Prime Minister on Jal Jeevan Mission

Note from the desk of Additional Secretary & Mission Director
- Vikas Sheel

JJM Progress
Progressive coverage - Functional Household Tap Connection (FHTC)

Comparative FHTC coverage status of States/ UTs

Coverage of Schools/ AWCs

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Costs and benefits of ensuring universal access to safe drinking water
- Arpan De Sarkar

West Bengal: A great example of academia and government collaboration
- Prof. Pradip Kalbar and Shri Animesh Bhattacharya

Madhya Pradesh: JJM - Empowering women, transforming lives
- Abhiyantesh Verma, Maansi Shah

Odisha: WASH in schools brings smiles for Kondh tribe
- Chandrika Patnaik, Parsuram Palli and Lopamudra Panda

Himachal Pradesh: “Shuddh Jal Abhiyan” enabling water quality awareness
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- Madhuri Shukla and Rachna Gahilote Bisht

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Sabka Vikas Maha Quiz on Jal Jeevan Mission

Regional Training of Trainers (ToT) for Level-3 KRCs

Nobel laureate, Professor Michael Kremer meets officers of DDWS

JJM: action on the ground

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Prime Minister on Jal Jeevan Mission

"...Work has started on dozens of water projects under the Jal Jeevan Mission. Thousands of families, especially sisters, will be greatly benefited by this."

PM’s address at launch of multiple development initiatives in Sigra, Varanasi on 7th July, 2022

"...Jal Jeevan Mission is connecting every house in the country with piped water supply, which Tharman ji talked about, and I worked very prominently regarding this in Gujarat. Water is not only available from taps, but it also saves time and resolves people’s problems. Water plays an important role in the health of people. Keeping these things in mind, this mission is playing an important role in social life. Pure drinking water is also an important issue of nutrition for children and our ‘Nal Se Jal’ (water from tap) Abhiyan is a part of a bigger campaign to address that issue as well. In just three years, this mission has connected more than six crore households with water connections..."

PM’s address at the First “Arun Jaitley Memorial Lecture” on 8th July, 2022 at Vigyan Bhawan, New Delhi

Narendra Modi
Prime Minister
The first quarter of the financial year 2022-23 has come to end. Despite several challenges faced by many States due to ensuing monsoon and severe floods, good progress in terms of provision of tap water supply has been noticed as 38.75 lakh tap water connections provided during this period vis-à-vis 35.22 lakh during corresponding period of last year. In order to achieve the targets set out by States/UTs in their respective Annual Action Plan, lot of works need to be done. All necessary arrangements should be made to start works in full swing as soon as the rainy season is over, which translates to ensuring approvals for all works by 30th September. Tender processes also, need to be closely monitored to ensure that all the works are awarded at the earliest, so that the goal of ‘Har Ghar Jal’ is realized by 2024.

The role of State Water & Sanitation Mission (SWSM), being the apex body in the State for policy formulation and guidance, is very important to closely monitor the progress of providing tap water connections against the targets fixed by States. Regular reviews may be held with District Collectors/Chairperson of District Water & Sanitation Mission.

States need to proactively pursue for timely clearances from the Central agencies such as MoEFCC, Railways, NHAI, GAIL, etc. leveraging the facilitating mechanism set up by this department. States need to pursue for timely clearances from other State departments such as State Highways, Irrigation as well as ensure timely availability of land to facilitate speedy implementation of projects.

Jal Jeevan Mission has provided a golden opportunity for States/UTs to provide assured clean tap water supply to every rural household of the country by 2024, so that women and children do not have to any longer struggle to fetch water for their daily household chores. The success of the Mission will further go on to significantly reduce the risk of water-borne diseases as suggested by various studies.

To bring qualitative change in the lives of the people living in villages, the Mission is giving lot of efforts for empowering the local village community, to enable them to plan, build and manage in-village drinking water supply infrastructure. Given that village communities will be responsible for day-to-day operation and maintenance, it is important that the Public Health Engineering (PHE)/Rural Water Supply (RWS) Departments keep the new water supply infrastructure design low-cost and simple, which can be easily managed by the local village community.

Contribution of the water user charges is a crucial aspect in ensuring long-term sustainability of water supply schemes for assured service delivery. The monthly water user charges are to be determined by the Gram Panchayats/ VWSCs/ Pani Samitis and must suffice to pay for the O&M cost of in-village water supply infrastructure. States should firm up their O&M as well as should prioritise skilling of local people/youth under the Skill Development Programme in the relevant trades such as pump mechanics, plumbers, fitters, etc. as we celebrate the World Youth Skills Day this July.

In coming days, JJM gains will reflect as reduced water-borne diseases and improved health, reduction of drudgery, better water resources management, etc. apart from giving a boost to the village economy as women will have more time to spare and contribute to economic activities.

‘Har Ghar Jal’ certification must be prioritized, especially in those States where the coverage is already significantly high (Goa, Telangana, Haryana, Himachal Pradesh, Punjab, Gujarat, Bihar, Manipur). State Rural Development/Panchayati Raj departments should be involved to organize “Har Ghar Jal Utsav” in all HGJ reported villages to bridge the gap between reported and certified villages. The campaign planned during 25 July- 12 August should be judiciously used for this purpose.

With the hard efforts put up by States/UTs in the last 35 months since August, 2019, about 6.56 Crore (35%) tap water connections have been provided in rural areas. As on date, about 9.8 Crore (51%) of all rural households in our country and every rural household in over 1.52 lakh villages and 109 districts is getting assured tap water supply in their home. This speed, scale and momentum of works need to be further enhanced to accomplish the goal of ‘Har Ghar Jal’ in a time-bound manner.

