APRIL 2021

YOJANA SUMMARY

AN INITIATIVE BY THE PRAYAS INDIA

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JAL JEEVAN MISSION

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Summary of Yojana

April 2021

Theme: Jal Jeevan Mission: Har ghar jal

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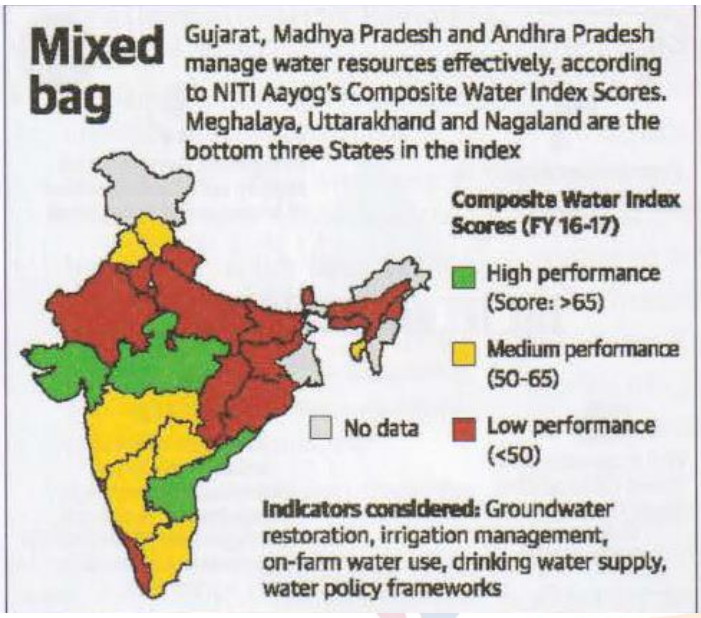
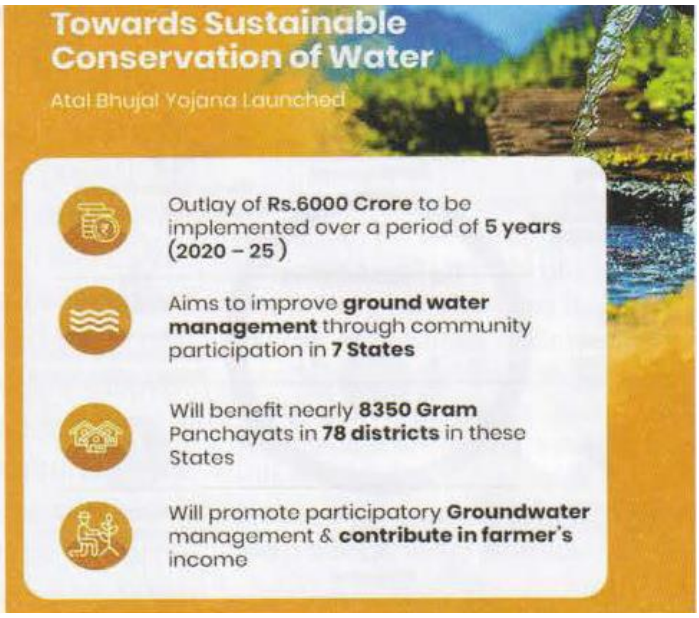
Water Security

Introduction

- The 2018 Composite Water Management Index (CWMI) 2.0, a pan-India set of metrics that measures different dimensions of water management and use across the lifecycle of water report released by the NITI Aayog in association with the Ministry of Jal Shakti and the Ministry of Rural Development, indicated that 12 major cities including Delhi, Bengaluru, Chennai, Hyderabad and others are racing to reach zero groundwater levels by 2020, affecting over 100 million people.
    - The report also indicated that, by 2030 the country's water demand is projected to be twice the available supply, implying severe water scarcity for hundreds of millions of people which will lead to a 6% loss in India's GDP.
- Water security is of paramount importance to ensure reliable access and sustainable availability of clean water in adequate quantity to the entire population.





Various initiatives in this direction

- **Namami Gange Flagship Programme** was launched in June 2014 to accomplish the twin objectives of effective abatement of pollution, conservation and rejuvenation of the National River Ganga.
- **A draft National Water Framework Bill, 2016** containing provisions for an overarching national legal framework with principles for protection, conservation, regulation and management of water as a vital and stressed natural resource was suggested.
- **Jal Shakti Abhiyan** – a campaign for water conservation and water security was launched in 2019 to make water conservation a Jan Andolan (People's movement) through asset creation and extensive communication.
- **The Government launched Jal Jeevan Mission** in 2019 to provide Functional Household Tap Connection at the rate of 55 litres per capita per day to every household (Har Ghar Nal Se Jal) by 2024.
- **Atal Bhujal Yojana (Atal Jal)** a groundwater management scheme was launched on December 25,2019 aims to improve groundwater management in seven states of India – Gujarat, Haryana, Karnataka, Madhya Pradesh, Maharashtra, Rajasthan and Uttar Pradesh.
- **Interlinking of River Project** comprises 14 rivers in the peninsular region and 16 rivers of Himalayan origin.
- **Nisarg Raksha** campaign was launched which aims to train around 1 million Nisarga Rakshaks - one volunteer for every village in the country who will carry out various activities towards Environmental conservation and Water Rejuvenation at the local level.

- **A forum named 'Nature Protector forum'** is to be created at the National and state level to monitor the project of Nisarg Raksha and also its implementation.
- **Nature Protector App** has been designed to help any conscious citizen to participate in the nature conservation campaign.

Conclusion

- It is high time for us to realize water's true, multidimensional value if we are to survive the future and build a sustainable world.
- Much is to be done towards ensuring water security and strengthening water sector governance.

Water Future in a Climate-risked World: The Indian Experience

Introduction

- There are two incontrovertible facts; one that water is a key determinant for health security and economic growth. And two, water wars are not inevitable but will happen only if we do not manage our resources prudently.
- In this age of Covid-19, we have understood just how critical the issue of clean water is. Our defense against the pandemic is that we wash hands frequently.

- This is why in the Union Budget 2021, the Government has included water in the health component of the country's accounts.
- This can be a game changer as it recognizes the role of clean water as a critical preventive health measure.

