

POLICY BRIEF #1

JAL JEEVAN MISSION: TOWARD RURAL WATER SECURITY

HIGHLIGHTS

Ministry of Jal Shakti (Government of India) is committed to make rural India drinking water secure. The most recent initiative is a time-bound flagship scheme called Jal Jeevan Mission (JJM) to provide access to tap water in all rural households by 2024. The following action points are recommended to overcome institutional and resource planning challenges in the implementation of JJM.

- **Engage the private sector under the Public Private Partnership model to promote infrastructure expansion, manage and operate drinking water services on a pilot basis.**
- **Adequately resource and provide the State Water and Sanitation Mission with operational autonomy to implement contextual State solutions.**
- **Ensure community engagement to support planning and implementation of environmental assessments via public consultations at the village level. Strengthen social audit mechanisms through community engagement**
- **Include participatory development & enforcement of Water Safety Plans.**
- **Promote the demonstrated, low cost and sustainable household water treatment solution, JalKalp water filter, for safe water consumption at the point of use.**
- **Introduce a pilot insurance program to cover hazard risks in completed schemes.**

JJM MANDATE

JJM offers financial assistance to states for improving service delivery of rural water supplies and increasing the outreach of tap water connections. Consequently, JJM aspires for a reduction in the incidence of waterborne diseases.

The institutions at two tiers of the JJM implementation framework deserve special emphasis. These include the State Water and Sanitation Mission (SWSM) at the state level and gram panchayats (GPs) at the grassroots level. The proposed strategy for JJM heavily relies on gram panchayats and/or their associated subcommittees to plan, implement, manage, and maintain the physical assets funded under the mission. Setting up of SWSM provides states with an opportunity for aggregate planning and implementation of water-related interventions within a coordinated structure.

JJM builds on the existing institutional setup of its predecessor, the National Rural Drinking Water Project (NRDWP). The audit report conducted by Comptroller and Auditor

General of India during 2012–17 suggests that the institutional framework for planning and delivery of the program guidelines simply did not exist or was nonfunctional in a many states. This caveat invariably resulted in inefficient fund management, poorly implemented schemes, and the lack of monitoring mechanisms.ⁱ

POTENTIAL CHALLENGES FOR JJM

Institutional Challenges

While a complete decentralized organization of the project components is desirable and often advocated, research has shown that the levels of community engagement in rural water supply and sanitation projects varies due to a number of factors (Hutchings, *et al.*, 2017). In India, the majority of GPs across the country do not demonstrate the institutional capacity to take up such comprehensive planning and management roles.ⁱⁱ

Countries such as Bangladesh have successfully tested a private sector model of drinking water service delivery.ⁱⁱⁱ This model is based on lessons learned from previous water supply projects and emphasizes limited,

yet critical, participation of communities in layout, planning, and tariff structure.

Action Points

- Engage the private sector to promote infrastructure expansion manage operations of drinking water services on a pilot basis. For locations where private sector is not present or willing, build capacities of local institutions to undertake the O& M of the scheme.
- Include participatory development & enforcement of Water Safety Plans.
- Adequately resource and provide SWSM with operational autonomy (other than line departments) and improve their capacities to implement contextual state solutions.^{iv}

Resource Planning Challenges

There is a continued reliance on groundwater to meet drinking water demand in water-stressed parts of the country.^v Groundwater in such areas (identified as priority areas under JJM) run the risk of competing demands for groundwater with agriculture and industrial purposes and pose a long-term threat to the sustainability of rural water supply systems. The availability of groundwater resources is also subject to wide environmental and climate variability in the face of climate change in the future.

While the policy recognizes the need for state governments to implement a regulatory policy to abate the risk of groundwater depletion, community engagement should be sought in supporting planning and implementation of environmental assessments.

Indian experience suggests that tap, tube wells and hand pumps were most problematic in terms of quality of water (per NSS 54th round) (Ravichandran and Boopathi, 2002). Factors such as groundwater contamination, poor maintenance of rural water supply systems and the lack of awareness on the process of

contracting diarrhoeal diseases add to the problem and are often difficult to address completely. Research has shown (Wright, Gundry and Conroy, 2004) that the reduction in the incidence of waterborne diseases is contingent on the consumption of safe water at the point of use.

Action Points

- Seek community engagement to support planning and implementation of environmental assessments via public consultations at the village level.^{vi}
- Strengthen social audit mechanisms through community engagement
- Introduce pilot insurance program to cover hazard risks in completed schemes.
- Promote demonstrated household water treatment solution like JalKalp water filter, a low-cost sustainable solution for safe water consumption at the point of use. This technology offers integration with other suitable technologies to address specific contaminants.