[Vikas Sheel]
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Note from the desk of

15 July, 2022

[Vikas Sheel

New Delhi

Tap Connection (FHTC)

Comparative FHTC coverage status of States/ UTs (as on 15.07.2022)
As on 15th July, 2022

Source: JJM-IMIS

### India | Status of tap water supply in rural homes

<table>
<thead>
<tr>
<th>Total number of households (HHs)</th>
<th>Households with tap water connections as on 15th Aug 2019</th>
<th>Households with tap water connections as on date</th>
</tr>
</thead>
<tbody>
<tr>
<td>19,20,58,752</td>
<td>3,23,62,838 (16.85%)</td>
<td>9,80,21,309 (51.04%)</td>
</tr>
</tbody>
</table>

Households provided with tap water connection since launch of the Mission: **6,56,58,471** (34.19%)

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

- **100% FHTC States/UTs**
  - Goa, Telangana, A & N Islands, Puducherry, D&NH and D&D, Haryana

<table>
<thead>
<tr>
<th>100% FHTC Districts</th>
<th>100% FHTC Blocks</th>
<th>100% FHTC Panchayats</th>
<th>100% FHTC Villages</th>
</tr>
</thead>
<tbody>
<tr>
<td>109</td>
<td>1,236</td>
<td>72,953</td>
<td>1,52,118</td>
</tr>
</tbody>
</table>

**As on 15th August, 2019**

Aspirational & JE-AES affected districts:

<table>
<thead>
<tr>
<th>No. of households with tap water connections (in lakh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>24.32 lakh</td>
</tr>
</tbody>
</table>

**As on 15th July, 2022**

<table>
<thead>
<tr>
<th>No. of households with tap water connections (in lakh)</th>
</tr>
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<tbody>
<tr>
<td>8.02 lakh</td>
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</table>

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

<table>
<thead>
<tr>
<th>Progress of coverage of tap water supply in schools</th>
<th>Progress of coverage of tap water supply in anganwadi centres</th>
</tr>
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<tbody>
<tr>
<td>45.88%</td>
<td></td>
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</table>

**Progress of coverage of tap water supply in Aspirational & JE-AES affected districts**:

<table>
<thead>
<tr>
<th>No. of households with tap water connections (in lakh)</th>
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</thead>
<tbody>
<tr>
<td>1.34 Crore</td>
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</tbody>
</table>

<table>
<thead>
<tr>
<th>No. of households with tap water connections (in lakh)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1.50 Crore</td>
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</tbody>
</table>
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)

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
Costs and benefits of ensuring universal access to safe drinking water

- Arpan De Sarkar, Economist, NJJM

Background

Drinking water is often categorized under public goods in a welfare country like India and government policies supported by water supply programmes are regarded as potential remedies to market failure. Moreover, the third tier of governance in India has a definitive constitutional mandate to administer drinking water as the 73rd Constitutional Amendment Act has positioned the matter of drinking water in the 11th schedule and assigned its management to Gram Panchayats. It is to be noted that drinking water is not a pure public good as one cannot negate the rivalry that exists due to limited supply of drinking water. Thus, it may rather be categorised under common resources as for any public goods, in the true sense of the term, at least two factors should have a negative answer-excludability and rivalry. Here, excludability means a person can be prevented from using it and rivalry means one person’s use diminishes other people’s use.

Public goods and common resources, each have externalities as those have value, but price is not charged in most cases. As public goods suffer from free rider problem, private market players prevent themselves to get involved in supplying such goods. As per the principles of welfare economics, governments provide such goods/services when the total benefits to the society are more than, the total cost of providing the same. The government pays for these welfare services from general tax revenue and/or, cross subsidies.

In case of common resources like drinking water, there are certain negative externalities. Consumers generally suffer from a propensity to use such resources disproportionately when they are not charged for their usage. Supply of purified drinking water is subject to a production activity that requires labour, time, know-how and allocation of funds. Thus, there are certain accounting costs to provide piped water supply to individual households through tap connections which cannot be avoided. At the same time, due to the intrinsic nature of drinking water, simple market principle may lead to inefficient and inequitable distributions.

Model pricing principles

As drinking water has an evident nature of local management, economic sustenance of drinking water supply at the local level is the key to success. Accordingly, charging the end users for regular operation and maintenance has come out as an acceptable and effective policy prescription. Pricing principles should consider this background alongside principles of equity-in present perspective as well as trans-generational perspectives.

Pricing drinking water should not only follow the economic principles of pricing normal goods, but it should also consider different aspects in terms of opportunity cost. The major factors those may be considered are as follows:

- GDP per capita in India is USD 1,927.7;² Average expenditure per FHTC from 2019-20 to 2021-22 (upto 3rd quarter) in a mid-sized State (Jharkhand) was found Rs.15,363/- where more than 6.5 lakh FHTCs were provided;³ The World Bank’s GDP per capita estimate in 2020 for India was USD 1,927.7;
- There are 5 persons in a family and average capital expenditure per member household per day is Rs.0.20/-¹
- Income gained due to purifying water, income gained due to avoiding expenditures on water purifiers, etc.
- Opportunity costs at mes besides those of a day as a result of household activities.
- In a village, on an average half an hour per day is being saved in every half hour and this is only considering no further purpose.
- Purification and maintenance has come out as an acceptable and effective policy prescription. Pricing principles should consider this background alongside principles of equity.
- Pricing drinking water should not only follow the economic principles of pricing normal goods, but it should also consider different aspects in terms of opportunity cost. The major factors those may be considered are as follows:
- The water tariff should be charged at a fixed rate
- The water tariff should be charged at a rate of 20/- per KL
- The water tariff should be charged at a rate of 10/- per KL
- The water tariff should be charged at a rate of 5/- per KL
- The water tariff should be charged at a rate of 2/- per KL
- The water tariff should be charged at a rate of 1/- per KL

Due to the nature of the resources, arrangements on case-to-case basis.

Benefits are often measured in terms of access mechanisms.

