



Har Ghar Jal
Jal Jeevan Mission

Building Partnership
Changing Lives



Two years of **Jal Jeevan Mission**



Government of India
Ministry of Jal Shakti
Department of Drinking Water & Sanitation
National Jal Jeevan Mission

2nd October, 2021



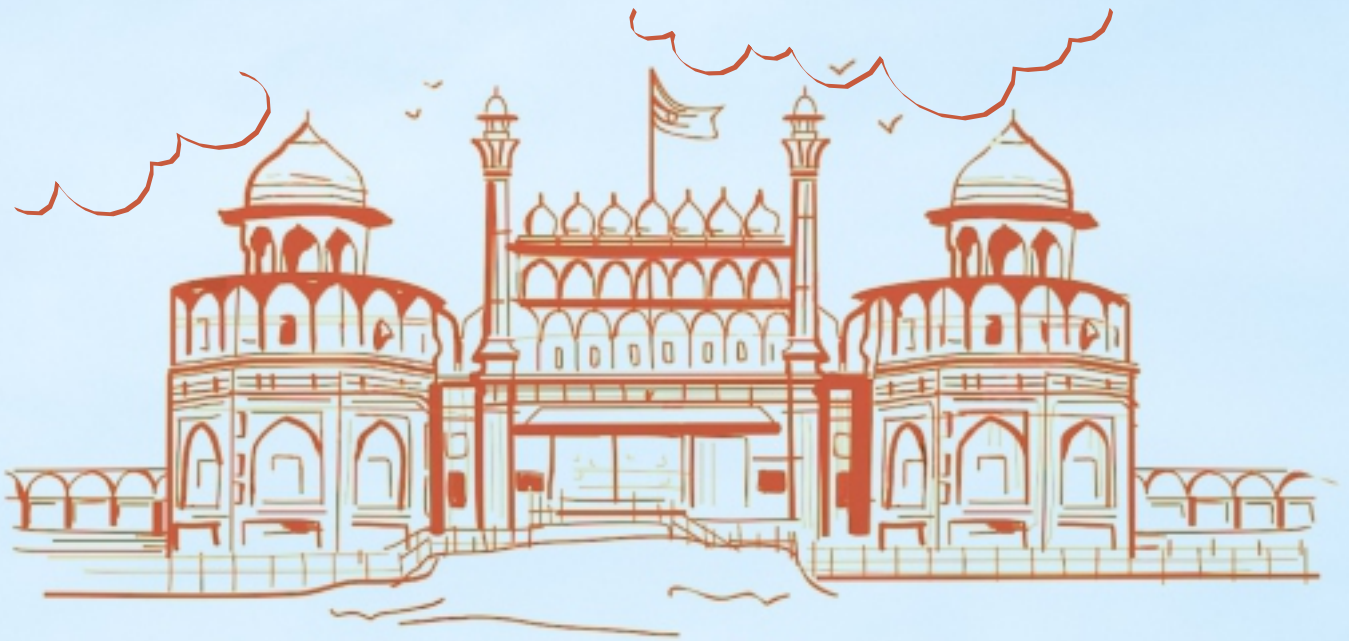
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...Today, our country is working with speed on the 'Har Ghar Jal' mission. I am happy to share that within just 2 years of Jal Jeevan Mission, over 4.5 Crore families have started getting tap water supply. Receiving the blessings from Crores of mothers and sisters is our true capital...

(Prime Minister's address on 75th Independence Day, i.e. 15th August, 2021 from the ramparts of Red Fort, New Delhi)



Jal Jeevan Samvad



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New Delhi
2nd October, 2021



Narendra Modi

Prime Minister



...I declare from the Red Fort today that in the days to come, we will take forward the **Jal Jeevan Mission**. The central and the state governments will jointly work on this Jal Jeevan Mission. We have promised to spend more than **Rs. 3.50 Lakh Crore** on this mission in the coming years...

(Prime Minister's address on 73rd Independence Day, i.e. 15th August, 2019 from the ramparts of Red Fort, New Delhi)



...I am very proud to tell you that our dream of making available pure drinking water to all the people is getting realized. The solution to several health problems is directly linked to the pure drinking water. It also contributes to that nation's economy. That's why we have started the Jal Jeevan Mission...

(Prime Minister's address on 74th Independence Day, i.e. 15th August, 2020 from the ramparts of Red Fort, New Delhi)





Gajendra Singh Sekhawat

Union Minister, Jal Shakti



...Jal Jeevan Mission is in line with schemes launched for ordinary people, all aimed at ease of living so that they can think beyond basic amenities...I am confident that we will achieve JJM target of taking drinking water to every rural home...

OPEN Magazine Vol-11 | Issue 73, The Future of Water





Prahlad Singh Patel

Union Minister of State, Jal Shakti



...Today is a milestone for 'Har Ghar Jal', tap water supply has now reached every household in more than 1 lakh villages. This achievement indicates right direction and policy of the government and is a sign of transparency and prudent utilization of public money. In villages where there was water scarcity for many years, today the people there are getting clean drinking water at home. This is nothing less than a revolution itself...

(On the achievement of 1 lakh 'Har Ghar Jal' villages)





Pankaj Kumar

Secretary, Department of Drinking Water & Sanitation

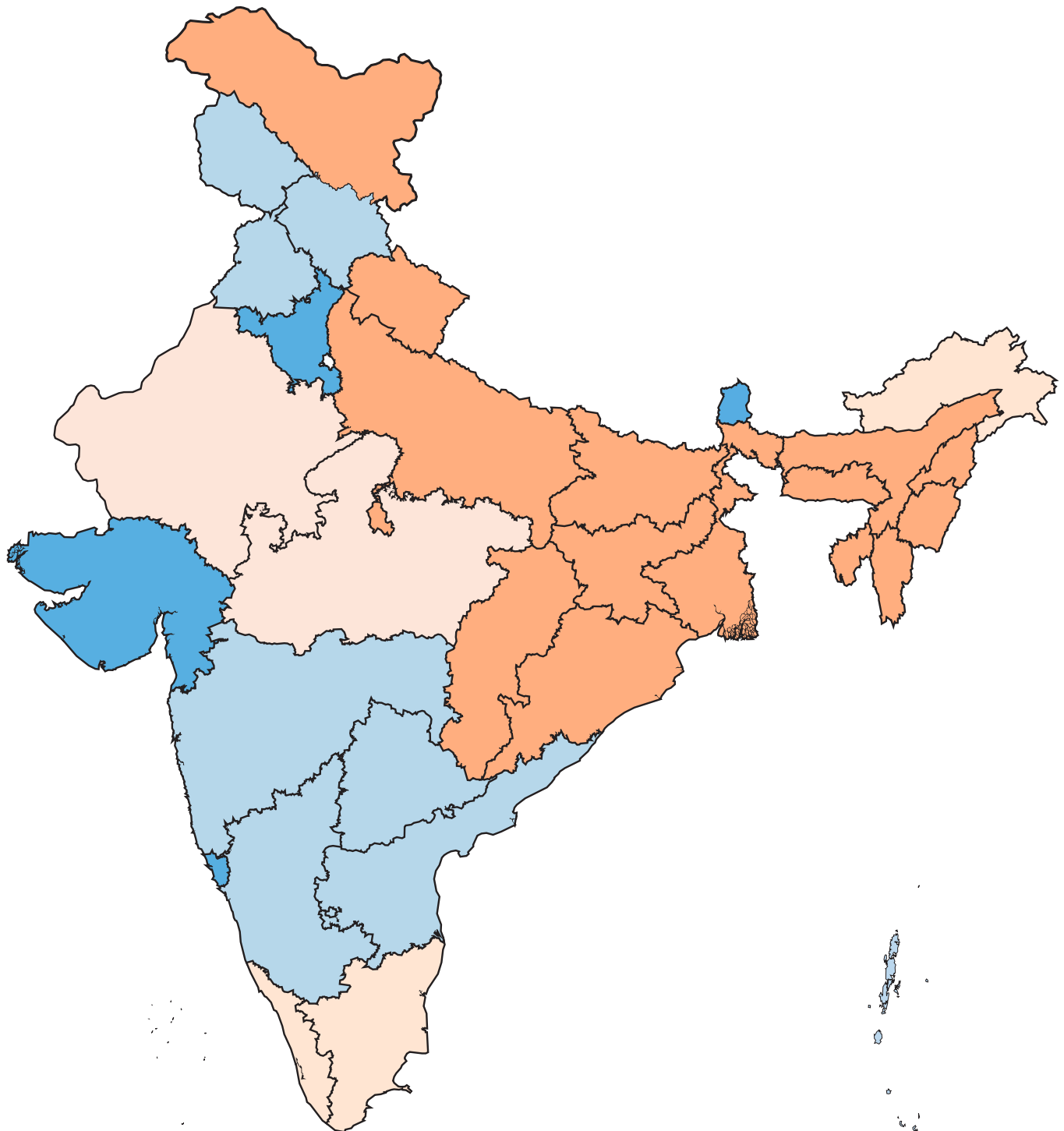


Jal Jeevan Mission is bringing a paradigm shift from mere 'infrastructure creation' to 'service delivery', creating a fleet of trained masons, plumbers, electricians, etc. at the local level. GPs/ VWSCs are to be empowered to take over the responsibility of maintaining their water supply systems by creating a cadre of masons, plumbers, electricians, pump operator, etc. in every village.

Jal Jeevan Mission emphasizes on service delivery, enabling GPs/ VWSCs to promptly attend to any grievance that occurs in village with SoPs on efficient O&M including water user charges and grievance escalation mechanism, available through a phone call to every home.



As on 15th August, 2019



Tap water connections to households: 3.23 Crore (17%)

0%-10%

11%-25%

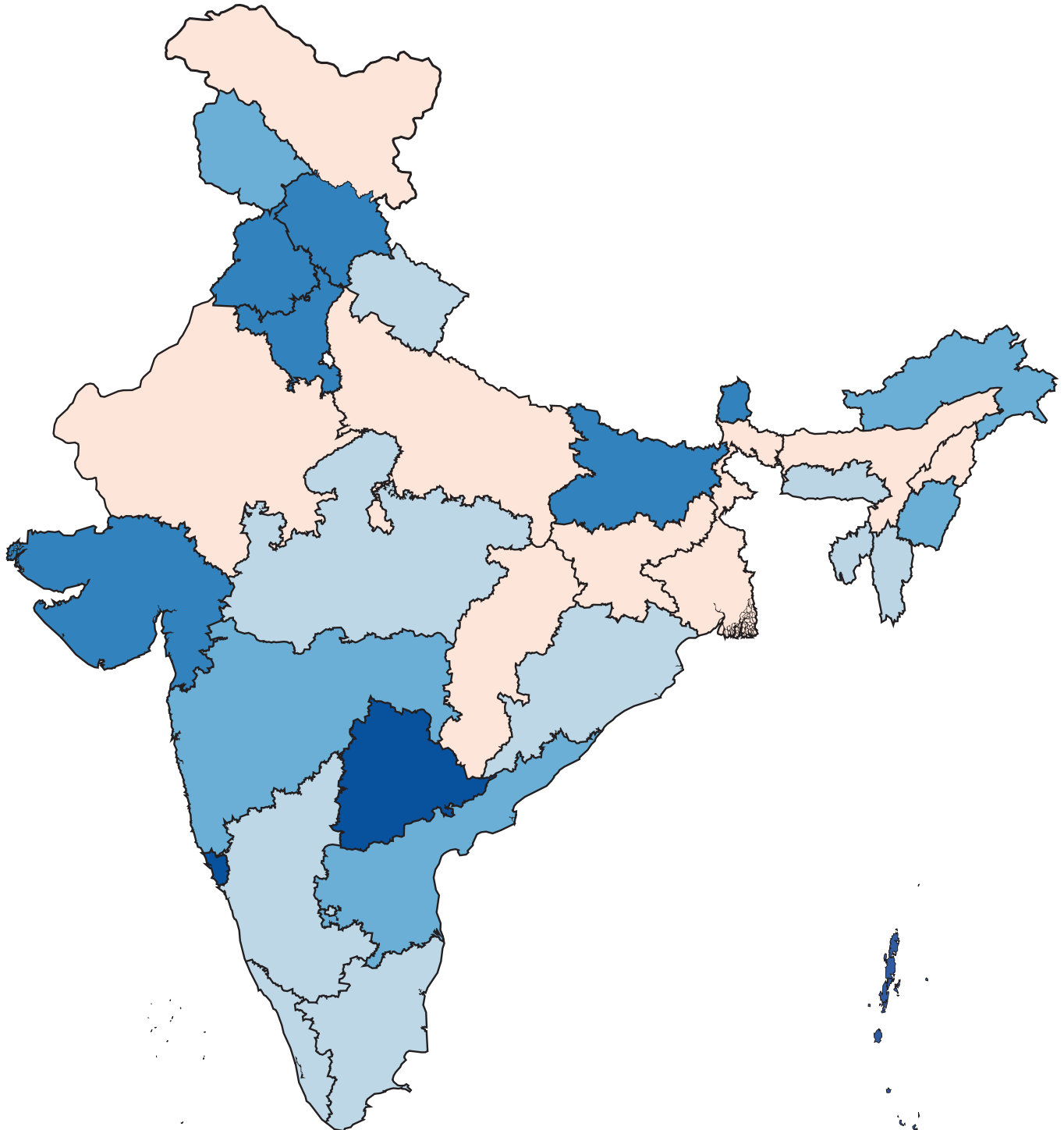
26%-50%

51%-75%

76%<100%

100%

As on 2nd October, 2021



Tap water connections to households: 8.26 Crore (43%)





Acknowledgments

To realize the vision of Hon'ble Prime Minister to improve the quality of life and enhance the 'ease of living' of people living in rural areas, since August, 2019, Jal Jeevan Mission (JJM) is being implemented in partnership with States to make provision of tap water supply to every rural household of the country by 2024. Prime Minister released the two-year progress report of JJM on 2nd October, 2021 during his *Samvad* with nation-wide *Gram Sabhas*.

State-wise detailed planning exercise has been carried out to finalize State Action Plans. Each State/ UT, after thorough review and analysis finalized their State/ UT Action Plan and have arrived at their respective milestone of achieving 100% FHTC coverage. Regular reviews are being undertaken to assess the progress as well as to guide States to take corrective measures to realize the goal of 'Har Ghar Jal' in a time-bound manner. Regular field visits are undertaken by the multi-disciplinary teams from National Jal Jeevan Mission (NJJM) to States despite CoVid-19 pandemic to guide States in different aspects for expeditious implementation of the mission. With the untiring efforts of all stakeholders especially people on ground, in last 26 months about 5.03 Crore rural households have been provided with tap water connections, as a result over 8.26 Crore rural homes are getting clean tap water supply.

The concerted efforts of all stakeholders including State Governments/ UT Administrations, local self-governments, VWSC/ Pani samitis, Sector partners, ISAs, civil society, KRCs, etc. have started showing results in terms of tap water connections provided and turning the mission to a 'Jan Andolan'. I am thankful to their commitment in enhancing 'ease of living' of rural people.

I am happy that various aspects of the mission viz. planning, institutional mechanism, initiatives, use of modern technology, progress made so far as well as the road ahead to achieve drinking water security in rural areas, etc. have been captured in this booklet '2 years of Jal Jeevan Mission'. Shri Manoj Kumar Sahoo, Director, NJJM led the core editorial team with zeal in the conceptualization, analysis and integrating key developments of all components of Jal Jeevan Mission. His eye for detail, succinct articulation and reader-friendly approach has made this a remarkable compilation. Ms. Spurthi Kolipaka, UNICEF Consultant who has been with JJM since its inception, has diligently captured the progress over the two years and made substantial writing and design contributions. Young professional Shri Harsh, EY supported the research and compilation process. Thematic experts Shri Amit Kumar Ranjan, Shri Arpan De Sarkar and Shri Shibabrata Chakraborty, Consultants from KPMG supported the data analysis and documentation. Shri Arif Khan Pathan, Graphic Designer, KPMG has been at his creative best in making the copy an interesting read with simple infographics and aesthetic design.

I am sure that this progress report will be useful to all readers having interest in water and how Jal Jeevan Mission is making all out efforts to bring changes in the lives of people and make water everyone's business.

New Delhi
2nd October, 2021



[Bharat Lal]

Addl. Secretary & Mission Director
National Jal Jeevan Mission



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List of Abbreviations

AAP	Annual Action Plan
AKRSP	Aga Khan Rural Support Programme
AS	Additional Secretary
BCC	Behaviour Change Communication
BIS	Bureau of Indian Standards
CBO	Community Based Organisation
CCDU	Communication and Capacity Development Unit
C-DAC	Centre for Development of Advanced Computing
CoE	Centre of Excellence
CoViD	Corona Virus Disease
CSIR-NIIST	Council of Scientific and Industrial Research–National Institute for Interdisciplinary Science and Technology
CSR	Corporate Social Responsibility
DAP	District Action Plan
DDP	Desert Development Programme
DDWS	Department of Drinking Water & Sanitation
DISHA	District Level District Development Coordination & Monitoring Committee
D MDF	District Mineral Development Fund
DPAP	Drought Prone Areas Programme
DRDO	Defence Research & Development Organisation
DST	Department of Science and Technology
DWSM	District Water and Sanitation Mission
EBR	Extra Budgetary Resources
EoI	Expression of Interest
FC	Finance Commission
FCRA	Foreign Contribution Regulation Act
FHTC	Functional Household Tap Connection
FTK	Field Test Kit
GBS	Gross Budgetary Support
GeM	Government e-Marketplace
GoI	Government of India
GP	Gram Panchayat

HADP	Hill Areas Development Programme
HRD	Human Resource Development
ICMR	Indian Council of Medical Research
ICT	Information and Communications Technology
IEC	Information, Education and Communication
IIT	Indian Institute of Technology
IMIS	Integrated Management Information System
IoT	Internet of Things
IPC	Inter Personal Communication
ISA	Implementation Support Agency
IT	Information Technology
JE-AES	Japanese Encephalitis - Acute Encephalitis Syndrome
JJM	Jal Jeevan Mission
KRC	Key Resource Centre
LPCD	Litres per Capita per Day
MD	Mission Director
MeitY	Ministry of Electronics & Information Technology
MLA	Member of the Legislative Assembly
MGNREGS	Mahatma Gandhi National Rural Employment Generation Scheme
MoJS	Ministry of Jal Shakti
MoU	Memorandum of Understanding
MP	Member of Parliament
MVS	Multi Village Scheme
NABL	National Accreditation Board for Testing and Calibration Laboratories
NCDWSQ	National Centre for Drinking Water, Sanitation, and Quality
NE	North Eastern
NGO	Non-Governmental Organisation
NIOT	National Institute of Ocean Technology
NJJM	National Jal Jeevan Mission
NRDWP	National Rural Drinking Water Programme

NRW	Non-Revenue Water
NWQSM	National Water Quality Sub-Mission
O&M	Operation & Maintenance
ODF	Open Defecation Free
PFMS	Public Finance Management System
PHED	Public Health Engineering Department
PPP	Public Private Partnership
PRI	Panchayati Raj Institution
PSA	Principal Scientific Advisor
PVC	Polyvinyl Chloride
PWS	Piped Water Supply
Q&A	Question & Answer
R&D	Research & Development
RJK	Rashtriya Jal Jeevan Kosh
RLB	Rural Local Bodies
RWS	Rural Water Supply
RWSSP-LIS	Rural Water Supply and Sanitation Project for Low Income States
SAGY	Saansad Adarsh Gram Yojana
SAP	State Action Plan

SBM (G)	Swachh Bharat Mission (Grameen)
SC	Scheduled Caste
SHG	Self Help Group
SMC	School Management Committee
SMS	Short Message Service
ST	Scheduled Tribe
SVS	Single Village Scheme
SWSM	State Water & Sanitation Mission
ToR	Terms of Reference
TV	Television
UT	Union Territory
VAP	Village Action Plan
UDWQMP	Uniform Drinking Water Quality Monitoring Protocol
VO	Voluntary Organisation
WASH	Water, Sanitation & Hygiene
WQM&S	Water Quality Monitoring and Surveillance
WQMIS	Water Quality Information Management System
VWSC	Village Water & Sanitation Committee



An overview by Mission Director, National Jal Jeevan Mission

2nd October, 2021

Announced by Prime Minister Shri Narendra Modi on 15th August 2019, to improve the lives of people especially women and children by ensuring clean tap water in rural homes, Jal Jeevan Mission is being implemented in partnership with States to make provision of clean tap water supply to every rural household and public institution of the country by 2024. The mission is making concerted efforts to free women from the age-old drudgery of fetching water from a distance carrying heavy loads. As we are in the 3rd year of Jal Jeevan Mission, it's time to reflect upon the progress achieved so far and the road ahead.

Drinking water supply is essentially a basic and critical service delivery and JJM presents a life-time opportunity to put in place a system which lasts the entire generation and more, so that people living in villages continue to get assured potable tap water supply in adequate quantity with sufficient pressure and of prescribed quality on regular and long-term basis in their homes. For this, Gram Panchayats and/ or its sub-committees, i.e. Village Water & Sanitation Committees (VWSCs)/ Pani Samitis to play a key role in making provision for assured service delivery. With this vision, JJM is being implemented in a decentralized manner, following a bottom-up approach, wherein local village communities own the systems and are being empowered to shoulder the key responsibility of planning, implementation, management, operation and maintenance of the in-village water supply system. For assured service delivery, sustainability of water sources and water supply systems including financial sustainability is of paramount importance. This is in consonance with the 73rd Amendment to the Constitution devolving the power to local self-Governments. Devolution and decentralization, capacity building and ensuring quality service delivery is the way forward for achieving the goals of JJM. Under JJM, goal is to ensure water supply at the rate of 55 litre per capita per day of prescribed quality and with adequate pressure on regular and long-term basis. Thus, focus is on ensuring long-term functionality of tap water connections and water supply system.

The Operational Guidelines for the implementation of JJM was prepared through participatory process and was released by the Prime Minister on Good Governance Day, i.e. 25th December, 2019. The actual implementation on the ground began with these robust guidelines in place, which provides the vision, mission, detailed strategy, planning and implementation roadmap for the States/ UTs to make provision of tap water supply to rural households and public institutions in villages. The preparation of these guidelines also involved consultations with various stakeholders especially State Governments/ UT Administrations, sector experts and NGOs across the country through regional workshops, national conferences and soliciting feedback from civil society and UN agencies involved in implementing water supply schemes. During this exercise, various reports from C&AG, Parliamentary



Prime Minister announced Jal Jeevan Mission on 15th August, 2019 from ramparts of Red Fort

Standing Committee, recommendations of Parliamentary Consultative committee, etc. were also taken into the account. Further, a 'Task Force' consisting of policy makers, experts and practitioners having expertise in drinking water supply and decentralized governance was constituted to analyze various drinking water programmes taken up in the past in various States/ UTs with a view to ascertain whether the substantial investments on these programmes have delivered satisfactory results, and to incorporate the learning from these programmes previously implemented across the country in fine-tuning the JJM implementation strategy.

In August, 2019 at the time of announcement of Jal Jeevan Mission, out of total 18.70 Crore rural households, only 3.23 Crore (17%) households were having provision of tap water supply. Thus, to ensure clean tap water supply to remaining 83% rural households, water supply infrastructure to be created providing functional household tap connections to about 16 Crore households in 5 years along with upgrading existing water supply systems to make them JJM compliant. To achieve this goal, a well thought strategy has been developed and adopted. In villages with existing piped water supply system(s), all remaining households and public institutions, viz. schools, AWCs, ashramshalas, PHCs/ CHCs, wellness centres, community centres, GP building, etc. are being provided with tap water connections by taking up retrofitting/ augmentation of existing water supply schemes, if needed, to make them JJM compliant. In villages where ground/ surface water of good quality in sufficient quantity is available, single village schemes (SVS) are being planned and executed, which is the most preferred option as it is easy to operate and maintain by GPs/ VWSCs/ Pani Samitis. In villages with adequate groundwater but having quality issues, water is being treated to remove contaminants and/ or surface water-based water supply scheme from a dependable source is planned. In water-stressed, drought-prone and desert areas, bulk water transfer, treatment plants and distribution systems are being planned and executed with equal emphasis on strengthening of local drinking water sources to achieve long-term water security, and so that O&M expenses on water transfer/ pumping is kept to the minimum. In isolated tribal hamlets/ hilly/ forested areas, stand-alone solar-based and/ or gravity-based water supply systems are being given priority as such systems have low O&M expenses and easy to operate and maintain by local community.

To implement the mission in a time-bound manner with speed and on such a scale with efficiency to achieve the goal, States/ UTs were asked to review the existing systems and revalidate the data on JJM – Integrated Management Information System (IMIS) for proper planning and implementation, which was completed by June, 2020. Simultaneously, each State/ UT were to prepare 'saturation plan' to achieve 100% coverage or 'Har Ghar Jal' status. Every year, States/ UTs are required to formulate an Annual Action Plan (AAP), which is an extensive exercise that begins in early February. The goal is to arrive at a robust AAP that provides direction for implementation based on identified priorities, reduce risk of uncertainty by forecasting the activities to be done in future, mobilizing financial resources as well as well skilled human resources, etc. Based on the IMIS data provided by States, intensive analysis and evaluation is carried out for every State/ UT on their existing water supply scenario. The planning exercise assists the



State Ministers' conference on Jal Jeevan Mission on 26th August, 2019, New Delhi

key stakeholders in visualizing the implementation process, framing a task list with timelines to achieve the approved targets, facilitate coordination ensuring the entire institutional mechanism is oriented to work in the desired direction. The AAPs are then presented to a national committee chaired by Secretary, DDWS with members from other ministries and NITI Aayog. The committee approves the AAPs after scrutiny and suitable changes. In 2020, despite lockdown due to CoVid-19 pandemic, this intensive exercise was carried out virtually from March to May. In 2021 also, in April – May, second wave of CoVid-19 was at its peak but the task was taken up and exercise was done in virtual mode.

To facilitate implementation of JJM in accordance to approved AAP of respective State/ UT, quarterly and mid-year joint review meetings with all States/ UTs are held to evaluate the quarterly plans, achievements and way forward, etc. Union Minister of Jal Shakti himself reviews the plan, implementation and progress with the respective Chief Minister/ Lt. Governor of States/ UTs. Further, multi-disciplinary teams from JJM have been visiting villages in different districts of States/ UTs to take stock of the implementation on the ground with an objective to expedite the implementation focusing on prudent investment, adoption of right processes and targeted outputs. The team interacts with members of GPs/ VWSCs/ Pani Samitis, local community as well as officials of PHE/ RWS/ PR Department on community participation and institutional arrangements for the implementation. The visit also helps in identifying issues and challenges being faced by the programme implementation authorities to find solutions and fine-tune strategy, and document good practices as well.

Acknowledging the urgency to ensure potable tap water supply in certain areas, under JJM priority has been accorded to water quality-affected habitations, villages falling in drought-prone & desert areas, Japanese Encephalitis/ Acute Encephalitis Syndrome (JE/ AES) and Aspirational districts, SC/ ST majority villages and Saansad Adarsh Gram Yojana (SAGY) villages. During planning, implementation and reviews, States/ UTs are stressed upon to accord priority to villages in these areas.

