is not just preserving aquifers; it is transforming rural governance. Communities that once fought over water are now planning together for its future.

The Rivers will Flow Again

From the Indus to the Ganga, from the Brahmaputra to the Godavari, rivers are the veins through which India breathes. But rapid urbanisation, industrial effluents, sand mining, and unregulated encroachments have left many of our rivers choking.

Under the *Namami Gange* Programme, we have shown what is possible when political will, scientific expertise, and public participation come together. Over the past five years:

- Over 150 sewage treatment plants (STPs) have been completed or are under construction.
- Industrial effluents are now tracked through online monitoring systems.
- Riverfronts and ghats have been cleaned and rejuvenated across 100 towns.

But our commitment does not stop with the Ganga. Inspired by its success, we are supporting the rejuvenation of smaller rivers, tributaries, and streams across States like Madhya Pradesh, Himachal Pradesh, and Odisha.

Whether it's desilting seasonal *nalas*, restoring village ponds, or planting native trees along riverbanks, these efforts are helping ecosystems recover and communities reconnect with their rivers. Because when rivers flow, cultures flourish, and futures are secured.

Partnerships that Enable Change

No mission of this magnitude can be achieved by the government alone. At every step, we have relied on the power of collaboration.

- Self-Help Groups (SHGs) across India are building soak pits, maintaining toilets, producing awareness materials, and leading behavioural change campaigns.
- Startups and entrepreneurs are introducing innovative, affordable technologies for water filtration, quality testing, and smart metering.
- CSR initiatives by companies are supporting rainwater harvesting, school WASH programmes, and IEC campaigns.
- International development partners such as UNICEF, World Bank, and Bill & Melinda Gates Foundation bring technical expertise, research, and global best practices.

Together, we are building not just infrastructure, but ecosystems of accountability and innovation.

A Tapestry Woven by All

What makes this journey extraordinary is not just the scale but the soul behind it. This is a movement driven by ASHA workers building soak pits with their own hands. By school children conducting water audits. By *sarpanches* mobilising entire villages to clean a pond. By mothers who now insist on testing drinking water before use. By farmers who adopt less water-intensive cropping not because they're told, but because they understand.

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The Road Ahead

We still have a long way to go. Climate change will continue to challenge our progress. Population growth will increase pressure on our resources. But we are more prepared than ever, backed by robust policies, powerful data systems, strong community institutions, and a vision that is both ambitious and inclusive.

Our dream is a *'Jal Surakshit Bharat'*, where every home has access to safe water, where every river is alive, where every village is resilient, and where water is seen not as a commodity, but as a common good. We owe this to our children. We owe it to our future. And we owe it to the sacred relationship that our civilisation has always had with water.

Let us make every drop count. Let us make India water secure. ❑