Programmes are regarded as follows:
- i. Operational and maintenance
- ii. 55 lpcd is being provided
- iii. There are 5 persons in a family
- iv. Average capital expenditure per member
- v. There are 5 persons in a family
- vi. In the simplest term, cost benefit analysis (CBA), of a public policy or programme is necessary to improve population under any such universal access to safe drinking water.

The major factors those may be considered are as follows:
- i. Access mechanisms
- ii. Operational and maintenance
- iii. Benefits are often measured in terms of access mechanisms.
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Pricing drinking water should not only follow the economic principles of pricing normal goods, but it should also consider different aspects in terms of opportunity cost. The major factors those may be considered are as follows:
i.) **Operation and maintenance cost:** Price should cover the entire O&M costs, mainly considering all the accounting costs incurred for those purposes; and

ii.) **Opportunity costs:** Extraction of non-renewable resources like groundwater has cross-generational costs. Present pricing principle should consider this as a factor while determining the water tariffs. There should be disincentives for using water beyond prefixed service level benchmarks which mostly cater to basic daily needs. For example, a household should be charged at a higher rate if they consume more than 55 lpcd i.e. higher price to be charged every month if a household consumes more than 8,250 litre (rounding off to 8,500 litre) per month (assum ing average family size of 5 member).

### Cost benefit outline

In the simplest term, cost benefit analysis (CBA), of a public policy or programme, compares the total costs of that policy or programme with the resultant total benefits to the society. Strategic evaluation of sample areas/population under any such programme is necessary to improve the interventions or, to map the impacts.

Benefits are often measured in terms of improvement over alternative arrangements on case-to-case basis. Due to the nature of the resources, especially groundwater, CBA includes opportunity costs at times besides considering upfront economic costs. On the other hand, the benefits are calculated in terms of access time saved in collecting water, reduction in health costs, increased income due to improved health and other multiplier effects. For the sake of simplicity, the following model has been considered.

Typical assumptions considered to calculate the costs and benefits:

i.) **There are 5 persons in a beneficiary household;**

ii.) 55 lpcd is being provided through the household tap connection provided under JJM i.e. 275 litres per day is being provided to a family of 5 members;

iii.) **Operation and maintenance cost is Rs.20/- per KL i.e. Rs.5.50 per household is being spent for O&M every day;**

iv.) **Average capital expenditure per household tap connection is Rs. 15,000/- i.e. around Rs.3/- per day considering no further capital expenditure at least for next 15 years;**

v.) **A healthy Indian works 40 hours per week for 52 weeks in a year to earn his/her livelihoods under normal condition i.e.s/he works for 2,080 hours every year;**

vi.) **Average hourly labour rate in rural India is half that of national average;**

vii.) **GDP per capita in India is USD 1,900 i.e. around Rs.1.48 lakh at present exchange rate ⁴. Thus, hourly average income is around Rs.71/- if a person works for 2,080 hours per year; and**

viii.) In a village, on an average half an hour is being saved in every half of a day as a result of household tap connections provided under JJM i.e. ‘access time’ saved is 1 hour per day. Assuming further that access time saved is being used for productive purposes.

Based on the above assumptions, cost of providing 55 lpcd to a 5-member household per day is Rs. 8.50 while benefits only in terms of access time saved is Rs.71/-⁴. Thus, even without considering the considerable health benefits and other positive multiplier effects of household tap connections, the benefit-cost ratio comes to more than 8 i.e., benefits are quite large than the costs of providing household tap connections. Supply of prescribed quantity and adequate quality of drinking water can result in a range of other benefits as well. Those may also include direct expenditures averted due to decreased water borne diseases, avoidance of expenditures on purifying water, income gained due to availability of additional workdays, productive parent days saved due to less child illness, value of loss of life avoided etc.

**Jal Jeevan Mission,** the national flagship Mission to ensure adequate quantity and prescribed quality of drinking water for every rural household in India, envisages long-term drinking water security through active community involvement. The utility approach of the Mission, asset creation alongside involvement of community in planning, implementation and operation & maintenance through the village water and sanitation committees is going to result in a more vibrant rural community.

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¹ As per the calculations of Nangloi Water Services Private Limited which works on behalf of the Delhi Jal Board (DJB) and under its direct supervision for upgrading the water supply treatment and supply of the Nangloi area in New Delhi. The cost of O&M is expected to be much lesser in the model villages in plane land where quality is not a problem and water source is not scarce like desert areas.

² Average expenditure per FHTC from 2019-20 to 2021-22 (upto 3rd quarter) in a mid-sized State (Jharkhand) was found Rs.15,363/- where more than 6.5 lakh FHTCs were provided;

³ The World Bank’s GDP per capita estimate in 2020 for India was USD 1,927.7;

⁴ 1 USD=INR 78/-
Background

The piped water supply scheme in 14 villages of Bishnupur-II Block in South 24 Paraganas, serving a population of about 50,000, is a part of the mega piped water supply scheme commissioned in 2003 to provide treated water from river Hooghly to 30 lakh people. Rapid growth of population coupled with huge water demand and indiscriminate tapping of pipeline resulted in low pressure or no water in the fringe areas of the network after about 10 years of operation. The only solution was to augment the entire water supply system with crores of investment.

A simple low-cost intervention in collaboration with IIT Bombay resulted in improvement in the system and about 65% of the people within the command area started getting treated water in their pipeline which was dead for more than 8 years.

Problem

The zone was so large with uncountable connections and consumers using hand pumps or motors. Although the ESR/OHR has 20-meter staging height there was high pressure loss immediately after a few 100 meters. Actually, the pressure loss in the OHR compound itself was almost 10 m. The overall effect was tail end consumers were not receiving water and unequal pressure across the zone.

Solution

Hydraulic isolation was adopted by addition of a manifold after the ESR/OHR which improved the pressure in the distribution and solved the issues of tail-end water distribution. Overall zonal pressure has increased by 6.5 m, having a distribution of about 100 kms with zonal radius of about 5 kms.