Policies on Water Management

- Over the past few decades, the country has learned critical lessons on water management and evolved a new paradigm.
- Till the late 1980s water management was largely confined to the issue of irrigation projects – the building of dams and canals to store and supply water long distances. But then came the big droughts of the late 1980s and it became clear that it was not enough to plan for augmenting water only through large projects.
- In the droughts of the late 19902, state governments launched massive programmes to capture rainwater by building ponds, digging tanks, and building check-dams on streams.
- By the mid-2000, these efforts coalesced into Mahatma Gandhi Rural Employment Guarantee Act (MGNREGA).
    - It was also understood that over 50 percent of agriculture was still rainfed and so water conservation and decentralized rainwater harvesting – ensuring that every well and every waterbody was recharged – was critical for productivity and wellbeing.
- In the decade of 2010, the crisis of urban drought hit homes. As water supply dried up, people turned to groundwater and without recharge – ponds and tanks had been decimated up by real estate or simply through neglect – meant declining water levels.
- More importantly water supply was linked to pollution – the more the water supplied the more is waste water generation.
- In all this, new solutions emerged – if the affordable water supply was critical, then cities needed to cut the length of their distribution pipelines, which meant an increased focus on local water systems like ponds, tanks and and rainwater harvesting
    - Then if cities needed to ensure affordable sanitation for all and affordable treatment of wastewater, on site systems could be re-engineered so that waste was collected from each household, transported, and treated.
    - There was no need to build long distance pipelines for taking back the wastewater for treatment.
    - But most importantly, we have learned that if this urban-industrial wastewater is treated for reuse then water is not lost.
    - More importantly, our rivers will not be lost. This is where implementation is now focused.

Way Forward

- We must minimize our use of water – become much more efficient with every drop. This means doing everything from investing in water-efficient irrigation, household appliances, and changing diets so that the crops we eat are water prudent.
- This is the opportunity – this decade we can put all we have learned into practice and turn around the water-story of India. We just have to make it our single biggest obsession. It is about food and nutrition. It is about our future.
- In this decade that we will see the revenge of nature as climate change impacts grow. We need then to scale up our work to invest in water systems and to make them durable, not just to withstand another rain but another deluge.
- We need to speed up our work because climate change will make sure that we have more rain but on fewer rainy days. This means doing much more to capture the rain, when and where it falls so that groundwater is recharged.
- Our water future is about our water wisdom and in this we must recognize that water and culture go together.
- Water shortage is not about the mere failure of rain. It is about the failure of society to live and share its water endowment. So, we can be water secure because we are water-wise.

Water Governance

Introduction

- About 78% of water utilized goes for agriculture, 8% goes towards domestic use, 6% is used for industry and the remaining 8% goes towards other uses.
- With increasing population, India's per capita water availability is declining – it reduced from 1816 cubic meters in 2001 to 1545 cubic meters in 2011.
- We are already in a water stressed situation defined by per capita availability of less than 1700 cubic meters.
- The per capita availability is projected to further reduce to 1340 cubic meters by 2025 and 1140 cubic meters by 2050.
- The finite water resources of the country are under pressure due to increasing population, urbanization, industrialization, water pollution, and inefficient use.

- Climate change poses an additional challenge.

Water Governance Issues

- The first issue is making an adequate quantity of drinking water available to the people.
- The second issue is improving the low water-use efficiency in irrigation and industry – a drop of water saved is a drop added to the ecosystem.
- The third issue is tackling pollution of water bodies, especially our rivers.
- The fourth issue is reusing and recycling water.

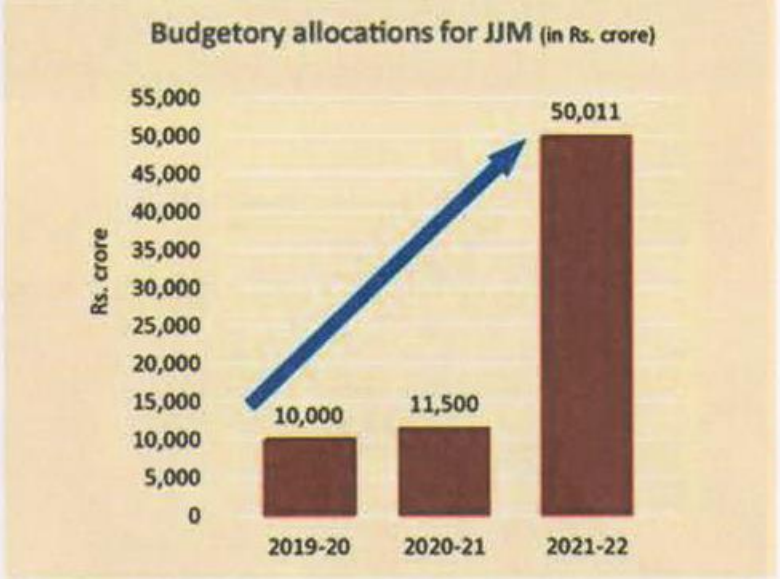
The Approach

- In May 2019, a much needed policy reform was undertaken at the highest level with the creation of the Jal Shakti Ministry to give impetus to integrated management of water resources in India with a special focus on the demand side and supply side management.
- The Jal Shakti Abhiyan is a water conservation campaign under which officers, groundwater experts, and scientists from the Government of India work together with State and district officials in India's most water-stressed districts.
- The Jal Jeevan Mission aims to provide 55 litres of water per person per day to every rural household in the country by 2024.
- The Per Drop More Crop component of Pradhan Mantri Krishi Sinchayee Yojana promotes water use efficiency through drip and sprinkler irrigation.
- The activities under National Water Mission aim to optimize water use efficiency by 20% looks to conserve water and minimize wastage.
    - 'Sahi Fasal' campaign of NWM is an initiative to nudge stakeholders in agriculture towards crops that use less water but more efficiently.
- The National Project on Aquifer Management (NAQUIM), one of the world's biggest programmes of its kind, envisages the formulation of aquifer management plans to facilitate the sustainable management of groundwater.

Jal Jeevan Mission – Har Ghar Jal

Introduction

- Jal Jeevan Mission aims to reach all rural households by 2024, which is six years well ahead of the Sustainable Development Goal – 6 target and could become a model for other developing countries to adopt such practices and achieve their SDG – 6 goal.
- The mission is to give a boost to the manufacturing industry, creating job opportunities, and helping the rural economy.
- Assured tap water supply in rural homes reduces the drudgery of women and provides them with quality time to educate themselves, teach their children, learn a new skill and explore better livelihood options.



