24x7 Water Supply

Improving the distribution network

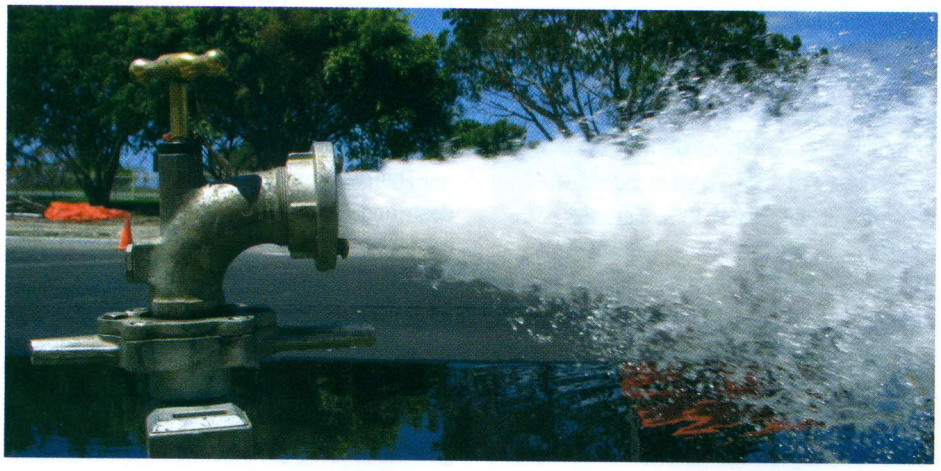
The concept of 24x7 water supply has garnered significant interest in India. Unlike previous attempts that were focused on merely providing access to water supply, urban local bodies (ULBs) are now focusing on delivering continuous water supply to every consumer throughout the day. This involves rehabilitating the distribution network, metering of connections, reducing non-revenue water (NRW), and introducing volumetric tariffs.

Over the past decade, a number of ULBs have implemented 24x7 water supply projects in pilot zones before scaling up. Most of these projects have been undertaken as performance-based management contracts with a private player. Under this type of contract, the public authority appoints a private contractor to manage all water operations, including the laying of distribution pipelines, installation of meters, collection of user charges, as well as operations and maintenance (O&M) of infrastructure. The bulk of the commercial risk and all the capital and investment risks remain with the public authority. On the other hand, there are also projects like the Malkapur and Amravati 24x7 water supply systems that are purely public sector projects.

Industry experts, however, are divided on the need and relevance of 24x7 water supply. Some believe that such a system has several benefits including continuous high quality water supply, low operational cost, reduction in NRW, metering of connections, and less storage requirement. Rishabh Sethi, executive director, SPML Infra Limited, highlights the significance of 24x7 water supply: "Providing 24x7 water supply is a basic need which is a norm in the developed world. Round-the-clock water supply actually reduces water usage as people don't store and waste water. In addition, continuous water supply also reduces energy consumption at the household level." Another school of thought argues against the concept due to the problem of growing cities, high percentage of poor population, wastage of water, abrupt increase in water charges and higher costs of implementation of such projects.

Experience so far

Initial attempts to encourage 24x7 water supply were made in the mid-2000s. After much debate on whether India needs 24x7 water supply or not, the first demonstration project was initiated in 2005 in three cities of Karnataka – Belgaum, Hubli-Dharwad and Gulbarga. The demonstration zones of the three cities faced acute water shortages, NRW levels of over 50 per cent, intermittent supply, etc. The project, however, attracted widespread criticism and protest from citizens, particularly on the fear of a sudden increase in water tariffs and transferring of water services to a foreign company.



The concept of 24x7 water supply came into focus in 2008, when the demonstration project in Karnataka commenced operations. In the demonstration zones, new water distribution pipes were brought into service, full metering was implemented, and the level of NRW reduced to around 7 per cent. The civic authorities conducted a massive awareness campaign as part of the project, which included door-to-door visits by ULB officials. Also, NGOs were roped in to assist in the campaign. Better quality and pressure of water, reduced consumer complaints, improved revenue collection and provision of 24x7 water services at subsidised rates for the poor made the case for 24x7 water supply in India.

In the late 2000s, a number of pilot projects in the cities of Malkapur, Amravati, Khandwa, Shivpuri, Badlapur, etc. were awarded. Citywide 24x7 water supply projects were also awarded – in Nagpur and Mysore. Most of these projects were awarded on a public-private partnership (PPP) basis with partial funding from the public partner. The revenue source for private operators in these projects comprised a number of variable components. These included management fees based on the operator's performance, which is measured on parameters such as number of connections, revenue improvement, leakages, and metering of connections. The used charges collected from consumers, which was the main source of revenue for the private operator, were fixed by the ULBs.

Initially, these projects faced delays due to lack of information on existing network facilities, and faulty project designs, which in turn resulted in cost and time overruns. In the case of the Khandwa 24x7 water supply project, a private operator was engaged to build a 60 km distribution network. During project implementation, the required length of the distribution system was found to be 192 km, affecting the project's viability. Moreover, the