Key takeaways

1. Retrofitting with proper hydraulic solutions can help to solve the problems in water supply systems rather than just building #new infrastructure based on software which are not at all relevant for intermittent water supply systems.

2. Instead of jumping to some costly irrelevant solutions such as automation or building new OHR or laying new pipes, we can bring in major positive changes in the system with alternative solutions such as manifold and shafts.

3. Thoughtful planning would have solved the problem even before creating it! e.g. Avoiding such a large zone or having multiple outlets in OHR.

Schematic diagram and picture of the manifold installed at site
It has been a lifelong struggle of fetching water to meet the household needs. Since the time I came to this village after marriage, my daily routine has been to get up early morning, step out with matkas and start walking. I have been doing this for years. All my young days were spent getting water filled pots home to quench the thirst of the family members. I am overjoyed to see that this ordeal has ended. Jal Jeevan Mission has made tap water a reality for us. Government has provided us with a facility which we had never ever dreamt of,” said Lila Bai, a 65-year-old resident from Bokarata village.

She went on to add, “I am happy that I no longer have to fetch water from faraway places, as this daily ordeal has badly impacted my health. I am now old and not strong enough to collect water and carry it on my head. With tap water reaching my home, I will now get time to sit in the kirana (grocery) shop and make some money which will help me run the kitchen.” This is the story of Bokarata village located in Barwani district, Madhya Pradesh. It has 873 households in 12 habitations where 4,921 people, mostly tribals, reside. In 1988, a groundwater scheme was constructed in the village which catered to only 29 households. With the population of the village increased but they had no access to tap water connection. The new households were completely dependent on 29 hand pumps and wells for their daily household needs. With the launch of Jal Jeevan Mission (JJM), an in-village water supply scheme with a 200 Kilolitre (KL) overhead tank (OHT), with a 75 KL sump-well and two other sump-wells of 20 KL each, were constructed through which water is now supplied. Silver Ionisation method is used for disinfection of water before distribution.

Following the guidelines of JJM, a five-women committee has been constituted to undertake water quality testing using field test kits to ensure that the water supplied is of prescribed quality.

JJM has ended the drudgery of people in Bokarata and Valan village of Barwani district. To ensure long-term sustainability of the programme, user charges of Rs. 60 have been fixed in consultation with the local village community which will be collected from each household every month. The funds will be deposited in the dedicated bank account created by the village water and sanitation committee and the details pertaining to fund collected and expenditure incurred will be maintained in the office register and available to the public to uphold transparency. The money thus collected will be used to remunerate the pump operator and carry out minor repair works from time-to-time.

A boulder check dam is being constructed in the village to arrest the rainwater, which otherwise flows downstream. Renovation and restoration work of two stop dams and 3 check dams is being taken up under Pushkar Dharovar Sumridhi Yojna. This is the way forward to ensure that source remains sustainable in the long-run. Recharging groundwater is an important component under source strengthening so that the replenished groundwater source is available throughout the year to meet the requirements of the villagers.

This is how Jal Jeevan Mission is bringing qualitative changes in the lives of people living in nooks and corners of the country.
Children are architects of the socio-economic development of any country and education plays the role of oxygen in the development of these future architects. Sustainable Development Goal 4 (SDG-4) aims to 'ensure inclusive and equitable quality education and promote lifelong learning opportunities for all'. Every child has the right to education with access to safe drinking water, sanitation, and hygiene (WASH) facilities at schools. Children spend a major chunk of their day in schools and the absence of quality WASH services has significant impact on their health, learning, mental balance, and dignity, especially for girls.

The WHO/UNICEF Joint Monitoring Programme (JMP) report 2019 on WASH in schools finds that globally nearly 584 million children lacked basic drinking water facilities, nearly 698 million children did not have access to basic sanitation services and nearly 818 million children require basic hygiene services at their schools.

According to a study report by Dasra, a Mumbai-based Philanthropy Foundation, and Bank of America, on an average, girl students tend to miss their school six days a month, as they are unable to manage their periods at school due to the unavailability of proper WASH facilities. This contributes to about 23% of girls dropping out of school upon reaching puberty. Such studies establish a serious need for the inclusion of WASH in schools.

Jal Jeevan Mission internalizing the crucial need for water supply facilities in schools and anganwadi centres, launched a nationwide campaign named on 2nd October, 2020. Today 84% of schools and 80% of anganwadi centres in the country have piped water supply for drinking, cooking mid-day meal, hand washing, and usage in toilets in line with SDG-6 i.e., universal equitable access to safe and affordable drinking water for all. Under the campaign, not only PHED departments of States/UTs but also other line departments like the education department, women & child development department, health department, and many non-governmental organizations come together in convergence mode to ensure water supply in schools and anganwadi centres.

Denia Kutura’s happiness is visible on her face as she is now getting running water flowing from a tap inside the school kitchen, where she cooks mid-day meals for the students of Prathamika Vidyalaya, Kandha Dengasargi village. Gram Vikas, a leading non-governmental organization working in water & sanitation sector has been empanelled as an Implementing Support Agency (ISA) under JIM by Rural Water Supply & Sanitation (RWSS), Odisha. Tap water supply was provided in this primary
Kandha Dengasargi is a scheduled tribe concentrated village of Dumriguda panchayat in the Kolnara block of Rayagada, an Aspirational district of Odisha. It is a small village in the lap of nature, having only 126 households. The village has only one primary school and two anganwadi centres (AWCs). In 2019, the school management committee received some funds from Sarva Shiksha Abhiyan and with the support of Gram Vikas built toilets for students under Swachh Bharat Mission - Gramin and received water through tap connections in the toilets, handwashing stations and the kitchen in the following year.