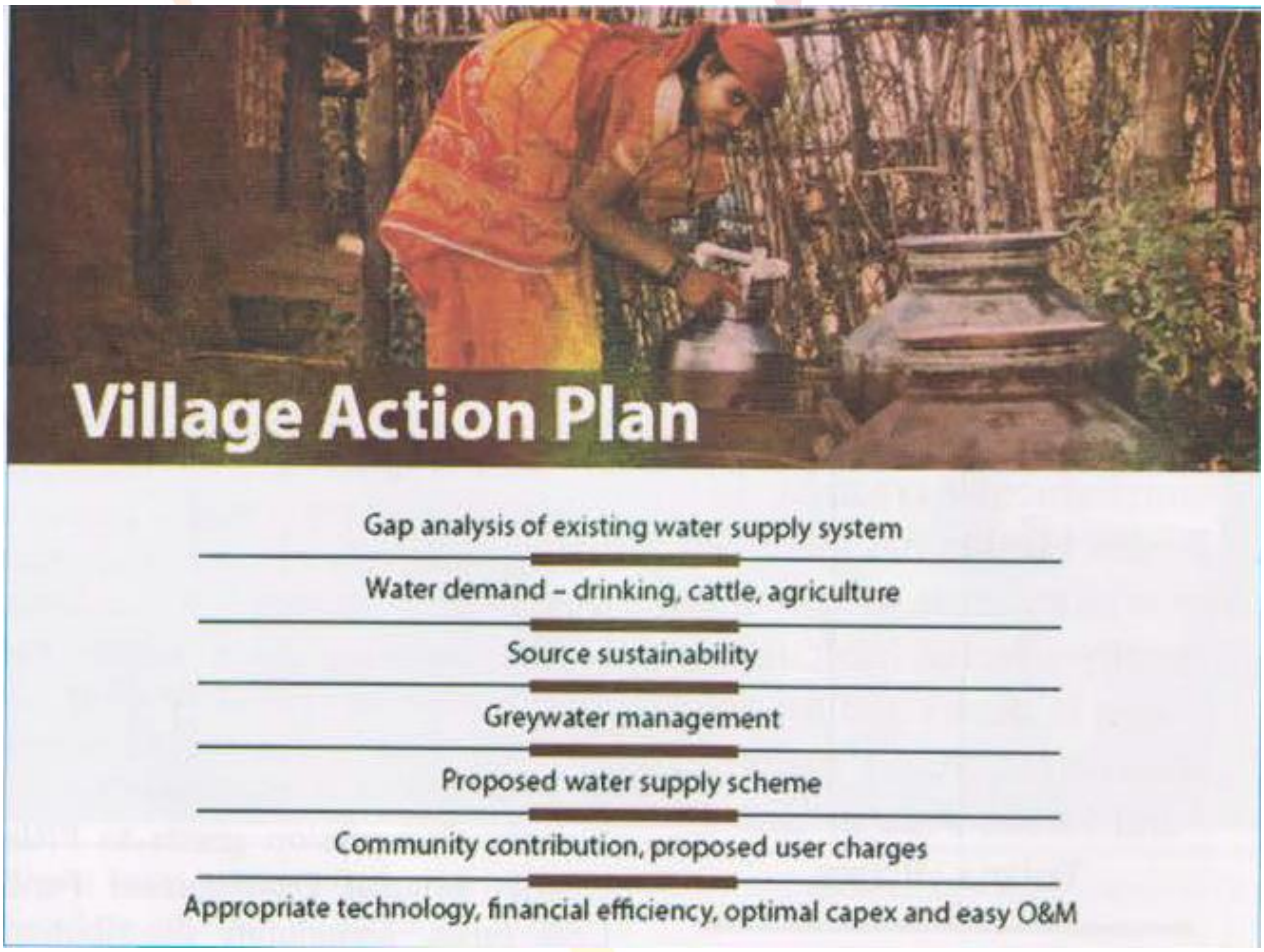
Focus on Service Delivery

- Under this mission, the focus has shifted to the assured supply of potable water to every home rather than merely infrastructure creation.
- Massive training and skilling programmes are being taken up to build the capacity of public health engineers and the local community including masons, plumbers, fitters, pump operators, etc. to ensure regular service delivery to every home.
- Under JJM, all villages with water quality issues, have been prioritized for potable tap water supply.
- Drinking water quality testing laboratories in various States/UTs have been opened to the general public so that they can get their water samples tested at nominal charges and ascertain the quality of drinking water.

- It will help improve public health and rreduce water borne diseases benefitting the entire rural population.

