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A NEW APPROACH

Relevant for: Geography | Topic: Distribution of key natural resources - Water Resources incl. Rivers & related issues in world & India

The writes is secretary, Ministry for Drinking Water and Sanitation. Views are personal.

Water is at the top of the development agenda of the new government, as emphasised by the prime minister at Niti Aayog's governing council meeting last week. Encouraging the participating chief ministers to give top priority to the subject of water in all its different avatars, especially conservation, the prime minister emphasised that the first concrete step taken by the central government towards a holistic and integrated perspective on water has been the constitution of the new Jal Shakti Mantralaya. This bold institutional step has integrated the erstwhile Ministry of Water Resources, River Development and Ganga Rejuvenation with the former Ministry of Drinking Water and Sanitation, and has led to the formation of a single new ministry focused on water with a capital W. This is a major step towards the consolidation of the management of water resources with delivery of drinking water and sanitation — a much-needed step in the direction of ensuring India's water security — as well as a thrust towards the goal of providing safe and adequate piped water supply for all households.

Until now, the institutional landscape for water in India has been somewhat fragmented, with about seven ministries and more than 10 departments having a say on different aspects of water management and use. Not only have these had some overlapping roles and responsibilities, but no single body had the ultimate oversight and authority necessary to resolve conflicting issues and take the necessary decisions. This led to these ministries and departments working in silos. While the Niti Aayog had made a solid start at integrating the sub-sectors of water by creating an integrated water management index and ranking states on this basis, the creation of the new Jal Shakti Mantralaya is a big bang governance reform which will have a permanent and positive impact on integration in the water sector.

Integrated water management in India has never been more relevant than it is today. India is entering water crisis territory, with certain estimates indicating that water demand will exceed supply by a factor of two by 2030 if we continue with a business-as-usual approach. This has the potential of driving economic losses of an estimated 6 per cent of GDP by 2050, and potentially leading to a significant percentage of our population having limited or no access to drinking water. Recent satellite data has also shown that India's taps could run completely dry in the medium term, with cities like New Delhi, Bengaluru, Chennai and Hyderabad completely running out of groundwater.

Some inefficiencies in the water sector have led to challenges with respect to important outcomes such as rainwater storage, and greywater treatment and reuse. Presently, India captures only eight per cent of its annual rainfall, among the lowest in the world. Lack of proper maintenance of existing infrastructure causes further losses of almost 40 per cent of piped water in urban areas. Treatment and reuse of greywater is almost non-existent. As a benchmark, Israel, another country facing severe water shortages, treats 100 per cent of its used water, and recycles 94 per cent of it, meeting more than half of its irrigation needs through this reused water.

In terms of drinking water, while 81 per cent of all habitations are currently estimated to have

access to 40 litres of water per day through some source, only about 18 to 20 per cent of rural households in India have connections for piped water supply. One of the priorities of the new government is to provide piped water supply to all rural households by 2024 in a sustainable manner. The Jal Shakti Mantralaya will also need to promote decentralised, but integrated, water resource management and service delivery, with a key focus on water conservation, source sustainability, storage and reuse wherever possible, by involving the communities themselves, as they are the primary stakeholders. There are important lessons to be learned from the best practices of decentralised planning for water conservation such as in Hiware Bazaar, Maharashtra and the Swajal model of community-based drinking water in Uttarakhand — which need to be scaled up.

In water stressed areas, especially in the designated dark blocks and in areas affected by water quality issues, surface water based multi-village schemes need to be designed, while in groundwater rich areas, single village, groundwater-based schemes with end-to-end source sustainability measures should be encouraged. These schemes also need to have provisions for rainwater harvesting through household or community storage, which can also be used for recharging groundwater. Other local methods of water storage and conservation must also be encouraged. A good example of local approaches to developing infrastructure for storage of water is seen in Dewas district in Madhya Pradesh. Here, through government support to farming communities for building ponds as alternative storage and supply sources, the district has achieved a 6 to 40 feet rise in the water table, even while increasing irrigated area by 120-190 per cent.

Another area of focus for water conservation in each drinking water scheme is developing infrastructure for collection and basic treatment of domestic non-faecal waste-water, kitchen or bathing waste water — also called greywater — which typically accounts for nearly 80 per cent of the by-product of all domestic water. This may be done through simple waste stabilisation ponds, constructed wetlands and similar local infrastructure projects in order to recycle this water for agriculture, the sector that consumes 80 per cent of our water.

Some states, like Gujarat, are leading the efficient use of agricultural water by bringing in micro-irrigation to over six lakh farmers, 50 per cent of which are small and medium ones. The Andhra Pradesh government is also prioritising water efficiency in agriculture, by earmarking Rs 11,000 crore to bring 40 lakh acres of land under micro-irrigation over the next five years. If these measures are combined with reuse of greywater for agriculture, it will result in a significant reduction of demand from our water resources.

Raising awareness and changing perceptions on water also needs to be an important priority. Even today, water is regarded as an infinite resource and is abundantly wasted in many parts of the country, while others suffer drought-like conditions. Behaviour change communication initiatives for both internal and external stakeholders will be critical in changing attitudes towards water. All stakeholders, from state governments to citizens, must be taken on board and a national consensus will have to be built. To that effect, all integrated water management approaches would do well to borrow from the effective behaviour change communication initiatives of the Swachh Bharat Mission, and attempt to create an army of grass roots motivators on water, on the model of the swachhagrahis for sanitation. Initiatives to strengthen the capacity of this field force, sarpanches, and block and district officials are already underway.

This approach of holistic and integrated water management that India is adopting is unique for any large federal country. Just like the country did in the Swachh Bharat Mission, India could lay out a template for other countries on securing national water security by integrating fragmented institutions and making water security everyone’s business.

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