With focus on better health and well-being of children and need to have handwashing facilities during CoVid-19 pandemic, a campaign was started on 'Gandhi Jayanti' in 2020 to make provision of piped water supply in schools, anganwadi centres and ashramshalas (tribal residential schools) for drinking, cooking, handwashing and use in toilets. During CoVid-19 pandemic, handwashing with soap at regular intervals is critical to prevent infection and bring sense of security at these places. In these centres of learning, rain water harvesting as well as greywater management are also being promoted. Exposure to water conservation practices at an early age will also build positive water habits in children, helping them lead sustainable lives in future. The relentless efforts resulted in ensuring provision of tap water supply in 7.93 lakh (76.93%) schools and 7.65 lakh (68.21%) AWCs so far. Now, when the children are returning to schools, ashramshalas and AWCs, they see piped water supply and are ready to use.



Regional workshop at Guwahati, Assam in September, 2019

Recognizing various challenges faced in O&M of water supply schemes and lessons learnt in past few decades, JJM is promoting the Panchayati Raj Institutions/ Rural Local Bodies (RLBs) to play a key role in managing in-village water supply systems. Since August, 2019, it is observed that the paradigm shift in entrusting ownership of water supply systems to village level institutions is welcomed by the local community, thus developing 'responsible and responsive leadership' at grassroots level. The aim is to bring changes in the lives of people living in villages and to make villages – water, sanitation and hygiene enlightened villages, i.e. 'WASH Prabuddh Gaon'.

Every village is being taken up as a unit so that they become water secure, for which 5-years Village Action Plan (VAP), co-terminus with 15th Finance Commission period is prepared by the participation of the local community with the four key components i.e. augmentation/ strengthening of local drinking water sources; in-village water supply infrastructure to make provision of tap water supply to every home and public institution; grey-water collection, treatment and reuse; and regular O&M of water supply systems so that every family gets assured supply of clean tap water in adequate quantity, of prescribed quality with adequate pressure on regular and long-term basis. In this period, VAPs of 2.86 lakh villages have been prepared and are under implementation.

To ensure active participation of rural communities at the village level, provision have been made to form a sub-committee of Gram Panchayat, i.e. Village Water & Sanitation Committees (VWSCs)/ Pani Samitis, which are to function as a 'local public water utilities.' In VWSCs/ Pani Samitis, 50% members are women and proportionate representation is given to weaker sections of society, thus empowering the community to act as change agents to bring drinking water security in their villages. Out of 6.05 Lakh villages, in more than 3.72 lakh villages such VWSCs/ Pani Samitis have been constituted and they have become functional. To empower local communities, a 'Margdarshika for Gram Panchayat and VWSC to provide safe drinking water in rural households', i.e. a handbook was prepared in both Hindi and English, defining roles and responsibilities of GPs/ VWSCs/ Pani Samitis, which was released by the Prime Minister on 29th September, 2020. States/ UTs have been requested to get it translated in vernacular language and make it available to each and every GP, VWSC, Pani Samiti and water supply dept/ PHED functionaries.

To make provision of clean tap water to more than 16 Crore rural households and about 40 lakh public institutions by 2024 as well as to empower GPs/ VWSCs/ Pani Samitis to shoulder the responsibility of managing water supply and greywater, work is required to be carried out with speed and on gigantic scale. To tackle various challenges, innovative solutions and new technologies are also required. Keeping this in view, a Technical Committee under the chairmanship of Principal Scientific Advisor to Government of India comprising of State's representatives, scientists, innovators, etc. has been constituted. The Committee identifies specific challenges faced in the provision of water supply with assistance of States, invites online proposals for solving them, decides and recommends further action including demonstration projects and develop performance and technology standards.

With its forward-looking approach of bringing long-term drinking water security, emphasis is on enabling and empowering local village community so that they can shoulder responsibilities related to water and sanitation. In every village, local community is being sensitized about importance of clean tap water and its impact on health,



Governors' Conference, 2019 at Rashtrapati Bhavan

judicious use of water, prioritizing water for household purpose over any other, promoting water use efficiency, convergence with other schemes/ programmes, greywater treatment and its reuse to reduce the fresh water demand in the village, payment of water user charges, developing robust grievance redressal mechanism, water quality monitoring & surveillance including remedial action, etc. To ensure availability of skilled human resources in villages, local youth are being upskilled as masons, plumbers, electricians, motor mechanics, fitters, pump operators, etc. so that skilled human resources are available for speedy execution of water supply work and also carry out regular operation and maintenance work without causing any interruption in the supply. This helps local communities in availing employment opportunities provided by JJM as well as enable them to contribute in creating water supply infrastructure for the entire village.

To ensure potability of tap water, JJM provides an opportunity to local communities to take up water quality surveillance in their villages. In every village, five persons especially women are being trained on various aspects of potable water and use of Field Test Kits (FTKs) to test quality of water supplied, conduct sanitary surveys, and upload the data on JJM portal. All these path breaking initiatives are in line with Mahatma Gandhi's vision of 'Gram Swaraj', wherein the village community is vested with decision making powers.

Considering the importance of two basic services that determine the quality of life in villages, i.e. assured potable water supply and improved sanitation, the 15th Finance Commission has identified these two services as national priorities and has allocated Rs. 1.42 lakh Crore as tied-grant for water and sanitation to Rural Local Bodies (RLBs)/ PRIs from 2021-2022 to 2025-2026. This progressive step to ensure villages have potable tap water supply and improved sanitation, will have far-reaching implications. Department of Drinking Water & Sanitation (DDWS), Ministry of Jal Shakti is the nodal department for determining the eligibility criteria of the local bodies to receive the grant as well as for providing technical support and hand-holding to States. Accordingly, DDWS has prepared a 'Manual for the utilization of 15th FC tied grants to RLBs/ PRIs for water & sanitation', which has been released by the Prime Minister. The same has been made available to States. They have been requested to get the guidelines translated into vernacular language and make it available to every Gram Panchayat/ VWSC/ Pani Samiti as well as to local water supply/ PHED engineers, who are tasked to handhold GPs/ VWSCs/ Pani Samitis in shouldering these responsibilities. This tied grant provides a golden opportunity to strengthen local self-Governments with focus on 'assured service delivery'. This is the most critical intervention to ensure that these local self-governing institutions are able to perform the functions of assured service delivery related to water and sanitation.

In line with the motto of Jal Jeevan Mission, i.e. 'Building partnerships, changing lives', 185 organizations, viz. UN agencies, trusts, foundations, etc. have been roped in as Sector Partners. They are to dovetail their resources and efforts in achieving the collective goal of 'Har Ghar Jal'. For building the capacity, reorienting and training RWS/ W&S/ PHE officials, massive capacity building, training and community mobilization activities have been taken up, for which 104 Key Resource Centres (KRCs) have been selected. They are tasked to impart trainings at various levels, i.e. State, district and village level functionaries. Local NGOs, VOs, CBOs, women SHGs, etc. are also being engaged by States as Implementation Support Agencies (ISAs) to handhold the local communities. All these efforts are being made to make Jal Jeevan Mission, a 'Jan Andolan'- people's movement.



Prime Minister released Operational Guidelines for the implementation of Jal Jeevan Mission on 25th December, 2019

By leveraging the use of technology, JJM is promoting transparency, accountability, effective fund utilization, etc. for assured service delivery. Every tap water connection provided is being linked with 'Aadhar' number of the head of the household, water supply infrastructure created is being geo-tagged, and all transactions are being made through Public Finance Management System (PFMS). To ensure the quality of works and materials used, under JJM, third-party inspection has been made mandatory and such agencies have been engaged by States/ UTs to carry out inspection before the payment.

Further, 'functionality assessment', a periodical sample survey is undertaken every year to assess the functionality of water supply schemes and household tap water connections. The States' performance in functionality assessment has implications towards its fund release, thus building an incentive to provide quality work. In 2020-21, about 88 thousand HHs covering 6,992 villages from 704 districts across 31 States/ UTs were surveyed. Additionally, GPs/ VWSCs are consulted to solicit feedback and recommendation in improving the programme implementation as well. In 2021-22, the assessment is going to commence shortly.

An innovation challenge is underway to develop portable water quality testing devices for use at domestic as well as village levels. Sensor-based IoT devices are being installed for automatic data capturing to measure and monitor the water supply, etc. The online JJM Dashboard which is in public domain provides State/ UT/ district/ village-wise progress of provision of tap water supply in rural areas, viz. households as well as public institutions.

To bring the focus on public health, nation-wide online Water Quality Management Information System (WQMIS) has been developed by using the reports generated from water quality testing through FTKs as well as laboratories. More than 2,000 water quality testing laboratories have been opened to general public for testing their water samples at a nominal cost and one can also locate the nearby laboratory on WQMIS.

The 'Water Quality Monitoring & Surveillance (WQMS) framework' released by Prime Minister on 2nd October, 2021 presents strategy and roadmap for States/ UTs to ensure potable tap water supply to every rural household by strengthening the laboratory network and empowering communities to test water quality in their own villages, and take remedial action in case any contamination found.

To accomplish goals of JJM, existing departments in States/ UTs currently staffed largely with civil engineering personnel. They need to transform and evolve beyond their roles as project managers or contract managers into true public health engineers, social engineers and utility managers. To bring higher knowledge and provide learning opportunities to public health engineers, the 'National Centre for Drinking Water, Sanitation and Quality (NCDWSQ)' has been established at Kolkata as an apex institution for Public Health Engineering (PHE). The institute is envisioned to serve as a premier institute and bridge the wide prevailing knowledge and capacity gap in the field of PHE. The institute will follow a 'hub and spoke model' and partner with the Key Resource Centres (KRCs), Centres of Excellence (CoE) and Professor Chairs being set up across the country by DDWS and work in the areas of training and capacity building, education and academic programmes, research and innovation, and outreach and consulting. The Institute has initiated interactions with State PHEDs/ Water & Sanitation Departments through frequent capacity building, trainings, reorientation programmes and is encouraging them to innovate to meet existing and emerging challenges.



One-day national conference on provision of potable drinking water in quality-affected habitations organized on 7th February, 2020

Further, regular State-level conferences and workshops are being organized to re-orient and sensitize departments of States/ UTs towards 'service delivery'.

Online webinar series and monthly news digest under the banner of 'Jal Jeevan Samvad' have been initiated to keep various stakeholders abreast on JJM progress and as an effort to constantly re-orient them towards service delivery.

To facilitate greater participation of citizens and help improve their engagement and social accountability, Prime Minister released the 'JJM Mobile App' on 2nd October, 2021 to promote digital governance. The user-friendly mobile App provides information on implementation of JJM, its progress, IEC material, monthly news digest, programme updates, etc. The features include access to JJM Dashboard, WQMIS and IMIS; capacity building content for people/ Pani Samiti, PHED, guidelines/ manuals/ samvad; asset tagging of water supply components and data updation; declaration of 'Har Ghar Jal' by GP/ VWSC, certified by PHED for uploading of certificate/ Videos on JJM-IMIS.

To achieve the goal of universal access of potable tap water supply to the most vulnerable and marginalized people by adopting the '**no one is left out**' principle, coverage with tap water connection in 112 Aspirational districts has increased from 31.3 lakh (9%) to 122.62 lakh (36%) households. Similarly, in 61 districts affected with JE/ AES across 5 States, tap water connections increased from 8 lakh (2.6%) to 115.95 lakh (39%) households, resulting in improvement in quality of life of people, especially women and children.

To realize the vision of the Prime Minister - 'Sabka Saath, Sabka Vikas, Sabka Vishwas, Sabka Prayas', the mission is making all out efforts and as a result, now more than 8.26 Crore (43%) rural households in the country have provision of tap water supply. By following the principle of 'no one is left out', in 81 districts and over 1.18 lakh villages of the country, provision of tap water supply in every home has been made. Three States, viz. Goa, Haryana, Telangana and three UTs, viz. A&N Islands, DD&DNH, Puducherry have become 'Har Ghar Jal' States. This is the 'speed and scale' with which works under JJM are being carried out in partnership with States with undivided focus to improve the lives of people living in rural areas.

On behalf of the National Jal Jeevan Mission, I would like to express our sincere gratitude to everyone for joining hands in making this mission, a Jan Andolan. I congratulate the untiring efforts by States/ UTs to enhance the ease of living of rural communities. I sincerely believe that you will find this journey of last 25 months under JJM interesting and insightful. For all of us, it's a beginning and we look forward to the momentum in the next few years. I would also like to express our sincere gratitude to Hon'ble Prime Minister for releasing this report and for providing the vision and impetus to this mission, which is changing the lives of millions of Indians.



[Bharat Lal]

Addl. Secretary & Mission Director
National Jal Jeevan Mission



Joint review of JJM by Union Minister, Jal Shakti with Chief Ministers through VC

Key Highlights

15th August, 2019: Prime Minister Shri Narendra Modi announced the Jal Jeevan Mission on India's 73rd Independence Day, to make provision of tap water supply to every rural household and public institution by 2024, with an estimated outlay of Rs. 3.60 lakh Crore;

Drinking water availability announced as one of the key goals as part of National Infrastructure Pipeline announced by Prime Minister with an investment of Rs. 111 lakh Crore;

Social media communication channels established;

26th August, 2019: Union Minister for Jal Shakti chaired a Conference of Ministers in-charge of rural drinking water supply in States/ UTs to discuss about roadmap for the mission;

4th – 25th September, 2019: Five region-wise stakeholder consultation workshops organized to discuss the vision, modalities of implementation and firming up the Operational Guidelines of the JJM;

Technical Committee headed by Principal Scientific Advisor (PSA), GoI set up to identify and appraise technologies for affordable, sustainable and decentralized delivery of drinking water;

Task Force constituted to analyze existing drinking water programmes to ascertain their progress and results, and provide recommendations as way forward for effective implementation of JJM;

December 2019 - February, 2020: Multiple State visits and workshops conducted by DDWS officials to engage and sensitize various stakeholders about the provisions of the Operational Guidelines;

25th December, 2019: Operational Guidelines for implementation of JJM released by the Prime Minister on Good Governance Day;

January, 2020: JJM Tableaux wins best award on Republic Day parade, 2020;

7th February, 2020: One-day national conference on providing potable drinking water in quality-affected areas organized to strategize approach and share best practices;

27th - 28th February, 2020: Workshop on participatory springshed management organized in Nainital, Uttarakhand on planning for water security in hilly regions;

Online and real-time monitoring of mission progress enabled through a website and dashboard in public domain (<https://jalshakti-ddws.gov.in/>);

Data revalidation exercise completed to ascertain baseline number of total rural households and those which already have tap water supply;

Over 1,500 organizations and equal number of individuals with experience in water sector registered on the JJM portal;

Data analytics-based village wise analysis undertaken to identify 'low hanging fruits' and increase coverage through focus on augmentation and retrofitting; Despite CoVid-19 pandemic and disruptions

March, 2020: Intensive review and systematic action planning exercise carried out in consultation with States/ UTs;

Annual Action Plan 2020-21 prepared along with State Action plan for 100% FHTC coverage;

13th April, 2020: Advisory issued for ensuring safe drinking water during lockdown and effective management of pandemic caused by Corona virus;

District Action Plans (DAPs) initiated in all districts of the country with priority being accorded to JE/ AES areas, DPAP/ DDP areas, quality-affected habitations, Aspirational districts, SC/ ST majority villages, SAGY villages;

Village Action Plans (VAPs) initiated across villages. Despite CoVid-19 pandemic, online training programmes held to mobilize community for preparation of VAPs;

50% of 15th Finance Commission grants to PRIs/ RLBs earmarked for water & sanitation;

Inter-ministerial convergence with Ministry of Rural development, Panchayati Raj and others for a synergistic end-to-end approach for achieving drinking water security;

With follow up from Ministry of Jal Shakti, 60% of 15th Finance Commission grants to RLBs/ PRIs have been earmarked for drinking water and sanitation during 2021-22 to 2025-26;

International partnerships and collaboration with countries like Israel, US and G20 collaboration being used to learn and strengthen country's water supply sector;

184 UN agencies, trusts, foundations, etc. engaged as sector partners to work with NJJM and States;

May, 2020: Rashtriya Jal Jeevan Kosh (RJK) registered under Indian Trust Act, 1882;

30th May, 2020: Booklet on one year of Ministry of Jal Shakti released;

22nd June, 2020: JJM included in Garib Kalyan Rozgar Abhiyan (GKRA), an initiative to provide employment opportunities to returnee migrant labourers in six States;

July – August, 2020: Joint review by Union Minister, Jal Shakti with Chief Ministers/ Lt. Governors of States/ UTs;

July, 2020: Project Management Units (PMUs) set up to assist national jal jeevan mission and State missions;

15th August, 2020: One year of Jal Jeevan Mission

24th August, 2020: Guidelines for Research & Development (R&D) projects released;

24th August, 2020: Technical expert committee constituted to prepare roadmap for measurement and monitoring of water service delivery system in rural areas;

2nd September, 2020: Advisory issued on safety precautions during CoVid-19 pandemic for rural WASH service providers;

8th September, 2020: First Jal Jeevan Samvad webinar series launched;

15th September, 2020: ICT Grand Challenge launched in partnership with MeiTty to develop 'smart water supply measuring and monitoring system';

29th September, 2020: Margdarshika for Gram Panchayat & VWSC to provide safe drinking water in rural HHs released by Prime Minister;

29th September, 2020: Logo and tagline of Jal Jeevan Mission released by Prime Minister;

October, 2020: Mid-year review of progress of implementation of JJM taken up;

October, 2020: First edition of Jal Jeevan Samvad, monthly newsletter issued;

2nd October, 2020: Special campaign launched to provide piped water supply to schools, anganwadi centres and ashramshalas. 100-days campaign guidelines released by Union Minister, Jal Shakti;

9th October, 2020: Goa becomes the first 'Har Ghar Jal' State;

November - December, 2020: Functionality assessment of piped water supply systems and FHTCs carried out and results published for all States to take corrective measures;

November, 2020: Field visits by multi-disciplinary NJJM teams initiated to understand field implementation;

November, 2020: Water quality testing laboratories opened to public across the country to get their water samples tested at nominal rates;

3rd November, 2020: Conference of States/ UTs Minister-in-charge of RWS/ PHE department organized;

3rd November, 2020: Guidelines for capacity building by Key Resource Centres (KRCs) released;

18th December, 2020: Innovation challenge launched to develop portable devices for water quality testing in partnership with DPIIT;

1st January, 2021: 3 Crore tap water connections provided since the announcement of JJM;

1st January, 2021: Expert committee constituted to prepare vision and roadmap for the development of NCDWSQ, Kolkata to strengthen it as the apex institution in the country for undertaking holistic water and sanitation management and becoming a global centre of repute in WASH;

21st January, 2021: Telangana becomes the second 'Har Ghar Jal' State;

29th January, 2021: Advisory issued on role of Members of Parliament (MPs) in planning and implementation of JJM;

16 February, 2021: Prime Minister addressed the virtual conference held on with Industry Experts to improve pace and quality of infrastructure building including Jal Jeevan Mission;

September 2020: Pilot IoT sites operational for smart measurement and monitoring of water supply in 11 villages;

March – May, 2021: Review of JJM, annual action planning exercise and its approval;

13th March, 2021: Conference of States/ UTs Ministers on JJM post Union Budget presentation. WQMIS launched by Union Minister, Jal Shakti;

State-level trainings on WQMIS software to Chief Chemists/ Chemists;

22nd March, 2021: Andaman & Nicobar Islands becomes the third 'Har Ghar Jal' State/ UT;

23rd March, 2021: Expert Committee on JJM Professor Chairs constituted for providing domain specific support to Jal Jeevan Mission;

29th March, 2021: 4 Crore tap water connections provided since the announcement of JJM;

April, 2021: Yojana magazine special edition on water published in collaboration with I&B Ministry;

1st April, 2021: Escrow account operationalized by States/ UTs to receive fund from JJM;

10th May, 2021: Puducherry becomes the fourth 'Har Ghar Jal' State/ UT;

11th May, 2021: Technical and expert committee report received on measurement and monitoring of water service delivery in rural areas;

30th July, 2021: Daman & Diu and Dadra & Nagar Haveli becomes the fifth 'Har Ghar Jal' State/ UT;

31st July, 2021: Expert committee for Professor Chair submits its report recommending establishment of five Jal Jeevan Mission Professor Chairs in IIT, Guwahati; IIT Jodhpur; IIT Kanpur; TISS, Mumbai; IIM, Bengaluru; and their focus areas for training & capacity building, outreach & consultancy services, educational programmes and research & innovation in their focus areas in the water and sanitation sector;

15th August, 2021: Two years of Jal Jeevan Mission

21st August, 2021: 8 Crore rural households are getting assured tap water supply in their homes;

25th - 27th August, 2021: First classroom training conducted at NCDWSQ, Kolkata for PHED engineers of States/ UTs;

31st August, 2021: Expert committee submits its report for vision & roadmap for NCDWSQ, Kolkata to strengthen it as the apex institution in the country;

September, 2021: Expert Committee constituted for assisting NJJM in development of a 'virtual museum on water' as a rich digital, interactive platform to engage with children, youth and communities;

24th September 2021: National workshop of Engineers-in-Chief/ Chief Engineers on implementation of JJM organized in New Delhi;

28th September, 2021: 5 Crore tap water connections provided since the announcement of JJM;

16th September, 2021: Conference of Ministers in charge of rural water supply of NE States held at Guwahati;

27th September – 1st October, 2021: Three national conferences of KRCs held in New Delhi;

2nd October: Haryana becomes the sixth 'Har Ghar Jal' State/ UT;

As on 2nd October, 2021

- 8.26 Crore (43%) rural households are getting tap water supply in their homes;
 - 5.03 Crore tap water connections provided since the announcement of mission;
 - Three States, viz. Goa, Haryana, Telangana, A&N Islands and three UTs, viz. Daman & Diu and Dadra & Nagar Haveli, Puducherry have become 'Har Ghar Jal';
 - Every rural household in over 1.16 lakh villages and 79 districts are getting tap water supply in their homes;
 - 1.22 Crore (36.09%) households in socio-economically backward Aspirational districts are getting tap water supply in their homes, i.e. about four times increase in coverage since the announcement of mission;
 - 1.15 Crore (37.83%) households in 60 identified JE/ AES endemic districts are getting tap water supply in their homes, i.e. about 15 times increase in coverage since the announcement of mission;
 - 3.43 lakh VWSCs/ Pani Samitis constituted/ made functional;
 - 2.86 lakh VAPs prepared and approved in different villages;
 - 7.93 lakh (76.93%) schools and 7.65 lakh (68.21%) AWCs provided with tap water connections.
-

2nd October, 2021

- i.) Nation-wide Gram Sabhas held on Jal Jeevan Mission;
- ii.) Jal Jeevan Samvad by Prime Minister – Interaction with five sarpanches/ VWSC members and address the GPs/ VWSCs/ Pani Samitis;

Releases by Prime Minister

- Manual for utilization of 15th Finance Commission tied grants to RLBs/ PRIs for water & sanitation;
- Water quality monitoring and surveillance framework;
- Report on 'two years of Jal Jeevan Mission';

Launch by Prime Minister

- Jal Jeevan Mission mobile app.
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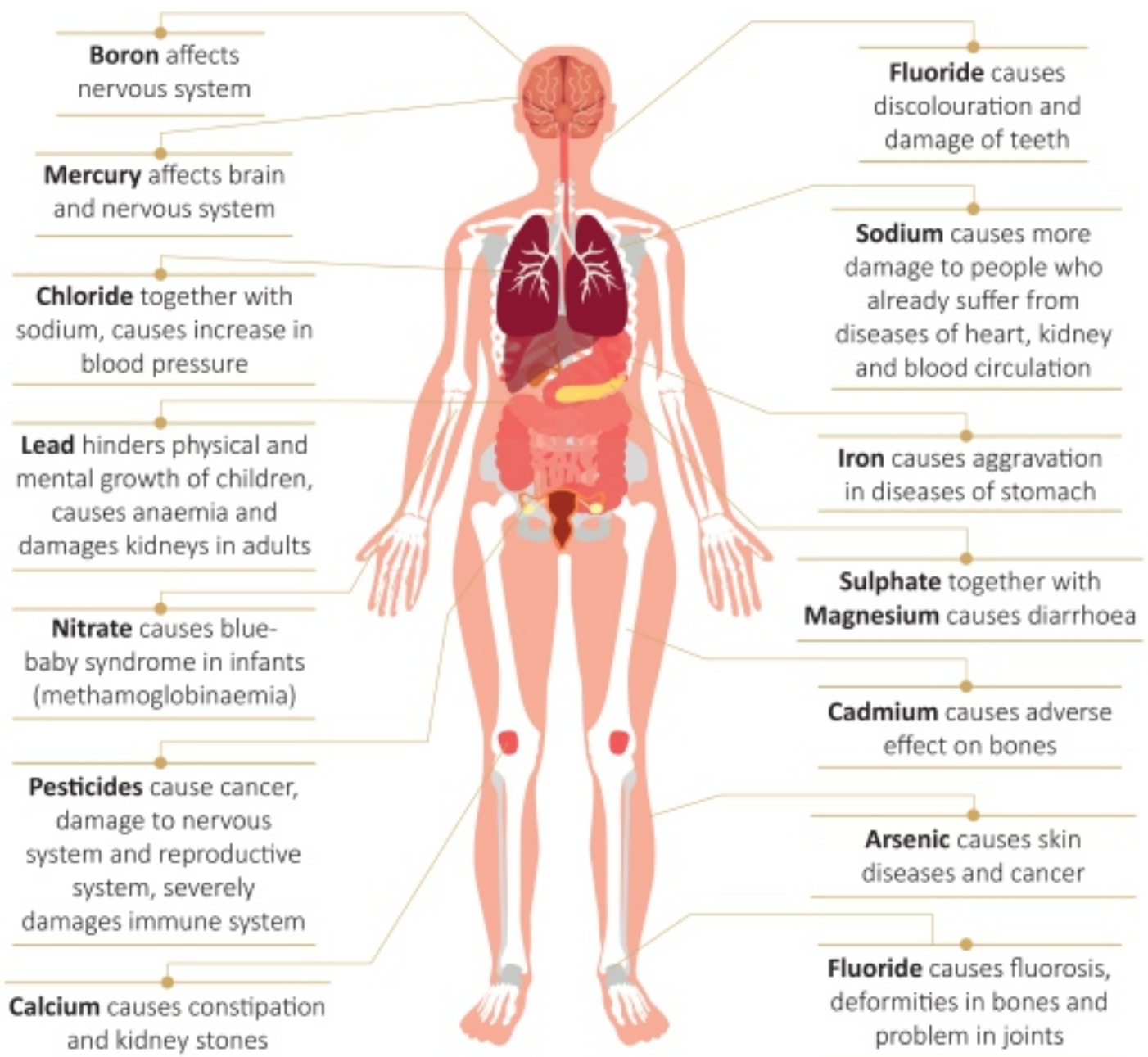
"...It is our responsibility to see that water shortage does not become a hindrance to the development of India. Everyone's effort is very necessary. We are also accountable to our future generations...