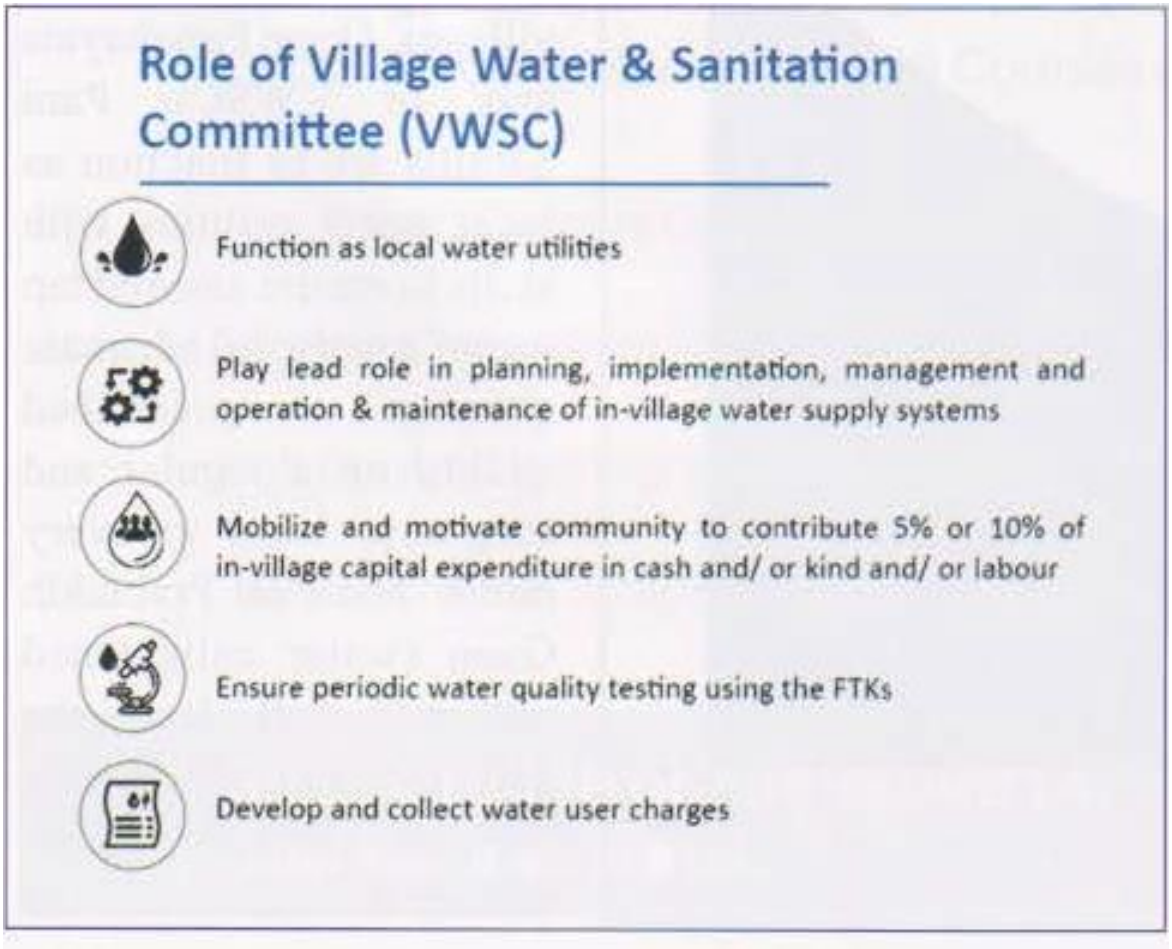
Special Focus on Children

- On October 2, 2020 a 100 day campaign was launched to ensure potable tap water supply in adequate quantity for drinking and cooking mid-day meals, handwashing, and use in toilets in all schools.
- In the country more than 5.4 lakh schools and 4.86 lakh Anganwadi centres have started getting potable piped water supply.



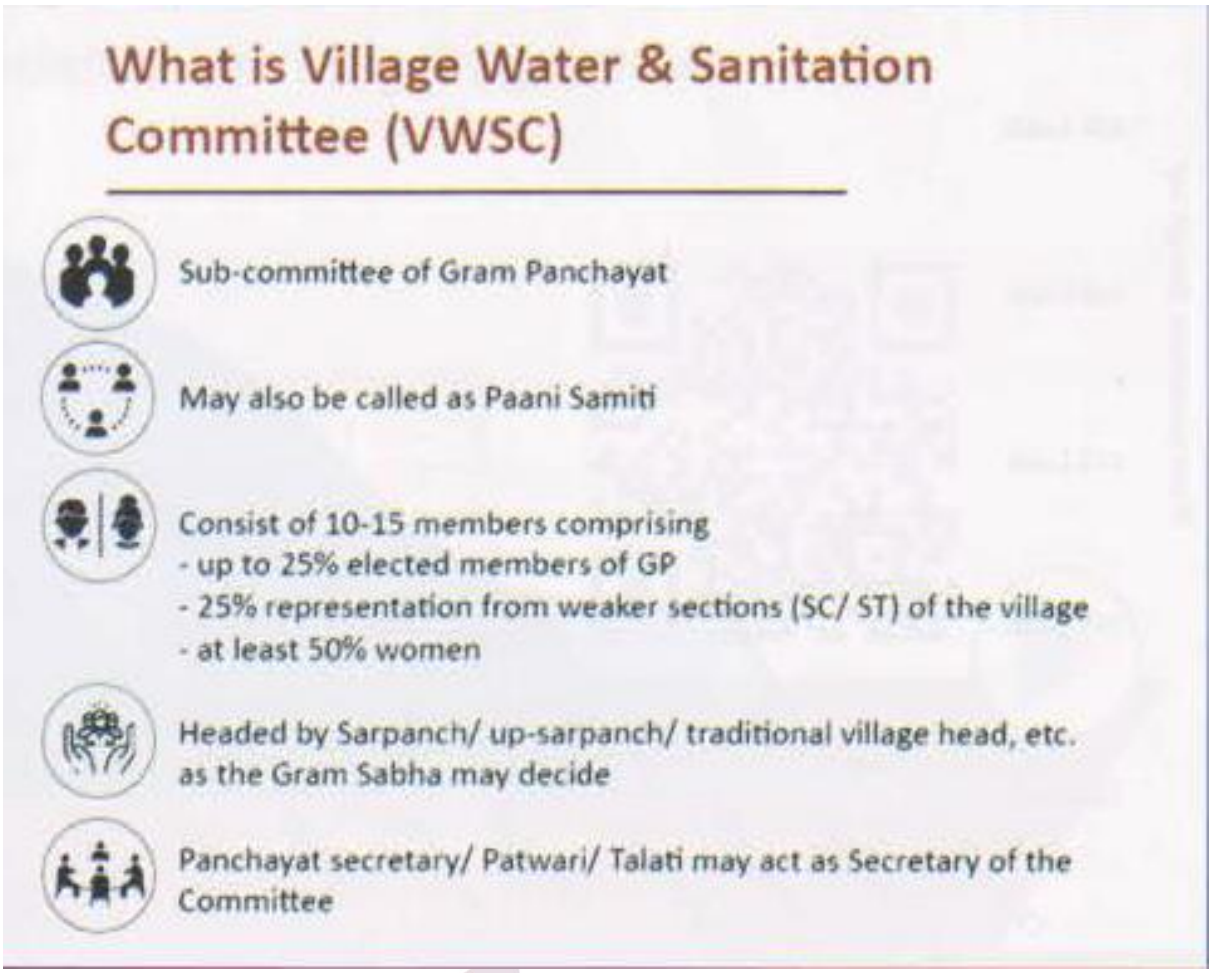
Making water Everyone's Business

- JJM adopts an end-to-end approach, where the focus is on source sustainability, water supply, greywater treatment & its re-use, and operation & maintenance.
- Involvement of every village at planning level, trusts, foundations, NGOs etc, involvement of women at every step will make water everyone's business.