“Access to water and sanitation facilities in school has made life easy especially for girls. Girls are now having privacy to relieve themselves. Earlier they used to go out in open, hiding behind bushes. During the rainy season there was a fear of being bitten by snakes and other poisonous insects. I feel happy that my daughters are enjoying improved WASH facilities in Prathamika Vidyalaya. Water and sanitation facility have not only helped in improved hygiene practices but also helped in keeping the environment and school surrounding clean,” says Sukanti Kutruka, a 40-year-old tribal resident.

The anganwadi centres, just like the school now have access to a tap water connection. While serving the hot cooked meals to balwadi children with a smile the anganwadi worker Urmila Bismaji says, “now I can cook nutritious hot meals and feed my children in time as I am getting water from the tap right in the kitchen.” Recalling the past, she added “earlier I had to fetch water from the tube-well and was not able to feed my anganwadi children in time.”

Tuni Kutruka, Chairperson of Kandha Dengasargi village water and sanitation committee proudly says, “the problem of drinking water at schools and anganwadi centres has been resolved now, this will help in the reduction of girls dropout rate.”

The small tribal village Kandh Dengasergi has an existing piped water supply (PWS) covering all 126 households. The RWSS, Rayagada district is on job to provide tap water connection to these households through retrofitting of the existing in-village Rural Piped Water Supply scheme ensuring adequate quantity and quality of water on a regular and long-term basis. And in this work, the ISA Gram Vikas, VWSC, and village development committee members are taking an active role and helping wholeheartedly.
Himachal Pradesh, the hilly state is known for its scenic beauty; the snow-laden mountains, valleys, flora and fauna, that are a major attraction among tourists. While on one hand, the flow of tourists is helping its economy, on the other hand, it is contributing to the pollution of water bodies as the tourists leave behind their trash like single-use plastics, leftover eateries etc. which eventually ends up in the water bodies. Small children, sometimes, even urinate or defecate by the side of perennial water sources as a result, these water bodies become susceptible to bacteriological contamination. These are the sources from where water is supplied to households through tap water supply under the Jal Jeevan Mission (JJM). The Jal Shakti Vibhag is giving top priority to supply prescribed quality potable water to rural people through household tap connections.

Following steps are taken by Jal Shakti Vibhag, Himachal Pradesh on Water Quality:
- Special Campaign ‘Shuddh Jal Abhiyan’ to create awareness among people on water quality;
- Water quality surveillance;
- NABL accreditation of water testing laboratories; and
- Water testing laboratories are opened to the general public.

Everybody knows that health goes hand-in-hand with water quality, but people have limited knowledge of the contaminants present in water that lead to diseases. The common belief is that water that is visibly clear is pure in quality. Even if a person is aware of this, they have no idea where to get the quality check of water done.

The Jal Shakti Vibhag, took a drive and ran a campaign named ‘Shuddh Jal Abhiyan’ from June to September, 2021 under the series of activities taken up on the occasion of the State government’s Swarna Jayani observation. Under the campaign, community drives were taken up to generate awareness among people on water quality, Field Test Kits (FTK) use, safe handling of water, water testing laboratories, and about access to the testing service for public use to get a quality check of their water. As a result of these campaign activities, a conducive and enabling environment has been created, wherein the community has come forward for cleaning of water sources and their augmentation. The second phase of the campaign ran from 25th December, 2021 to 24th January, 2022. Under this phase, committees conducted frequent water tests using FTKs to check the quality of water supplied by the department. So far in the State, around 5,000 rural women are trained on the use of FTKs and are actively testing the quality of water at source and supply points. During the campaign, 90,956 water samples were tested in water testing laboratories and 62,157 water samples were tested by the surveillance committees using FTK.
The State of Himachal Pradesh has 64 water testing laboratories, out of which 55 (1 State lab, 14 district labs, and 49 sub-division labs) are NABL accredited. In the last two financial years, 4,48,976 water samples were tested in laboratories, and 2,41,498 water samples were tested using FTKs.

The implementation of the JJM gave an opportunity to common people to know and understand about the quality of water used in their homes, schools, Anganwadi centres etc. The Jal Vibhag has opened the water testing laboratories for the public by issuing a public notice in December, 2020. The public can get their water sample tested by paying a minimal charge that ranges from Rs. 50 to Rs. 600. The campaign not only helps in awareness generation but also caters to behaviour change among the community. The positive results of the campaign are visible in Himachal Pradesh. The community has started demanding FTK testing as they are now cognizant, and they are also accessing the facilities of water testing laboratories. A striking example of this is the revenue collected by the Dharamshala division; so far, the division has generated Rs. 88,649 by testing the quality of water samples brought by people. This shows that the people are now becoming sensitive toward the quality of their water sources and the water they are consuming.

The State is showing good progress in providing tap water connections to rural households and stands at the 9th rank in the country as more than 93% of rural households now have potable tap water supply at their homes. At the time of the announcement of the JJM on 15th August, 2019, only 7.62 lakh (44.19%) households out of 17.27 lakh in the State had access to tap water supply. In only about 33 months, 8.47 lakh households have been provided with clean tap water despite CoVid-19 and resultant lockdowns, and the State’s geographical challenges like difficult terrain and harsh weather. Very soon, every household in the State will have access to clean and adequate water through taps in their homes.

IIT Roorkee launches Masters programme in drinking water & sanitation

Smt. Vini Mahajan, Secretary Department of Drinking Water and Sanitation inaugurated a day-long workshop on 7th July at the Indian Institute of Technology, Roorkee. The workshop was organized by the Department of Water Resources Development and Management on “Drinking Water and Sanitation: Current Situation and Future Challenges”.

Smt. Mahajan expressed her happiness that IIT Roorkee has started a new course - Master of technology in drinking water and sanitation. Prof Ajit K Chaturvedi, Director, IIT Roorkee proposed a collaboration of academia with policy makers for developing a holistic approach towards issues concerning water and sanitation. The students will get an opportunity to interact with the public, work with field engineers, identify solutions through participatory approach and undertake research.