...I request the Gram Panchayats across the country associated with this program to work wholeheartedly for the protection and cleanliness of the water sources in the village. We can achieve our goals by saving rain water, using household water for agriculture and promoting crops which consume less water..."

”

PM's address on 2nd October, 2021 at interaction with Gram Panchayats and Pani Samitis on Jal Jeevan Mission

Impact of prolonged consumption of contaminated drinking water on human body



1. Background

The Department of Drinking Water & Sanitation (DDWS) is the nodal department under the Ministry of Jal Shakti for drinking water and sanitation in rural India. Since 2009, DDWS has been implementing erstwhile National Rural Drinking Water Programme (NRDWP), a centrally sponsored programme to provide adequate and safe drinking water to the country's rural population. As reported by States/ UTs in 2019, out of about 18.93 Crore households in rural areas, about 3.23 Crore (17%) had tap water connections. In the absence of access to potable drinking water at home, families, especially women and young girls are forced to spend lots of time and energy every day fetching water for their families. Lack of assured availability of potable water adversely impacts households and local communities.

While overall access to clean drinking water and coverage of habitations has improved over the decades, the logical aspiration of people is to have tap water provision within their household premises, especially after having other basic services at home such as clean cooking gas, toilets, healthcare, social security, electricity, etc. However, with increasing population, impact of climate change and competing demand for water from various sectors in a fast-developing economy, many regions have started facing water scarcity, which exacerbates burden on women as they are primary water managers at home.

Addressing these challenges once and for all, on 15th August, 2019 Prime Minister Shri Narendra Modi, in his Independence Day address to the nation, announced 'Jal Jeevan Mission (JJM) – Har Ghar Jal', to be implemented in partnership with States, to make provision of tap water connection to every rural home by 2024 ensuring 'no one is left out'.

With JJM, now focus is on 'assured and regular water service delivery at household level', i.e. water supply in adequate quantity (55 litres per person per day) of prescribed quality (as per Bureau of Indian Standards) with sufficient pressure on long-term and regular basis, which constitutes the very definition of the 'functionality' of taps or water supply systems. Assured availability of drinking water in homes will not only relieve women and girls of drudgery, but also



Woman with household tap water connection

improve health, education and socio-economic conditions of rural population. Further, tap water connection in every rural home, brings dignity to the people, as it bridges the urban–rural gap and enhances their 'ease of living'.

Thus, 83% of rural households are to be provided with tap water connections by 2024. In addition, functionality of all existing water supply systems and tap water connections is also to be ensured. This means that drinking water sources have to be strengthened and greywater has to be treated and reused.

Although JJM is one of India's largest infrastructure development program, it is not about 'mere infrastructure creation' but focus is on 'ensuring water service delivery in every home'. It is about achieving long-term drinking water security in our villages in such a way as to avoid making emergency arrangements through deployment of tankers or trains, handpump installation, etc. in rural areas. It is a program that intends to '*make water everyone's business*', by involving all stakeholders and turning it into a 'Jan Andolan' - a people's movement on water.

By providing assured tap water supply to all rural homes by 2024, JJM will reach India's SDG-6 target six years ahead and could become a model for other developing countries.

2. Salient features of Jal Jeevan Mission

2.1 Vision, Mission, Objectives, and Projected Outcomes



Vision

Every rural household has drinking water supply in adequate quantity of prescribed quality on regular and long-term basis at affordable service delivery charges leading to improvement in living standards of rural communities.

Mission

Jal Jeevan Mission is to assist, empower and facilitate:

- i.) States/ UTs in planning of participatory rural water supply strategy for ensuring potable drinking water security on long-term basis to every rural household and public institution, viz., School, Anganwadi centre, Ashramshalas (tribal residential schools), Health centre, wellness centres, community centres, etc.;
- ii.) States/ UTs for creation of water supply infrastructure so that every rural household has tap water connection by 2024 and water in adequate quantity of prescribed quality is made available on regular basis;
- iii.) States/ UTs to plan for their drinking water security;
- iv.) GPs/ rural communities to plan, implement, manage, own, operate and maintain their own in-village water supply systems;
- v.) States/ UTs to develop robust institutions having focus on service delivery and financial sustainability of the sector by promoting utility approach;
- vi.) capacity building of the stakeholders and create awareness in community on significance of water for improvement in quality of life;
- vii.) in making provision and mobilization of financial assistance to States/ UTs for implementation of the mission.



Objectives

The broad objectives of the mission are:

- i.) to provide tap water connection to every rural household;
- ii.) to prioritize provision of tap water connection in quality-affected areas, villages in drought prone and desert areas, Aspirational districts, Saansad Adarsh Gram Yojana (SAGY) villages, etc.;
- iii.) to provide tap water connection to schools, anganwadi centres, GP buildings, health centres, wellness centres and community buildings;
- iv.) to monitor functionality of tap water connections;
- v.) to promote and ensure voluntary ownership among local community by way of contribution in cash, kind and/ or labour and voluntary labour (*shramdaan*);
- vi.) to assist in ensuring sustainability of water supply system, i.e. water source, water supply infrastructure, and funds for regular O&M;
- vii.) to empower and develop human resource in the sector such that the demands of construction, plumbing, electrical, water quality management, water treatment, catchment protection, O&M, etc. are taken care of in short and long-term; and
- viii.) to bring awareness on various aspects and significance of safe drinking water and involvement of stakeholders in manner that make water everyone's business.

Projected outcomes of JJM



Health

Reduction in the number of water-borne diseases leading to improvement of health indicators for rural populations



Social

Reduction in drudgery faced by women, girls and empowerment of women



Economic

Increase in income generating opportunities for rural communities in developing in-village water supply infrastructure that would require semi-skilled and skilled human resources.

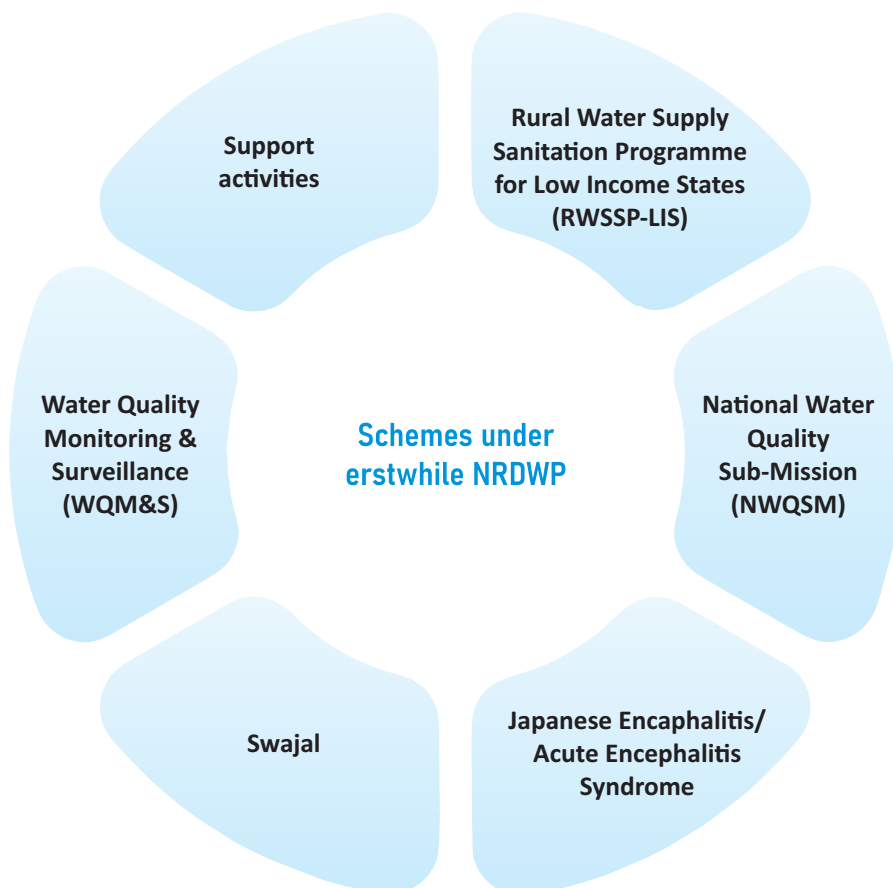
2.2 Components under JJM

The following components are supported under JJM:

- i.) development of in-village piped water supply infrastructure to provide tap water connection to every rural household;
- ii.) development of reliable drinking water sources and/ or augmentation of existing sources to provide long-term sustainability of water supply system;
- iii.) wherever necessary, bulk water transfer, treatment plants and distribution network to cater to every rural household;
- iv.) technological interventions for removal of contaminants where water quality is an issue;
- v.) retrofitting of completed and ongoing schemes to provide tap water connection at minimum service level of 55 lpcd;
- vi.) greywater management;
- vii.) support activities, i.e. IEC, HRD, training, development of utilities, water quality laboratories, water quality testing & surveillance, R&D, knowledge centre, capacity building of communities, etc.; and
- viii.) any other unforeseen challenges/ issues emerging due to natural disasters/ calamities which affect the goal of tap water connection to every household by 2024.

2.3 Schemes/ sub-missions under erstwhile NRDWP subsumed under JJM

The following ongoing programmes under erstwhile NRDWP have also been subsumed into JJM:



Schemes under erstwhile NRDWP



2.4 What's new in JJM





The mission forms part of one of the Government of India's biggest community infrastructure with an estimated outlay of Rs. 3.60 lakh Crore, giving a boost to the manufacturing industry, creating job opportunities, and extending support to the rural economy. However, Jal Jeevan Mission is not about mere infrastructure creation, but the focus is on ensuring water service delivery in every home. It is about

achieving long-term drinking water security in such a way as to avoid making emergency arrangements through the deployment of tankers or trains, handpump installation, etc. in any village. The mission aims to change the approach towards water from the present linear 'extract-use-dispose' to circular 'extract-use-treat-reuse'. Further, JJM intends to make water everyone's business by involving all stakeholders and turning it into a 'Jan Andolan' – a people's movement.

What's new in JJM



-  **Tap water connection to every household;**
-  **Tap water connection to every public institution** viz. school, anganwadi centre, ashramshala, health centre, etc.;
-  **Central role of women and weaker sections** in managing in-village water supply;
-  **Water quality-affected areas prioritized** especially Arsenic and Fluoride-affected areas;
-  **Unit of coverage** changed from habitation to household;
-  **Service delivery** enhanced to min. 55 lpcd;
-  **Community ownership** and skilling of local community ensuring long-term sustainability;
-  **Special campaign ensuring safe water to children;**

-  **End-to-end approach:** Dovetailing of resources/ fund for drinking water source strengthening, water supply, greywater treatment & re-use, and operation & maintenance;
-  **'Functionality' of tap connections:** Focus on 'water service delivery' rather than mere water supply infrastructure;
-  Gram Panchayats and/ or its sub-committee, i.e. VWSCs/ Pani Samitis to perform the role of a **'public utility'** at village level;
-  **Community contribution:** Communities to contribute 5% of the capital cost in cash and/ or kind and/ or labour in hilly and forested areas, NE and the Himalayan States and villages having more than 50% SCs and/ or STs population, and 10% of the capital cost in other villages.

2.5 Strengthening institutional mechanism

Jal Jeevan Mission (JJM) is being implemented in partnership with States to make provision of tap water

connection to every rural home by 2024. Being a time-bound mission, a robust four-tier institutional mechanism has been set up at the national, State, district, and village level for expeditious implementation of the mission works.



National level - National Jal Jeevan Mission (NJJM)

At the national level, the National Jal Jeevan Mission is headed by the Mission Director, and supported by data and documentation centre by NIC and Project Management Unit (PMU) comprising multi-disciplinary experts. NJJM plays the following role:

- i.) responsible for implementation of JJM and provide policy guidance, financial assistance and technical support to States;
- ii.) facilitate States in planning for different components of the mission, monitor fund utilization, etc.;
- iii.) regular monitoring and necessary corrective action from time to time;
- iv.) carry out regular functionality assessment, evaluation and impact assessment;
- v.) build partnerships with other institutions and programmes; etc.

State level - State Water and Sanitation Mission (SWSM)

At the State level, the State Water and Sanitation Mission (SWSM) headed by the Chief Secretary, leads co-ordination, convergence and policy guidance. Administrative Secretary of Public Health Engineering

Department (PHED) is responsible for the implementation of JJM in the State. SWSM has Apex and Executive Committee. Apex committee is headed by the Chief Secretary with Secretary-in-charge of various line departments. Executive Committee consists of 5-10 members viz. three experts from the field of water, rural development, public health and hygiene, sanitation and reputed voluntary organisations are co-opted as members. Many States also have supporting PMUs.

The functions of Apex committee of SWSM are:

- i.) to provide policy guidance and responsible for the overall planning, strategizing, and implementation of JJM in the State;
- ii.) finalize State Action Plan (SAP) to provide a tap water connection to every rural household along with yearly Annual Action Plans (AAPs);
- iii.) appraisal and in-principle approval of State Action Plan (SAP) after discussion with National Mission;
- iv.) responsible for financial planning including ensuring timely utilization of fund and no parking of fund;
- v.) responsible for coordination among various Departments and other agencies for convergence; etc.



District level - District Water and Sanitation Mission (DWSM)

At district level, DWSM, headed by the Deputy Commissioner or District Collector is responsible for the overall implementation of the programme. Eminent persons from the field of water management, community health, community development and local Member of Parliament may be co-opted as Members. Executive Engineer of PHED is its Member-Secretary. DWSM convenes regular meeting to consider and accord administrative approval to in-village water supply schemes, plan protection and preservation of village water sources, greywater treatment, prevent water bodies from getting polluted and regularly monitor implementation. Many districts also have supporting PMUs.

The functions of DWSM are:

- i.) finalize District Action Plan (DAP) to provide tap water connection to every rural household;
- ii.) provide administrative approval of in-village water supply schemes;
- iii.) facilitate convergence of resources at village for source sustainability and greywater management;
- iv.) engage Implementation Support Agencies (ISAs) to handhold GPs/ Pani Samitis;
- v.) implement IEC campaigns; etc.

Village level – Village Water and Sanitation Committee (VWSC)/ Pani Samiti

The 73rd Amendment to the Constitution of India in 1992 added a new Part IX to the Constitution titled 'The Panchayats'; and a new Eleventh Schedule covering 29 subjects within the functions of the Panchayats. Entry 11 of this schedule is drinking water, devolving its management to Panchayati Raj Institutions (PRIs). Panchayats to collect and appropriate applicable local taxes and get grants-in-aid to carry out these functions.

Thus, JJM is implemented as a decentralized, demand-driven, and community-managed programme with

the Gram Panchayat and/ or its sub-committee, i.e., Village Water & Sanitation Committee (VWSC)/ Pani Samiti/ User Group, etc. playing a key role in planning, implementation, management, operation and maintenance of in-village water supply systems.

Public Health Engineering Departments (PHED)/ Rural Development & Panchayati Raj/ RWS Departments in charge of rural drinking water in States are to facilitate Gram Panchayats in planning, management, and O&M of the water supply system. The mission envisions empowering Gram Panchayat and/ or its sub-committee, i.e. VWSC/ Pani Samiti, to function as 'local water utility' that focuses on water supply service delivery. So far, as on 2nd October, 2021, over 3.43 lakh VWSCs/ Pani Samitis have been constituted/ made functional.

For in-village piped water supply infrastructure and related source development, communities are encouraged to contribute 5% of capital cost in cash and/ or kind and/ or labour in hilly, forested, Himalayan, North Eastern States & villages with more than 50% SC/ ST population, and 10% in the remaining villages. The community would be rewarded/ incentivized in a phased-manner after the commissioning of the scheme to the tune of 10% of the capital expenditure on their respective in-village water supply scheme. This would serve as a 'revolving fund' to meet emergency repair/ maintenance of the scheme, which will be replenished by the user group/ local community.

JJM is implemented in a participatory manner, and Self-Help Groups (SHGs), NGOs, community-based organizations, voluntary organizations, etc. play a major role in community mobilization and provide handholding support to Gram Panchayats/ VWSCs/ Pani Samitis as Implementation Support Agency (ISA). ISAs are empanelled by DWSM and on-boarded by DWSM to handhold a fixed number of villages in the particular project cycle. ISAs support water resource mapping exercises, community mobilization, conduct awareness activities, behavioural change activities, preparation, finalization, and implementation of VAP, etc. So far, over 13 thousand such organizations are working as ISAs with different States.



Women from local village community map their water resources as a part of VAP preparation

2.6 Strategy and planning

2.6.1 Approach for provision of tap water supply

Although the primary output of JJM is to provide drinking water to every rural household through tap water connection by 2024, the mission is tasked to address various challenges facing the rural drinking water supply sector at once. In India, conditions vary from cold desert to hot desert, Indo-Gangetic plains to mountains, vast alluvial mainland to forested areas, more than 7,000 km long coastal belt, to many islands. Each such region has its unique challenges. Further, due to climate change, there is a considerable spatial and temporal variation in rainfall resulting in lesser surface water storage. Considering the task at hand covering different edapho-climatic regions of the country, and the speed and scale at which the goal has to be achieved, a unique approach has been devised to initiate work in all areas simultaneously.

The following overall planning approach is being adopted for assured water supply to every home in

every village, to be planned using ‘bottom-up approach’:

- i.) in villages with existing piped water supply system, all remaining HHs to be provided with water supply by retrofitting/ augmenting, if needed, so that **‘no one is left out’**;
- ii.) in villages where ground/ surface water of good quality in sufficient quantity available, single village systems (SVS) to be planned and executed – **most preferred option**;
- iii.) villages with adequate groundwater but having quality issues, water to be treated before supply to every home;
- iv.) in isolated tribal hamlets/ hilly/ forested areas, stand-alone solar-based water supply systems to be given priority; and
- v.) in water-stressed areas, bulk water transfer, treatment plants and distribution systems to be planned and executed.



2.6.2 Bottom-up approach

Under the Jal Jeevan Mission (JJM), States/ UTs plan to achieve drinking water security and provide a tap water connection to every rural household using bottom-up approach which results in increased collaboration, renewed motivation at the community level towards achieving the goals of the mission,

improved alignment among the various stakeholders, and faster implementation. Thus, an overall planning framework connecting the village, district and State levels is adopted with every level required to develop a one-time plan for five years called as Village Action Plan (VAP), District Action Plan (DAP) and State Action Plan (SAP) respectively.

National level	National Jal Jeevan Mission (NJJM)	Overall planning + Annual Action Plan
State level	State Water & Sanitation Mission (DWSM)	State Action Plan (SAP)
District level	District Water & Sanitation Mission (DWSM)	District Action Plan (SAP)
Village level	Gram Panchayat and/ or its sub-committee, i.e. Village Water & Sanitation Committee (VWSC)/ Pani Samiti, etc.	Village Action Plan (VAP)

Bottom-up approach in planning

Convergence at village level

Since there is a potential within various Central/ State Government schemes to complement one another and can be successfully converged to enhance qualitative and sustainable outcomes for development, thereby improving the lives of people and communities, provisions for this have been made under Jal Jeevan Mission. Financial convergence at village level with all possible funding sources, like 15th Finance Commission tied grant to PRIs/ RLBs, JJM, MGNREGS, SBM, District Mineral Development Fund (DMDF), CSR funds, etc., to be made for judicious utilization of funds. Gram Panchayats or sub-committees i.e. VWSC/ Pani Samiti can use these funds for water conservation, groundwater recharge, rainwater harvesting, greywater management, etc. that aim to achieve water security in villages. Convergence of the 15th FC tied grant with schemes such as JJM, SBM (G), etc., will augment funds for the RLBs for water and sanitation activities and enhance resource availability in terms of quality, quantity, and sustainability.

Village Action Plan (VAP)

Every village is to have its own Village Action Plan (VAP) based on baseline survey, resource mapping and felt

needs of the village community. The VAP is a one-time action plan co-terminus with the 15th Finance Commission period, i.e for five years and explore convergence by dovetailing available resources at village level. Public health engineers are required to present at least three techno-economic options of water supply system for the community to choose from also indicating the implications on community contribution. This process is to empower GPs/ VWSCs in designing and implementing their in-village water supply system.

The VAP is to have four components of:

- i.) drinking water source augmentation and strengthening;
- ii.) drinking water supply system;
- iii.) greywater treatment and its reuse; and
- iv.) regular operation & maintenance (O&M).

The VAP serves as the main document of the village for all water supply and related work and is approved in the *Gram Sabha*. So far, as on 2nd October, 2021, over 2.86 lakh VAPs have been prepared and approved in different villages.

3.43
lakh

Number of VWSCs/ Pani Samitis constituted/ strengthened

223

Number of District Action Plans (DAPs) uploaded (out of total 715 districts)

13,000

Number of Implementation Support Agencies (ISAs)

11

Number of State Action Plans (SAPs) uploaded (out of 33)

2.86
lakh

Number of Village Action Plans (VAPs) approved in Gram Sabhas

60

Number of DAPs of JE/ AES affected areas (out of 60)



Narendra Modi
Prime Minister

“

...This scheme is such that all of you have to participate, every village has to do it. Government will give money to you; it will give you funds, but you have to do the work. All the people of the villages have to decide where the pipes have to be laid, where the water will be collected and how they will be maintained. Our sisters will play a major role in it. This is self-reliance, this is the spirit of empowerment of the village, this is the vision of Gandhiji's Gram Swaraj...

(Prime Minister's address on Jal Jeevan Mission at Bundelkhand on 29th February, 2020)

”



Similarly, DWSMS are to prepare a District Action Plan aggregating the VAPs and identifying various sources of convergence to meet the emerging requirements, etc. and SWSMs are to prepare a State Action Plan (SAP) aggregating the DAPs and planning for long-term water security.

2.6.3 Annual Action Plan

Every year, States/ UTs are required to formulate an Annual Action Plan (AAP), which is an extensive exercise that begins in early February. The objective is to have a robust plan that provides direction for implementation based on identified priorities, reduce risk of uncertainty by forecasting the activities to be done in future, etc. Based on the IMIS data entered by States, intensive analysis and evaluation is carried out for every State/ UT on their existing water supply scenario, especially on priority areas. The planning exercise assists the key stakeholders in visualizing the implementation process, framing a task list with timelines to achieve the approved targets, facilitate coordination ensuring the entire institutional mechanism is oriented to work in the desired direction. AAP is prepared with focus on following:



On going work in sub-zero temperatures of Ladakh

A. Targeting low hanging fruits

The fastest way of providing tap water connections is by utilizing the existing/ ongoing piped water supply network as 'low-hanging fruits' and retrofitting them by extending distribution network to provide tap water connections. In villages with existing piped water supply network and tap connections to some households, it is mandatory to connect every household in the village adopting saturation method.

- i.) Providing tap water connections from existing PWS schemes to remaining households of the village;
- ii.) Augmentation and retrofitting of existing schemes to make them JJM compliant;
- iii.) Connect all households of village where existing coverage of tap water supply is high and few Households left;
- iv.) Analysis of life cycle/ design period of schemes to improve their efficiency.

B. Empowering GPs/ VWSCs/ Pani Samitis to shoulder key responsibility

Empowering communities to prepare VAPs is of utmost importance with plan to:

- i.) facilitate GPs/ VWSCs to prepare VAPs incorporating key components;
- ii.) explore convergence by dovetailing resources at GP/ village level.

C. Identifying priority areas adhering to the principle of 'equity & inclusiveness'

To achieve 'equity & inclusiveness' and to ensure 'no one is left out', JJM prioritizes supply of assured drinking water in the following areas:

- i.) Quality-affected areas, especially 27,544 Arsenic & Fluoride-affected habitations;
- ii.) Villages in drought-prone areas (905 blocks) and desert areas (233 blocks);
- iii.) Aspirational districts (117);
- iv.) JE/ AES affected districts (60);
- v.) SC/ ST majority villages;
- vi.) Saansad Adarsh Gram Yojana (SAGY) villages (3,159).

Prioritizing JE-AES affected districts

Japanese Encephalitis – Acute Encephalitis Syndrome (JE-AES) is a serious health hazard. The disease mostly affects children and young adults which can lead to morbidity and mortality. These infections particularly affect malnourished children of poor economic backgrounds. As many as 60 high priority districts in five States are identified for strengthening prevention and control measures through five Union ministries with Ministry of Health and Family Welfare as the nodal ministry. Jal Jeevan Mission is a key programme in reducing the burden of disease in these districts.

Jal Jeevan Mission has significantly strengthened the preventive measures to reduce spread of JE-AES by providing clean tap water supply to economically poor households in the affected districts of Assam, Bihar, Tamil Nadu, Uttar Pradesh and West Bengal. On 15th August 2019, when Jal Jeevan Mission was announced, only 8.02 lakh (2.67%) households in these districts across the five States had tap water supply in their homes.

Prioritizing Aspirational districts

With the Union Government's undivided focus on providing basic amenities in remote areas, aspirational districts, border areas, etc., this mission strives to

ensure safe drinking water in every rural household without any discrimination. The principle is 'no one is left out', and those who are so far unserved get assured potable drinking water in their homes. Districts with low human development indices (HDIs) have been identified as Aspirational districts by NITI Aayog.

On 15th August 2019, when Jal Jeevan Mission was announced, only 31.30 lakh (9.3%) households in 117 Aspirational districts had tap water supply in their homes.

Prioritizing water quality-affected habitations

Emphasizing water quality, under JJM, States/ UTs are advised to adopt the following strategy to provide safe drinking water in quality affected habitations on priority.