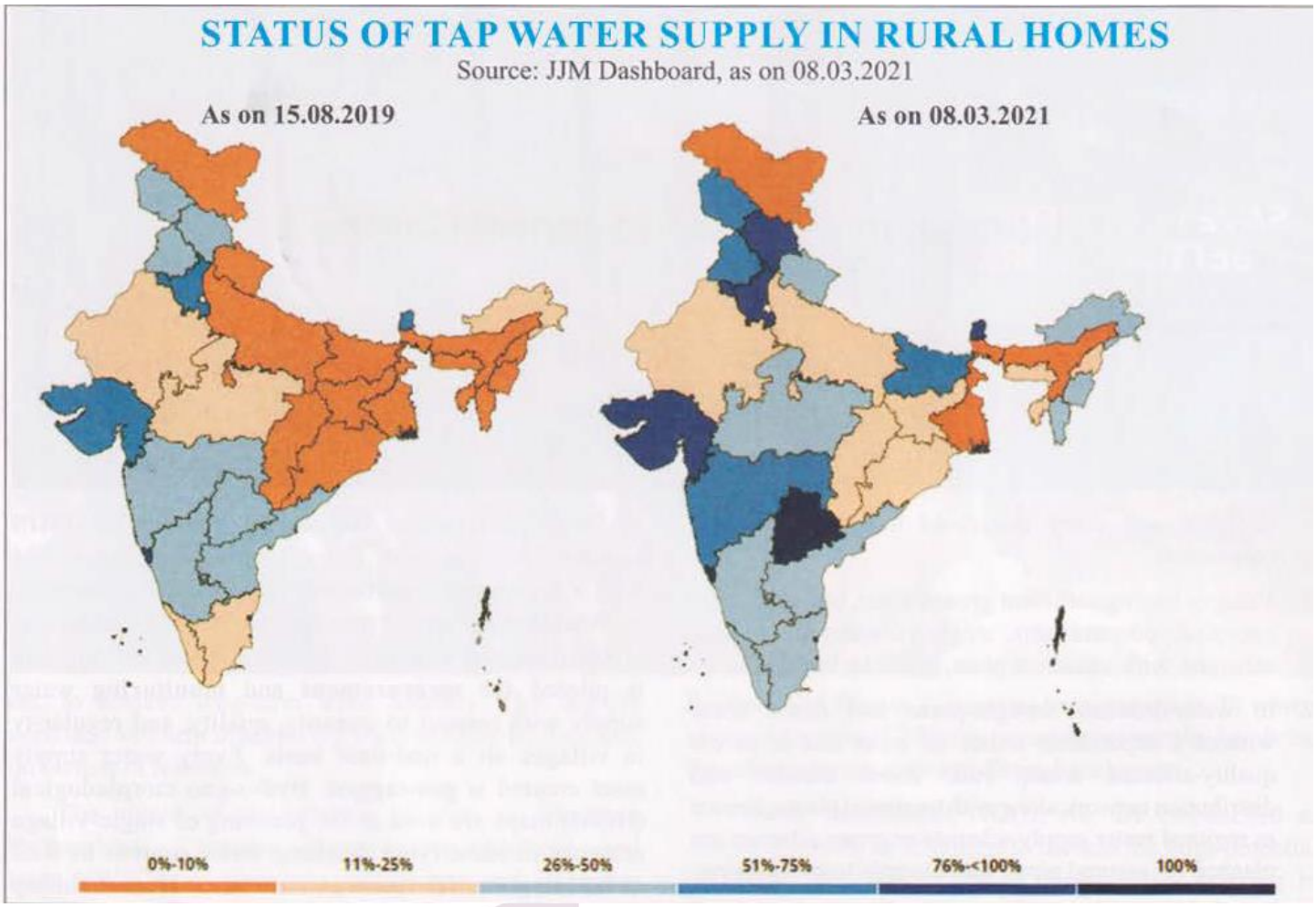
Technological Intervention

- A robust JJM-IMIS captures physical and financial progress under JJM with a dedicated 'Dashboard' is in the public domain.
- A MobileApp is for the use of all stakeholders to bring in ease of working.
- A sensor based IoT solution is piloted for measurement and monitoring water supply with respect to quantity, quality and regularity in villages on a real time basis.
- Every water supply asset created is geo-tagged.
- Hydrogeo morphological maps are used in the planning of single village schemes in identifying drinking water sources as well as building aquifer recharge structures.
- Household tap connections provided are linked with Aadhaar number of the head of household and more importantly all financial transactions are undertaken through Public Finance Management System (PFMS).



Conclusion

- To achieve the goal of Jal Jeevan Mission, communities to be trained and empowered to plan, implement, manage, operate and maintain their in-village water supply system.
- There is a paradigm shift from the 'department-based and construction-based' approach to 'service delivery' approach with the index being empowered communities managing water supply in their villages.
- Gram Panchayats and/or VWSCs/ Pani Samitis are to function as local water utilities with skills to ensure assured tap water supply in adequate quantity of prescribed quality on a regular and long term basis to every home.
- Thus Jal Prabuddh Gaon)water enlightened villages) will lead the path to make the Aatma Nirbhar Bharat (Self-Reliant India)



Framework for River Rejuvenation

Introduction

- Namami Gange was launched in 2014-15 for the rejuvenation of Ganga and its tributaries with assured funding of Rs. 20,000 crores. National Mission for Clean Ganga is the implementing agency.
- Backed by Ganga River Basin Management Plan by a consortium of 7 IITs, it has a holistic multi-sectoral, multi-agency and multi-level approach in four broad categories –
    - Pollution Abatement (Nirmal Ganga)
    - Improving flow and ecology (Aviral Ganga)
    - Strengthening People-River connect (Jan Ganga)
    - Research, knowledge management (Gyan Ganga)

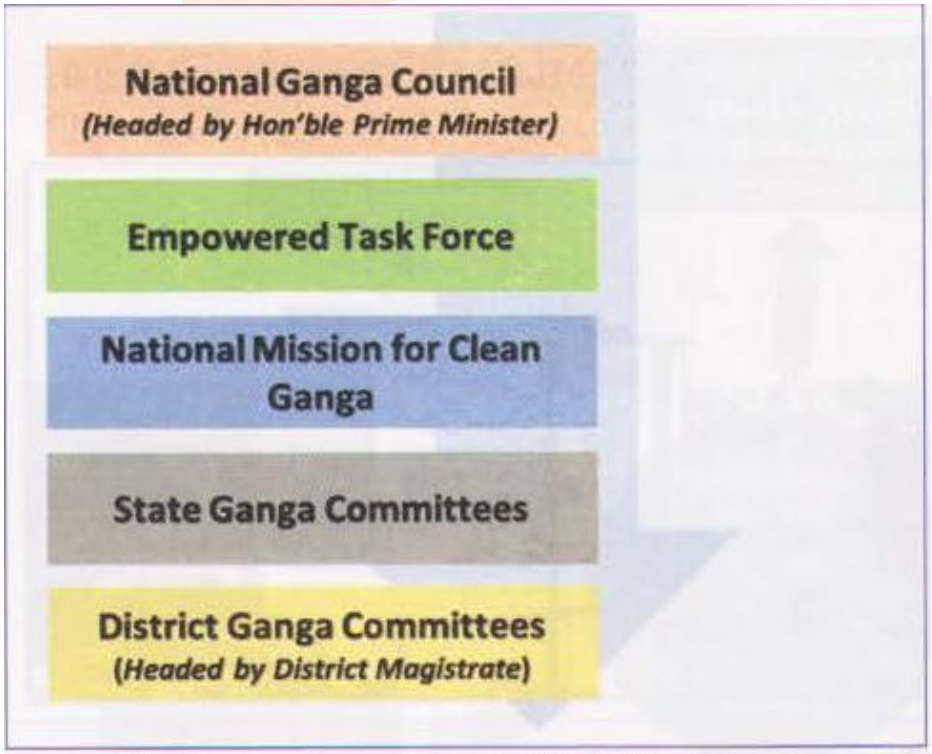


Figure II Integrated Institutional Framework

Pollution Abatement (Nirmal Ganga)

- A total of 156 sewerage infrastructure projects has been sanctioned to create 4856 MLD treatment capacity in the Ganga basin.