In her address, Smt. Mahajan spoke about the changing rural canvas as 10 Crore toilets have been built under Swachh Bharat Mission – Grameen thereby providing better hygiene, safety and a life of dignity especially for women and young girls who up till now were forced to travel into the woods for open defecation. On 2nd October 2019, all the Gram Panchayats declared themselves ‘Open Defecation Free’ which means that people had access to toilets either within their household or were getting to use community and public toilets.

On 15th August 2019, the Jal Jeevan Mission was launched by the Prime Minister with the aim of providing tap water connection to every rural household by 2024. Today, over 51% of the rural population have access to tap water connection which at the time of launch was only 17%. The Mission ensures regular supply of prescribed quality water in every household, school, anganwadi centre, ashramshala, and other government building.
Denmark joins hands to support ‘Har Ghar Jal’ programme

- Madhuri Shukla, UNOPS and Rachna Gahilote Bisht, NJJM

Nearly 77.73% of Uttar Pradesh’s population resides in villages. There are 2.64 Crore rural households in the State, out of which only 5.16 lakh (1.95%) had access to tap water connection at the time of launch of the Mission in August, 2019. The remaining families were dependant on water from public standspots, nearby well, pond or canal. Today, 38.41 lakh rural households i.e., 14.53% of Uttar Pradesh is getting water through taps. The road is long but consistent efforts are needed with support from the Centre, the United Nations, bilateral agencies, corporates and NGOs to help achieve the target as envisaged.

UNOPS has been a partner of DDWS, since the launch of the Mission and has supported in community engagement, skill and capacity building of State, District and field level functionaries. Currently, UNOPS is working in 137 villages of Uttar Pradesh spread across 11 water scarce regions of Vindhyachal, Prayagraj and Bundelkhand viz; Mirzapur, Jalaun, Lalitpur, Prayagraj, Jhansi, Chitrakoot, Hamirpur, Banda, Kaushambhi, Sonbhadra and Mahoba.

Embassy of Denmark has joined hands with UNOPS under it’s ‘Green Strategic partnership, 2020’ in achieving the universal access target. Government of India’s ‘Har Ghar Jal’, programme, aims to achieve Sustainable Development Goal–6 by providing clean water to every person.

In this regard, a Memorandum of Understanding has been signed by UNOPS with Embassy of Denmark in March 2021 for supporting the work carried out by Jal Jeevan Mission. UNOPS is currently working in Uttar Pradesh and will soon, September 2022 onwards, be expanding its base to Rajasthan, Tamil Nadu and Assam.

UNOPS works in partnership with the State Governments, Panchayats and civil society and is currently covering - 11 districts of Uttar Pradesh, 2 districts of Assam, 5 districts of Rajasthan and 2 districts of Tamil Nadu.

UNOPS follows a bottom-up approach according to which they engage with the community right from the planning stage and extend support even after the water supply infrastructure has been handed over to the Panchayats.

Recently H.E. Freddy Svane, the Danish Ambassador visited Sadi Bankat village in Mirzapur, which is one of the most water scarce district in Uttar Pradesh. He attended the Gram Sabha where PRI members explained in detail the Village Action Plan referring to the type of water supply infrastructure being developed, based on water source availability, topography and projected population, to meet the daily requirements of the community. The district officials presented the roadmap as a multi-village scheme is being developed in Sadi Bankat village to provide tap water connections to all 252 households covering 1,551 rural population.
The Village Water and Sanitation committee constituted by the Panchayat, is sensitizing the community to use the water judiciously as it is a limited natural resource. Efforts are made by the community and administration to strengthen the water source. The five-member committee set up to monitor the quality of water have been trained by UNOPS using Field Test Kits. So far UNOPS has trained 700 women for water testing which will help maintain quality of water supplied in the village.

Usha Devi, who received FTK training goes on to say, “Despite my limited education, I feel empowered today as I am able to sensitize the community on the importance of safe drinking water and its judicious use. My confidence level has grown, as I get to interact with various stakeholders. I, now, make informed choices and share water conservation techniques with the community on rainwater harvesting, greywater management, use of solar panels and recharge of groundwater table.”

While interacting one villager said, “as we started the work of mapping the resources in the village, keeping in mind the motto 'Community Leaves No One Behind (CLNOB)', we came across a hesitant group of women who were reluctant to step out of the four walls of the house. The CLNOB mapping is of three types. First, we map the sanitation and hygiene, the second is drinking water and the third is greywater. But with continuous community engagement, the situation has changed. Women in the villages are now coming forward, voicing their concern and facilitating the process.”

The Danish Ambassador talking about the engagement with GoI said, “We aim to create JJM model villages ensuring active community participation in planning, leading to preparation of Village Action Plan. Denmark has a lot of expertise in water. Water is a substance which you cannot substitute with anything else, so we have to respect it, be careful on how we use it and how we spend it.”

'Har Ghar Jal' programme helps mitigate issues caused by gender inequalities as tap water connections have brought about 'Ease of Living' especially for women who were earlier burdened with the task of carrying water buckets to meet the household needs. Jal Jeevan Mission has created a space for women all along planning, execution and maintenance of the water supply programme.

UNOPS is supporting the district administration in building the capacity of the community so that they can maintain, monitor, repair the infrastructure built under the programme for long-term sustenance. Empowering women, grassroot functionaries, Panchayat and by skilling the villagers to help maintain and operate the infrastructure created, UNOPS plays a crucial role in fulfilling the essential precondition for sustained management of water sources and services at community level.

