International Journal of Innovative Research in Technology and Science
ISSN: 2321-1156 www.ijirts.org Volume 12 Issue 2, March 2024

A Review of Har Ghar Nal Yojana (Jal Jeevan Mission): A Case Study of 10 Villages

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Abstract- Access to portable tap water is necessary for every household, ensuring basic health and hygiene. Water supply schemes are actively being executed in rural areas of the state to provide clean drinking water. The Jal Jeevan Mission, initiated on August 15th, 2019, aims to furnish 55 litres of water per person per day to every rural household by 2024 through Functional Household Tap Connections (FHTC), ensuring consistent pressure on a regular and long-term basis in all rural households and public institutions. As of 2019, out of approximately 18.93 crore rural households, only about 3.23 crore (17%) were equipped with tap water connections, thus indicating the need to extend water supply to 83% of rural households. The program also mandates the implementation of source sustainability measures, including recharge and reuse through greywater management.

Keywords- Rural Water Supply, Nal Jal Yojana, Jal Jeevan Mission, Safe Drinking Water, Piped Distribution System

INTRODUCTION

The central government recently started the Har Ghar Nal Yojana scheme, a part of the "Jal Jeevan Mission' launched by the Ministry of Jal Shakti. The lack of access to potable water has several implications for the rural population. The mission aims to ensure the functionality of existing water supply systems and connections, water quality monitoring and testing, and encourage sustainable agriculture. Thus, Water Quality Monitoring & Surveillance (WQMS) is prioritised under JJM. Water quality testing tools decide drinking water safety at the source, within a piped distribution system, or at the delivery point. The mission is based on water availability, rainfall patterns, drought situation, groundwater level, and waterborne diseases in every Village. The state governments are training members of village-level committees to encourage awareness of the operation of schemes, water conservation, efficient use of drinking water, etc. JJM also wants to provide relief to women who have to travel many kilometres to fetch water, which in some cases endangers their safety. JJM is expected to address this issue and allow the time saved to be used to improve household well-being through market-based domestic production or other activities.

Regarding water sourcing, the policy has focused on things like greywater management and elevated service reservoirs, which are crucial for the success of such initiatives. Efforts have also been made to create a decentralised leadership structure considering the country's great regional diversity. Throughout its operational guidelines, the Mission talks about increasing the participation of women who face the adverse brunt of having to fetch water from far away sources without tap water facilities at their homes. Providing portable water supply to all households in the country substantially improves the way of living, improves health status, and empowers women. Implementing the initiative remains

the primary challenge at present. Another notable aspect of the JJM is its embrace of new technologies to achieve citizen-centric outcomes. In conclusion, the JJM initiative embodies numerous well-considered design and structural features.