- i.) In water quality-affected habitations, especially with Arsenic and Fluoride contamination, potable water has to be ensured on priority;
- ii.) Since commissioning of piped water supply schemes may take longer time, States have been advised to install Community Water Purification Plants (CWPP), especially in Arsenic and Fluoride-affected habitations as an interim (short-term) measure to provide 8-10 lpcd for drinking and



Community water purification plant in Kerala



cooking purposes. However, States are asked to plan for piped water supply to every home in these habitations on priority;

iii.) In villages with sufficient groundwater availability but having quality issues, adoption of suitable in-situ treatment technology is to be explored;

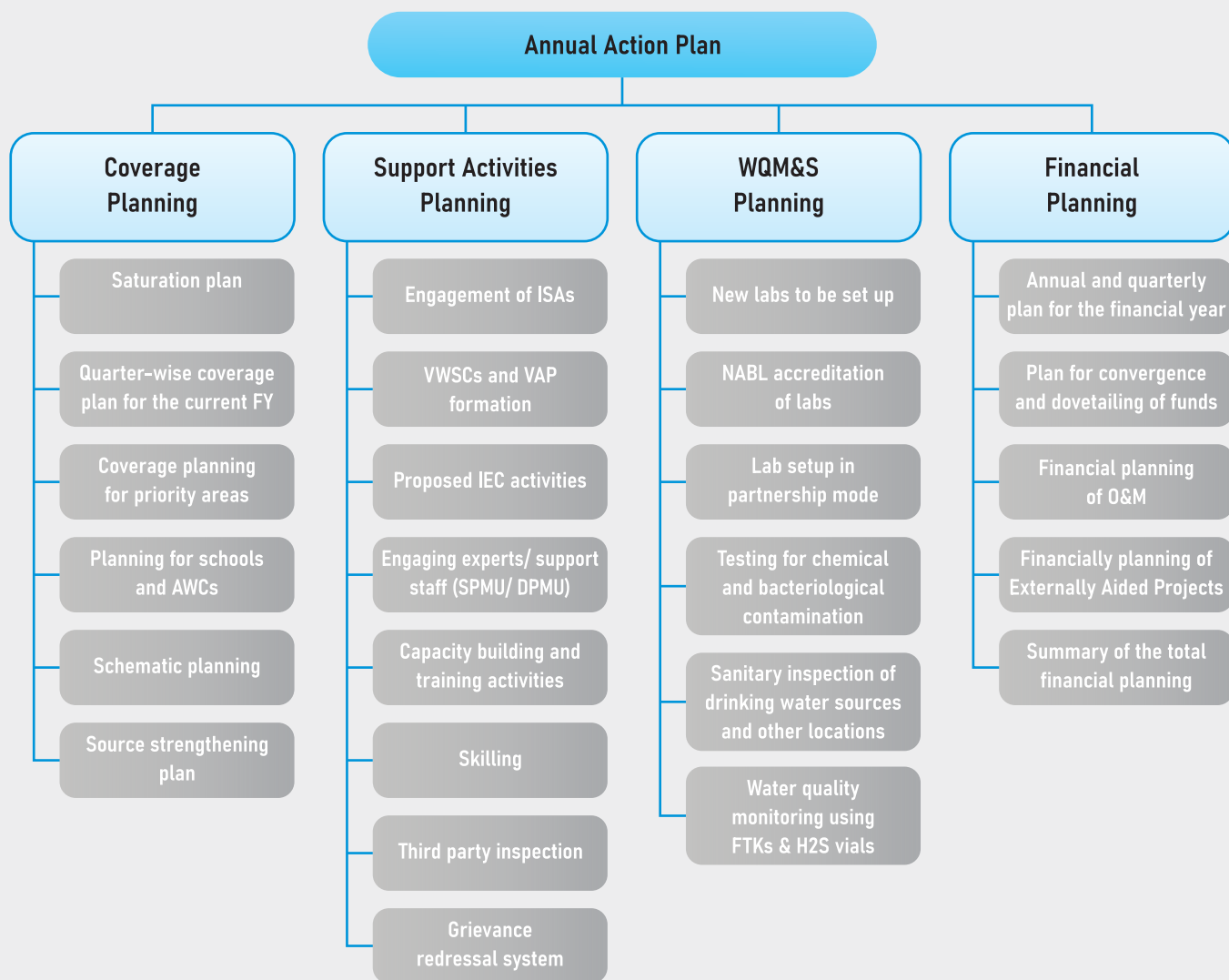
In villages with water quality issues and non-availability of suitable surface water sources in nearby areas, it may be more appropriate to transfer bulk water from long distance.

D. Simultaneously, States are to start work in villages without any PWS as well; and

E. In water deficient and quality-affected areas, States are preparing and implementing schemes for bulk water transfer and distribution network along with treatment plants.

Approval of Annual Action Plan

States/ UTs present their AAPs to a committee constituted for finalization of Annual Action Plans under the chairmanship of Secretary, Department of Drinking Water and Sanitation with members from other Ministries, viz. Rural Development, Panchayati Raj, O/o Principal Scientific Adviser and Chief Controller of Accounts. The committee approves the AAPs after scrutiny.



Components of Annual Action Plan

Timeline to provide tap water connection to every rural household

States/ UTs have arrived at their respective timeline, i.e. 100% achievement based on the remaining number of households to be provided tap water

connections and the quantum of work required for the same. Many States/ UTs have planned to provide tap water connections before 2024.

Timeline for 100% coverage is as under:

2020	2021	2022	2023	2024
Goa*	Bihar	Gujarat	Arunachal Pradesh	Assam
	Telangana*	Himachal Pradesh	Chhattisgarh	Andhra Pradesh
	Puducherry*	Haryana	Karnataka	Jharkhand
	A & N Islands*	Uttarakhand	Kerala	Maharashtra
		Ladakh	Madhya Pradesh	Odisha
		Manipur	Mizoram	Rajasthan
	Daman & Diu and Dadra & Nagar Haveli*	Meghalaya	Nagaland	Uttar Pradesh
		Punjab	Tamil Nadu	
		Sikkim		West Bengal
		Jammu & Kashmir	Tripura	
1 State	2 States & 3 UTs	8 States & 2 UTs	9 States	8 States

*State/ UT has become 'Har Ghar Jal'

State/ UT timeline to provide tap water connection to every rural household

2.6.4 Financial planning

As a time-bound mission, JJM's successful implementation rests on robust financial planning, timely funding, mobilization of adequate resources, and prudent fund utilization. Central assistance for JJM has two sources: Gross Budgetary Support (GBS) and Extra Budgetary Resources (EBR). The fund-sharing pattern

between Centre and State/ UT is 100% UTs without legislature, 90:10 for Himalayan, NE-States, and UTs with the legislature, and 50:50 for other States.

The criteria and weightage that will be followed for fund allocation under JJM both for budgetary and extra-budgetary resources is as under:

Criteria	Weightage %
Rural Population (as per last Census)	30
Rural SC and ST population (as per last Census)	10
States under DDP, DPAP, HADP and special category Hill States in terms of rural areas	30
Population (as per IMIS) residing in habitations affected by chemical contaminants including heavy metals (as on 31st March of preceding financial year)	10
Weightage for balance individual household connections to be provided	20

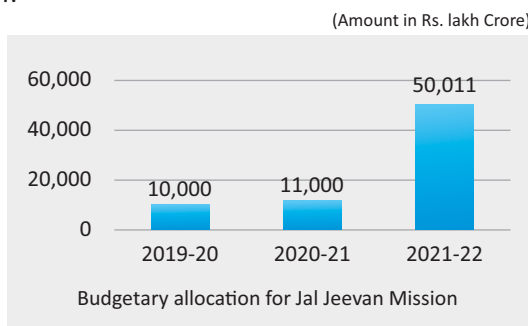
Criteria for fund allocation



In addition, up to 5% and up to 2% of such allocated funds to a State/ UT have been provisioned for support activities and WQM&S activities, respectively.

Fund availability

The estimated outlay of the mission is Rs 3.60 lakh Crore with Central and State share of Rs. 2.08 lakh Crore and Rs. 1.52 lakh Crore, respectively. Promoting inclusive growth, allocation for JJM under Budget 2021-22 increased by about five times of previous year. Similar fund provision to be made available up to 2024.



15th Finance Commission tied-grants to RLBs/ PRIs

Further, to empower Panchayats for water & sanitation service delivery, the 15th Finance Commission

identified water supply and sanitation as national priority and recommended **Rs. 2,36,805 Crore to RLBs/ PRIs** for the period 2021-22 to 2025-26, out of which 60% is tied grant to be utilized for:

- supply of drinking water, rain water harvesting and water recycling; and
- sanitation and maintenance of open defecation free (ODF) status.

Thus, to ensure water supply and sanitation services, 15th Finance Commission has allocated Rs. 1,42,084 Crore for the period 2021-22 to 2025-26 to RLBs/ PRIs. Earmarking such a substantial amount for basic water and sanitation services in villages is a progressive step to ensure assured water supply and improved sanitation in rural areas.

RLBs have to earmark tied-grants for each of these components. However, if any GP has fully saturated the needs of one category, the particular GP can utilize the funds for the other category. In 2020-21, 50% of Rs. 60,750 Crore, i.e. Rs. 30,375 Crore was allocated for water & sanitation. However, for the next five years starting 2021-22, 60% of the FC grants have been earmarked for water and sanitation.

(Amount in Rs. Crore)

Grants	2021-22	2022-23	2023-24	2024-25	2025-26	Total
Tied grant	26,940	27,908	28,212	29,880	29,144	1,42,084

Allocation under 15th Finance Commission tied grant to RLBs/ PRIs

Thus, in addition to Rs. 50,000 Crore budgetary allocation for JJM, there is also Rs. 26,940 Crore assured fund available under the 15th Finance Commission tied-grants to RLB/ PRIs for water & sanitation, matching State share and externally aided projects. Thus, in 2021-22, more than Rs. 1 lakh Crore is planned to be invested in the country on ensuring tap water supply to rural homes. This kind of investment is likely to continue over three years to achieve Har Ghar Jal.



Union Minister, Jal Shakti inaugurated water supply schemes in Arunachal Pradesh



3. Major initiatives undertaken

3.1 Joint review by Union Minister, Jal Shakti with Chief Ministers/ Lt. Governors of States/ UTs

Union Minister of Jal Shakti holds regular joint review meetings with Chief Ministers/ Lt. Governors of States/ UTs to discuss issues related to planning and implementation of Jal Jeevan Mission. Government of India is committed to provide all assistance to enable States to achieve its mission of 'Har Ghar Jal Rajya'. This helps in bringing high-level focus on the implementation of JJM and gives impetus to ongoing efforts.

3.2 Building partnership, changing lives

For this transformational mission's success, apart from government's efforts, different stakeholders, i.e., private/ corporate sector, including voluntary, charity organizations, etc. must collaborate to develop

synergy for efficient outputs. Therefore, to make water 'everyone's business', the mission strives to build partnerships and work together with various institutions/ individuals to achieve long-term drinking water security for all. Furthermore, the mission aims to empower the local village community to manage their resources, operate and maintain the infrastructure created, and ensure quality services as custodians of water supply infrastructure.

3.2.1 Sector partners

Many Voluntary Organizations (VOs), Non-Governmental Organizations (NGOs), Social service & charity organizations, and professionals/ individuals already working in the field of water have been recognized as 'Sector Partners' in this ambitious programme to address the challenges holistically. Currently, 185 such organizations have been recognized at Sector Partners for different levels, i.e. National, State and district/ community-level engagement.



Union Minister of Jal Shakti reviews progress of Jal Jeevan Mission



Sector Partners are expected to play a key role in supporting the implementation of JJM by working closely with the National mission/ States in the areas of programme management, Information, Education, and Communication (IEC) strategies, community mobilization, capacity building, and participatory training programme, identifying successful models for replication, documenting best practices, carry out a social audit, facilitate in organizing workshops, conferences, etc. Also, the trained resource of the Sector Partner may work as Master Trainers in the field to train and engage with the community at the village/ habitation level.

Webinars were organized exclusively for Sector Partners in October, 2020 and May, 2021. The organisations have submitted their Annual and Quarter-wise plans up to 2024 highlighting the activities to be carried out at different levels, viz. National, State, and District.

3.2.2 Empanelment of KRCs for training & capacity building

Effective implementation and sustainability of JJM necessitates proper planning, strategizing, and implementing water supply systems, including developing proper institutional mechanisms at all levels. For this purpose, systematic human resource development and capacity building at all levels is required. To achieve the vision of JJM, it is necessary to re-orient and sensitize the Public Health Engineering officials as well as district administration along with field level functionaries. As water is a State subject, the same is managed at different levels, viz. by village, Gram Panchayat, district, and State. Leadership training is needed for effective implementation of the programme to ensure assured regular supply of water in the long-term.

For this purpose, reputed Governmental and non-Governmental academic institutions/ agencies/ firms/ organizations/ think tanks/ training institutions, etc. have been engaged as Key Resource Centres (KRCs) for capacity building, reorientation of different stakeholders, disseminating knowledge and information, documenting best practices, etc. So far, 104 KRCs have been engaged and webinars were organized on 16th June, 2021 and 3rd July, 2021 where they were sensitized on the requirement of different training needs. National Conference of Key Resource Centres on Capacity Building under JJM being organised during 27 and 29 September, 2021 as well as 1st October, 2021.

Objectives of KRCs are as follows:

- i.) Organize leadership development programmes at various levels to cope with the change management in the context of JJM implementation;
- ii.) Upgrade knowledge, skill, and attitude of PRI functionaries, master trainers, and other stakeholders;
- iii.) Update personnel about the latest technologies and innovations in the water sector;
- iv.) Create new-age leadership in the water sector at all levels – administrators, engineers (managerial and technical wings), PRIs, and community members, which is competent in “softer” behavioural skills such as critical thinking, coordination, complex problem solving, creativity, and emotional intelligence;
- v.) Organize exposure visits for key personnel involved in planning and execution;
- vi.) Enhance knowledge and skills about convergence with other similar programmes;
- vii.) Documentation of case studies and best management practices in the sector for wider dissemination;
- viii.) Promote a better understanding of professional requirements as well as sensitization to the social, economic, technological, and political environment for effective implementation; and
- ix.) Enhance the capacity of the communication and capacity development unit (CCDU).

3.3 Innovation and R&D

Jal Jeevan Mission is a mission of huge scale and while implementing it, the States are likely to encounter many challenges like inhospitable terrain, cold/ hot deserts, groundwater sources, in-situ geo-genic contamination, etc. To address these challenges, it is necessary to identify new cost-effective technical solutions/ innovations for adaptation. Further, some specific challenges would require R&D for enabling customized solutions.

To address these challenges, the Department of Drinking Water & Sanitation has constituted a **Technical Committee** under the chairmanship of Principal Scientific Advisor to the Government of India.



Diagram of a typical rural water supply system

The Committee has invited technical solutions/ innovations for drinking water and sanitation sectors; identified and recommended them after a rigorous appraisal process to solve the challenges. A similar exercise is being undertaken for inviting high-end R&D proposals for customized solutions. The State Rural Water Supply & Sanitation Departments are also represented in the Committee.

The Terms of Reference (ToRs) to the Committee are as under

<p>Invite innovative technologies in drinking water, sanitation, greywater management, and solid waste management sectors</p>	<p>Shortlisting the technologies for techno-economic appraisal</p>	<p>Getting techno-economic appraisal of technologies done as per the ASSURED matrix framework</p>
<p>Consideration of appraised technologies for acceptance</p>	<p>To recommend any non-technological interventions needed for achieving the scale of use of technologies</p>	<p>Any other aspect/ activities required to be undertaken in respect of appraisal of the technologies</p>

We need innovation that has success assured. This can be achieved by using the ASSURED matrix, which comprises the following:

- A** Affordability is required to create access for everyone across the economic pyramid, especially at the bottom.
- S** Scalability is required to make a real impact by reaching out to every individual in the society, not just a privileged few.
- S** Sustainability is required in many contexts- environmental, economic, and societal.
- U** Universal implies user-friendliness so that the innovation can be used irrespective of an individual's skill levels.
- R** Rapid refers to speed. Inclusive growth cannot be achieved without the speed of our action matching the speed of our innovative thoughts!
- E** Excellence in technology, product quality, and service quality is required, not just for the elite few but for everyone in the society, since the rising aspirations of resource-poor people also need to be fulfilled.
- D** Distinctive innovation is required because there is no use in creating me-too products and services.

The technologies submitted would be measured on suitable parameters to be developed as a matrix under the ASSURED system of evaluation.

3.3.1 Innovation challenge to develop portable device for water quality testing

National Jal Jeevan Mission has launched an innovation challenge in partnership with the Department of Promotion of Industry and Internal Trade, Government of India, to develop portable devices for water testing. The main objective of the exercise is to bring an innovative, modular, and cost-effective solution to develop portable devices that can be used at the household level to test the drinking water quality instantly, easily, and accurately.

People receiving piped water supply in their homes do not have any means to test the potability of water coming from their taps. This leads to a situation wherein, quite often, people are reluctant to consume tap water directly. As a result, people end up installing household water treatment units incurring additional expenditure. Water quality testing is one of the priority areas under Jal Jeevan Mission.

Keeping in view the source of water, three types of portable devices are being developed:

- Type 1:** A portable device to test all the parameters (25 suggested);
- Type 2:** A portable device only to detect the presence or absence of bacteriological contamination;
- Type 3:** A portable device to test one or more parameters. The innovator may select the package of

parameters. It is to be kept in mind that the device should be able to test color, pH, turbidity, TDS, total hardness, free residual chlorine.

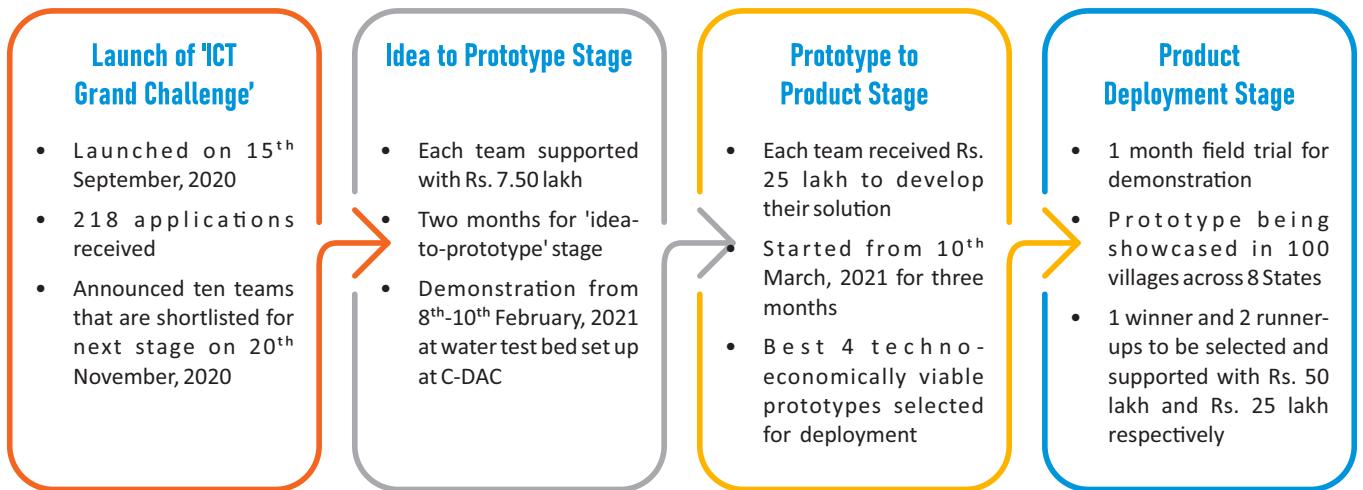
3.3.2 Grand challenge for development of 'smart water supply measurement and monitoring system'

Jal Jeevan Mission focuses on service delivery at the household level, i.e., water supply regularly in adequate quantity and prescribed quality. This necessitates modern technology in systematic monitoring of the programme and automatically capturing service delivery data to ensure the quality of services. Digitisation of water supply infrastructure has the potential to solve many problems. But, more importantly, it will help anticipate and address future challenges.

NJMM, in partnership with the Ministry of Electronics & Information Technology (MeitY), has launched an ICT Grand Challenge on 15th September 2020 to create an innovative, modular, and cost-effective solution to developing a 'Smart Water Supply Measurement and Monitoring System' to be deployed at the village level. C-DAC, Bangalore is the implementing agency providing technical support for the challenge.

The ICT Grand Challenge harnessed India's vibrant IoT eco-systems for creating a smart rural water supply eco-system to measure and monitor the service delivery of the water supply in rural areas. This challenge to provide an opportunity to work for the cause of Jal Jeevan Mission and to assure potable water supply through tap water connections to every rural household.





Stages of ICT grand challenge

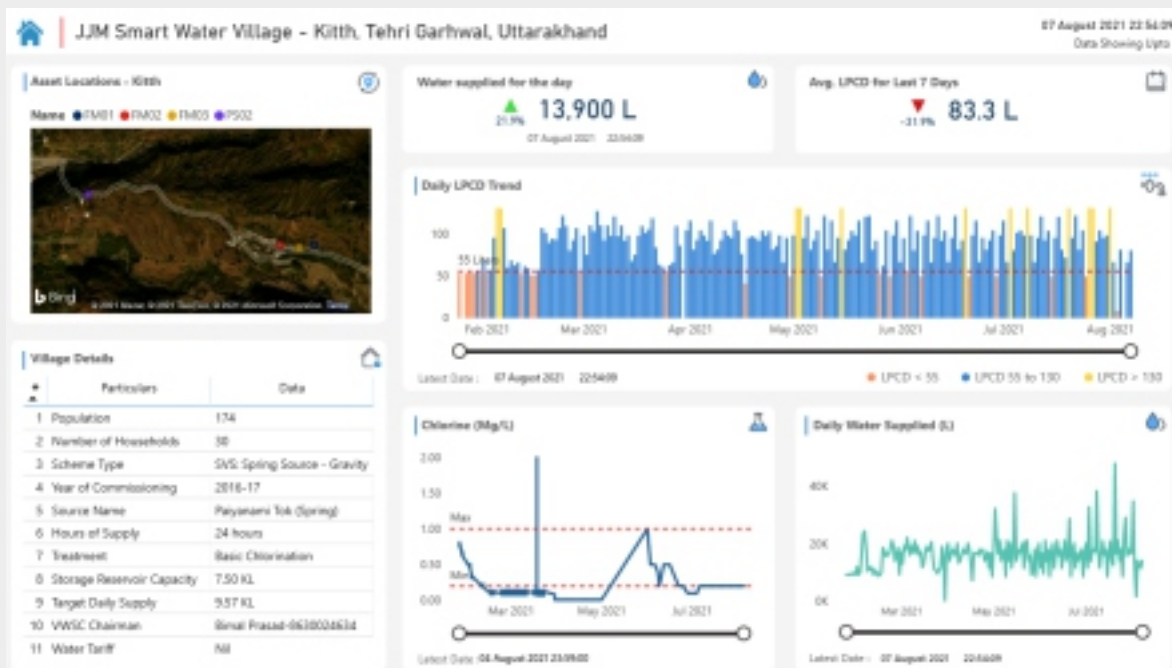
Enthusiastic participation was observed from all over India. A Jury was constituted, with experts from academia, industry, Jal Jeevan Mission, C-DAC, CoEs, MeitY, etc. The ten teams shortlisted for ideation to prototype stage were announced on 20th November 2020, based on the jury's recommendations of the jury.

The 10 participants were given two months for the 'Idea on-to-Prototype' stage post in which participants carried out a demonstration from 8th-10th February 2021 at Water Test-Bed set up at C-DAC. The water test-bed was set up in C-DAC Bangalore Electronics City Campus for these evaluations. The best four techno-economically viable prototypes were selected

for product development, and each team received Rs. 25 Lakh to build their solution as per the need of the user agency.

A video conference on 'Handholding of the participants to the State' was organized to help expedite programme implementation. The selected agencies are visiting the villages to initiate IoT-based sector deployment. In addition, villages are also allocated to three other agencies for developing eight pilots on a pro-bono basis.

IoT pilots based on smart water supply monitoring are currently being undertaken at the following locations:



Snapshot of dashboard showing data collected through sensors

S.No.	State	Village Name	District
1.	Gujarat	Bavka	Dahod
2.	Gujarat	Chilakota	Dahod
3.	Gujarat	Jada Kheriya	Dahod
4.	Gujarat	Agara	Dahod
5.	Himachal Pradesh	Ghanahatti	Shimla
6.	Maharashtra	Janori	Nashik
7.	Rajasthan	Gharat	Sirohi
8.	Uttarakhand	Kitth	Tehri Garhwal
9.	Uttarakhand	Churedar	Tehri Garhwal
10.	Uttarakhand	Kot Kulogi	Tehri Garhwal
11.	Uttarakhand	Dudhli	Dehradun

Sensor-based IoT pilot locations

Such pilots are underway in following eight States covering 100 villages:

S. No.	State	Number of villages
1.	Andhra Pradesh	15
2.	Gujarat	20
3.	Haryana	13
4.	Karnataka	13
5.	Maharashtra	5
6.	Manipur	9
7.	Rajasthan	15
8.	Uttar Pradesh	10
Total		100

IoT pilot locations in second phase

The data collected from field locations will be transmitted to the State and Central server for monitoring the functionality (quantity, quality, and regularity of water supply) assessment. Thus, it will minimize service delivery, water loss and help analyse the demand pattern of the user groups to be later used for demand management, minimizing non-revenue water, ensuring proper management and effective operation & maintenance of water supply systems in the villages.

The successful developers will join the MeitY supported incubator/ CoEs to nurture their solution further. The technologies that were developed & demonstrated successfully may be listed in the GeM portal. This will boost the idea and thrust of initiatives like Atmanirbhar Bharat, Digital India, and Make in India.



नरेन्द्र मोदी
प्रधानमंत्री



...अब देश, गाँव - गाँव पाइप कनेक्शन से स्वच्छ पानी पहुंचाने के लिए 'जल जीवन मिशन' चला रहा है। मकसद यही है कि किसी गरीब को जरूरी सुविधाओं के लिए तकलीफ न उठानी पड़े, इधर-उधर दौड़ना न पड़े...।

(‘प्रधानमंत्री आवास योजना’ के तहत उत्तर प्रदेश में 6 लाख से अधिक लभार्थियों को वित्तीय सहायता जारी करने के कार्यक्रम से लिया गया सन्दर्भ)

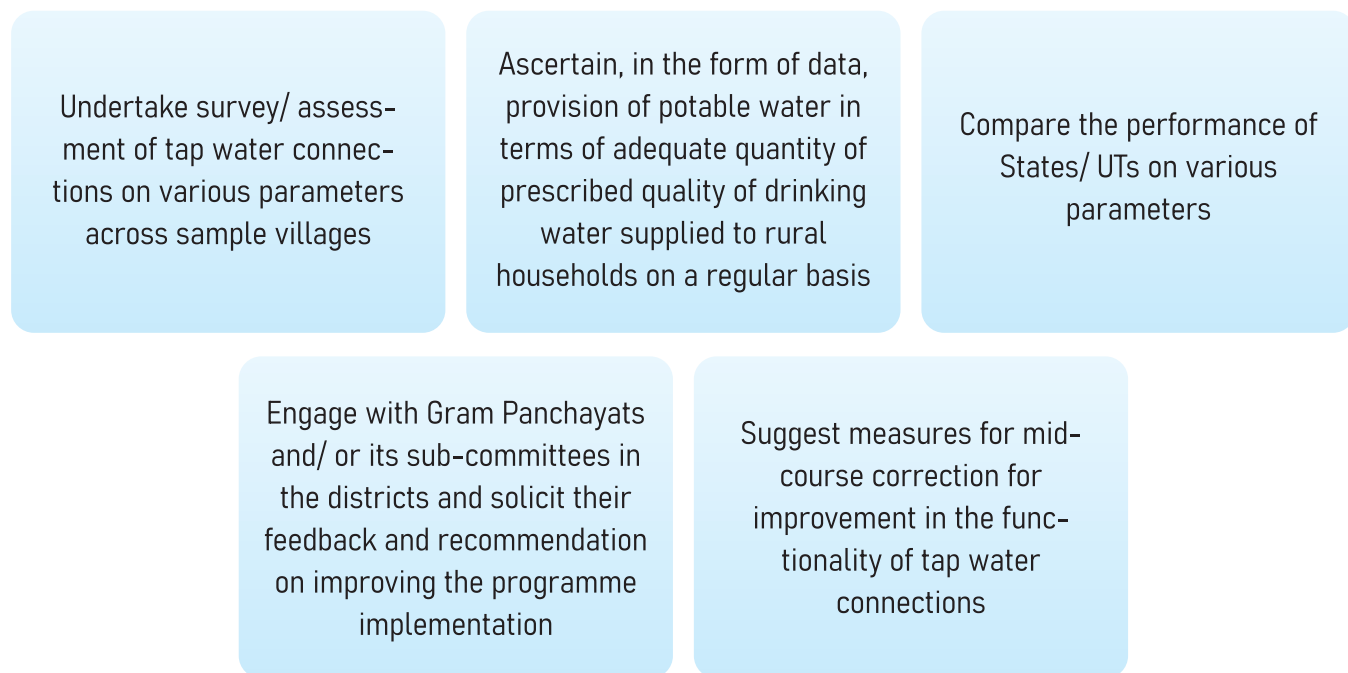


3.4 Functionality assessment

On the day of announcement of JJM, i.e. 15th August, 2019, about 81% of rural habitations in the country had access to potable water through various types of schemes to ensure every rural person has enough safe water for drinking, cooking and other domestic needs as well as livestock throughout the year. As reported by States, 17% of rural households had tap water supply in their homes prior to launch of JJM. Under JJM, the major change was made to provide tap water supply at household level. The paradigm shift has been from community or habitation level of service to the household level, as well as an increase in the per person daily water quantity (by 37.5%) to be supplied – from 40 lpcd to 55 lpcd. States are impressed upon to also make the tap water connections provided prior to 15th August 2019 JJM compliant.

