

Save Water To Save Ourselves

Act on four fronts to secure depleting water stock: Policy, infrastructure, behaviour, data

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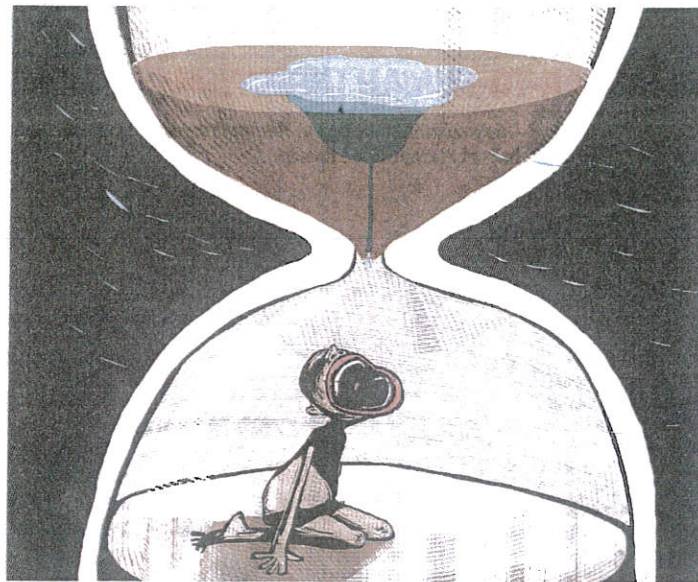
In a recent Mann ki Baat address, Prime Minister Narendra Modi reminded us about this dry season and the need to take conservation measures. This is a good opportunity to take stock of India's big water challenges. Critical groundwater resources – accounting for 40% of our water – are being depleted at rapid rates. Droughts are becoming more frequent, causing distress to rain-dependent farmers.

If nothing changes, and fast, things will get much worse: estimates indicate that water demand will exceed supply by a factor of two by 2030, driving economic losses of 6% of GDP by 2050. The challenges need to be addressed at four levels – policy, infrastructure, behaviour and data.

First, on the *policy* front, our legal framework ties water rights to land rights, reinforcing the perception that water is free and leading to overuse. Placing water on the State List has deepened zero sum thinking among states. Second, our water storage *infrastructure* is inadequate. We only capture 8% of our annual rainfall. Leaky transportation networks cause further losses of almost 40% of piped water in urban areas. And, we recycle less than 15% of used water.

Third, there is little incentive for responsible *behaviours*. Most water is free or highly subsidised, and our water prices are amongst the lowest in the world. Needless to say, a higher price disincentivises excessive consumption. Finally, our water *data* systems are under-developed. Weak data and analytics contribute to inefficient allocations and incorrectly priced water, and discourage innovation.

At the policy level we need an integrated legal framework for surface and groundwater governance to be established, which puts all water rights in the national trust, ie the government retains ultimate ownership and control of water, not the individual. The legal framework should make the Union government a co-equal partner with the



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states in agenda setting, allocation, raising and disbursing funds and monitoring our water resources.

As many experts have suggested, this would mean moving water from State to Concurrent List. Further, scarce central funds should be released based on the performance of states in service delivery, and on a competitive basis like the recent results-based financing system under the National Rural Drinking Water Programme in the ministry of water and sanitation. Niti Aayog's creation of a Composite Water Management Index to competitively measure the performance of states is also an important step.

Serious consideration should be paid to the idea of creating a consolidated and streamlined ministry of water. A National Water Council responsible for coordination and oversight should be set up that resembles the GST Council. These institutions should emphasise an integrated approach in which technical experts, engineers, economists and ecologists come together with representatives from basin-state governments and end users to have a say on water issues.

Water is very much a local issue and the subsidiarity principle of managing it

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at the lowest appropriate level needs to be adopted. 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 need to be emulated and scaled up across the country. The focus on improved efficiency at the decentralised level also needs to be maintained for the agriculture sector, which consumes 80% of our water.

States like Gujarat are leading on this by bringing micro-irrigation to over six lakh farmers, 50% of whom 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.

There is also critical need for a comprehensive water pricing and regulatory regime that reflects the true economic and social cost of water while allowing for drinking water to be priced at an affordable rate. Extensive evidence-based research has shown that there is willingness to pay for improved services by the user, but unwillingness to charge. The latter needs to change.

Infrastructure development for water conservation, ground water recharge and storage is another key priority. Decentralised water infrastructure development approaches should be encouraged wherever possible by involving user communities. A good example 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 6-40 feet rise in the water table, even while increasing irrigated area by 120-190%.

Another area of infrastructure focus is developing a well-spread and functioning network of treatment plants and piping infrastructure treatment of municipal waste water in order to recycle it for agriculture and even drinking purposes. Israel, for example, meets 50% of its irrigation needs through treated municipal waste water.

Raising awareness and changing perceptions on water will require investments in behaviour change communication initiatives to internal and external stakeholders. To that effect, the 'National Campaign for Water Conservation' to be carried out under the ministry of drinking water and sanitation could borrow from the effective behaviour change communication initiatives of the Swachh Bharat Mission.

Recent innovations in data and analytics (eg use of smart chips and remote sensors in pipes and canals to uncover leakages, plan maintenance and repairs) should be leveraged. It is critical to establish a Central Data Platform to monitor and coordinate data on surface and groundwater usage.

Challenges and crises afford the best opportunities for transformative reforms. We must seize the moment in the water sector:

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