- Namami Gange introduced PPP for sewerage infrastructure for the first time in India, through Hybrid Annuity Mode (HAM) with 40% of capex being paid during construction and 60% with interest by 15 year annuity with separate payment for operation and maintenance.
- The 'One City One Operator' approach merging rehabilitation of old and cration of new assts and O&M for all of them on HAM to improve governance was introduced.
- Annual inspection of grossly polluting industries by expert institutions, online monitoring, process improvement, Common Effluent Treatment Plant helped in checking industrial pollution.
- Improving sanitation at ghats, stopping solid waste from entering the river, surface water cleaning and improving process capacity in ULBs have helped 4500 Ganga Grams are ODF.

Improvement in Flow of Ecology (Aviral Ganga)

- The historic Notification of Ecological flow for river Ganga in October 2018 is a big step for Aviral Ganga.
- Sustainable Agriculture is being promoted through organic farming, eco-agriculture, and medicinal plantation, and improving water use efficiency.
- Afforestation along Ganga as per the scientific plan by FRI is a model for similar work for 13 more rivers.
- Demand-side management, Rainwater harvesting, aquifer mapping and recharge are in progress.

People River Connect (Jan Ganga)

- More than 150 ghats and crematoria have been constructed, improved.
- Transformation of ghats from dirty to beautiful river banks is taking place with peoples' participation.
- Dedicated Cadres of Ganga saviors are working to reach out to the community and create awareness.
- Several innovative public outreach activities such as Ganga Quest quiz, rafting expedictions, Ganga run, Ganga Utsav etc are conducted throughout the year to catalyse and motivate community volunteers and people and helping in behavioural changes transforming the programme as a Jan Andolan.

Research, Policy and Knowledge Management (Gyan Ganga)

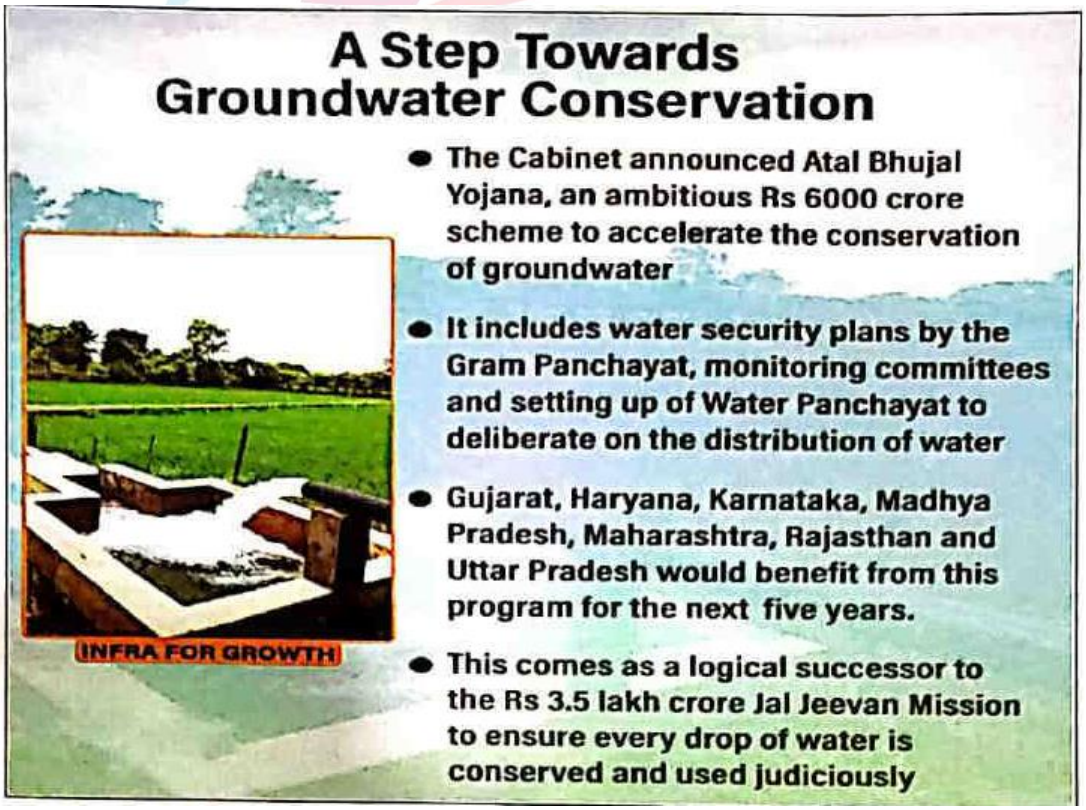
- Centre for Ganga Management and study was set up at IIT Kanpur for long term basin studies, technology development.
- Scientific mapping of different aspects –LIDAR mapping for high resolution, DEM & GIS-ready database mapping of springs, microbial diversity, fisheries, biodiversity, heli survey for aquifers help in evidence-based decision.

- The unique cultural mapping for natural, built and intangible heritage has potential for the development of tourism, heritage has potential for the development of tourism, heritage and traditional livelihood opportunities.
- A new paradigm for planning for River Cities to mainstream river health in urban planning and a national framework for reuse of treated wastewater are being formulated.
- Namami Gange is now leading to the development of Arth Ganga model linking the economic development of the Ganga Basin with ecological improvement and Ganga Rejuvenation.