In order to ensure every household gets assured supply of potable water in adequate quantity on

regular basis, the mission aims to assess the functionality of tap water connections provided before and after its launch. The functionality is defined as having infrastructure, i.e. household tap water connection providing water in adequate quantity (55 lpcd) of prescribed quality (BIS:10500) with adequate pressure on regular basis, i.e. continuous supply in long-term. It will also include long-term source and system sustainability. The major challenge is continuously monitoring the functionality of tap water connections till sensor-based IoT devices are installed in every village for measurement and monitoring of water supply on real time basis. Every year, sample survey is undertaken to assess the functionality of household tap water connections. Survey in sample villages is done to identify the issues, challenges and problems which are majorly impacting the functionality so that immediate corrective action could be initiated to improve the water supply system to realise the outcomes set under Jal Jeevan Mission.



Objectives of the functionality assessment

Approach and methodology

In 2020-21, the Department of Drinking Water & Sanitation (DDWS) had engaged Nielsen (India) Private Limited to undertake 'Functionality Assessment' of household tap water connections. A total of 87,123 households across 6,992 villages from 704 districts in 31 States/ UTs were covered under the study.

The survey included measurement of the quantity of water received at the household through the tap water connection and water testing to check whether the quality of the drinking water is as per the BIS standards. The study also included collecting some supply-side information, including assessing the quantity of water supplied by the scheme; the source & system sustainability, infrastructure, storage capacity, water



treatment plant, rain water harvesting methods and greywater management, etc. In addition, the field condition of the scheme components was photographed along with geo-coordinates.

Key findings

The functionality assessment found 94% of tap water connections to be working, 84% tap connections with

quantity of water supply more than 55 lpcd, 61% with potability, and in 87% households, water supply found to be regular.

The assessment also found that 78% of households with tap water connections are using the taps as their main drinking water source and 68% are using it for domestic purposes reflecting their overall satisfaction with the tap water supply and the adequacy of quantity.

Quality

- **Good performers - Himachal Pradesh (98%), Manipur (95%), Uttarakhand (92%)**

Regularity

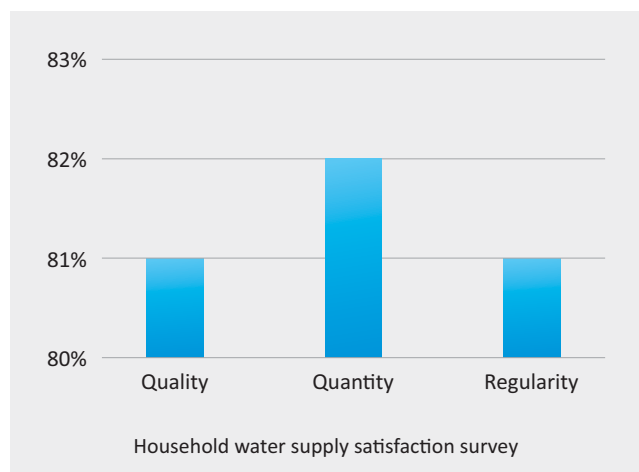
- **87.2% households reported to be getting water supply as per schedule**
- **80.5% reported supply on all seven days of the week on a usual basis**
- **Good performers receiving water on all seven days in a week - Goa (100%), Puducherry (98%)**

Quantity

- **83.5% of households have been estimated to get 55 lpcd or more**
- **Good performers - Puducherry (100%), Sikkim (100%), Arunachal Pradesh (99%)**

Working of tap connection

- **94% of sample households reported that their tap connection was working**
- **85% of the households reported that their tap connections functioned all 12 months in the year**



These findings have been shared with respective State Governments with the request to find out why the desired service standards were not met with as well as to take immediate remedial measures. States are continuously urged to give emphasis on regular monitoring for addressing these issues proactively, so that PHED/ agencies/ GPs/ VWSCs/ Pani Samitis can be true public utilities.

3.5 Solar power-based water supply schemes

Solar powered ground water-based water supply scheme is a viable solution for piped water supply particularly in forest, hilly, tribal and far-flung habitations, where power supply is very unreliable and the existing borewell meets the quality and quantity requirements. Solar powered schemes with mechanized pumping, storage and distribution systems is a cost-effective standalone system which is conveniently maintained by the community. Such a system typically comprises of a borewell yielding adequate quantity and safe water, solar panels, battery back-up, storage

tanks of adequate capacity with sensors like motor on-off sensors, dry-run sensor and water level sensor, and steel stages. Solar power can be conjunctively used along with grid-based power supply to reduce energy charges. Solar powered schemes can enable provision of tap water connections within a short span of time. Under the mission, fund provision of Rs. 7 lakh per scheme is made for solar power-based schemes.

In States like Assam, Chhattisgarh, Jharkhand, Odisha, Madhya Pradesh, etc. solar power-based water supply schemes are being planned and implemented in a large scale. Similarly in Uttar Pradesh, in about 16 thousand villages such schemes are being taken up.



Solar power-based water supply scheme



3.6 Skilling

Jal Jeevan Mission provides huge employment opportunities in villages. To successfully implement JJM and ensure long-term operation & maintenance of in-village water supply systems, there is a need for skilled human resources in every village. Therefore, to meet the present and future requirements, skilling initiatives to prepare masons, plumbers, electricians, fitters, pump operators, etc., have been taken up.

NJJM has urged States/ UTs to provide a roll-out plan for skilling on priority. Development partners are being engaged to develop modules for sensitising GPs/ VWSCs and embed the same in the capacity-building programme of Sarpanches as well. By providing skill training to local people, the State will expand the ambit of the skilled human resource pool and ensure expeditious implementation of works. Trained human resource availability at the village level helps in the immediate repair work in the event of any breakdown.

All States/ UTs have accorded 'top priority' to skilling of workers in villages and accelerate skill training by utilizing support fund so that trained human resource is available for the creation of water supply infrastructure as well as operation and maintenance of piped water supply systems and greywater treatment in all villages of the States/ UTs. Further, this will give a big boost to employment as well to the local economy.

CoViD-19 pandemic has led to reverse migration of skilled and semi-skilled human resource, which can be turned into a mutually beneficial opportunity for the programme and employment opportunities.

Training programmes will help create an enabling environment in the villages and address migration. In addition, the services of certified trained youth will be used in the implementation of the water supply programme by the State.



Skill development training under JJM



Skill training in Nagaland

3.7 National Centre for Drinking Water, Sanitation and Quality (NCDWSQ)

The National Centre for Drinking Water, Sanitation, and Quality is an autonomous institution of the Department of Drinking Water and Sanitation (DDWS), Ministry of Jal Shakti set up in Kolkata to serve as an institute of national importance for public health engineering. The institute will work on training and capacity building, academic programmes and education, research and innovation, outreach and consulting, and technology/ solutions bank. It will serve as a Centre of Excellence for drinking water and sanitation, handling complex water management

issues in a holistic and integrated manner. It will further be strengthened to play a larger role in the implementation of the Jal Jeevan Mission. Training and capacity building programmes have been initiated with sessions conducted through both virtual and classroom mediums. The first classroom training was organized on 25th-27th August, 2021 for senior chemist/ lab-in-charge looking after water quality testing, monitoring and surveillance.

An eight member Expert Committee chaired by Principal Scientific Advisor (PSA) to Government of India with 3 directors of IITs, ex-head of utility and public health experts has been constituted for preparing vision and roadmap for the development of the institute as an institute of international repute. The committee has submitted its report.



Objectives of NCDWSQ



NCDWSQ under construction



3.8 Professor Chair

Department of Drinking Water & Sanitation, Government of India, established Professor Chair on water and sanitation (WATSAN) studies in 2012-13, to promote collaboration with academic and research institutions to undertake research and innovation in the rural water supply and sanitation sector. In response to changes in the sector and with new focus areas emerging with the launch of Jal Jeevan Mission and Swachh Bharat Mission Phase II, the related guidelines have been revised and the said chairs will now known as 'Jal Jeevan Mission Professor Chairs', which will take up research activities in the water and sanitation sector towards realization of the vision of 'Har Ghar Jal' and 'ODF Plus'.

The objective is to establish Jal Jeevan Mission Professor Chairs in reputed academic institutions to carry out high quality empirical and applied research in rural drinking water and sanitation sector to address sectoral challenges of rural water and sanitation. Such research will form the basis for evidence-based policy and technological interventions in the sector. It is intended to establish 5 (five) Jal Jeevan Mission Professor Chairs. Each Chair will undertake research in a distinct area related to water and sanitation sectors and will be hosted in an institution having relevant research experience.

An 'Expert Committee' on Jal Jeevan Mission - Professor Chair has been constituted under the Chairpersonship of Prof. Bibek Debroy, Chairman, Economic Advisory Council to the Prime Minister and Co-chair of Prof. K. Vijay Raghavan, Principal Scientific

Adviser to the GoI to identify the areas of focus and host institutions for setting up of 'Jal Jeevan Mission Professor Chair'.

3.9 Campaign to provide piped water supply to every school, anganwadi centre and ashramshala

The physical environment and cleanliness of anganwadi centres, ashramshalas, schools, etc., have profound impact on the health, capacity to learn, and well-being of the children.

Children are more susceptible to water-borne diseases and spend lot of their time in schools, anganwadi centres and ashramshalas (residential tribal hostels). Thus, it is important to ensure potable piped water supply in their safe abodes, which has become all the more important during CoVid-19 pandemic. Keeping this in view, a campaign was launched on Gandhi Jayanti, i.e. 2nd October, 2020 to make provision of piped water supply for drinking and cooking of mid-day meals and tap water for hand washing and use in toilets at these centres. The campaign essentially highlights water, sanitation, and hygiene issues with its interplay with children's well-being and their long-term development.

This demand focussed efforts in the form of a time-bound campaign involving Public Health Engineering/ Rural Water Supply Departments/ agencies/ Gram Panchayats/ VWSCs, local communities, sector partners, NGOs, Self-Help Groups, etc. so as to make it a true 'Jan Andolan'.



Children practicing hand washing in schools

3.10 Greywater management

Huge amount of greywater is estimated to be generated every day in rural areas as a result of coverage in tap water supply to every home. The adverse effects on human health of unsafe disposal of such wastewater generated from bathrooms and kitchens are quite serious and pervasive. Stagnant ponds of wastewater in villages or improper drains can lead to increased risks of exposure to diseases such as malaria, dengue and filariasis. The increasing amount of wastewater generated, if not treated properly, can also lead to contamination of groundwater through natural percolation.

The greywater generated every day provides a unique opportunity for treatment and reuse for agriculture/ non-domestic uses, effectively reducing the overall fresh water demand in villages. Thus, greywater



Community soak pit in Tamil Nadu

management is considered as an integral part of the water security strategy under JJM.

Considering this, JJM guidelines have already provided for greywater management as one of the key components under Village Action Plan (VAP) and the required infrastructure is included under the very definition of in-village water supply infrastructure. The guiding principle for greywater management includes 3 Rs – Reduce, Reuse and Recharge – which focus on minimizing the generation of greywater and substituting the use of freshwater.

Further, the Government of India released the guidelines for Swachh Bharat Mission (Grameen) Phase-II in February, 2020. The guidelines aim to sustain the gains achieved under SBM and ensure that ODF status plus solid and liquid waste management services in rural areas are sustained. The guidelines focus on the importance of wastewater management as one of the key components of SBM(G) Phase-II.¹

Fund from MGNREGS, SBM(G) and 15th Finance Commission tied grant for water and sanitation are being utilized for this purpose. In all villages with tap water supply, greywater collection, management and reuse is being taken up in a campaign mode so as greywater doesn't become public health hazard. Several States across country have initiated special campaigns for greywater management in convergence with schemes at village level covering options at both household and community level.



Waste stabilization pond in Karnal block, Haryana

¹ Excerpts from manual on greywater management issued by SBM(G) in July, 2021



3.11 Rashtriya Jal Jeevan Kosh (RJK)

Several individuals/ institutions/ corporates/ foreign donors/ philanthropists, etc., have a desire to 'give back to the society'. Recognizing this, and in accordance with the vision of the Prime Minister to build a 'Jan Andolan' for potable tap water supply to every rural household and village institutions, the 'Rashtriya Jal Jeevan Kosh' (RJK) has been set up under the DDWS to facilitate such contributions for creation of safe drinking water supply in villages of their choice.

Objectives of the Kosh are to:

- i.) Enable individuals/ organisations to donate/ contribute in making provision of clean drinking water in the village of their choice;
- ii.) Join the ongoing efforts under JJM to provide tap water in rural homes, schools, anganwadi centres, tribal residential schools, health-cum-wellness centres, etc.;
- iii.) Promote R&D, innovation, use of technology in ensuring tap water in rural households;
- iv.) Build the capacity of the local village community to plan, implement, manage, operate and maintain their water supply schemes; and
- v.) Promote water conservation efforts, augmentation/ strengthening of drinking water sources, greywater treatment & re-use, etc., for drinking water security in rural areas.

3.12 Task force

A task force consisting of policy makers, experts and practitioners having expertise in drinking water was constituted to analyse various drinking water programmes by various States/ UTs so far with a view to ascertain whether the substantial investments on these programmes have delivered satisfactory results. The learning from the drinking water supply programmes implemented across the country will help in fine-tuning the JJM implementation strategy. The task force has submitted its report.

3.13 Field visits

Multi-disciplinary NJJM teams have been visiting villages in different States/ UTs to make observations with an objective to expedite the implementation focusing on prudent investment and targeted outputs. The team interacts with members of GPs/ VWSCs/ Pani Samitis, local community as well as officials of PHE/ RWS/ PR Department on community participation and institutional arrangements for the implementation. The visit also aims to identify the issues and challenges being faced by the implementing agencies in the State/ UT and to document good practices for cross-learning as well. Further, Union Minister, Jal Shakti as well as MoS for Jal Shakti have also been visiting States to take stock of the situation.

The following States have been visited by NJJM:



S. No.	State	First visit	Second visit	Further visits
1.	Andhra Pradesh	2 nd – 5 th December, 2020	15 th – 19 th March, 2021	
2.	Arunachal Pradesh	21 st – 25 th February, 2021		
3.	Assam	13 th – 17 th December, 2020	7 th – 10 th February, 2021	8 th – 10 th March, 2021
4.	Bihar	29 th – 31 st July, 2021	13 th September, 2021	
5.	Chhattisgarh	20 th – 23 rd December, 2020	22 nd – 26 th March, 2021	29 th – 2 nd July, 2021
6.	Goa	24 th – 27 th February, 2021		
7.	Gujarat	16 th – 18 th December, 2020	6 th – 10 th July, 2021	
8.	Haryana	10 th – 12 th November, 2020		
9.	Himachal Pradesh	9 th – 12 th December, 2020		
10.	J&K	27 th – 31 st December, 2020	8 th – 11 th September, 2021	
11.	Jharkhand	2 nd – 4 th December, 2020	6 th – 9 th July, 2021	6 th – 9 th September, 2021
12.	Karnataka	2 nd – 6 th December, 2020	7 th – 10 th February, 2021	
13.	Kerala	14 th – 18 th February, 2021		
14.	Ladakh	26 th – 30 th October, 2020	21 st – 25 th July, 2021	
15.	Madhya Pradesh	10 th – 13 th January, 2021	28 th September – 1 st October, 2021	
16.	Manipur	10 th – 14 th January, 2021		
17.	Meghalaya	16 th – 20 th November, 2021	17 th – 21 st January, 2021	
18.	Mizoram	11 th – 15 th January, 2021		
19.	Nagaland	16 th – 20 th November, 2020	16 th – 23 rd February, 2021	8 th – 13 th August, 2021
20.	Odisha	21 st – 24 th December, 2020		
21.	Puducherry	4 th – 7 th August, 2021		
22.	Punjab	9 th – 11 th November, 2020		
23.	Rajasthan	12 th – 17 th December, 2020		
24.	Sikkim	4 th – 8 th November, 2020	6 th – 9 th January, 2021	
25.	Tamil Nadu	13 th – 17 th December, 2020	10 th – 13 th March, 2021	14 th – 17 th July, 2021
26.	Telangana	6 th – 8 th January, 2021		
27.	Tripura	2 nd – 6 th March, 2021	16 th – 19 th August, 2021	
28.	Uttar Pradesh	16 th – 18 th November, 2020	13 th – 17 th December, 2020	27 th – 30 th January, 2021; 8 th – 10 th March, 2021; 22 nd – 25 th June, 2021 4 th – 7 th August, 2021
29.	Uttarakhand	24 th – 27 th November, 2020	28 th – 1 st June, 2021	23 rd – 26 th August, 2021
30.	West Bengal	2 nd – 4 th December, 2020	5 th – 8 th January, 2021	4 th – 7 th February; 27 th – 30 th July, 2021 24 th – 28 th August, 2021

Field visits by multi-disciplinary NJJM teams



3.14 Role of MPs in making JJM a 'Jan Andolan'

Recognizing the key role Members of Parliament/ elected representatives can play in mobilizing the local community and empowering them to ensure assured piped water supply in rural homes, provisions have been made in the guidelines of Jal Jeevan Mission for their participation.

MPs are already nominated as Co-Chairperson of the District Level District Development Coordination & Monitoring Committee (DISHA) of the Ministry of Rural Development. Their inputs/ suggestions would be considered while finalizing the District Action Plan (DAP) for 100% coverage for provision of drinking

water in all rural households of the districts in their constituencies. Further, before declaring any district as 'Har Ghar Jal' district, i.e. districts with tap water supply in every rural home, Members of Parliament whose constituencies are part of the district would be consulted so that 'no one is left out'.

MP(s) to be invited in every meeting of the District Water & Sanitation Mission (DWSM) as a Special Invitee(s). Their role would be:

With union Government's focus to improve the 'quality of life' and bring 'ease of living' of the people living in rural areas, involvement of the Members of Parliament in this flagship programme will make Jal Jeevan Mission, a '*Jan Andolan*' - people's movement.



Role of MPs in making JJM a 'Jan Andolan'

4. Initiatives to ensure water quality

4.1 National Water Quality Sub-Mission (NWQSM)

To provide safe drinking water to identified 27,544 Arsenic/ Fluoride-affected rural habitations by March, 2021, National Water Quality Sub-Mission (NWQSM) is being implemented since March 2017 and the same has now been subsumed under JJM.

States are allowed to use JJM fund for en-route habitations, use Externally Aided Projects (EAPs)/ State schemes and other funds for convergence to the extent of eligibility. Several review meeting with States implementing projects under NWQSM are held regularly. Status of provision of safe drinking water in Arsenic and Fluoride affected habitations is as follows:

Details	Habitations
No. of targeted habitations	27,544
No. of habitations covered	18,784
No. of habitations covered/ quality improved	8,032
No. of habitations being covered	705
No. of balance habitations	23

Details of NWQSM

4.2 Water Quality Monitoring & Surveillance (WQM&S)

Water Quality Monitoring & Surveillance (WQM&S) has been accorded the highest priority under Jal Jeevan Mission to provide drinking water of prescribed quality to rural households. The Department provides technical and financial support to States/ UTs to strengthen the Water Quality Monitoring & Surveillance activities.

Water Quality 'Monitoring' by the department and PHED officials and 'Surveillance' by communities themselves are an integral part of JJM's action

planning. It is suggested that the Sub-divisional/ block laboratory test 100% water sources under its jurisdiction, once for chemical parameters and twice for bacteriological parameters (pre- and post-monsoon) in a year, covering all sources of the respective block at least for 13 basic water quality parameters.

Activities related to monitoring to be carried out by the Departments of all States/ UTs include:

- i.) Establishment/ up-gradation of water quality testing laboratories at all levels;
- ii.) NABL accreditation of laboratories on a priority basis;
- iii.) Development of mechanism to inform community/ user group about the test results via various communication mechanisms such as SMS, postcard, etc.;
- iv.) Establishment of laboratories under PPP mode, apart from those being set up by rural water supply department;
- v.) Operationalize mobile water quality testing laboratories to the extent possible; and
- vi.) Create awareness and education programmes on water quality in schools, anganwadi centres, health centres, GPs/ PRIs, etc.

Surveillance activities as part of JJM to be undertaken by communities will require training for the same. Accordingly, it is planned that five persons in every village, especially women, will be trained to use Field Test Kit (FTK) for testing local water sources. In addition, gram Panchayat and/ or its sub-committee, i.e., VWSC/ Pani Samiti/ User Group, will ensure to test 100% drinking water sources, including private sources and sanitary inspection under its jurisdiction using FTK.

Given the priority accorded to water quality, a water quality monitoring and surveillance framework is prepared after several discussions with States/ UTs and other stakeholders. The framework aims to facilitate in water quality testing, monitoring and surveillance activities effectively. Prime Minister released the framework on 2nd October, 2021.



List of basic water quality parameters

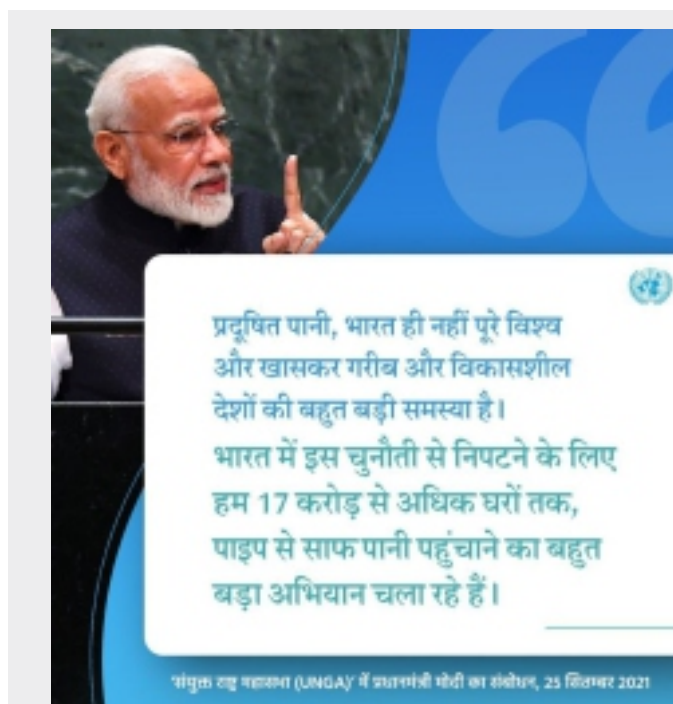
S. No.	Characteristic	Unit	Requirement (Acceptable limit)	Permissible limit in the absence of alternate source
1.	pH value	–	6.5-8.5	No relaxation
2.	Total dissolved solids	Milligram/ litre	500	2,000
3.	Turbidity	NTU	1	5
4.	Chloride	Milligram/ litre	250	1,000
5.	Total alkalinity	Milligram/ litre	200	600
6.	Total hardness	Milligram/ litre	200	600
7.	Sulphate	Milligram/ litre	200	400
8.	Iron	Milligram/ litre	1.0	No relaxation
9.	Total arsenic	Milligram/ litre	0.01	No relaxation
10.	Fluoride	Milligram/ litre	1.0	1.5
11.	Nitrate	Milligram/ litre	45	No relaxation
12.	Total coliform bacteria	Shall not be detectable in any 100 ml sample		
13.	E.coli or thermotolerant coliform bacteria	Shall not be detectable in any 100 ml sample		

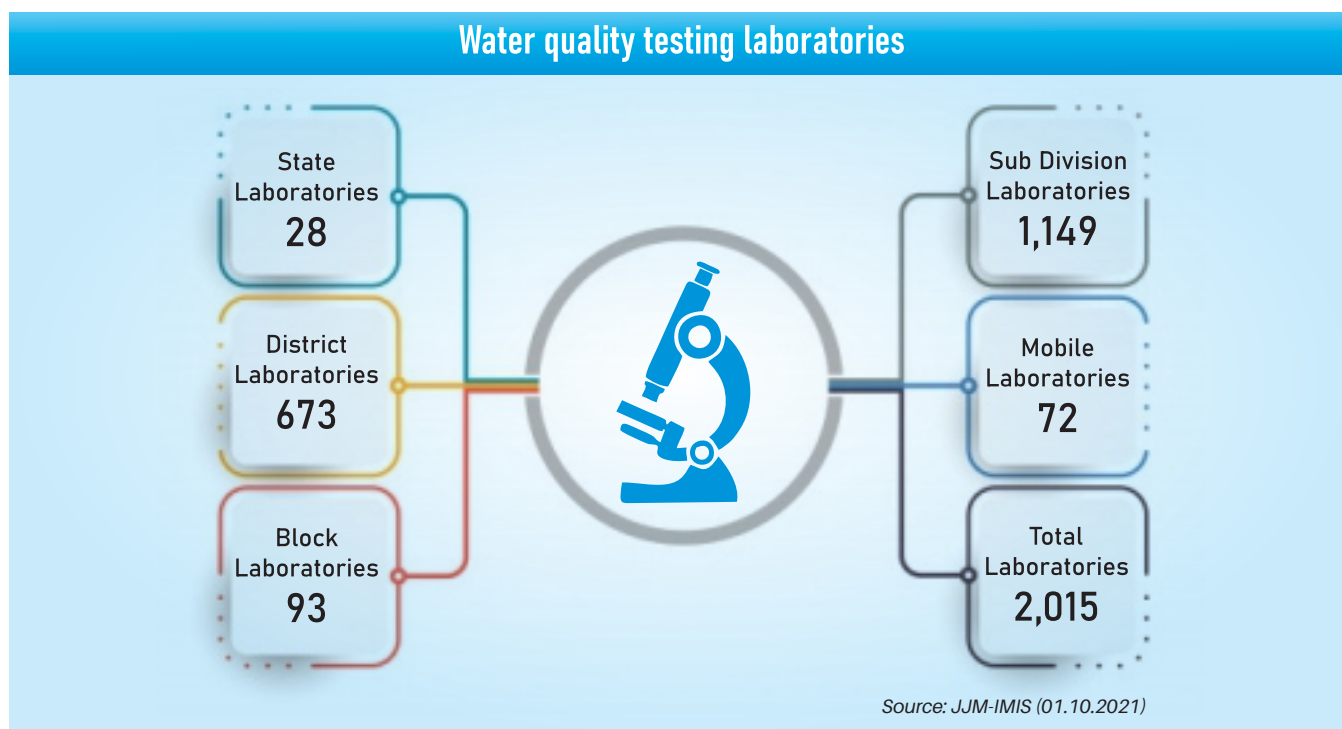
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States have been advised to enable the public to get their water samples tested at these laboratories at nominal rates. The nominal rates suggested by NJJM is as below:

S. No.	Parameters	Individual Rates Recommended (Rs.)	Package Rates Recommended (Rs.)
1.	Odour	1	
2.	Color	1	
3.	pH	1	
4.	Total dissolved solids	1	50
5.	Turbidity	5	
6.	Total alkalinity	20	
7.	Total hardness	20	
8.	Residual chlorine	1	
9.	Chloride	50	50
10.	Sulphate	50	50
11.	Iron	50	50
12.	Total arsenic	100	100
13.	Fluoride	50	50
14.	Nitrate	50	50
15.	Total coliform bacteria	100	100
16.	E.coli or thermo tolerant coliform bacteria	100	100

Parameter-wise suggested rates for water quality testing

In addition, a widespread campaign to raise awareness to understand and assess basic water quality parameters and the effects of different contaminants is also being planned.

