



Investing in Water Infrastructure

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With 2.4 percent of the world's landmass and 4 percent of its renewable water resource India cannot complain of being water deficient. But overpopulation means that the per capita availability of water in India is very low. The Ministry of Water Resources estimates that by 2025 India will become 'water stressed' and by 2050 'water scarce', which means that its per capita water availability will fall below 1000 cubic metres. Besides, India gets 80 percent of the precipitation in 3 to 4 months which implies that despite a healthy average annual rainfall of 110 cm requires meticulous management of water is needed to make it available all the year round and be equitably shared. Proper storage and distribution are critical for this as, is the need for water treatment to augment supply and provide clean water.

Investment in the infrastructure for water management has to be taken up as the nation's highest priority. It is more important than, say transport or energy, and can in fact augment both. Reservoirs

can be used to generate electricity in the hills and canals can serve as waterways. Environmentalists fret over their environmental and social impact. These concerns have to be taken into account and addressed with proper planning, but they should not be allowed to block projects. The consequences of not investing in water infrastructure will be disastrous.

Rainfall brings about 4000 billion cubic meters (BCM) of water but despite about 3600 large dams and several more small ones the live storage capacity is only 253 BCM. The average storage capacity in India in rivers is about 30 days, as against 900 days in Colorado River in the United States and the Murray-Darling basin in Australia. While some of this can be attributed to India's geographical conditions, most of it due to inadequate allocation of resources and other hurdles. More storage is required in all rivers, particularly in the Himalayas and the Western Ghats where the rainfall is high and the mountainous terrain is ideal for ponding. The reservoirs in the Western

Ghats can be used to feed the rivers flowing in the rain-shadow areas to the east.

The replenishable ground water is estimated at 432 BCM but the water table has dropped in many parts of the country and continues to fall. Siltation of lakes, draining of swamps and loss of green cover are hindering the replenishment of ground water and global warming is shrinking glaciers, the lifeline of the Himalayan Rivers. Check-dams are very effective in replenishing ground water. Some villages have done it successfully. These need to be replicated across the country so that rainwater does not go waste and there is popular participation in water management.

While creating reservoirs and replenishing ground water are important, water treatment and recycling are critical. Overuse of fertilisers and pesticides in agriculture and untreated industrial waste and urban sewage have degraded the quality of water in our rivers to pathetic levels. Namami Ganga is the largest river cleaning project in India. This Rs 20,000 crore plan launched in 2015 to be implemented in 5 years follows several equally ambitious schemes going back to the mid-1980s. A CAG report in 2017 found that only 63 percent of the funds had been utilised in the first three years and most projects were delayed. In 2015, the National Water Mission estimated that of the 62,000 million litres of sewage generated per day (MLD) in urban areas there was treatment capacity only for about 23,000 MLD. It is no wonder that most rivers are highly polluted and several are now referred to as nalas.

Ensuring availability and sustainable management of water and sanitation for all is Goal No. 6 of the Sustainable Development Goals. This is not merely a desirable development goal but an essential requirement for survival. Cape Town in South Africa may be the first major

city in the world to run out of water by April if there are no rains. In India Latur faced a similar crisis some years ago and had to be supplied water by trains. Water shortages will cause fall in agricultural output and lead to destabilising migration.

Both the national and international legal frameworks create an uncertain environment for investment in water. Water is a state subject under the Constitution. The National Water Policy of 2012 had identified the need for a national legal framework for water management but a draft framework bill is languishing since 2016. Inter-state river water disputes take years to resolve in courts. A permanent tribunal for this purpose has been mooted but is still just an idea.

International agreements on sharing the water of international rivers for consumptive use are rare. The UN Convention on Non-Navigational Uses of International Watercourses was negotiated in 1997 and came into force in 2014, but only 36 countries have ratified it. Neither India nor China has done so. Upstream dams on the Nile in Ethiopia have created a rift with Egypt. In Afghanistan, the Salma dam is being protested by Iran. Syria and Iraq dispute dams built by Turkey. For India, the dams being built by China in Tibet to divert waters to the north will seriously impact the flow of water in the lean season. India is the middle riparian in some major rivers but while it has water sharing agreements with its lower riparians, Pakistan and Bangladesh, China refuses to talk either with India or with the countries of South East Asia with whom too it shares rivers. Reduced flow from Tibet will mean that India will have to depend solely on its monsoon rains and will have to invest in the infrastructure to ensure storage and distribution. There are reasonable grounds to fear that in this century water will be a major cause of wars.

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