Groundwater Management: A Paradigm Shift

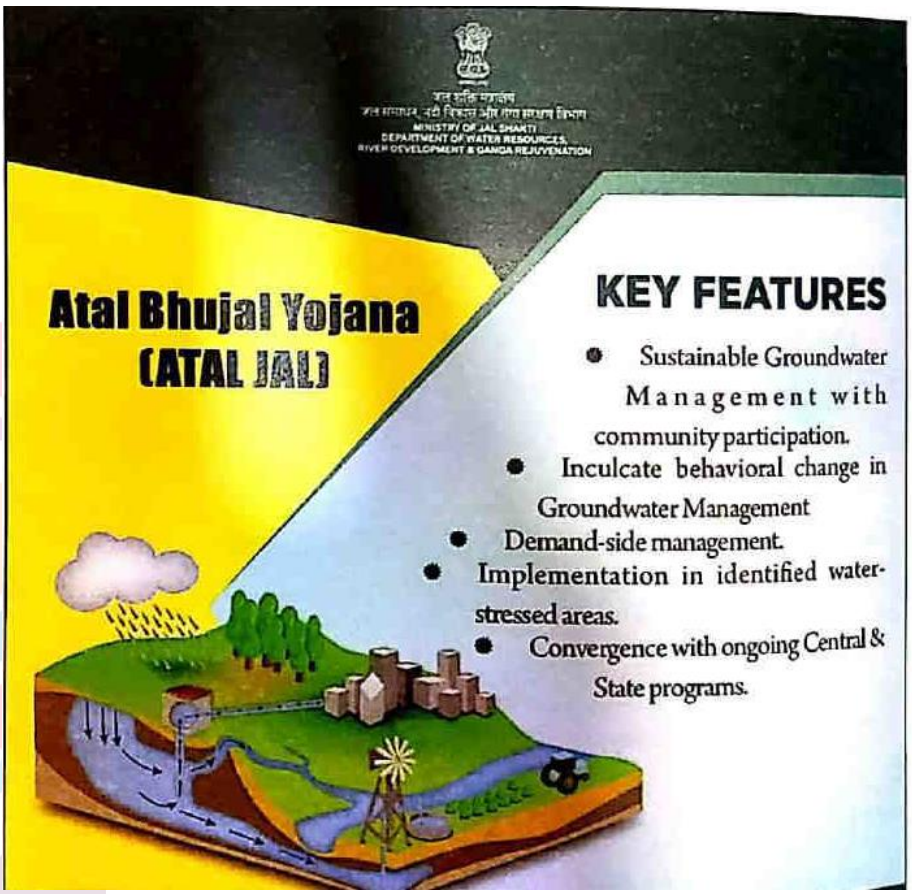
Introduction

- Groundwater is sometimes called an invisible resource.
- Everybody uses it. It is mostly free, available to those with access and the means to extract it.
- It sustains critical ecosystems, such as lakes, wetlands, and woods.
- According to a report published by the Central Water Commission in 2019, the utilizable water available in India is 1,122 billion cubic meters (BCM) per annum, and this availability varies over time and space.



- The total requirement of the country for different uses for a high demand scenario for the years 2025 and 2050 has been assessed as 843 BCM and 1,180 BCM respectively.
- This implies that, even if we store every drop of available water, we will still fall short in 2050, unless we manage demand.

Atal Jal – Scaling up Informed Demand Management



- The goal of Atal Bhujal Yojana is to demonstrate community-led sustainable groundwater management, taken to scale.
- The major objective of the scheme is to improve the management of groundwater resources through a convergence of various ongoing schemes.
- It is a Central Sector Scheme with an outlay of Rs. 6000 Crore.
- A key feature of this scheme is the disbursement of incentive funds (disbursement linked indicators – DLIs) to states based on performance against selected indicators.
- The selection of DLIs has been guided by activities that need to be done for sustainable management of groundwater, measurability, and ease of verification and the capacity of stakeholders to achieve the results.
- Taken together, these DLIs while focusing on the objective of the Scheme, provide incentives for achieving key milestones towards the ultimate goal of the scheme, i.e., improving ground water management with community participation.
- This scheme is a harbinger of change in groundwater management. It encourages the creation of "water aware" communities that have the knowledge and the ability to plan their water use based on available.

Way Forward

- The participating States have begun to implement the programme in the right earnest.
- States are being encouraged to innovate in the process of implementation, in recognition of the fact that solution for Karnataka will not be the same for Uttar Pradesh.

- Learning from the experience in the selected states, it is proposed to create a pan-India programme for the water-stressed areas of the country.
- Strengthened water-aware communities, reliable water data that informs decision making and a participatory regulatory framework are the three pillars that will support sustainable groundwater use in the country, making water available for life, for livelihoods and culture and enable us to combat the effects of climate change.

Jal Shakti Abhiyan

Introduction

- The Department of Drinking Water & Sanitation, Ministry of Jal Shakti on July 1, 2019, launched Jal Shakti Abhiyan (JSA), in coordination with States/UTs, as a time bound campaign in 256 districts.
- Under this campaign, targeted activities were undertaken under five key areas of interventions namely:
    - Water conservation and rainwater harvesting
    - Renovation of traditional and other water bodies/ tanks
    - Reuse and recharge structure
    - Watershed development
    - Intensive afforestation
- A national level JSA monitoring dashboard was developed to capture the progress of the States/districts against JSA interventions.

Intervention/ Special Intervention Areas	Outputs
Water conservation and rainwater harvesting	1,30,344 structures constructed (check dams, trenches, ponds, rainwater harvesting structures)
Renovation of traditional and other water bodies/tanks	15,917 water bodies restored
Reuse and recharge structures	49,345 structures constructed (soak pits, stabilisation ponds, and other structures)
Watershed development	1,41,923 watershed structures constructed (gully plugs, percolation tanks, staggered trenches, and other structures).
Intensive afforestation	77,320 sampling planting activities completed.
Block and district water conservation plans	1,372 blocks and 228 districts prepared their plans
KVK *Melas*	22,157 *melas* organised in 214 districts
Mobilisation of farmers	21.360 lakhs

Jan Shakti for Jal Shakti

- True to the spirit of JSA, village leaders, community members, school students took up the task of water conservation.
- The Abhiyan was especially led by youth-enthusiastic and actively participating in water conservation activities.
- An estimated 2.64 Crore people participated in the campaign.

Way Forward

- Though JSA could not be carried out in 2020-21 due to pandemic, it is essential to consolidate the gains of the campaign by undertaking the following activities:
    - The digital inventory of all the water bodies/ resources should be completed and shared with all stake-holding Departments and their headquarters.
    - The list of water bodies that were renovated, rejuvenated or the ones in which encroachments were removed should be documented and recorded in the revenue records.
    - Such water bodies should be linked to people's livelihood so that the peoples economic interest can protect them.
    - Encourage social water bodies policing (volunteer Jal Rakshaks) for the sustenance of restored water bodies using the services of college and senior secondary schools, NGOs etc.
    - Survival of plantation has to be monitored periodically so that the original number is maintained.
    - Incorporate voluntary Shramdaan as a means to build awareness as well as completing various works.
    - Capacity building of farmers on water conservation should go simultaneously,
    - The Government building should mandatorily include rainwater harvesting structures.
    - Create a dedicated JSA cell at the district level post Abhiyan period to complete the follow-up activities under Jal Shakti Abhiyan.