Under Jal Jeevan Mission (JJM), up to 2% of the annual allocation to States can be utilized for Water Quality Monitoring and Surveillance (WQMS) activities.

Under Water Quality Monitoring and Surveillance (WQMS) following activities have been carried out by the States so far:

S. No	Details	Numbers
1.	Number of persons trained	2,88,806
2.	Number of chemical kits purchased	41,538
3.	Number of bacteriological vials purchased	16,56,358
4.	Number of sanitary surveys conducted	14,03,934
5.	Number of sources tested using FTKs	19,03,327

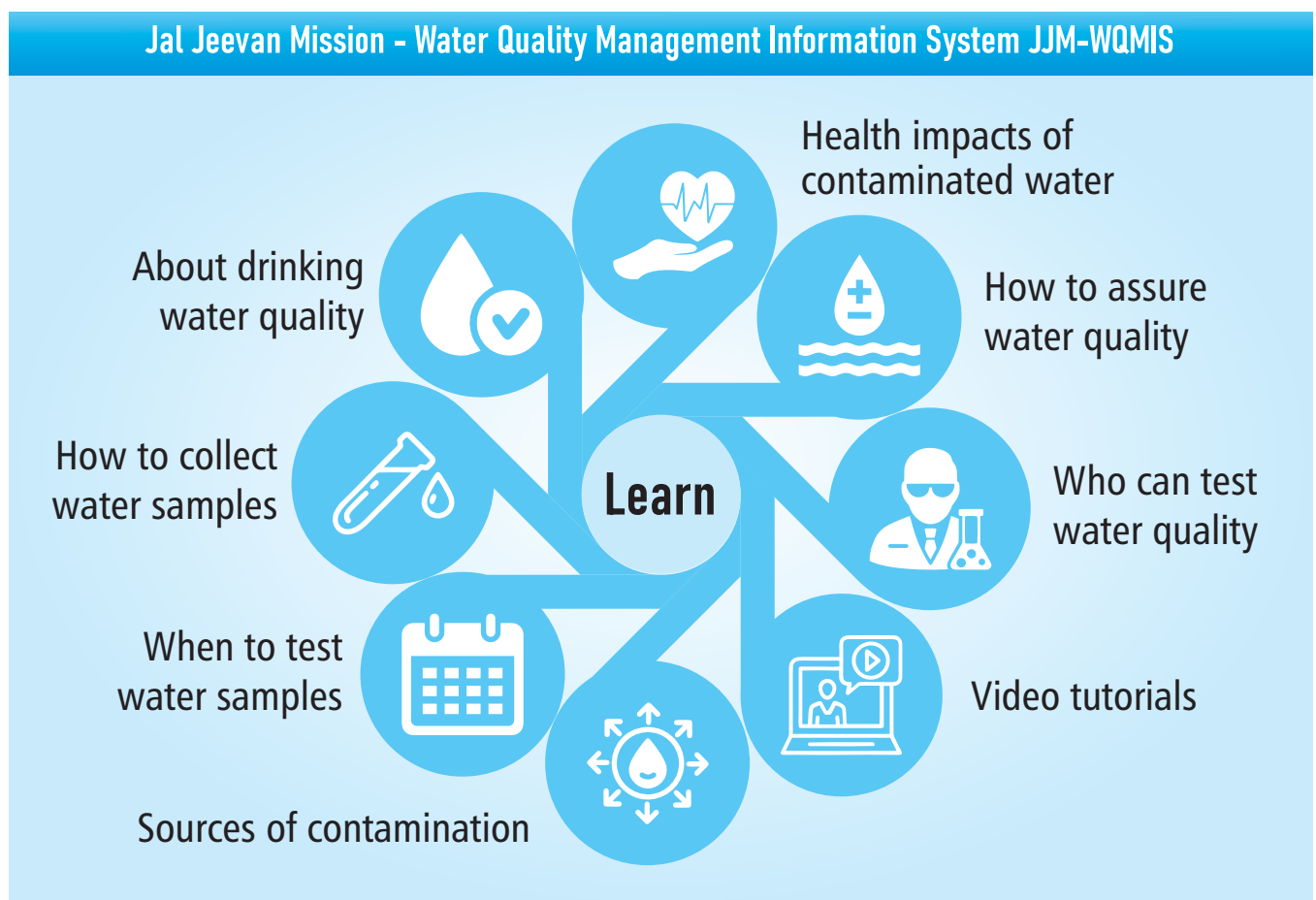
Details of WQMS activities

4.3 Water Quality Management Information System (WQMIS)

NJJM, in partnership with ICMR, has developed an online portal on Water Quality Management Information System (WQMIS). It has been envisaged that all the water quality testing data be available on JJM-WQMIS.

The features of this JJM-WQMIS are as follows:

- i.) All the laboratories in the State/ UTs will be registered and mapped in the portal;
- ii.) Field Test Kit users in every village would be registered in the online portal by the block/ sub-divisional laboratory that provides services in that area. The persons trained in FTK testing are also given the training to upload the FTK test results on JJM-WQMIS;
- iii.) Uploading the details of the water sample and the test results;



- iv.) Uploading the inventory, human resources, and fees collected by the respective laboratory;
- v.) Suppose the water sample tested is found to be contaminated. An automated alert will be sent to concerned PHED/ RWS official, DWSM members, and VWSC members to initiate remedial action and public health risk assessment.

Once WQMIS is integrated, there will be a considerable volume of data on water quality of different drinking water sources. These data can be standardised, which will enable the integration of collected drinking water quality data. The FTK test data, water quality sensor data from the smart water supply system (if available), and water sample test results collected from different laboratories can be integrated to derive a comprehensive picture of the water quality of water sources.



Snapshot of home page of JIM-WQMIS

...पानी की कमी और प्रदूषित पानी से होने वाली बीमारी, लोगों के विकास में बाधा न बने, कुपोषण की समस्याओं को वो बढ़ाए नहीं, इस दिशा में भी मिशन मोड में काम हो रहा है। जल जीवन मिशन शुरू होने के बाद से पिछले 18 महीनों में ही साढ़े तीन करोड़ से भी अधिक ग्रामीण घरों को पाइप वॉटर सप्लाई से जोड़ा जा चुका है...

(20 फरवरी, 2021 को नीति आयोग की 6वीं गवर्निंग काउंसिल की बैठक में प्रधानमंत्री नरेन्द्र मोदी के सम्बोधन से उद्धृत)



नरेन्द्र मोदी
प्रधानमंत्री



5. Communication and outreach

Consistent communication is the key to fostering a 'Jan Andolan' spirit, i.e., to make water everyone's business. Additionally, to maintain transparency & accountability, NJJM has been disseminating key authenticated information through several communication channels, viz. mass media, mid-media, print media, and social media.

5.1 Conferences/workshops

5.1.1 National-level State Ministers' conference

Union Minister for Jal Shakti chaired a conference of Ministers' in-charge of RWS/ PHED of States/ UTs on 26th August, 2019 at New Delhi. The State Ministers were accompanied by their respective Engineer-in-Chief/ Chief Engineers. The conference was to appraise the States/ UTs on the launch of Jal Jeevan Mission and its key components.

5.1.2 Stakeholder consultation and regional workshops for Jal Jeevan Mission

Department of Drinking Water & Sanitation held five region-wise stakeholder consultation workshops at Chandigarh, Puri, Bengaluru, Gandhinagar and Guwahti during 4th-25th September, 2019 to discuss the modalities involved in implementation of JJM. The

workshops were organized aiming at gathering inputs from States/ UTs on current scenario of drinking water and to discuss innovative practices and challenges faced to firm up the operational guidelines. The workshop witnessed participation from Government officials, NGOs/ CSOs and individuals working in drinking water supply.

States/ UTs were sensitized about setting up of institutional mechanism with special emphasis on constitution of Village Water & Sanitation Committees (VWSCs)/ Pani Samitis especially for Operation & Maintenance (O&M), long term sustainability and PFMS. Preparedness of the States for roll out of JJM was also discussed. Further, States presented the physical and financial progress on schemes under erstwhile NRDWP, viz. unspent balance, PFMS status, age analysis of NRDWP schemes, status of household connections and coverage of habitations, etc. Additionally, a regional review meeting was also organized on 11th November, 2019 in Hyderabad for southern States.

5.1.3 National conference on provision of potable drinking water in quality-affected areas

A one-day national conference was held on 7th February, 2020 with stakeholders, viz. health and RWS/



Release of guidelines for capacity building by Key Resource Centres (KRCs)

PHED officials from States affected with water quality issues, civil society, international agencies, community medicine practitioners, public health representatives, etc. to prioritize quality-affected areas & expedite provision of piped water supply with FHTCs, facilitate discussions on water quality related issues; cross-learning and sharing of best practices, etc.

5.1.4 Workshop on provision of potable drinking water in mountains through participatory springshed management

To share the 'Protocol for Reviving Springs in the Indian Mountain Region' by discussing a stepwise, systematic methodology for managing springs and spring-sheds and reviving drying springs and build capacity of different stakeholders for spring-shed management activities on the basis of field experiences from different geographies, sound concepts and analysis; etc., a workshop on the springshed water management was convened on 27th-28th February, 2020 in Nainital, Uttarakhand to ensure drinking water security in the mountain regions of India through science-based participatory springshed management approach.

5.1.5 Conference of States/ UT Ministers in-charge of RWS/ PHED

A Virtual Conference of States/ UT Minister-in-charge of Rural Water Supply/ Public Health Engineering Department was held on 3rd November, 2020 to

deliberate and review the implementation of the mission in States/ UTs. The Union Minister of Jal Shakti, Shri Gajendra Singh Shekhawat, chaired this conference with all States/ UTs Ministers in charge of rural water supply and reviewed the progress made under the Jal Jeevan Mission. The Minister of State for Jal Shakti, Shri Rattan Lal Kataria and Chief Ministers of Haryana and Tripura also participated in the virtual conference along with senior officers from the States/ UTs. This Conference was organized to discuss various issues, e.g. planning, implementation collectively, and progress made so far and the way forward so that the remaining households in villages get tap water connections at the earliest. The Conference served as a platform to discuss important issues to expedite the implementation and learn good practices from better performing States/ UTs.

The guidelines on Key Resource Centres (KRCs) were released by the Union Minister, Jal Shakti to help engage institutes of repute to impart training to various officials in the States/ UTs.

5.1.6 Conference of States/ UT's Ministers on Jal Jeevan Mission

The Union Minister of Jal Shakti, Gajendra Singh Shekhawat, chaired a webinar with all States/ UTs Ministers in charge of rural water supply and reviewed the progress made under the Jal Jeevan Mission - a flagship program of the Union Government for providing tap water connection in every rural



Conference of PHED Ministers of North-Eastern States on Jal Jeevan Mission



household by 2024. The Minister of State for Jal Shakti - Rattan Lal Kataria, Secretary DDWS - Pankaj Kumar, Additional Secretary & Mission Director- Bharat Lal, were present at the virtual conference held on 13th March 2021.

Union Minister stated that 'Har Ghar Jal' is not just a one-time infrastructure creating programme and will go a long way in building the capacity of the frontline workers, empowering women, and creating employment in villages. The Union Minister released the 'drinking water quality testing, monitoring & surveillance' framework and launched the Water Quality Management Information System (WQMIS) of Jal Jeevan Mission. The WQMIS online portal & the mobile app has fully automated data management related to water quality.

5.1.7 Conference of PHED Ministers of NE States on Jal Jeevan Mission

Union Minister Jal Shakti, Shri Gajendra Singh Shekhawat chaired a day-long conference of Public Health Engineering Department (PHED) Ministers of North-Eastern States on Jal Jeevan Mission (JJM) at Assam Administrative Staff College, Guwahati on 16th September, 2021.

The conference divided into two sessions, viz. first session for sensitizing the senior most officers and engineers spearheading Jal Jeevan Mission in the State towards the goals and objectives of the mission and the second session with Public Health Engineering Department (PHED) Ministers of North-Eastern States chaired by Shri Gajendra Singh Shekhawat, Union Minister, Jal Shakti and attended by Shri Himanta Biswa Sarma, Chief Minister, Assam. The conference which was also live streamed was joined by over 1,100 stakeholders across the 116 NE districts, viz. Chief/ Executive/ Assistant/ Junior Engineers of PHED.

5.1.8 National Conferences with KRCs

A 3-day series of conferences were organised by NJJM in association with UNICEF for empanelled Key Resource Centres (KRCs) on 27th, 29th September and 1st October, 2021 respectively. Several thematic experts were also present during the conference. The 104 KRCs have been categorized into three levels, viz. L1, L2 and L3 who target group is senior management, mid-management and community level respectively. On 27th September, the conference was organised for L1 & L2 KRCs, on 29th September for L2 KRCs and on 1st

October, 2021 for L1 KRCs. The conferences were chaired by the Secretary, DDWS. The conference was also live-streamed on YouTube so that members other than KRC representatives and various stakeholders could also attend and learn from the informative sessions. <link>

Level – 1: Senior management level

Target group – Senior Policy Makers, Senior SWSM Officials, Administrators, etc.

Level – 2: Middle management level

Target group – DWSSM officials, Superintending Engineers, Executive Engineers, Water Utility Managers and Water Testing laboratory personnel from Public Health and Engineering Departments (PHEDs)/ Rural Water Supply (RWS) departments/ Public Works Departments (PWDs), etc.

Level – 3: Community level

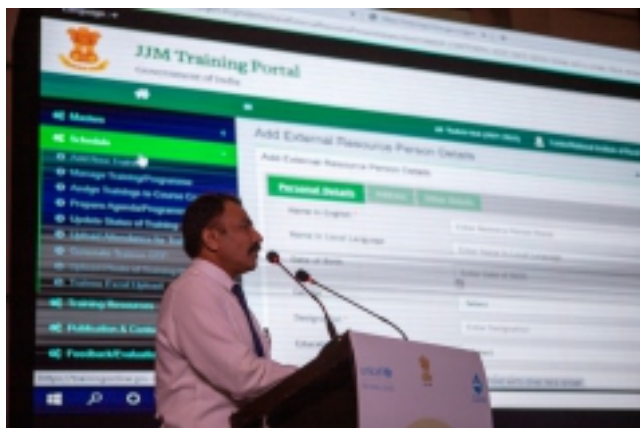
Target group – Elected Panchayati Raj Institution (PRI) Members, Gram Panchayat (GP) Officials, VWSC Members, Members of Implementation Support Agencies (ISAs), etc.



Presentation on digital governance



Presentation on leveraging IEC tools



Presentation on KRC roles and responsibilities

The objective of the conferences was to urge and motivate the KRCs to work with a responsible and responsive approach in holistically addressing the on-ground challenges and capacitating the stakeholders so as to transform the drinking water sector and shift focus from mere 'infrastructure creation' to 'assured service delivery' approach.

Country representative of UNICEF India made opening remarks followed with inaugural address by Secretary, DDWS and agenda setting towards building responsive and responsible leadership for assured service delivery by Additional Secretary & Mission Director, NJJM.

The sessions were on roles, responsibilities and expectations from KRCs; role of Public Health Engineers to ensure long-term water supply to every

home, school, AWC, Ashramshala (tribal welfare schools), etc.; water security - significance of Village Action Plan (VAP) and dovetailing of resources; ensuring service delivery through digital governance; utility approach in drinking water supply systems; designing appropriate schemes for long-term O&M; enhancing public health through Water Quality Monitoring & Surveillance (WQMS); and leveraging IEC tools for making Har Ghar Jal, a people's movement.

5.2 Jal Jeevan Samvad – Webinar series

5.2.1 Samvad 1 - Planning, implementation, and monitoring of outputs and outcomes

A webinar was conducted on 8th September, 2020 to discuss & deliberate on important aspects of Jal Jeevan Mission and connect with district and sub-district level officials and functionaries to sensitize the mission's nuances.

5.2.2 Samvad 2 - Assured water supply on a long-term basis, mainstreaming water quality testing, and water supply 'service' delivery

Jal Jeevan Mission organizes national webinars for knowledge sharing and cross-learning to enable partnerships and make water everyone's business on 26th September, 2020 to bring new ideas and innovations for assured water supply to field officials. The four speakers included AS & MD, NJJM, Pani Samiti member from Gujarat, ICMR scientist, and CEO, AKRSP.



Participants attending conference on JJM



The webinar ended with a Q&A session with participants sending queries from across the country through various Social Media channels. All participants were motivated to make water everyone's business, thus making Jal Jeevan Mission a Jan Andolan.

5.2.3 Samvad 3 - GPs/ VWSCs as a public utility for the management of piped water supply in villages

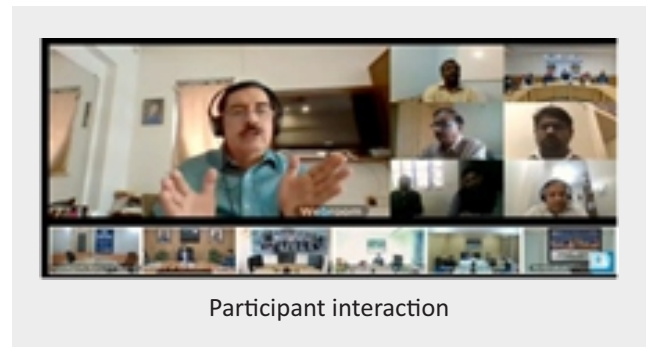
In the continuing series of 'Jal Jeevan Samvad', a webinar on 'GPs/ VWSCs as a public utility for managing piped water supply in villages' was held on 12th December, 2020 for State, district, and sub-district officials. The webinar was also webcasted on social media platforms.

The speakers highlighted the key role of GPs in making provision of water supply on a long-term basis and constitution of VWSCs/ Pani Samitis as sub-committee of Gram Panchayats. Preparation of VAP, role & responsibility of ISAs & sustaining VWSCs as public utilities were some other key themes discussed.

5.2.4 Samvad 4 - Engineering principles and design for assured potable water supply to every household

A webinar on engineering principles and design was held on 19th December, 2020, which was aimed to sensitize public health/ RWS engineers on engineering principles and design for an assured potable water supply to every rural household. The focus was on

empowering PHE/ RWS department to function as a public utility focusing on service delivery.

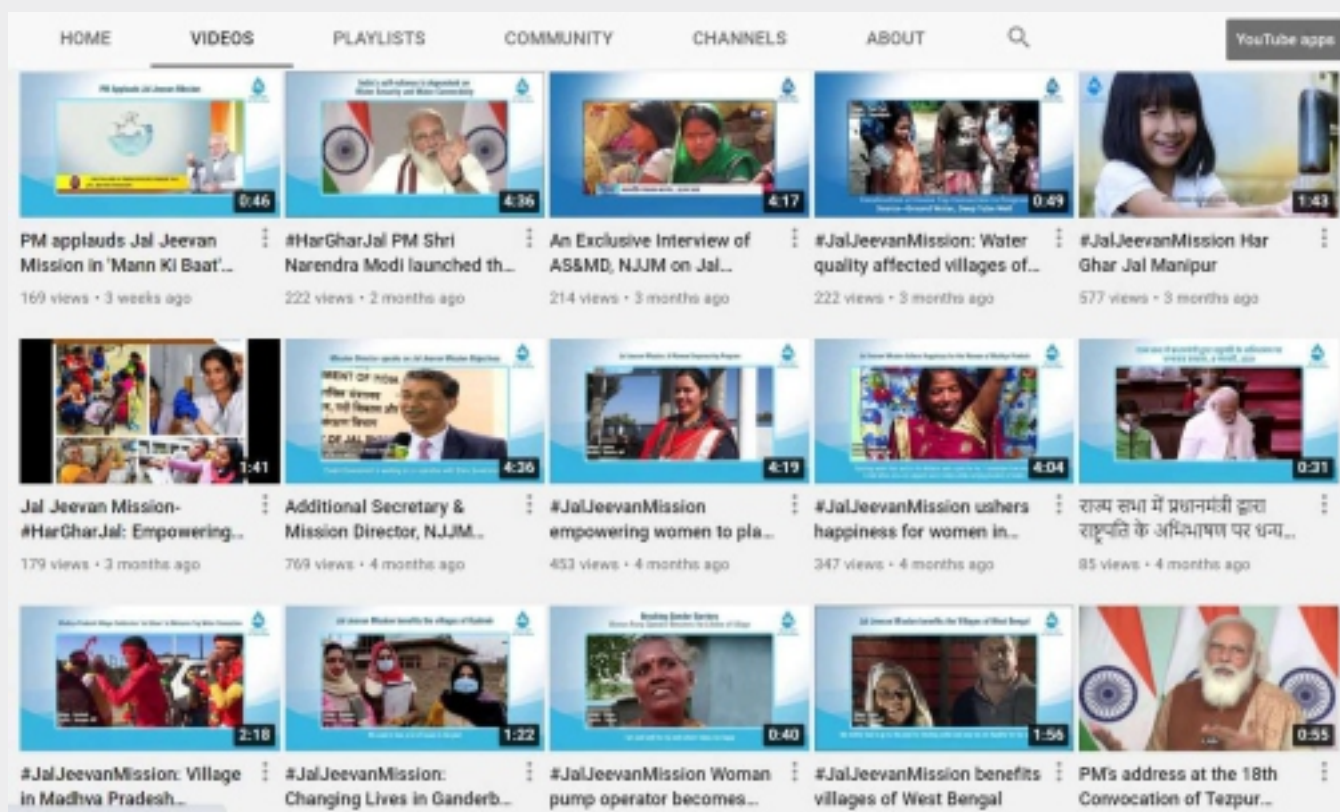


5.3 Dissemination through social media

National Jal Jeevan Mission (NJJM) has actively shared information on preferred social media sites for programme advocacy, viz. Twitter, Facebook, Instagram, LinkedIn, and YouTube. The JJM handles on these sites are verified. There is also a dedicated team working every day to disseminate key information such as updates on physical & financial progress, stories from the ground, key events/ webinars, sector knowledge, etc. With thousands of followers already and an increasing number every day, it has been observed that citizens across States, sector practitioners, Dept. officials, public representatives, etc., have been connecting over JJM either for grievance redressal or sharing best practices/ success stories. Using social media has been one of the most effective means to reach many people at all levels within few seconds that provides a platform for citizen engagement.



Communication material for JJM webinars



Snapshot of YouTube channel

5.4 Publications

5.4.1 Operational Guidelines for the implementation of Jal Jeevan Mission (Har Ghar Jal)

The Operational Guidelines for implementation of JJM were released by the Prime Minister on Good Governance Day, i.e. 25th December, 2019. The States/ UTs and civil society have been requested to go through the guidelines and send suggestions/ feedback, if any. The suggestions were reviewed by the committee and incorporated as applicable.

5.4.2 Booklet on one year of Ministry of Jal Shakti

The first year of the Ministry of Jal Shakti was marked on 30th May, 2020. An integrated ministry – the Ministry of Jal Shakti – dealing with all aspects of water was formed. It brought various Departments and Ministries, broadly dealing with water resources and water supply, under a single umbrella. This publication covered the progress of Jal Jeevan Mission, Jal Shakti Abhiyan, Swachh Bharat Mission, Namami Gange, Pradhan Mantri Krishi Sinchayee Yojana, and Atal Bhujal Yojana.

5.4.3 Margdarshika for Gram Panchayat & VWSC to provide safe drinking water in rural HHs

In consultations with State and other stakeholders, a 'Margdarshika', i.e., a handbook has been prepared, in both English and Hindi, which defines the roles and



Booklet on one year of Ministry of Jal Shakti



responsibilities of the Gram Panchayats and VWSCs/ Pani Samitis for the implementation of the Mission. The Prime Minister released this 'Margdarshika' on 29th September, 2020.

5.4.3 Guidelines for research & development projects

The guidelines for research & development projects under JJM will facilitate building partnerships with scientists and R&D institutions, innovators, and entrepreneurs and create useful knowledge that will help resolve various challenges in the sector so that people's lives can be improved further. All R&D proposals are required to be submitted through an online portal.

5.4.4 Guidelines for capacity building by Key Resource Centres

Partnership for knowledge-building has been envisaged with Government/ Non-Government institutions, including universities/ deemed universities/ administrative/ management/ engineering institutions/ training institutions, etc., of repute that would function as Key Resource Centres (KRCs). These institutions would be engaged for capacity building, reorientation of different stakeholders, etc. to transform the drinking water supply eco-system sector. KRCs are expected to partner with NJJM to usher in the 'change management'. Minister Jal Shakti released the guidelines in November, 2020 during the State's Ministers Conference.

5.4.5 Guidelines for 100-days campaign to provide piped water supply to schools, anganwadi centres and ashramshalas

The 100-days campaign to provide piped potable water supply to schools, anganwadi centres, and ashramshalas in the country was launched by Union Jal Shakti Minister, Shri Gajendra Singh Shekhawat to mark the birth anniversary of Mahatma Gandhi. Guidelines highlighting the roadmap for implementation of the campaign were issued in this regard.