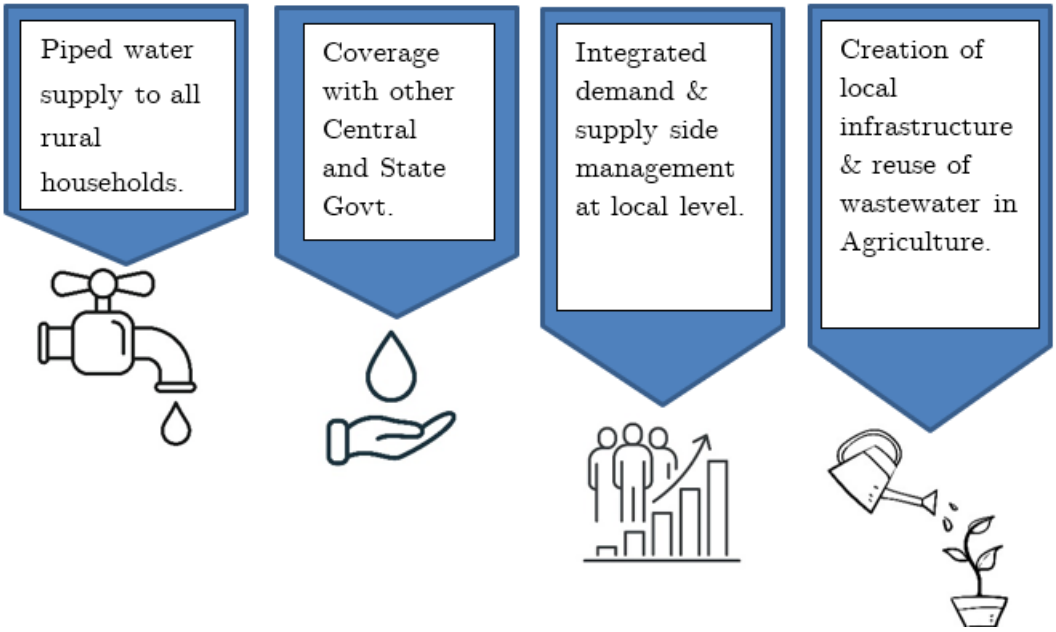

Figure 1. Focus of Jal Jeevan Mission

CASE STUDIES OF VILLAGES

As part of our case study, we examined ten villages in the Sehore district to assess the water distribution system and the progress of the Jal Jeevan Mission. The national government recognises the critical importance of access to safe drinking water in improving population well-being, with profound effects on various health indicators such as infant mortality, overall mortality rates, life expectancy, and productivity. Regrettably, insufficient water access and poor water quality disproportionately affect the impoverished, spanning rural and urban communities. Seasonal disruptions in water supply, particularly prevalent during the summer months, compound these challenges. In rural areas, women bear a significant portion of this burden as they often spend considerable time fetching water, sometimes from distant sources, negatively impacting their health and overall quality of life. Alarmingly, a substantial proportion of illnesses, estimated at 70-80 percent, are attributed to water contamination and inadequate sanitation, with women and children being particularly vulnerable to its adverse effects. Despite advancements in water supply provision, the prevalence of waterborne illnesses remains persistently high, highlighting the urgent need for comprehensive solutions to address these pressing challenges. In 2013, the Ministry of Drinking Water and Sanitation launched the National Rural Drinking Water Programme to ensure nationwide clean water for rural dwellers. This programme aimed to initiate a campaign to provide access to drinking water in rural areas. It was decided that by 2017, 50 percent of the country's rural population would have access to piped water, with a target of 90 percent by 2022. The provided data underscores the ripple effect of implementing the Jal Jeevan Mission in villages. Despite the comprehensive coverage of the mission's impact, the author narrows the focus to villages in the Sehore district adjacent to Bhopal. These specific villages endured severe water

scarcity before implementing the Har Ghar Nal Yojna. Hence, it is essential to delve deeper into the positive effects of the Har Ghar Jal Yojna in these areas.

Table 1. Summary of Functional Household Tap Connections (FHTC) in Selected Villages

SNo.	Village Name	Beneficiary Village Details		No. of FHTC connections	Village wise % of FHTC coverage	Remarks
		population	Total No. of Families			
1	Shyampur	2445	489	297	60.75	ENJY
2	Patan	2975	595	310	52.10	ENJY
3	Sonkatch	1240	248	118	47.58	ENJY
4	Shahjahanpur	1132	227	98	43.17	ENJY
5	Doraha	7624	1525	481	31.54	ENJY
6	Jharkheda	5384	1077	300	27.86	ENJY
7	Khajuriyan Kalan	3085	617	120	19.45	ENJY
8	Hingoni	804	161	30	18.63	ENJY
9	Chhapri	1043	209	0	0	Spot source
10	Khaikheda	2065	413	0	0	Spot source

Source: Data from 10 villages covered by tap water schemes provided under the Functional Household Tap Connection scheme.
Source of Spot Source: Groundwater (hand pumps, tube wells, wells, etc.).

CHALLENGES

Inadequate infrastructure- Inadequate infrastructure to raise service levels from 40 to 55 Ipcd & provide last-mile connectivity to individual households; ageing infrastructure; lack of grey water management; absence of source sustainability measures, viz. rainwater harvesting structures, bore well recharge structures, etc.

Lack of Resource Efficiency- Lack of responsible consumption, wastage of water, leakages at distribution and end use points, biological contamination, over drawl for agriculture, etc., are prevalent, leading to inefficient resource utilisation.

Coordination Challenge- Multiple Government Departments such as water resources, public health engineering, urban development, groundwater, rural development, rural water supply & sanitation, etc., involved in the water sector has led to coordination challenges.

Water Quality Issue- As per CGWB 2018 data, around 50% of assessment units (blocks/ firkas/ mandals) are found to be contaminated with Arsenic, Fluoride, Chlorine, Nitrate and/or Salinity due to both geogenic and anthropogenic causes.

It may be reiterated that the national government recognised that safe drinking water and improved sanitation play a major role in people's overall well-being, significantly impacting infant mortality, death, longevity and productivity. People experiencing poverty, both in rural and urban areas, bear a disproportionately higher burden of the non-availability of water and its poor quality. Seasonal disruption of water supply is common, especially during summer months. Fetching water for domestic use, sometimes from far-flung sources, is a time-consuming physical burden women bear, particularly in rural areas.

Two strategies must be adopted to address these challenges— Supply and demand management. While supply management is undoubtedly difficult in water areas, with economic growth, competition for water resources, and the increasing value of water, demand management is certainly becoming more important than supply management.