Access to Water is Access to Education and Opportunity for All

- Schools and Anganwadi Centres play a crucial role in the lives of children and are considered important places for learning and socialization.

- After all, these are places where children get to learn positive and healthy behaviours while mothers are given support on parenting and caretaking skills.
- Early habits of sanitation and hygiene cannot be taught in the absence of regular access to the said facilities.
- Not to mention, it is critical for cleaning staff to implement infection prevention and control protocols.
- Jal Jeevan Mission was launched back in 2019 to bring piped water supply to every rural household in India by 2024 and with the ambition to invest in sustainable water usage and opportunities for women and girls who will have averted time lost to travel to collect water for their homes.
- Given the health implications of no water in school and Anganwadi centre grounds, especially due to the closures and the impact of the pandemic the government launched a 100-Day Campaign which mandated States/UTs to actively prioritise the provision of piped water supply in schools and AWCs in previously unserved or serving vulnerable communities.
- Women were not only treated as beneficiaries but also as problem solvers, as cadres of self-help groups, teachers and AWC workers who took up the responsibility of disseminating key information that sensitized communities on the importance of piped water supply.
- UNICEF has been a proud partner of the Campaign and has been working with both central and state governments to drive forward the vision of achieving universal access to safely managed drinking water and sanitation.
- This work puts India on an optimistic trend towards achieving the Sustainable Development Goal – 6, while also contributing to other SDGs assessing better resource management and socio-economic progress.
- The Jal Jeevan Mission therefore, is not just about the provision of drinking water, it is about increasing women's participation in the workplace and economy, by giving them more time to pursue their aspirations.
- It is about helping adolescent girls practice menstrual hygiene management while still having access to education.
- It is about keeping safe hygiene and sanitation practices at the center of all the work we do to keep children safe at home and outside of them.
- Adding water to the lives of millions of people, especially those of women and girls, can be transformational ensuring regular schooling, less absenteeism among teachers, learning new hygiene habits and preventing disease.
- We must therefore continue to prioritize water supply if we want to continue transforming India into a more resilient nation.

Centrality of Women in Water Management

Introduction

- Women have played an integral role in water management and policies need to be designed in a manner to enhance this role even further.
- While women do play a key role in water for irrigation and livestock, we will first discuss their role in the provision of potable drinking water at the household level, which is the core aim of the Jal Jeevan Mission.

Gender roles: Ownership and Management

- In most rural communities, the collection of drinking water has been traditionally allotted to women.
- They travel to different sources (wells, ponds, tanks, streams, rivers) to collect water, which they fetch mostly through pots.
- Young girls miss school to fetch water, and the drudgery of water collection is known to cause many health problems.
- Thus, the provision of water service at the household level would benefit women the most, and save them substantial time and drudgery.
- Gender roles also make women the "health care-takers of the family". Hence when children or the elderly fall ill, they have to take up the burden of health care at home.
- Thus, the poor quality of water which causes water-borne diseases also affects women the most.
- In some locations, when water collection has to be done in the early/late hours because of the erratic supply or nature of the source, there are issues of women's safety also.
- Being water carriers and water managers, women are traditional knowledge bearers of the season wise water availability in different water sources, source-wise water quality as compared to men, as they use the sources and water every day.
- This knowledge is very useful for planning the water supply scheme.

Involvement of women in decision making process

- For an equal society, we do want men also to take up an equal role in providing drinking water, but till this gender transformation takes place, we need to ensure that women are empowered in all decisions related to drinking water management in a village.
- There are many ways in which women's contribution can be sought and their voice be given weight:

- Mandatory 50% participation of women, especially those belonging to SCs/STs and OBCs in the Village Water & Sanitation Committee (VWSCs).
- Separate meetings with women during the mobilization process.
- Interaction with existing women's groups during the initial village vvisits.
- Special recognition of VWSCs with women leaders or larger women's membership.
- Gender sensitization of the implementation team staff is essential and women should be part of the capacity building.
- Have gender-specific IEC material, including gender-transformative roles for drinking water.
- Involving trained women in critical decision-making, including planning, procurement, accounting, technical sanctions, financial sanctions, monitoring and O&M.
- Have at least 20% of women members in local technical teams.
- Train at least five village women for the supervision of implementation and later for a regular supply of water. Nominate and train women as Jal Doots/ Bhu Jaankar, if there is a cadre of water para – legal workers.
- Make it mandatory to obtain a certificate about satisfactory completion of the schemes from women groups in the habitations in addition to the certification of panchayats which may be male-dominated.
- Develop women entrepreneurs and SHG-led enterprises for water supply services like de-fluoridation treatment plants, water-testing kits, etc.

- Thus, women across the country need to be engaged in rural drinking water supply schemes consciously for long-term water security in villages.

Technological Innovation for Assured Water Supply

- The village water supply in India encounters several issues like premature drying up of source, poor raw water quality, pump assembly failure or insufficient intake by pump, 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.
- These issues can be addressed if we have a system to accurately monitor the water supply performance and ensure the accountability of a responsible person.

- The JJM envisions creating a Digital Wall and Remote Command and Control Center for monitoring and managing supply of good quality water every day in all of more than 19 crore rural households of India.
- The pilot studies undertaken for such project has demonstrated that technology enabled real time monitoring leads to positive behavioral change thereby ensuring significant gains in socio-economic and health parameters for the village communities:
    - Equitable distribution of water- all clusters now get water supply (adequate quantity and pressure)
    - Long term sustainability of water source by observing fast depleting groundwater elvel on a TV screen dashboard on a real time basis.
    - Regular chlorination process at the service reservoir
    - Efficient and responsible use of water by consumers due to household level metering and reduced cost of operation through data-enabled leak detection, predictive maintenance, and automation.
- For assurance of water quality at the household level all the water testing laboratories under the control of rural water supply/public health and engineering department have been opened to public for testing water samples.
    - Data from sensor devices will be put up on a web portal called JJM-WQMIS so that data can be cross checked.
- Thus with a partnership with States/UTs, the Jal Jeevan Mission is rolling out this vision to secure the availability of potable water at the household level and ensure the ‘ease of living’ of people living in rural areas.