5.4.6 Jal Jeevan Samvad Newsletters

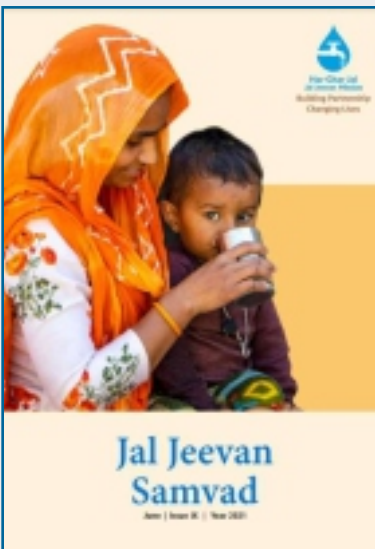
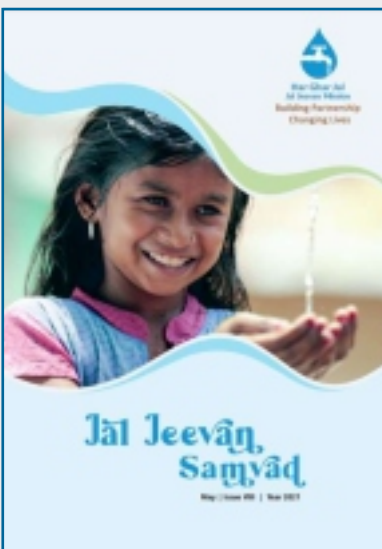
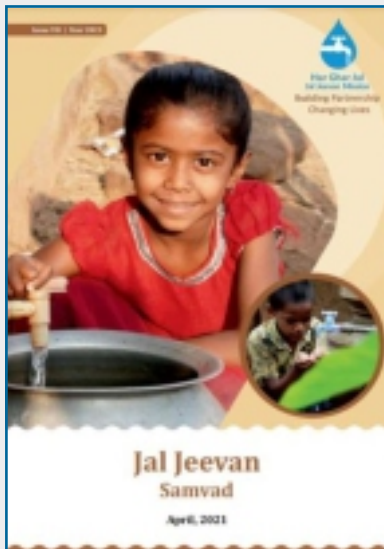
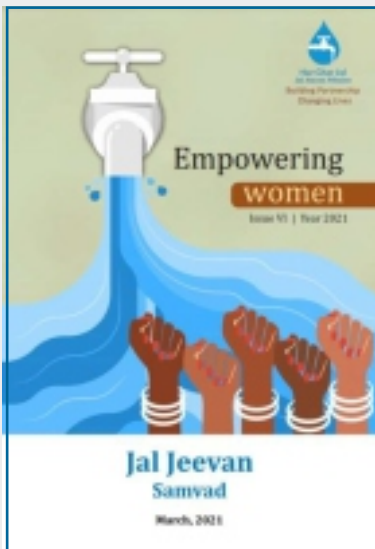
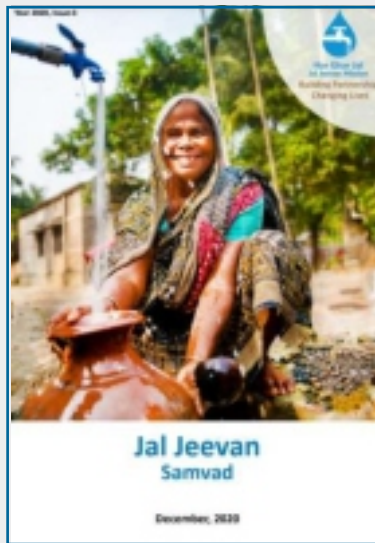
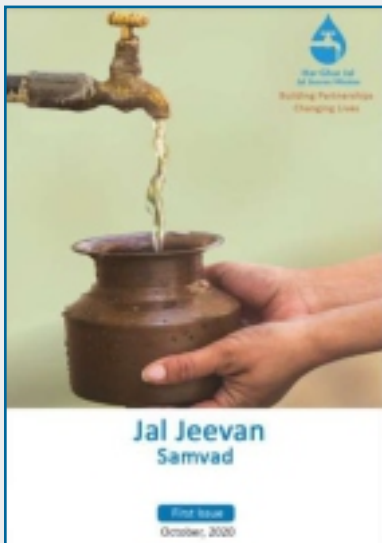
In the pursuit of building a Pan-India knowledge network for optimizing outputs under JJM, an effort is being made to link national, State, district, block, and Gram Panchayat levels in a fruitful exchange of information and good practices. To create a shared purpose and promote cross-learning, 'Jal Jeevan Samvad' in the form of a monthly newsletter is being brought out since October, 2020.

5.4.7 Collaboration with Dept. of Publications, I&B Ministry

The Yojana magazine by Dept. of Publications is a monthly magazine with a subscriber base of over two and a half lakhs with a readership extending to over eight lakhs. NJJM collaborated with the I&B Ministry to roll out a special edition on the water in April, 2021. The special edition covered various articles on water and sanitation.



Coverage of JJM in magazines/ journals



Covers of Jal Jeevan Samvad - Newsletter

5.5 Tableaux of Jal Jeevan Mission

The tableaux of Ministry of Jal Shakti during the 71st Republic Day parade underlined the Government's new initiative Jal Jeevan Mission which aims at providing Functional Household Tap Connection (FHTC) to every rural household by 2024 - 'Har Ghar Jal'.

The tableaux front was in the shape of a giant metallic tap filling a giant pitcher that is designed with multiple number of small metallic pitchers signifying the millions of people who would benefit from the

mission. The middle part showcased the way a rural household in 'New India' benefits due to Jal Jeevan Mission, viz. an overhead water tank followed by a rural household set-up complete with water supply to its kitchen, toilet and washing area, grey-water flowing into a soakpit, street light with solar panel, etc. The rear portion showcased water conservation in the form of a structure that looks like two palms collecting a huge water drop, indicating collective efforts for rainwater harvesting.

The tableaux of 'Jal Jeevan Mission' was awarded as the best tableaux.



Best Tableaux Republic Day Parade, 2020 on Jal Jeevan Mission

6. Technological interventions

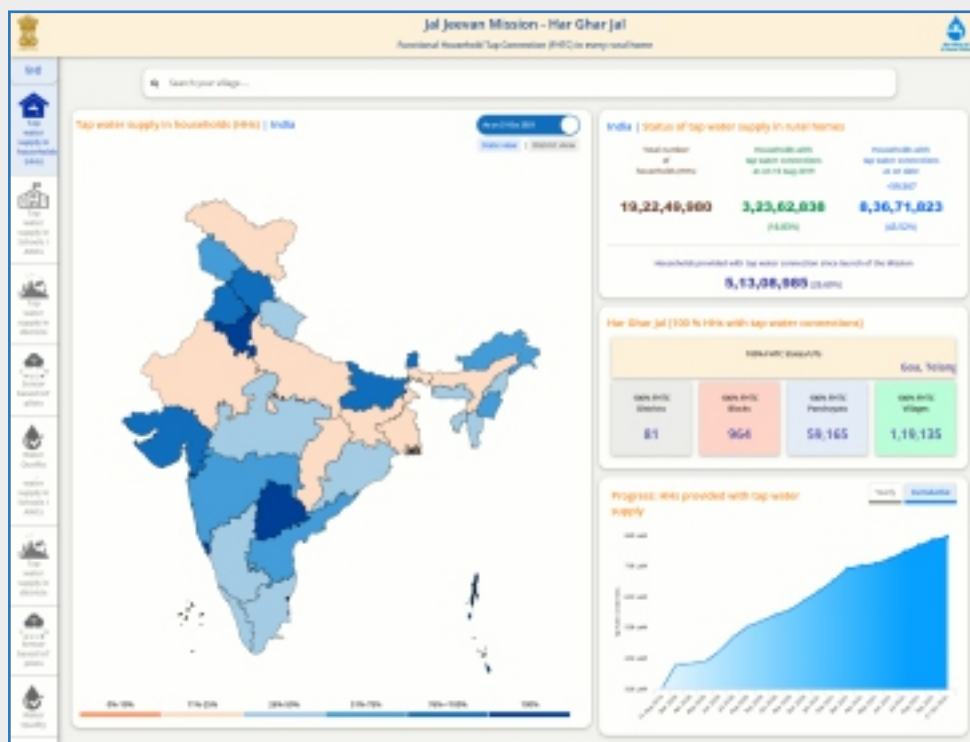
A modern online 'JJM – Integrated Management Information Systems (IMIS)' has been set up for day-to-day planning, implementation, monitoring, and reporting of the progress. This dashboard is in the public domain, and one can see the overall progress at the national, State/ UT, district, and village level. Furthermore, to ensure transparency and modern

fund management, Public Finance Management System (PFMS) has been made compulsory under JJM.

Several steps are undertaken to ensure transparency, accountability, effective fund utilization and assured service delivery.

- 1 Design of cost effective schemes
- 2 Improved transparency
- 3 Continuous monitoring of progress
- 4 Development of local water utility
- 5 Integration of databases

Statement of Digital Vision's Outcomes



Snapshot of JJM dashboard



JJM Integrated Management Information System (IMIS)

brings together all data, i.e tap connection provided at HHs, VAPs, DAPs, SAPs, VWSCs details, scheme completion data, scheme planning and expenditure data, financing and funding details, the progress of support activities, progress in priority areas, etc.

JJM Dashboard

captures all essential monitoring parameters, i.e. no. of FHTCs provided, progress since launch of mission, details up to village level, grievance redressal system, real-time sensor based measurement and monitoring, availability of funding, etc.;

JJM Water Quality Management Information System (WQMIS)

all functional laboratories in the country are one click away to community so that anyone can identify the nearest water testing lab and get their private water tested and get results digitally, so that trust can be built on drinking water supply department;

Internet of Things (IoT) platform

to monitor Key Performance Indicators (KPIs), and also ensure quick response, minimum service delivery outage, minimum water loss, optimise efficiency and monitor the quantity and quality on sustainable basis;

JJM mobile application

enables data collection for Pani Samiti/ VWSC, GPs and officials using mobile or laptop. Data readily available regarding finances, progress of work, maintenance, etc. of water assets and other water related information at the village/ block level;

Analytical tool

to support data analysis, predictive analytics, monitoring and preparation of dashboards is needed. Analytical tool helps identify and facilitate exploring the features required to be generated on the dashboard;

Public Finance Management System (PFMS)

Under JJM, the online tracking of disbursement and expenditure is being done through the use of the PFMS, which leads to transparency and prudent investment of public money;

JJM website

Information about overall policy formulation, planning, financing and coordination for JJM;

Rashtriya Jal Jeevan Kosh (RJK) Portal

RJK portal enables individuals/ organisations to donate/ contribute in making provision of clean drinking water in the village of their choice.

JJM dashboard is a tool for voluntary public accountability for several reasons:

- i.) real-time details of no. of households provided with assured potable water supply at State, district, block, GP and village level including the details of potable tap water connections in schools, AWCs, etc.;
- ii.) details of the water utility management team of the village including GP/ Pani Samiti members, women trained on using FTKs, etc.;
- iii.) status of testing of drinking water samples; and
- iv.) pilot project details of sensor-based IoT solutions deployed in 11 villages currently, etc.

The village water supply in India encounters several challenges like insufficient water or poor-quality water produced at treatment plant, overflowing of water storage unit, frequent leakages and difficulty in detecting minor leakages, inadequate pressure in pipes, etc. To address these challenges, Jal Jeevan Mission is taking advantage of the digital revolution in India to effectively monitor water supply in each village.

The sensor-based Internet of Things (IoT) solutions provide remote monitoring support giving real-time information without any manual intervention. This would not only allow effective monitoring and management on the ground, but also enable real-time 'visibility' to senior officials, people representatives, and citizens. The JJM envisions to create a 'digital wall' and remote 'command and control centre' for monitoring and managing water supply in adequate quantity of prescribed quality with adequate pressure on a regular and long-term basis of more than 19 Crore rural households of India.

The pilot studies undertaken have demonstrated that technology-enabled real-time monitoring leads to positive behavioural change thereby ensuring significant gains in socio-economic and health parameters for the village communities.

On systematic level, the benefits of such system will include minimization of non-revenue water (leakage and unauthorized connections), reduction in repair and maintenance costs with predictive maintenance and automation for pump, efficient use of resources (water and electricity), etc.



Hon'ble Prime Minister launched

Jal Jeevan Mission Mobile App

for stakeholders



Scan to download the App

Features of JJM Mobile App

-  Real time progress of the mission
-  Enables geo-tagging of sources and physical assets even in offline mode
-  Easy navigation to JJM Dashboard, WQMIS portal and IMIS
-  Capacity building content for citizens and field engineers
-  Easy uploading of 'Har Ghar Jal' certificate/ video



7. Jal Jeevan Mission: Road ahead for assured service delivery

In the recent times, Government of India has taken a number of steps to improve the 'quality of life' and enhance 'ease of living' of people, especially all those living in villages, by providing basic services like housing, toilets, electricity, clean cooking gas, healthcare, financial services, social security, broadband connectivity, roads, etc. The effort has been to bridge the urban-rural gaps in terms of services and facilities. It is envisaged that better facilities and improved services will enable people to pursue education and their vocation without any hinderance to realize their full potential. To achieve this goal, focus is on speedy implementation and improved 'service delivery' especially in un-served/unreached areas. The objective is ensuring long-term assured 'service delivery', so as to avoid adverse ramifications due to disruption in service.

Having started availing quality basic services, the logical aspiration of local communities now is to have piped water supply within their household premises. The CoVid-19 pandemic further exacerbated the importance of having assured tap water supply in homes for frequent handwashing and to maintain physical distancing by avoiding crowds at stand posts, both of which were the only tools to prevent contracting the disease. This period has helped in introspection and realization that preventive health care, including affordable and accessible testing facilities, is the way forward.

To meet the rising aspirations of people living in villages to have piped water supply in their home, Government is implementing Jal Jeevan Mission since 2019, in partnership with States to make provision of tap water supply in every rural home and public institution by 2024 with an estimated outlay of Rs. 3.60 lakh Crore. The programme is not aimed at merely infrastructure creation or making provision of tap water connections, but to ensure long-term 'assured service delivery' with modern public grievance redressal systems for which departments handling rural water supply & sanitation or parastatal organizations in States/ UTs as well as village level institutions have to work like 'public utilities'.

The vision is to ensure assured tap water supply in adequate quantity (55 lpcd) of prescribed quality (BIS) with sufficient pressure on regular and long-term basis. In five years of the implementation period of JJM, provision of water supply delivery is to be made in about 16 Crore rural households. Additionally, the existing 3.23 Crore households which had reported tap water connections at the beginning of the mission, have to be augmented/ retrofitted to make them JJM compliant. Now, more than 8.26 Crore (43%) rural households in the country have provision of tap water supply. Of which, over 5 Crore households started getting tap water supply in their homes after the launch of mission in the last 26 months. In the third year of its implementation, JJM's task is thus to make provision of tap water supply to remaining 11 Crore households in the next three years. This presents the humongous task at hand requiring implementation with speed and on scale. Huge infrastructure is being laid in villages across country to meet these targets and States/ UTs are to initiate work in all the remaining villages. This is the year to complete 100% schematic level planning and seek 100% approvals and issue work orders. Most importantly, for Multi Village Schemes (MVSs), the work is to start immediately as it has a longer gestation period.

For execution of work at this scale and with speed, robust strategies and action plans at State level are already developed, viz. Village Action Plans (VAPs), Districts Action Plans (DAPs), State Action Plans (SAPs) and based on the same Annual Action Plans (AAPs) of each State/ UT. The progress against the plans is also being regularly reviewed at various levels for speedy and timely implementation. These plans developed through capturing data, rigorous analysis and planning exercises in line with the vision of JJM, to be implemented in its true letter and spirit.

Next, preparation for skilled workforce is a prerequisite, viz. training local community members as masons, plumbers, electricians, motor mechanics, fitters, etc. For ensuring timely operation & maintenance of in-village water supply systems, pump operators are being trained. Similarly, for ensuring

quality of water supply and to maintain overall surveillance of water supply at local level, five women from every village are being trained on using Field Test Kits (FTKs) to test water for its quality, undertake regular sanitary inspection and upload data on WQMIS portal. The effort is to put systems in place so that people feel confident about quality of tap water and don't feel hesitant in consuming water directly from the tap. Rigorous and regular water quality testing at the local level as well as strengthening water quality monitoring through water quality testing laboratories is a way to build faith in the quality of tap water supply. All water quality testing laboratories across the country are being standardized, upgraded and mandated to be NABL accredited/ recognized, and have been opened to public so that people can get their water samples tested at a nominal cost, digital report received and remedial action taken, if water found to have any contaminants beyond the permissible limit.

Water supply is a State subject. The 73rd Amendment to the Constitution of India placed the subject of drinking water in the Eleventh Schedule and assigned its management to Gram Panchayats. Thus, Jal Jeevan Mission is implemented as a decentralized, demand-driven, and community-managed programme so as to instill 'sense of ownership' among the local community, create an environment of trust and bring in transparency, leading to better implementation and long-term O&M of water supply systems. This approach will ensure equity in accessing supply for every household and regular supply, thus willingness to pay for services and the incidents of diversion of water supply for other purposes may also get reduced. For this, Gram Panchayats and/ or its sub-committees, i.e. Village Water & Sanitation Committees (VWSCs)/ Pani Samitis are treated as a key institution, who are playing stellar role in providing assured service delivery to every home and public institution in respective villages. Following the bottom-up approach, local village communities are to own the systems for which they are being empowered to shoulder the key responsibility of planning, implementation, management, operation and maintenance of the in-village water supply schemes for long-term and assured service delivery. This is to be the topmost priority, to ensure GPs/ VWSCs are equipped and empowered to ensure long-term service delivery in coming months.

Unlike most urban areas, it is not possible in rural areas that every household has installed their individual overhead tank so that they continue to get 24x7 water supply from their taps. But, to ensure the rural communities also access this convenience, which is a necessity, the whole community needs to be prepared and sensitized that 24x7 tap water supply in their home is possible with a single overhead tank provided every family in the village uses water judiciously and values the resource.

Out of total available freshwater, about 5% is used for drinking and domestic purposes, 10% for industrial and 85% for agricultural purposes. All water is received from precipitation during limited rainy days or snowfall, and this water is stored either over the ground or under the ground, which is used during the whole year. Thus, water is a finite resource, need to replenished every year and it must be consumed judiciously without polluting the sources. This conscious thought process and thinking is to be developed in various stakeholders to appreciate the fact that water is received during rainy seasons and in North-Himalayan region through snowfall during a very limited number of days. It is important to collect this water, keep it clean and use it during the whole year. To achieve water security, there is no choice except to focus on rainwater harvesting, recharge of aquifers, proper storage and efficient utilization.

In many areas, especially in water-stressed blocks/ districts, due to over-utilization/ over-drawl of water for agricultural purposes, the drinking water sources run a risk of getting depleted resulting into non-functionality of the water supply systems, necessitating water supply by making emergency arrangements. In such cases, the huge public investment on water supply systems may also become unfruitful if water sources are not protected, which means people are to made aware and sensitized at the local level on importance of managing water sources judiciously as well as enhance their capacities to make them fully able to manage, operate and maintain in-village water supply systems as well as drinking water sources. It also requires village communities to start water budgeting to understand and improve water-use efficiency by changing water usage patterns, shifting to less water consuming crops and/ or switching to micro irrigation e.g. drip and sprinkler system. Reduction in agricultural use will enhance water availability for drinking and domestic purposes, enhancing longevity of water supply systems.



Further, with the provision of FHTCs, additional greywater will be generated at household level which needs to be collected and treated before utilizing it for agriculture and non-potable uses thereby reducing demand for fresh water considerably. In many areas, the treated greywater can be a reasonable source of revenue for the GP/ VWSC which can be utilized towards meeting part of O&M expenditure. If greywater is not seen as a resource, it may also end up creating public health hazards.

The biggest challenge of water supply systems in villages is to ensure its proper management and regular operation and maintenance. Along with raising awareness, training and building capacities of local communities, funds in the form of incentives are to be made available to GPs/ VWSCs so that it serves as 'revolving fund' to meet major emergency repair/ maintenance of scheme, which is to be replenished by the user community. Further, in line with 73rd Amendment to the Constitution of India, 15th Finance Commission has recommended grants to Rural Local Bodies/ Panchayat Raj Institutions (RLBs/ PRIs) for next five years, i.e. 2021-22 to 2025-26 by identifying drinking water supply and sanitation as national priority areas for RLBs. Therefore 60% of the fund, i.e. Rs. 1.42 lakh Crore is provided as tied grant for a.) supply of drinking water, rain water harvesting and water recycling; and b.) sanitation and maintenance of open defecation free (ODF) status. The spirit of this grant is to enable RLBs to discharge their responsibility of providing assured tap water supply to every home and maintain improved sanitation in villages including solid and liquid waste management, all of which has profound impact on public health. The road ahead is to build capacities of local communities to be able to fully utilize the available fund and simultaneously ensure longevity of the water supply assets being created in their villages. To facilitate the same, service level benchmarking for rural drinking water supply to be used at GP/ village level and regularly monitored, which has been provided in the Manual for utilization of 15th Finance Commission tied grants to RLBs/ PRIs.

The goal is to develop 'WASH enlightened villages'/ 'WASH Prabuddh Gaon', wherein the local communities are equipped to provide long-term assured water supply and sanitation services to all ensuring 'no one is left out'. The communities including all age groups and positions are to be sensitized and trained such that the village is able to fully adopt and meet the service level benchmarks. In this regard, the special campaign

launched for making provision of safe water in schools, anganwadi centres and ashramshalas (tribal residential hostels) is to also be implemented not just for ensuring tap water supply, but as another effort towards enabling conscious water saving and hygiene habits in children at an impressionable age thus developing them as WASH enlightened citizens.

For drinking water sources and systems to be valued and to get primacy in village communities, capacities of local people need to be enhanced so that they fully understand the ecosystem and develop appreciation for the investment made and learn to explore convergence with other schemes by dovetailing resources, viz. 15th Finance Commission tied grant, MGNREGS, SBM(G), DMDF, etc. for water conservation and enhancing storage/ recharge capacity.

To ensure long-term assured water supply for all, three main challenges of water supply need to be addressed. First, priority is to be accorded to strengthening/ augmenting drinking water sources for long-term functionality of water supply systems, especially in water-stressed areas. Second, significantly reduce exploitation/ over-drawl of water in agriculture sector and enable local communities to switch less water consuming crops and also adopt micro-irrigation methods in convergence with schemes like PMKSY, etc. Third, to ensure financial sustainability, concept of paying tap water service delivery charges is to be drilled down along with exploring convergence with other schemes. Technological use to be explored in coastal areas for lower production cost through desalination, and identify safe handling of huge reject water for viability of such projects.

Assured water service delivery to homes requires uninterrupted pumping, treatment, distribution with adequate pressure, etc. thus requiring uninterrupted power supply, adopting gravity bases-systems, ensuring cost recovery, using renewable energy especially solar power, etc. Solarization of water supply schemes either completely or through conjunctive use, will significantly reduce the recurring electricity charges on the households, and thus avoid any disruption in service due to high electricity bills and its non-payment. GPs, VWSCs and Pani Samitis need to be sensitized to work as a water utility and collect water service charges and regularly pay power bills. This will ensure sustainable tap water supply to every household. On this issue, States/ UTs have to sensitize local communities. Similarly, the States/ UTs

are to plan for cost recovery especially in bulk water transfer and distribution of schemes, to ease the financial stress and to ensure no disruption in water supply is caused.

Further, to maintain the quality of assets being created under JJM and for the following O&M period, it is important that PHED prepare different possible unit type designs and cost estimates of all water supply scheme components like ESR, sumps, washing & bathing blocks, etc. based on population, profile and soil conditions, etc., firm up item rate contracts for such items/ components and call e-tenders to empanel multiple agencies on Engineering Procurement & Construction (EPC) mode, so that technically qualified agencies at lowest rate are available to GPs/ VWSCs for asset creation and regular O&M. Various suppliers to also be encouraged to put their items on GeM portal so that village level decision makers can purchase directly from the portal at lowest rates.

India has around 6.05 lakh villages and the goal is to develop these villages as 'local public water utilities.' Local representatives and communities need capacity and capability enhancement so that they are able to take important decisions beyond the regular operation and maintenance of water supply systems *inter alia* which includes undertaking water budgeting and audits at regular intervals, measuring the water drawl and accounting for the same, recovery of water user charges, reducing energy charges by adopting conjunctive use of water as well as use of conventional and non-conventional energy specifically solar power, utilize JJM dashboard, collect, upload/ analyze data, explore partnerships with individuals/ organizations to use digital technology in measuring and monitoring service delivery, implement innovative ideas to ensure water security, addressing the grievances proactively, etc.

The steps towards this direction first begin with the training, capacity building and reorientation of public health engineers/ engineering departments or its parastatal organizations, who in turn are responsible to facilitate and empower RLBs, to adopt the utility approach. The civil/ environmental engineers also need to undergo 'change management' to become public health engineers who understand the linkage of WASH services to public health at large and thus implement water supply schemes in partnership with local communities at all stages, rather than simply handover the schemes to them after construction. They need to transform and evolve beyond their roles

as project managers or contract managers into true public health engineers, social engineers and utility managers. To bring higher knowledge and provide learning opportunities to public health engineers, the upcoming Centre at Kolkata is envisioned as an apex institution for Public Health Engineering (PHE) that will serve as a premier institute and bridge the prevailing knowledge and capacity gaps in the field of PHE. The institute will follow a 'hub and spoke model' and partner with the Key Resource Centres (KRCs), Centres of Excellence (CoE) and Professor Chairs being set up across the country and work in the areas of training and capacity building, education and academic programmes, research and innovation, and outreach and consulting, etc. Just like doctors, architects, advocates, etc., in near future, further professionalization of public health engineers is to be undertaken.

In some States, the existing institutions may need to be reformed by creating: i.) a dedicated agency for planning of bulk water transfer and treatment to deliver potable water to urban, rural and industrial use. This utility to work on sound commercial principles; ii.) an agency to plan and execute the intra and inter-district water distribution systems for delivery of water to GPs/ VWSCs/ Pani Samitis, etc. as well as to municipal bodies; and iii.) a separate agency to empower, support and handhold the village level institutions, viz. GPs/ VWSCs, Pani Samitis, etc. enabling them to function as local public water utilities.

The motto of JJM is 'building partnerships and changing lives.' With the help of 184 sector partners, 104 Key Resource Centres (KRCs), around 13 thousand Implementation Support Agencies (ISAs), model management contracts may be developed so that water supply services, greywater management, etc. at village level can be provided by young entrepreneurs/ SHGs on either standalone or cluster-based models. This will help in leveraging technology, establishing robust management practices including recovery of user charges, etc. thus bringing long-term sustainability.

The future is digital governance with online real-time service delivery monitoring. Sensor-based IoT devices are to be installed in every village for automatic data capturing to measure and monitor the water supply, and fully equipped local community to manage, operate and maintain these digital tools and most



importantly to monitor the pressure at tail-end homes as well, thus ensuring equity of water supply and 'no one is left out'. Similarly, proper systems to be developed for taking remedial action/ public grievance redressal, so that service is not disrupted at any point of time.

To ensure transparency, accountability and make water everyone's business, the online JJM Dashboard in public domain provides State/ UT, district and village-wise progress and status of provision of tap water supply in rural areas. A time may come when information related to water supply status in villages is made available on dashboards at prominent locations enabling any citizen to look for the services in their village/ school/ ashramshalas, etc. thus enabling them to join the narrative of building 'WASH enlightened

villages'. Further, an innovation challenge is underway to develop portable water quality testing devices for use at domestic as well as by GPs/ VWSCS, Pani Samitis. Such innovative tools are to be made available to all villages in partnership with States.

