Water Management in India :Towards evolving a relevant approach

Richa Prasad Ranade
Dept of Political Science, SMCC Govt College, Rajasthan, India

Abstract

Natural resources are fundamentally characterized by their limited availability. With burgeoning population globally and more-so in India, the demand-supply gaps are a chronic problem that every one faces. Managing these imbalances has therefore, become and will always remain a critical area of concern for all. Net additions to the availability of infrastructure has positive macro impacts and go a long way in contributing to rapid GDP growth alongwith equitable distribution of oppurtunities and increase in societal welfare. It also enables the achievement of sustainable growth and development of the country resulting in robust macro-economic parameters as measured by the Human Development Index and the achievement of Millenium Development Goals.

It has been observed that this infrastructure–economy interdependency can be enhanced through an approach of increased budgetary allocation alongwith creating and providing an enabling environment for effective public-private participation to enhance availability, delivery and quality of infrastructure services. Infrastructure put in place specifically for water resource management (supply, harvesting etc) therefore needs to be prudently structured for maximum benefit.

Integrated water management despite being the key to the ever widening demand-supply gaps needs to be tuned to increase its efficiency wherin a holistic approach of public policy, implementation, people participation and private participation are all actively involved.

This paper attempts to take stock of the evolving water resource management scenario and thereby look for practical solutions wherever necessary to fine-tune strategy and approaches currently undertaken in water management.

KEY WORDS: Integrated Water management, demand-supply mismatch, community participation

Introduction

Natural resources are fundamentally characterized by their limited availability. With burgeoning population globally and more-so in India, the demand-supply gaps are a chronic problem that every one faces. Managing these imbalances has therefore, become and will always remain a critical area of concern for all. Net additions to the availability of infrastructure has positive macro impacts and go a long way in contributing to rapid GDP growth alongwith equitable distribution of oppurtunities and increase in societal welfare. It also enables the achievement of sustainable growth and development of the country resulting in robust macro-economic parameters as measured by the Human Development Index and the achievement of Millenium Development Goals.

Problem revisited

Prima-facie, the problems of water could be analysed from the perspective of demand –supply mismatches. Growing population across the country and rapid urbanization have contributed to exacerbate these mismatches. These alongwith the existence of poverty and regional imbalances in growth in development complicate the issue and therefore, any related policy responses and their impact.

In India, water availability and its regional dispersion is quite skewed and with a rapidly increasing demand component, the per capita availability falls at a rapid pace - 5,000 cubic meters per year in 1947 to less than 2,000 cubic meters per year in 1997 (World Bank 1999)). This is expected to further worsen over time to come. By 2025, this figure will fall further to 1,500 cubic meters per year. With estimates for population growth indicating a doubling in the next twenty to forty years, overall water demand in India will increase from 552 BCM to 1050 BCM by 2025, which will require the use of all the available water resources in the country (World Bank 1999). Food production in India and the world has to be almost double in the next 25 to 30 years, and our water resources will not be adequate. In addition, it is observed that six of India's twenty major river basins fall below the water scarcity threshold of 1,000 cubic meters per year, with five more basins to be added to the list within the next three decades (World Bank 1999).

Of the present water usage, 92% is devoted to agriculture, with roughly 3% used in industry and only 5% for domestic purposes like drinking water and sanitation (WRI 2000). With India expected to grow at 8-10%, the demand from the industrial and domestic sectors is expected to increase with the growing population, urbanization and industrialization and water which is now being used for agriculture will be diverted to urban and industrial use resulting in a tremendous competition and increasing conflict for and over water.

The reliance for water is primarily monsoon centric and where inadequate, surface water (primarily rivers) and groundwater resources are being tapped. This pressing need for water upsets the subtle balance of demand and supply, one which policy options find difficult to manage. Water resource management has been the purview of the State pre and post independence and communities and households are no longer the primary agents of provision and management, thereby leading to manifold problems:

- Total dependence and monopoly of the state for any kind of water provision
- Most of India's river basins are degraded
- Large dams are the major source of water storage, and canals are the major distributory route. The former have caused large-scale community displacement and ecological havoc. The latter, large-scale degradation of land via soil salinisation.
- Groundwater resources have been heavily over-used.

Therefore, in terms of quantity and quality, water provision has been affected interminably and leading to chronic drought like situations in most parts of the country, with the onus of the creation lying squarely on continued government control and no community participation. Despite this India's new National Water Policy 2002 emphasises continued government control over water resources, ignoring pleas by environmental groups to involve local communities in order to overcome looming

shortages. Resultantly the role of water management assumes great importance and significance.

