

Private Sector Participation in Water Supply and Sanitation in Urban Areas

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ABSTRACT

The private vs. public debate is largely misleading for two main reasons. First, the obstacles to water and sanitation infrastructure development are largely unrelated to ownership. Private sector participation brings to light the tensions that the development of water infrastructure generates, tensions that remain largely hidden when infrastructure is kept closely in the public sector. In that sense, most recommendations to optimize private sector participation, including the OECD Principles, remain relevant tools to facilitate infrastructure development projects regardless of the partners.

Keywords: Water Management, Sanitation, Private vs Public Management, Sustainable Development

Safe water is essential for sustenance of life. It is needed in the household for drinking, cooking and cleaning besides bovine, agriculture and horticultural needs. Almost 100% of coverage in both water supply and sanitation, although recommended by the environment hygiene committee, as early as in 1949, is yet to be achieved. The variation in the per capita water supply ranges from 9 to 584 liter per capita per day (lpcd) in urban areas and 5 to 70 lpcd in rural areas. The ninth plan strategy to have 100% coverage in sustainable water supply ensuring adequacy in terms of minimum per capita norms is yet to be translated on to the ground.¹ The water supply management issues are more critical. Widespread dissatisfaction among consumers is the result of improperly managed water supply systems, where people are forced to resort to alternate means of supplementary sources for collection of water. It is so because 17 to 44% of total flow in distribution system is lost due to leakage.² Potable water and adequate sanitation facility

¹Bhavanishanker, B.S.: Water management in India. Monorama Year Book 2005 pp. 30-52.

²*Ibid.*

undoubtedly reduce spread of diseases. Chances of contamination in urban water supply need to be reducing by adopting preventing measures. In this paper I have to try to analyze the option of private sector participation in this sector. As known, public bodies generally suffer from problem of crisis, private sector participation can fill up the gap to ensure proper water supply and sanitation. Various models and option are analyses in this paper.

Urbanization in India

The world population living in cities is growing steadily. This is remarkable in developing countries where urbanization process create a landscape configured by networks of mid-sized cities and growing number of 'plus million cities' that pose unprecedented challenges to local governments. Additionally global and regional economic development processes are affecting the viability and

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competitiveness of local economics that ultimately challenges the future of urban agglomerations as a place to live, work and leisure. Process of urbanization has been more in the lesser urbanized countries and is expected to accelerate in the future. In India, growth of urban population during the past decade indicates higher growth for metrocities. Over the next 40 years, India will overtake China and become the most populous country of the world. Although the rate of urbanization in India has been quite moderate during this century, due to low level of urbanization and a large population base, there has been a rapid growth of urban population and it has been doubling itself every 20 years.

The trend of rapid urbanization has resulted in urban economic activities making up an increasing share of GDP in all countries. Urbanization in India too has been a catalyst for economic growth. In 1950-51 urban India contributed to 29% of India's GDP, which had reached 47% 1980-81, 55% in 1990-91 and is expected to grow more. Access to adequate levels of urban infrastructure presents a major constraint to improved urban productivity and also directly affecting the physical environment and the quality of the citizens and thus the productivity and efficiency of cities. However recent changes have initiated a new look at these issues due to constraints and limitation in public sector financial investments, many technological and organizational innovations at both the policy and the project levels. At the policy level an important opportunity to face the challenge of rapid urbanization is presented by the surge towards decentralization adopted by governments throughout the world. In India, the government had taken a very significant step by 1992, by passing the 73rd and 74th constitutional Amendment Act thereby transferring many administrative and financial powers to local bodies. This makes urban local bodies the most important functionary in the provision of the urban services.

Water Supply and Sanitation

Water forms the lifeline of any society. In India, in spite of substantial emphasis on the water supply sector, as of 1991, about 85% of the urban population had access to safe drinking water. Though the coverage of water supply is this much, the level of service is very poor. While the government norms for urban supply of water is 140 liters per capita

per day (lpcd), no Indian city comes near the target, the supply ranging from a low of 20 liters per capita per day to high of 80 liter per capita per day. According to ADB study on water availability, cities face the problems of water loss through pilferage and leakage.

Sectoral Responsibility

The federal constitution of India provides for water supply and sanitation as a state subject and, therefore, the states are vested with the constitutional right on planning, implementation and O&M including cost recovery of water supply and sanitation project. At the local level, the responsibility is interested by legislation to the local bodies like Municipal Corporation, Municipality, Municipal Council, Notified Area Committee / Authority as the case may be, for towns or on a state/regional basis with specialized agencies. The central government, Ministry of Urban Development and Poverty Alleviation formulate policy guidelines and provide technical assistance wherever needed. The expenditure on water supply and sanitation is met out of block loans and grants provided as planned assistance to the states, and out of loans from financial institutions like Life Insurance Corporation (LIC) Housing and Urban Development Corporation (HUDCO).³ The central government also acts as an intermediary in mobilizing external assistance in the water supply and sanitation sector and routing the assistance via the state plans. The ULBs in general suffer from inadequate finance and more particularly from lack of qualified technical personnel. Therefore, in spite of the technical guidance provided by the specialized departments like Public Health Engineering Development (PHED) and Water Supply and Sewerage Development (WSSB), the local bodies, especially the smaller ones, have not been able to operate and maintain the systems with the desired efficiency.