Mr. H.E. Freddy Svane, Ambassador, Denmark interacting with PHED officials
With a view to accelerate the pace of work of Jal Jeevan Mission implementation in the State of Andhra Pradesh, a one-day workshop was held in Visakhapatnam on 28th June, 2022. Shri Pradeep Singh, Director, NJJM, along with other team members reviewed the progress of 6 underperforming districts in the State. The agenda of the workshop was to understand the challenges of the State and provide technical support. District Collector of Visakhapatnam, Joint Collectors of the 6 districts, Vizianagaram, Srikakulam, P Manyam, Alluri Seetharam Raju, Anakapalli, along with CEOs of Zilla-panchayats, District Panchayat Officers, RWS Department officers as also Sarpanches, TPIAs, ISAs and IEC agencies attended the workshop.

The State team discussed the saturation planning of the 6 districts, which are lagging in the State and apprised the NJJM team of the preparedness of their districts to achieve JJM target in time. The NJJM team stressed on the fact that in order to complete the mission in a time-bound manner, it is crucial to award the work for remaining villages before August 2022.

The State ISA coordinators from M/s Voyants Solutions Pvt. Ltd. informed about the status of awareness generation and community engagement activities going on in these districts. Project Manager, WAPCOS, explained regarding the quality control measures being taken up in these districts to ensure quality of water supply infrastructure being created for sustainability of water service delivery in the long run.
As India celebrates 75 years of its Independence ‘Azadi Ka Amrit Mahotsav’, Jal Jeevan Mission in partnership with MyGov has released the fourth quiz in the Sabka Vikas Mahaquiz Series, which is a part of its outreach programme to build awareness amongst citizens.

The quiz is being organised and hosted by MyGov from 1st July to 20th July, 2022 at https://quiz.mygov.in/quiz/sabka-vikas-mahaquiz/.

The timed quiz has 10 questions to be answered in 200 seconds with State-specific quizzes available in 12 different languages, viz., English, Hindi, Assamese, Bengali, Gujarati, Kannada, Malayalam, Marathi, Odia, Punjabi, Tamil, and Telugu. Everyone can participate and stand a chance to win cash prizes.

The quiz aims to sensitise the participants about JJM, the progress made by States/ UTs in them. A maximum of 1,000 top-scoring participants will be selected as winners per Quiz and Rs. 2,000/- will be given to each of the selected winners. Winners will be selected on the basis of the highest number of correct answers given. In case, the number of participants scoring highest marks exceed 1,000 then the remaining winners will be selected on the basis of the time taken to complete the quiz.

At the time of the announcement of JJM, out of a total of 19.20 Crore rural households, only 3.23 Crore (17%) households reported having tap water connections. In just 35 months, since the launch of JJM, over 6.55 Crore new tap water connections have been provided under JJM taking the overall coverage of potable tap water supply to nearly 9.78 Crore (51%) of the total rural households in the country.

To have more information on Jal Jeevan Mission

A dedicated Mobile App (Android Only) can be downloaded from https://play.google.com/store/apps/details?id=com.dhwaniris.jjm and JJM Website can also be reached at https://jaljeevanmission.gov.in/
The success of Jal Jeevan Mission (JJM) largely depends on long-term sustainability of schemes, which is critically linked to the involvement and capacity building of various stakeholders, especially community and community-level institutions. Strengthening of Gram Panchayats (GPs) and village level functionaries is the very essence of ensuring community participation in planning, implementation, monitoring, and operation & maintenance (O&M) of the village water supply systems of the flagship ‘Har Ghar Jal’ program. For building the capacity and orientation of different stakeholders, disseminating knowledge and information, documenting best practices, etc. 104 reputed governmental and non-governmental academic institutions/agencies/firms/organizations/think tanks/training institutions have been engaged as Key Resource Centres (KRCs) to build the capacity of stakeholders at various levels.

87 KRCs have been empanelled to impart training to Level-3 (L-3) stakeholders viz. PRIs/ VWSC members. It is crucial that the trainers of these KRCs must have thorough subject matter knowledge and hands-on experience in the JJM context. To maintain uniformity and consistency in the training methodology and content and to strengthen the capacity of the trainers/resource persons from these KRCs, a series of regional-level Trainings of Trainers (ToT) for these L-3 KRCs have been planned. The first in this series, a 5-day ToT was organized at Raipur, Chhattisgarh from 5th to 9th July 2022, with the support of UNICEF. The ToT was attended by trainers from 15 L-3 KRCs and nodal officers from the Rural Water Supply (RWS) Departments of Chhattisgarh, Jharkhand, Madhya Pradesh, and Odisha. The master trainers trained in these ToTs are the key functionaries who will further build the capacities of the GP-level stakeholders.

In his inaugural address Secretary, PHED, Govt of Chhattisgarh emphasized the role of grassroots-level stakeholders in JJM and the critical role of KRCs in building their capacities in owning the in-village water supply system.

Shri P Viswakannan, Director, NJJM, Ministry of Jal Shakti, Govt. of India, said that the trainers should focus on using local language, examples, and references during the training so that the L-3 stakeholders/participants can better understand about drinking water and JJM. He emphasized on the importance of quality of trainings, especially the series of ToT.

This residential ToT was an opportunity for the KRCs to interact with representatives from other States, indulge in peer learning, and share good practices, so as to make the implementation of JJM a great success. Officials from State Institutes of Rural Development (SIRD) of the above-mentioned states were also a part of this regional training programme.
Nobel laureate Professor Michael Kremer today interacted with Secretary and senior officers from Department of Drinking Water and Sanitation, Ministry of Health & Family Welfare, UNICEF and other sector partners at New Delhi on 13th July, 2022.

Prof. Kremer while addressing the gathering said that one important finding from his study was that nearly 30% infant deaths could be reduced if safe water is made available to families for drinking. Diarrhoea is a very common ailment especially among new-born children. The new-borns are susceptible to water ailments and survey undertaken during their research, draws a conclusion that one in every four deaths, pertaining to children can be prevented with provision of safe water. Therefore, Jal Jeevan Mission plays a crucial role in improving health parameters especially among children.