India has over the last 50 years spent $50 billion on developing water resources and another $7.5 billion on drinking water with little to show for the money - much of which was siphoned out through a corrupt contractor system. Apart from big dams and irrigation systems, the government has encouraged the digging of millions of tube-wells and bore-wells that now provide half of the country's irrigation, resulting in a dramatic lowering of the water table across the country. Groundwater in states that have taken to intensive agriculture under the so-called Green Revolution of the '70s are now turning brackish or are ridden with fluorides or arsenic. By 1991 a review of the irrigation sector by the World Bank showed that one of the world's largest irrigation investments was performing unevenly and far below potential, mainly because the focus was on construction of new projects rather than management of existing ones. This is expected to be financially unsustainable and infrastructure will be physically unsustainable due to declining construction and maintenance standards. As the World Bank noted, the situation is compounded in some areas by environmental degradation.

Approaches to water management

A fast deteriorating water and environmental scenario, requires that the ever increasing demand supply mismatches are tackled in a crisis management mode and not left to the standard slow-moving bureaucratic and state centric approaches, with slow, little or no perceptible impacts felt.

Traditionally, water resources have not been managed efficiently and effectively. Increasing competition and conflict over water, has time and again emphasised the role of proper management but with the state in a natural monopoly role, this is hardly ever put into practice. The call of the times therefore is to explore innovative approaches to the management of water resources.

It has been observed that this infrastructure–economy interdependency can be enhanced through an approach of increased budgetary allocation alongwith creating and providing an enabling environment for effective public-private participation to enhance availability, delivery and quality of infrastructure services. Infrastructure put in place specifically for water resource management (supply, harvesting etc) therefore needs to be prudently structured for maximum benefit.

Integrated water management despite being the key to the ever widening demand-supply gaps needs to be tuned to increase its efficiency wherin a holistic approach of public policy, implementation, people participation and private participation are all actively involved.

Traditional water management as pointed out earlier relied heavily on the fact that water was a social good and not a private good and hence its management was the prerogative of the state sector as a natural monopoly. However, with inefficiencies and rampant corruption, it’s a mockery of management. Privatisation is often resorted to tide over fiscal inadequacies resulting from mis-management but its merely a face saving exercise and does not serve any fruitful purpose. Exclusion of the very

segment of population that needs the provision of water most through non-differential pricing beats the entire purpose of equitable distribution of this essential human service. Essentially, therefore removing the anomaly of treating surface water as a public and ground water as a private good needs to be rectified prior to any privatization effort as this will help provision free of exclusion.

A major consequence of water shortage is manifested in terms of the development of a large industry of water vending by small entrepreneurs. The World Bank has given financial aid for the development of such a class of private enterprise to facilitate privatization efforts of water but sadly such activity has been instrumental in further increasing the exploitation of scare groundwater resources and hence regulation of ground water resource exploitation is much awaited. While the aid agencies promote water-vending and privatisation, government's apathy in setting up stringent groundwater regulations leaves a convenient loophole for entrepreneurs. Though legally there are no de jure rights to groundwater, de facto all landowners literally own the groundwater under their land.

Over-exploitation of groundwater has been limited to agriculture until now, but the emerging commercial dimension is laying additional stress on the already dwindling groundwater reserves in the country. Thanks to the World Bank-triggered water sector reform process, trade in water has now been legitimised to such an extent that water utilities in the public domain are switching to profit-making water supply systems, absolving itself of the primary duty of servicing the poor and excluding them.

Over a period of time the so called privatization effort of the multi-lateral institutions like the World Bank have veered considerably from ideological rigidities to pragmatism. The roll-out of privatization of water utilities as an alternative to government mismanagement, has now been increasingly focused on a management contract basis rather than pure privatization as an innovation for private provisioning without excludability of particular user segments and accompanied by accountability and transparency. While this seems like an easy way out yet a lot of issues need to be addressed before such privatization efforts are undertaken. Governments are being prodded into guaranteeing political and sovereign risk and the track record has indicated the monopolization of water provisioning through large MNC entries. NGO and civil society groups have cautioned that rather than presuming public sector inefficiencies and mismanagement it would be better to think of how to reduce this rather than rampant privatization as a sought after goal.

All of the above indicates very little participation of the community, the entity that consumes the resource itself and who despite his right to have water has not control over its provisioning or its pricing. Community participation in India is a new approach advocated by a lot of NGO’s and civil society organizations. It calls for education of the community, the important stakeholders in the entire effort of effective water resource management. The logic behind this approach is that since supply is essentially natural with little control on its availability and distribution, then reducing and rationalizing consumption patterns itself could lead to water conservation and sustained availability. The National Water Policy, 2006 though ends with the recognition of the need for enhancing and harnessing community participation yet is not emphatic enough to highlight the role it can play in water

management methodologies. Integrated water management without a role for community participation is bound to fail in the coming times.

Closing remarks:

Despite the situation looking and turning grim day by day, yet the very fact that people have become conscious of it indicates a ray of hope. However, all efforts to sustainable water provision will come to a naught if caution is not exercised in using privatization as a possible approach for equitable distribution of water. Moreover, without community participation no effort can succeed and will be doomed in its very inception.

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