The traditional approach of funding investments in urban infrastructure through public grants and budgetary supports are grossly inadequate to meet the need of the sector. Therefore, urban organizations have to look for alternative sources for funding from financial institutions and municipal

³ Chaterjee, Sumit: Status of Urban Water Supply and Sanitation in India - Challenges ahead Indian, Journal of public Administration Vol. XLIX, No. 3, July - September, 2003 pp. 381-404.

bonds which are available at competitive costs. In order to access these funds, there is a need to develop commercially viable urban infrastructure projects which are bankable just like any other commercial projects. In addition, savings in the operation and maintenance of the services can be achieved and private sector participation (PSP). It can also improve operational efficacy, bring new technology and improve customer satisfaction,

Responses of Government

In 1992, the Government of India (GOI) enacted the 74th constitutional amendment, which called for the decentralization of certain powers to urban local bodies (ULBs). This act recognized ULBs as the third tier of government. The constitutional amendment is designed to improve the financial and administrative management of ULBs and increase the urban sector resource base through improved taxation, user charge collections and efficient rule based transfer of resources to replace the former discretionary and unpredictable system. The governance of urban local bodies assume importance with adoption of the 74th Constitutional Amendment Act, which proposes to address issues raised with regard to the level of services delivered by the local bodies, through active participation and involvement of citizen groups, voluntary organization, academic institutions and corporate bodies. The Ministry of Urban Development and Poverty Alleviation (MOUD & PA) prepared a Model Municipal Law (MML) in 2003.⁴ This law will enable introduction of various municipal reforms such as entrusted powers to elected council through formation of Empowered standing committees; setting up of ward committees; enhanced internal revenue generation capacities; improved financial accounting and management, issuance of municipal bonds, involvement of private sector participation in delivery of service; preparation of annual environmental and subsidy reports, and setting up state municipal regulatory commission. Based on MML, state governments can change the existing municipal acts. Government of India has recognized infrastructure as an essential element of the development process. It set up in 1994 the expert group on the commercialization of infrastructure,

⁴Vaidya, Chetan: Private Investments in Urban Water Supply and Sanitation Sector in India Indo-USAID FIRE Project-2003, pp. 1-9.

often known as the Rakesh Mohan Committee. It recommended private sector participation (PSP) in urban infrastructure development and in the accessing of capital Markets, including the issuance of municipal bonds (GOI, 1995). Most stage government have now accepted PSP in delivery of urban services.

Commercial Viability

Urban centers performance as engines of Economic growth are facing problem because of urban infrastructure bottlenecks. Huge investments are required in urban infrastructure. Resources of this magnitude are unlikely to be available, there by increasing public health problems relating to inadequate water and sanitation services. Innovative financial mechanisms are therefore required to increase investments in this sector. These increases can be achieved by accessing capital markets and financial institutions. However, this will require a discipline of commercial viability and development of bankable projects with efficient project management systems. In this perspective, commercially viable projects would essentially be those which would be able to raise resources from the capital and financial markets largely on the basis of revenue streams from specific service linked user charges and dedicated sources (such as property tax and octroi) [Mehta & Satyanaranana, 1995]. Commercial viability requires that there is (a) adequate rate of return as investment; (b) appropriate institutional structure; and (c) a risk assessment and mitigation plan (Mehta & Satyanarayana, 1995). Moreover, project development in a commercial form is a very complex and time-consuming process and requires dedicated political and administrative leadership.

Private Sector Participations Options

Various options for PSP in the sector are in function. The main can be distinguished by how responsibilities are allocated regarding ownership of assets and capital investment (Brook Lower, 1998). The responsibilities that are given to the private sector the greater will be its incentives to operate services better. The main option PSP options with corresponding allocations of responsibility are presented in table 1.

Table 1: The Main option PSP- water & Sanitation⁵

Option	Asset	Operation & Maintenance	Capital ownership	Commercial Maintenance	Duration Investment (Years)
Service contract	Public	Public & private	Public	Public	1-2
Management Contract Lease	Public	Private	Public	Public	3-5
Build operate Transfer (BOT)	Private	Private (bulk services)	Private	Private	20-30
Concession	Public	Private	Private	Private	25-30
Diverstiture	Private	Private	Private	Private	Indefinite

Source: Brook Corowen, 1998.

In practice, the PSP approaches are often a combination of described models in the table. For example, a public agency may involve as private agency in construction of a new water supply treatment plant on a BOT basis, whereas the existing

system may be operated on a management contract basis.