Assured availability of drinking water in the household premises will not only improve the health and socio-economic condition of rural population, it will also bring down the drudgery of rural women and girls. The National Jal Jeevan Mission is working on these ideas with States/ UTs for assured service delivery to village communities which will help in realizing vision of JJM i.e. developing 'water enlightened villages', i.e. '*Jal Prabudh Gaon*' so that paucity of water does not become a limiting factor in the socio-economic development and our quest for high economic growth. ■

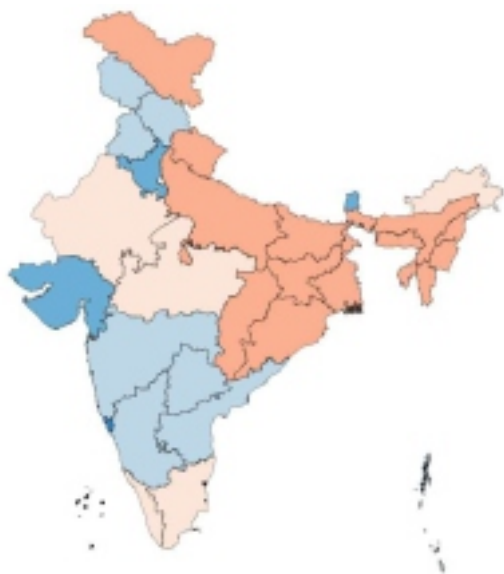


8. Jal Jeevan Mission – Progress

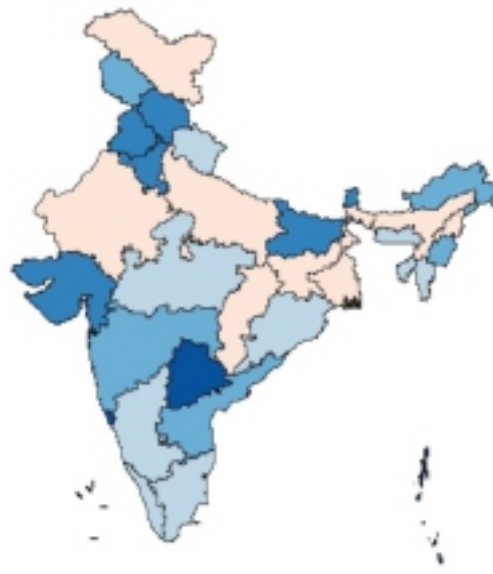
8.1 Status of coverage: tap water connection to rural HHs

As on 15th August, 2019

As on 2nd October, 2021



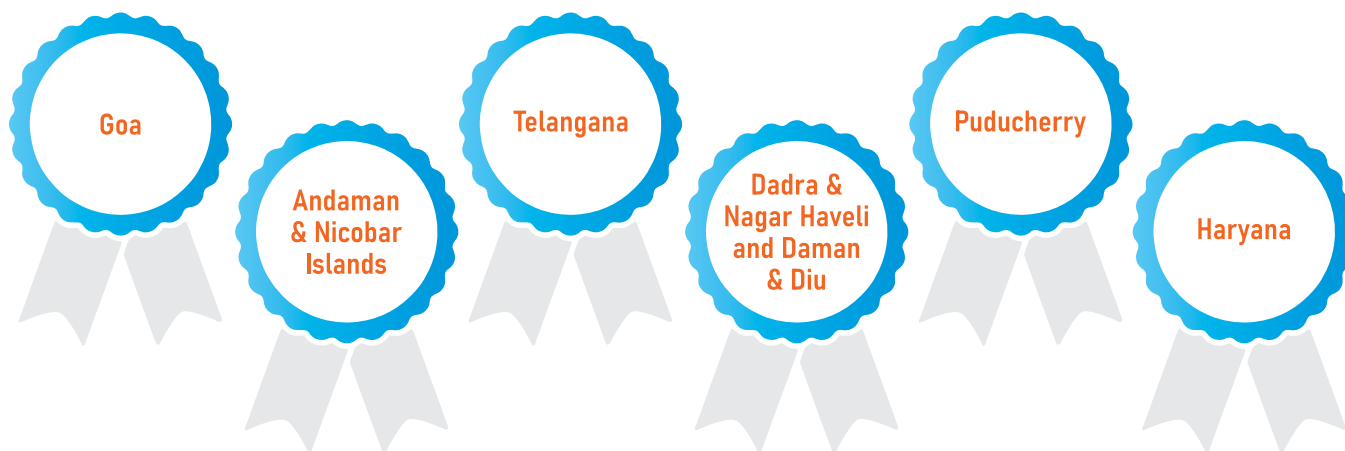
Tap water connections: 3.23 Crore (17%)



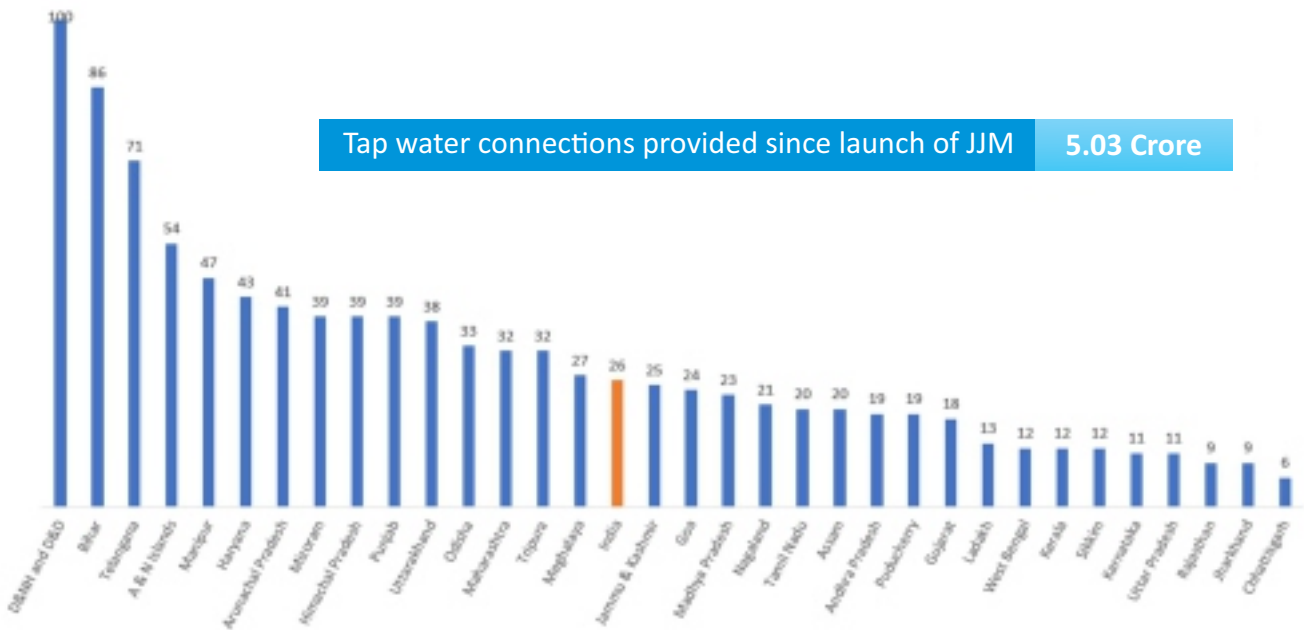
Tap water connections: 8.26 Crore (43%)



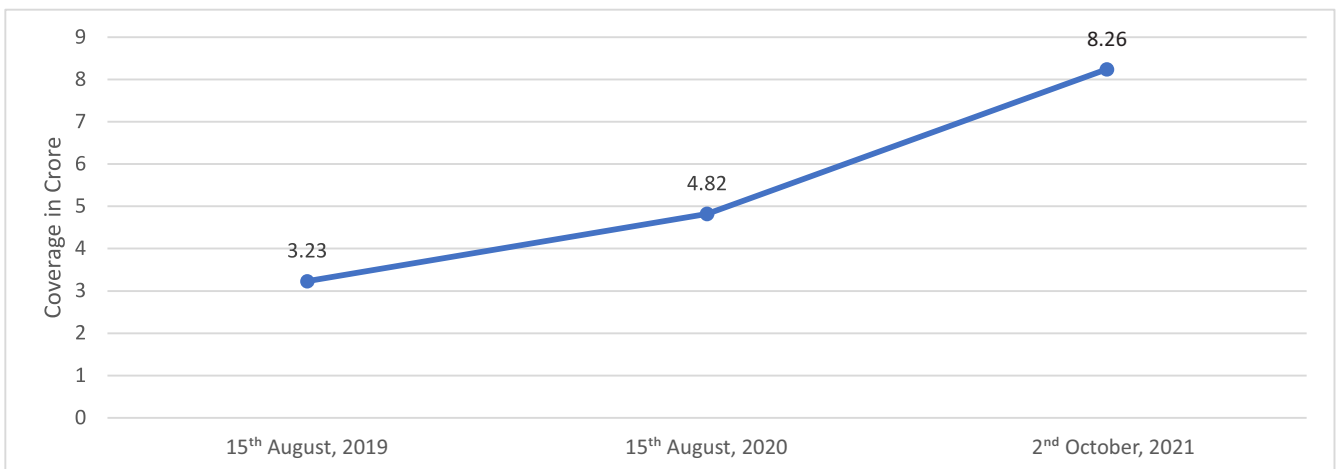
8.2 States/ UTs that have 100% coverage



8.3 Incremental coverage of tap water connections since announcement of JJM

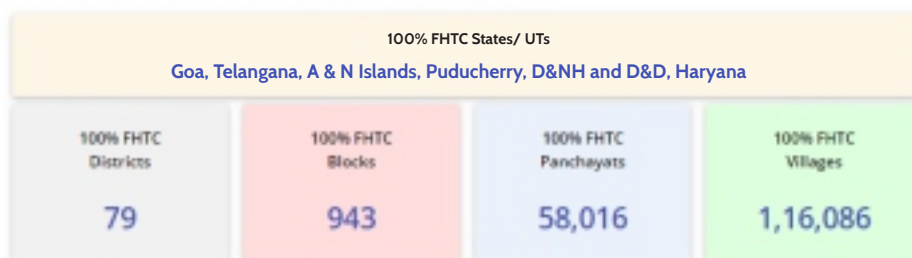


8.4 Coverage of tap water connections since announcement of JJM

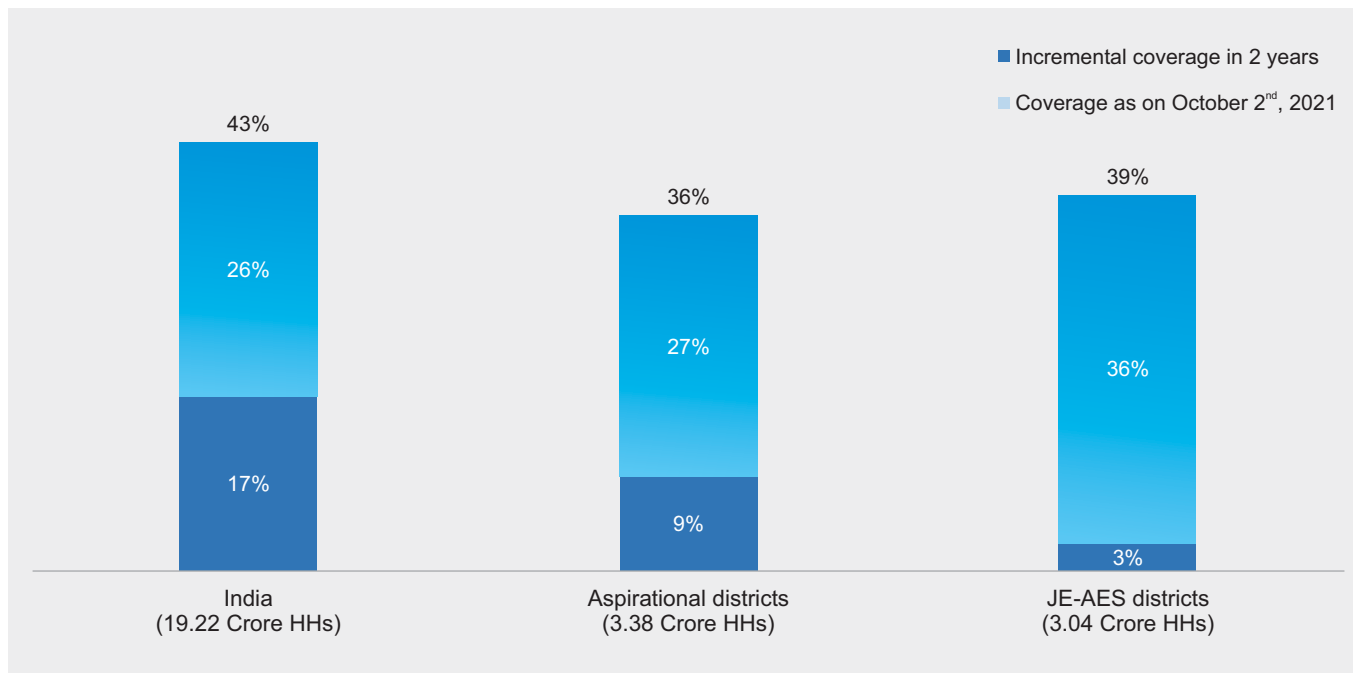


8.5 'Har Ghar Jal' States/ UTs, districts, blocks, GPs and villages

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

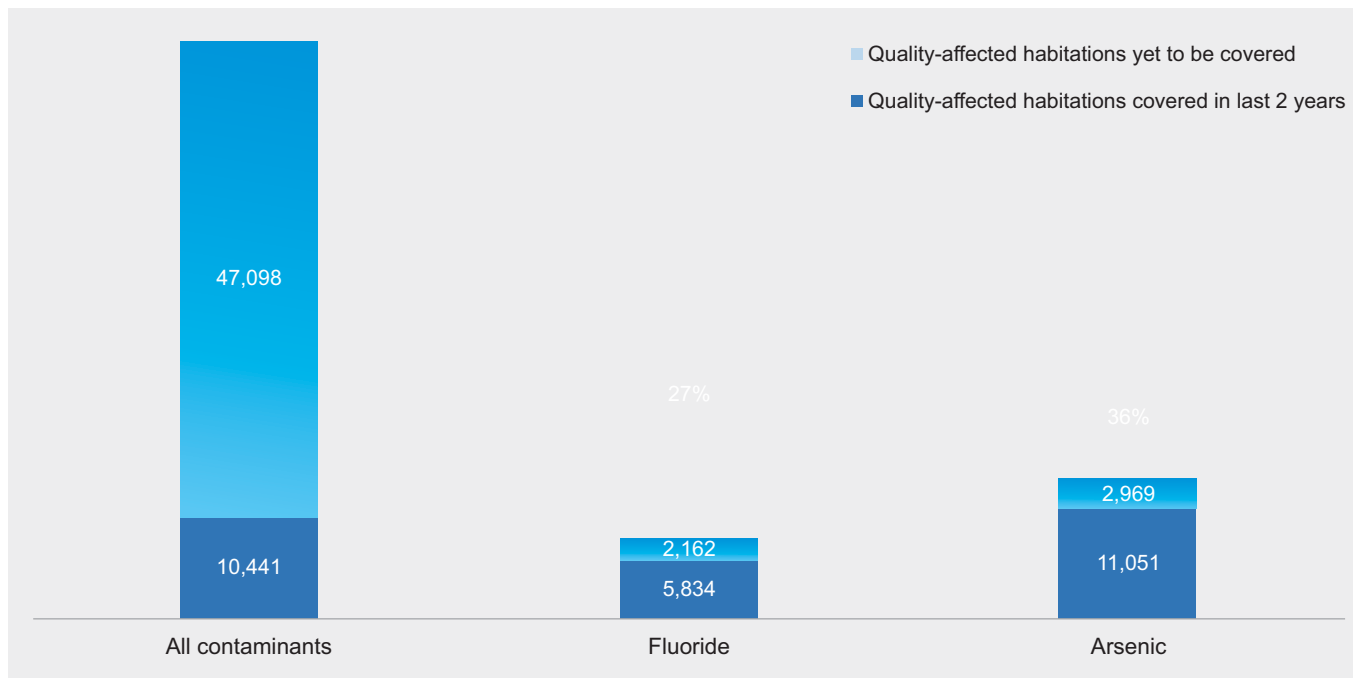


8.6 Coverage of tap water connections in priority areas



The tap water supply coverage of Aspirational districts increased by four times and that in JE-AES districts by approx. 13 times.

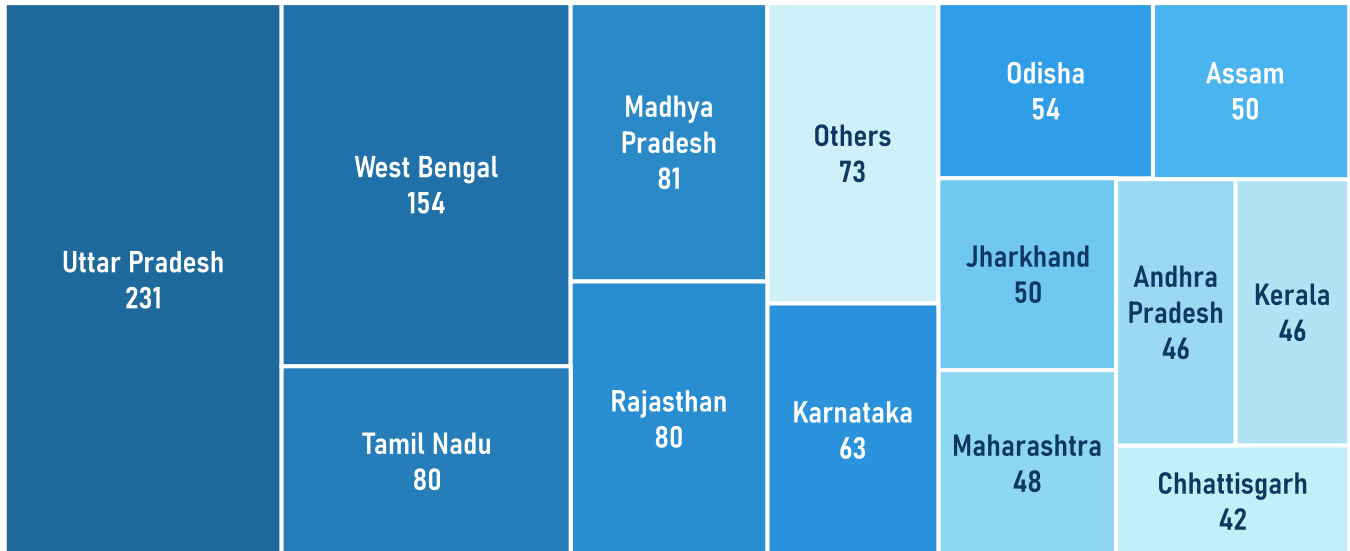
8.7 Coverage of tap water connections in quality-affected habitations



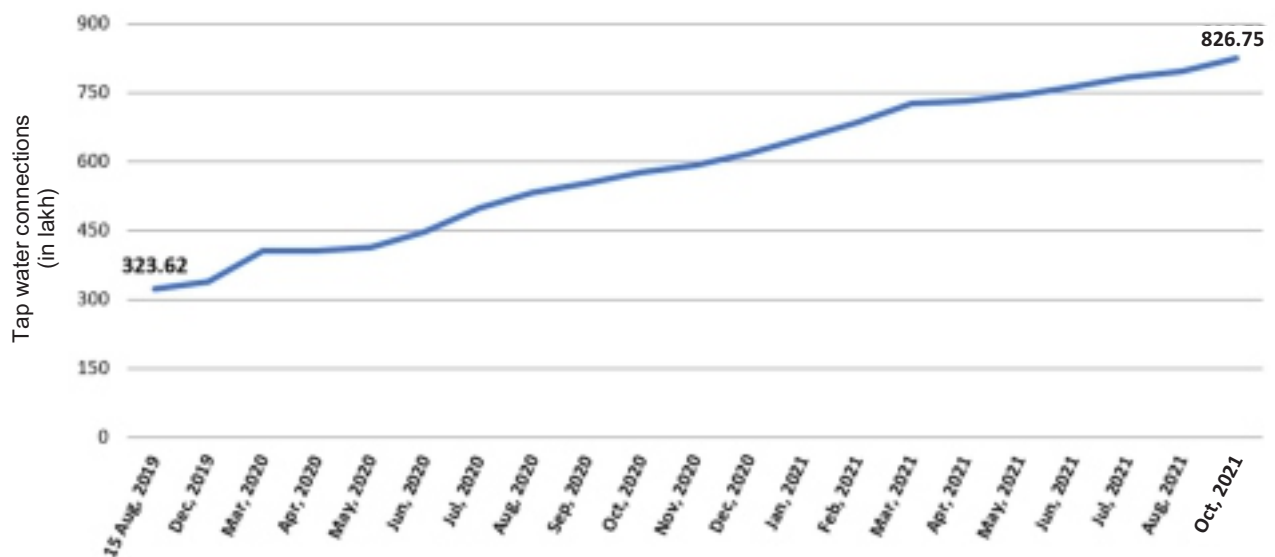
8.8 Remaining households to be provided with tap water connections

Total balance HHs 11 Crore

(Numbers in lakh)

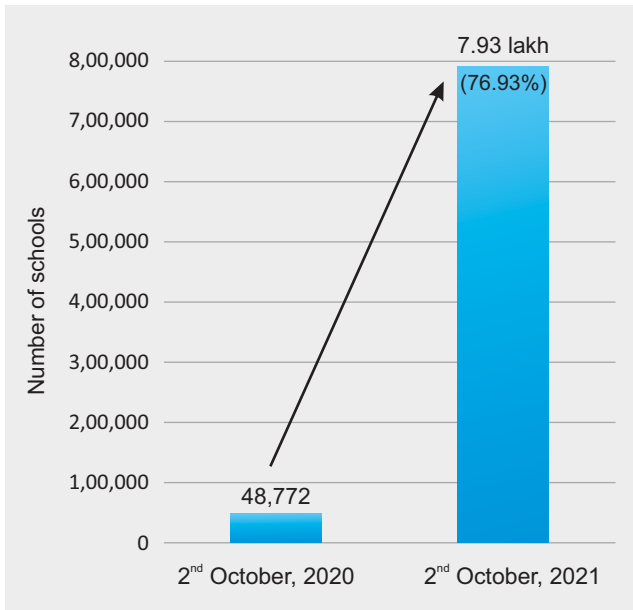


8.9 Progressive tap water coverage

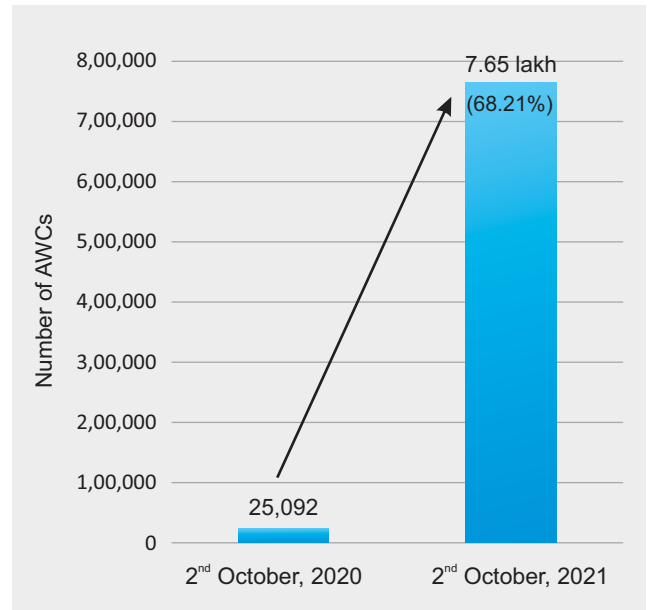


8.10 Progress of coverage of tap water supply in schools and anganwadi centres

Progress of piped water supply in schools

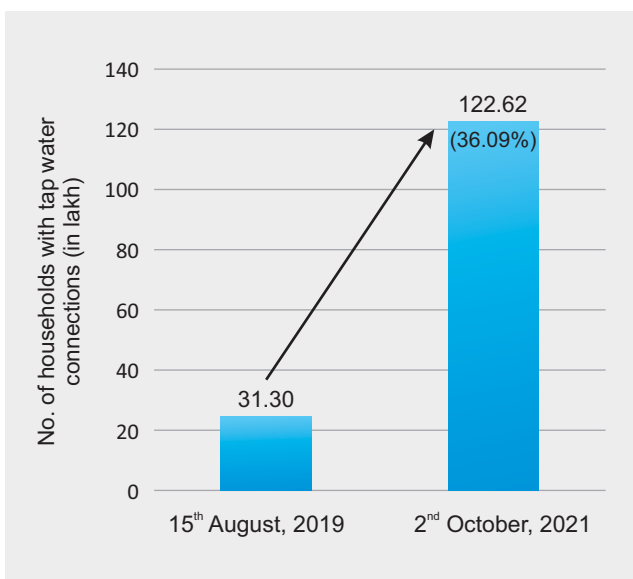


Progress of piped water supply in anganwadi centres (AWCs)

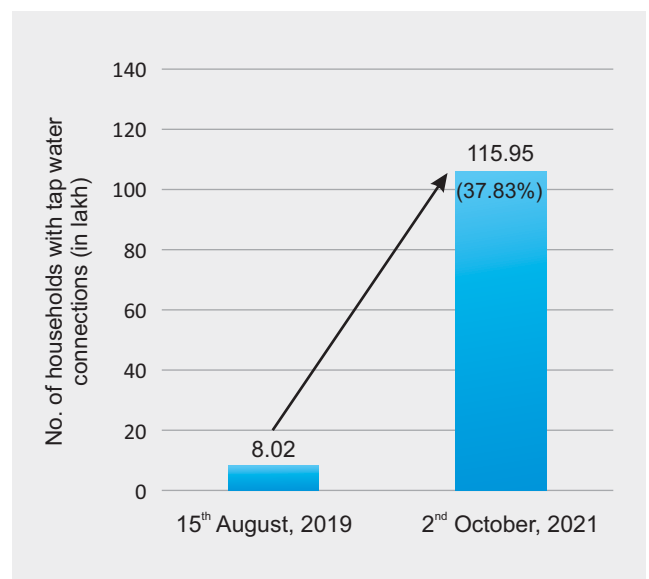


8.11 Progress of coverage of tap water supply in Aspirational & JE/ AES affected districts

Tap water connections in Aspirational districts



Tap water connections in JE/ AES affected districts



Development of portable water quality testing devices

Jal suddhi mapak

Biomimicry technologies pvt. ltd.



E-jal 'portable multiparameter water quality analyzer'

ELICO pvt. ltd.



Digital field test kit reader - a smartphone attachable pocket device

EyeNetAqua solutions pvt. ltd.



Padma - real time inorganic and E. coli contamination detection using smart device

ELICO pvt. ltd.





Har Ghar Jal
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Government of India
Ministry of Jal Shakti
Department of Drinking Water & Sanitation
National Jal Jeevan Mission

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