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CONVERSATIONS 1: Water Governance

Reforming Governance to Solve India's Water Crisis

Mihir Shah*

As we move into the 21st century, India faces a major crisis of water. This crisis threatens our citizens' basic right to drinking water; it also puts millions' livelihoods at risk. While there is growing recognition both on the ground and among researchers and policymakers about the gravity of the water crisis, what is not adequately understood is the link between this crisis and the ossified structures of water governance in India.

The existing paradigm of water governance is characterised by several features, dimensions, and principles:

1. Command-and-control: Whether it be rivers or groundwater, the dominant paradigm is of command-and-control by large, centralised, decaying bureaucracies. There is no scientific understanding of river systems or their interconnections with the health of catchment areas and groundwater. What has prevailed is accurately described by Ghosh, in this Conversation, as 'arithmetic hydrology'. As Ghosh argues, 'These definitions are clearly bereft of understanding the broader ecosystems and livelihoods concerns in a river basin, and are therefore reductionist on the one hand, and myopic on the other.'

2: Unidisciplinarity and unidimensionality: Since the goal is seen as dam construction and groundwater extraction, the only disciplines evoked are engineering and hydrogeology – that too in their narrowest versions.

3. Silos: We have divided water into silos – groundwater and surface water, as also irrigation and domestic use. There is little dialogue across

* Distinguished Visiting Professor, Shiv Nadar University. He chaired the Government of India Committee on Restructuring the Central Water Commission and Central Ground Water Board during 2015–16. Village Jatashankar, Tehsil Bagli, District Dewas 455227, Madhya Pradesh, India; mihirbhai25@gmail.com

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silos, leading to 'hydro-schizophrenia' – the left hand of drinking water does not know what the right hand of irrigation is doing, and the left foot of surface water does not know what the right foot of groundwater is doing.

4. Supply-side focus: The entire focus has been on augmenting supplies; little attention has been paid to managing water demand.

5. No reference to sustainability: Sustainability is rarely a consideration; this oversight endangers the future of both groundwater and river flows.

6. Discrimination and lack of equity in access to water: Historical forms of discrimination combine with the impact of growing economic inequalities to create severe discrimination in access to water on grounds of caste, class, gender, location, and community.

7. Lack of transparency and access to water information: Needless secrecy of water data and information and restricted access for researchers and stakeholders over the years has compromised the quality of water management and exacerbated conflicts.

8. British common law: The legal framework governing water belongs to 19th century British common law, which legitimises and perpetuates inequity in access to water by giving unlimited powers of drawal of water to owners of land.

This outmoded governance architecture has not kept pace with either emerging realities or the growing scientific understanding of water, which attempts to embrace all the scientific disciplines necessary for truly comprehending water. The Central Water Commission (CWC), set up in 1945, and the Central Ground Water Board (CGWB), founded in 1971, and their counterparts in the states continue to operate unreformed. Civil engineers at the CWC and state irrigation departments have little clue regarding the management of irrigation systems, which require a different set of skills and operating culture. The story at the CGWB and state groundwater departments is similar. Populated with hydrogeologists, they were created in a different era when the imperative was the construction of tube wells. But the current situation is very different from that of 40 years ago.

Most areas in India today face a severe groundwater crisis and the challenge is of participatory groundwater management (PGWM) and participatory irrigation management (PIM), as successfully pioneered in some states. Today, many states have blazed the trail in which illustrates the direction in which we need to reform water governance in India.

The single most important factor of drying post-monsoon flows in India's peninsular rivers is the over-extraction of groundwater. Drying baseflows of groundwater have converted many of our 'gaining' rivers into 'losing' rivers. Without taking a unified view of surface water and groundwater, and understanding their interconnections at the river basin level, we will not be able to save our rivers. Not only must civil engineers and hydrogeologists work together, they also need to work closely with professionals from many disciplines, including the social sciences, management, agronomy, ecological economics, and river ecology. This has been correctly underscored by Ghosh in his contribution to this Conversation.

With this in mind, it has recently been proposed to the Government of India that the CWC and CGWB be merged to create a multidisciplinary national water commission (NWC). It should operate in a decentralised manner within each of India's major river basins (Committee on Restructuring the CWC and CGWB 2016). As Arthington emphasises in this Conversation, 'Environmental flow requirements vary with location along a river, from river to river, basin to basin and region to region, depending on climate, hydrology, geomorphology and landscape characteristics, as well as the social-ecological characteristics of the river basin.' This has to become the guiding principle of the NWC. The NWC must build, institutionalise, and appropriately manage an architecture of partnerships with knowledge institutions and practitioners in the water space. The water challenges of India are too large and complex to be left to the government alone.

Simultaneously, we need a national water framework law (NWFL), which enunciates a series of principles and practices that all states must sign up to. The recently drafted NWFL of the Ministry of Water Resources, Government of India provides an essential corrective to British common law and builds upon the public trust doctrine enunciated by the Supreme Court whereby the state, at all levels, holds natural resources in trust for the community. This would ensure that no one's use of water would deprive anyone of the right to water for life as defined under the NWFL.

Unfortunately, over the past three decades, not merely in India but across the globe, reform has come to connote a policy shift in the direction of privatisation and a reduction of the state's role in the economy. Such a narrow view fails to understand that each sector of the economy has some very specific features and reform needs to be defined with reference to these *differentia specifica* of each sector. The state's role remains critical in many instances, but this role itself needs profound reform.

A key element of the reform needed in the governance of a natural resource like water is the recognition that the economy is but a small part of the

larger ecosystem, and proceeding with an inadequate recognition of this fact and a narrow notion of economic development can only lead to disastrous outcomes, as evidenced by the fate of the planet currently in this age of the Anthropocene.

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