The development of 4.5 kg filter, offers increased filtration rate and better portability than conventional biosand filters. It is effective against E.coli, total coliforms, arsenic, turbidity, and iron contamination. The filter integrates the germicidal properties of copper with conventional filtration.

JalKalp can be operated without electricity, which is a bonus considering the

electricity supply in many villages in Bihar is erratic. JalKalp is also environment-friendly with a minimal carbon footprint and does not require regular replacement of parts. It is not expensive and requires small capital investment from the end user. There is no recurring cost of operation or expensive parts to replace. In JalKalp, the filtering materials, i.e., sand and gravel, present in the filter are easily and locally available.

Water quality tests have demonstrated JalKalp's performance and the organisation are looking to collaborate with entrepreneurs who can adopt a



market-based approach to the demand for safe water and sell affordable household filters. This can go a long way in providing safe water to local areas.

For more information visit:

<http://www.smsfoundation.org/wp-content/uploads/jalkalp-water-filter.pdf>

ABOUT SEHGAL FOUNDATION

S M Sehgal Foundation (Sehgal Foundation) is a public, charitable trust registered in India since 1999. Our mission is to strengthen community-led development initiatives to achieve positive social, economic, and environmental change across rural India. We envision every person across rural India empowered to lead a more secure, prosperous, and dignified life.

<http://www.smsfoundation.org/>

REFERENCES

Hutchings, P., *et al.* (2017) "Revisiting the history, concepts and typologies of community management for rural drinking water supply in India," *International Journal of Water Resources Development*, 33(1), 152–169. doi: 10.1080/07900627.2016.1145576.

Ravichandran, M., and Boopathi, S. (2002) "Economic and Environmental Status of Drinking Water Provision in Rural India 1," *Journal of Social and Economic Development*, IV(2). Available at: http://www.isec.ac.in/JSED/JSED_V4_I2_170-198.pdf.

Wright, J., Gundry, S., and Conroy, R. (2004) "Household drinking water in developing countries: A systematic review of microbiological contamination between source and point-of-use," *Tropical Medicine and International Health*, 9(1), 106–117. doi: 10.1046/j.1365-3156.2003.01160.x.

ⁱ Comptroller and Auditor General of India on Performance Audit of National Rural Drinking Water Programme Report 15 of 2018 in its Chapter IV reported delays in about half of the sanctioned works (a majority due to administrative reasons), underutilization of funds to the extent of 13.3 to 24.6 percent under heads of coverage, water quality, sustainability and O&M; and underutilization of funds for monitoring activities up to 49 percent.

ⁱⁱ Evident through less than three quarters of 247920 GPs in the country having prepared a Gram Panchayat Development Plan. <http://planningonline.gov.in/ReportData.do?ReportMethod=getManualgdpd> Accessed on 19.1.2020. Report of the Comptroller and Auditor General of India on Performance Audit of National Rural Drinking Water Programme suggests the lack of bottom-up approach in planning and implementation is evident through shortcomings in setting up and functioning of subcommittees for management of water and sanitation works under gram panchayats.

ⁱⁱⁱ Bangladesh Water Supply Program Project (BWSPP, IDA Grant No. H101-BD) piloted innovative service delivery models including rural piped water supply schemes with private sponsor involvement and showed significant sector advancement. As cited in Implementation Completion and Results Report (Report No. ICR 00004515).

^{iv} A community-centered Rural Water Supply System approach through an apex institution such as the Fund Board was seen as a distinctive feature that led to the success of the project in Nepal as cited in Implementation Completion and Results Report (Report No. ICR 1565) of the Second Rural Water Supply and Sanitation Project.

^v In our analysis we consider overexploited categorized assessment units from ten states namely Karnataka, Telengana, Uttar Pradesh, Bihar, Rajasthan, Haryana, Andhra Pradesh, Maharashtra, Gujarat, and Madhya Pradesh. These ten states together contain around 49% of the overexploited assessment units in the

country. Data on water availability from Census 2011 (HH-6: Households By Main Source Of Drinking Water And Location) is available for 70% of the assessment units in these ten states. Dependence on groundwater for drinking purpose in these assessment units range from 23% in Andhra Pradesh to 95% in Bihar, with an average percentage of 48% households.

^{vi} The Kerala Rural Water Supply and Environmental Sanitation Project piloted process of public consultations and included important aspects such as yield sustainability, regulatory measures for groundwater withdrawal, concurrent planning of watershed projects, safe disposal of solid waste and communication strategy and content. Project Appraisal of Kerala Rural Water Supply and Environmental Sanitation Project. Report No: 21050 IN.