SWOT ANALYSIS

Strength- The Jal Jeevan Mission exhibits several notable strengths contributing to its effectiveness in addressing water supply challenges. Firstly, the availability of grants from both central and state funding commissions ensures a reliable financial foundation for its initiatives. Moreover, the mission boasts extensive experience implementing piped water supply (PWS) systems across diverse landscapes, honing its ability to navigate various geographical and environmental challenges. Delegating authority to Panchayati Raj Institutions (PRIs) empowers local governance structures, fostering community involvement and ownership in water management efforts. Additionally, the mission benefits from dedicated technical teams tasked with planning and implementation, enhancing operational efficiency. Leveraging advanced technologies enables the production of safe drinking water, even from contaminated underground sources, expanding access to clean water. Pre-existing infrastructure further facilitates the mission's objectives, allowing for the optimisation of resources. Furthermore, dense residential areas in water-rich regions provide a conducive environment for implementing water supply initiatives, maximising the impact of the mission's interventions.

Weakness- The Jal Jeevan Mission faces several weaknesses that challenge its objectives. Primarily, the mission's top-down approach and limited emphasis on community ownership and participation hinder its effectiveness in addressing local water supply issues. In addition, inadequate financial resources constrain the mission's ability to implement projects efficiently and scale up interventions effectively. Furthermore, a shortage of technical human resources at the Gram Panchayat (GP) level undermines the mission's capacity for local-level implementation and management. Poor fee collection and water tariff systems exacerbate financial constraints and impede sustainability efforts.

Moreover, insufficient attention is given to preparedness systems for operation and management, limiting the mission's ability to respond effectively to challenges and emergencies. The prevailing mindset within the planning department, which prioritises infrastructure creation over its functional utility as a tool for water supply, further complicates the mission's operational effectiveness and sustainability. Addressing these weaknesses is crucial for enhancing the mission's impact and ensuring the sustainable provision of safe drinking water to all communities.

Opportunity- The Jal Jeevan Mission presents several opportunities that hold the potential to enhance its effectiveness and reach. Firstly, enabling the participation of local administration facilities in the implementation process can leverage their knowledge and resources, fostering a more decentralised and community-driven approach. Access to central funds and additional resources through the Rural Jobs Guarantee Scheme (RJJK) further strengthens the mission's financial capacity, allowing for the expansion and improvement of water supply systems. Additionally, involving dedicated and non-governmental organisations (NGOs) in implementation can bring specialised expertise and facilitate

community engagement. Leveraging patented human resources for implementation at various levels of water treatment plants can enhance operational efficiency and quality control measures. Embracing new technologies offers opportunities to streamline processes and improve the effectiveness of water supply initiatives. Furthermore, exploring partnerships with various stakeholders, including government agencies, private sector entities, and community organisations, can unlock synergies and resources to advance the mission's objectives. By capitalising on these opportunities, the Jal Jeevan Mission can strengthen its impact and achieve its goal of providing safe and sustainable drinking water to all communities.

Threat- The Jal Jeevan Mission faces several threats that challenge its objectives of ensuring universal access to safe drinking water. Firstly, the rapid growth of the population exacerbates the demand for water resources, straining existing infrastructure and supply systems. Moreover, the uncontrolled removal of groundwater for agricultural purposes depletes vital resources and contributes to chemical pollution, jeopardising water quality. In some areas, water shortages further compound the challenges of meeting the needs of growing populations. Climate change intensifies these issues, leading to unpredictable weather patterns and more severe climatic events, such as droughts and floods, which disrupt water supply and infrastructure. Delays in the supply and transfer of government funds in certain states hamper the timely implementation of water supply projects, hindering progress towards the mission's goals.

Additionally, the reluctance of state governments to transfer local water supply systems to Panchayati Raj Institutions (PRIs) or address non-functional systems presents administrative hurdles and delays. Furthermore, the workload associated with the mission's ambitious targets and complex operational requirements strains implementation efforts. Addressing these threats requires proactive measures to enhance water resource management, mitigate the impacts of climate change, improve governance structures, and streamline project implementation processes. By addressing these challenges effectively, the Jal Jeevan Mission can better navigate threats and work towards achieving its vision of providing sustainable access to safe drinking water for all communities.

CONCLUSION

Concluding our discussion, the Jal Jeevan Mission emerges as a beacon of optimism for rural communities across India, striving to elevate their living standards by providing access to clean drinking water. Despite facing hurdles, the mission's potential for transformative change and the positive outcomes it promises cannot be overstated. As this journey unfolds, the repercussions of this initiative are poised to catalyse a wave of enduring positive change that will resonate for generations to come. Various issues contribute to rural water problems, including escalating costs associated with accessing new water sources, inefficient utilisation of existing resources, soil degradation in irrigated areas, overexploitation of groundwater, and contamination from harmful substances such as pesticides, fertilisers, and human and animal waste. The newly implemented Swajaldhara program is designed to tackle supply and demand management challenges. By promoting community participation in the

implementation, operation, maintenance, and management of drinking water schemes, there is potential to fulfil the objective of delivering safe drinking water to rural residents.

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