Prof. Kremer was happy to learn that Jal Jeevan Mission was not just making water available in rural household, but it also ensured that water supplied was of prescribed quality. In this regard, regular testing of water sources and ends was carried out through water testing laboratory and community surveillance using Field Test Kits (FTKs).

Secretary, DWS, highlighted the challenges on sustainability and suggested that behavioral change is required at ground level to ensure that the water is used judiciously. AS & MD, National Jal Jeevan Mission said that JJM offers new opportunities for undertaking operational research. He said, it was the right time to undertake such studies as the villages are at different stages of coverage. While few villages have 100% coverage, many villages have partial tap water supply while some were still dependent on fetching water from the stand post.

During the meeting, Prof. Kremer assured of collaboration in future with regard to safe storage of water, new and cost-effective water treatment technologies and impact studies on tap water availability in villages.
Director, JJM visited Mamudpur mouza of Hingalganj Zone-I PWSS. This scheme covers two villages namely Mamudpur and Hingalganj. Around 4,500 FHTCs have been provided in these villages. Remaining 2,500 FHTCs are going to be provided by the end of this month. Different zones of Sridharkati desalination plant catering to 6 villages viz. Ramapur, Jogeshganj, Madhakati, Hemnagar, Sridharkati and Malekan Ghumti was also visited. Groundwater in these mouzas is highly contaminated with salinity, that’s why PHED installed this kind of desalination plant for supplying at least drinking water @10 lpcd. Presently, people are collecting water from these plants as a spot source. The PHE division is making plans to augment this kind of scheme in order to provide FHTC from this scheme. RO based system adopted in these plants to remove salinity. TDS value in raw water varies from 3,500 to 7,500 PPM, whereas after giving proper treatment it gets reduced to below 150 PPM. Around 42,000 people benefitted from these plants.

Since salinity is the biggest issue in the Sundarban Island area, the State PHED has decided to use some sweet water pond as source to mitigate this kind of issue and turned it into a drinking water system. In January 2021, PHED installed 20 pond-based schemes by using Ultra filtration technology in Hasnabad and Hingalganj Block. This type of plant can produce 12,000 litre to 14,000 litre water in a day and the plant is being operated by the solar system. People are collecting only drinking water @10 lpcd from this type of plant as a spot source. The capacity of these types of plants is 2 cum/hr. Around 1,500 people benefitted from this scheme. The PHED is trying to make this kind of plant with a higher capacity such as 6 to 8 cum/hr, so that FHTCs can be provided especially in the salinity affected areas of Sundarban. Pond-based scheme located in Sasernagar village, Kalitala GP, Hingalganj block was visited and found that the scheme is running successfully.

A team comprising of 4 members from NJJM visited 14 villages in 6 districts of Andhra Pradesh during 27-30 May, 2022 to oversee JJM implementation in the State.

It was observed that the local village community is aware of JJM and is playing its role of taking up operation and maintenance of water supply in villages. Water user charges are being collected in most of the villages visited and a proper record is also being maintained. Sign boards are available, however geotagging of assets has not been undertaken yet. Tap connections are being tagged with beneficiary details. FTKs are available and testing is going on in most of the villages. VAPs have been prepared for all the villages visited.

It was observed that hydro-testing of distribution network is not being done, which may cause leakages going undetected and may allow ingress of dirty water in water lines causing contamination apart from wastage of water. The TPIAs were advised to ensure water tightness of entire pipe network & reservoirs along with the regular supervision of quality of infrastructure. A frugal auto-
matic switch on/switch off system based on water level sensor in reservoirs may be deployed to prevent dry runs of pumps & overflows at reservoirs.

It was also advised that greywater management may be prioritised. It was suggested that the entire existing & proposed water supply system should be mapped. This will enable design of distribution system based on actual ground requirement duly dovetailing existing components having enough useful residual life. This will also make monitoring of schemes straightforward.

A 6-member team from NJJM visited Sikkim, from 27th June to 02nd July to review the project reports and visit multi-village schemes to find potential solutions to the challenge of high per tap cost due to the difficult terrain. The State has prioritised single village schemes, which have been successfully handed over to the VWSCs in most cases. In the case of the two large schemes visited, it was observed that the Source Finding Committee recommendations were not part of the DPRs and suggested that the committee may explore all the available sources. DPRs to include details of all existing infrastructure, which may be optimally used as much as possible depending on conditional assessment to optimise cost. Population may be determined based on actual baseline survey and population projected based on past census data. It was also suggested that progress may be monitored on weekly basis, to complete the work in a time-bound manner.

Nagaland

A two-member team from NJJM visited 7 villages in two districts of Nagaland, from 20th to 24th July, 2022 to interact with planning officials, review project reports and give actionable feedback to the State regarding the implementation of JJM. It was observed in some villages that even though schemes were completed, water was not being supplied. The State was advised to ensure good quality of work and to ensure functionality. Procurement of material needs to be streamlined.

Water testing using FTKs was being carried out pre and post treatment of water by trained women in the villages visited, the results were found to be within permissible limit. The District Lab was in good shape, the State team informed that the minor requirements for NABL accreditation shall be fulfilled at the earliest. The NJJM team suggested that the process of Har Ghar Jal certification may be expedited.

Intake location at Rangit river

Water testing using FTKs in Hoito Village
...संसार को जीवित रखने के लिए सबसे अहम तत्व 'जल' की जरूरत होती है। इसलिए इस तत्व को बचाये उसका सदपयोग करें। जिस तरह से जल को लेकर चिंतामणी में चुनौती बनी है वह चिंताजनक है। इस चुनौती को पार पाने का कल्पना को साकार करना है।

श्री गजेंद्र सिंह शेखावत, केंद्रीय जल शक्ति मंत्री
10 जून, 2022

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