For successful implementation of different PSP options, an analysis of various preconditions is necessary. These include: stakeholder support and political commitment, cost recovery and pricing, information base about the system, regularly framework and credit rating of the agency.

Private Sector Participation Project in India

A number of options have emerged in PSP in the financing and management of urban services in India. Seven option have been identified in India: (a) Service contract (Chennai), (b) Local body financing through Municipal bonds and other source and implementation with private project management consultant (Ahmedabad), (c) Joint sector company to implement and finance the project (Tiruppur), (d), fixed price and fixed time contract with local body finance and a management contract for O&M (Pune) (e) BOT contract (Banglore), (f) Construction cum-BOT (Alandur), and (g) Concession (Karnataka towns).⁷

Table 2: Pre-requisites for successful implementation of Different PSP⁶

Option	Stakeholder Support & Political Commitment	Cost - recovery Tariffs	Good Information about the System	Development Regulatory Framework	Good Credit Rating
Service Contract	Not Important	Not necessary in the short term	Possible to proceed with only limited information	Minimal Monitoring capacity needed	Not necessary
Management Contract	Low to moderate levels needed	Preferred but not necessary in the short term	Sufficient information required to set incentives	Moderate monitoring capacity needed	Not necessary
Lease	Moderate to high levels needed	Necessary	Good information required	Strong capacity for regulation and coordination needed	Not necessary
Build- Operate Transfer	Moderate to high levels needed	Preferred	Good information required	Strong capacity for regulation/coo rdination needed	Higher rati8ng will reduce costs
Concession	High levels needed	Necessary	Good information required	Strong regulatory capacity needed	Higher rating will reduce costs
Divestiture	High levels needed	Necessary	Good information required	Strong regulatory capacity needed	Higher rating will reduce costs

Source: Brook Crown, 1998.

⁵ibid

⁶ibid

⁷Vaidya, Chetan: Capacity building at local level in response to private sector participation in urban infrastructure sector in India. *Spatio-Economic Development Record* Vol. 6., No 1 Jan-Feb 1999, pp. 26- 30.

(a) Chennai Metropolitan Water Supply and Sewerage Board

Used service contract for public private partnership by giving out 70 out of the 119 city sewerage pumping station to private contractors for operation and maintenance. The system is working well, resulting in an increase in the contract period from one to three years. The Board gave service contract for O&M of the two sewerage treatment plants too.

(b) Ahmedabad water supply and sewerage Project

The estimated cost of the project is ₹ 4,900 million and its structure within an urban finance framework. Ahmedabad Municipal Corporation (AMC) is implementing this project through 50 contracts and it has appointed a private project (programme) management consultant to supervise and coordinate the construction. The AMC accessed the capital Market in January, 1998, with a bond issue of ₹ 1,000 million to finance part of the project. This was the first public issue from a municipal authority in India without the state government guarantee.

(c) Tiruppur Area Development Project (TADP)

This city with a 3.5 lakh population produces over 75 per cent of the country's Knitwear Exports. The Tiruppur Exporters Association, Supported by the state and Local government, decided to involve the private sector participation, the New Tiruppur Area Development Corporation, was formed to implement the project. It is the first of its kind in India and will provide water to the industrial and domestic consumers.

(d) Pune Water Supply and Sewerage Project

Total estimated cost of the Pune water supply and sewerage proposed project was ₹ 735 crore and was to be implemented through an integrated turnkey construction contract within a fixed price and time format. It was proposed to have a five years management contract for the billing and collection of water charges in one third of the city. Pune Municipal Corporation was to arrange for financing the construction through its internal resources, grants from the state government and debt from various financial institutions. However, the corporation decided not to implement the project through private sector participation.

(e) Bangalore Bulk Water Supply Project

The Bangalore Water Supply and Sewerage Board (BWSSB) has proposed to implement the Cauvery Water Supply Scheme state IV (Phase 2), which will provide bulk water of 500 million liters per day to the city, on a BOT basis. The selected private firm will be responsible for construction and O&M of source, treatment as well as transmission of bulk water supply system over a long period (25 to 30 yrs.)

(f) Alandur Sewerage Project, Tami Nadu

Used a construction contract for a 120 km sewage collection system, whereas the treatment plant of 24, MLD is with a BOT contract. Investment for the treatment plant and recover it over a period of 14 yrs. The local body will recover the costs through a combination of sewerage tax, sewerage charge, connection charge, general revenues and support from the state government.

(g) Karnataka Urban Water Supply and Sewerage Board

The Karnataka Urban Water Supply and Sewerage Board (KWSSB) has entered into a memorandum of understanding with the Angalian water company a U.K. based company, to participate in O&M and augmentation of water and sewerage systems in four cities of the state, namely Belgam, Hubli-Dharwad, Mysore and Mangalore. This participation is expected to be implemented through 20 to 25 years concession contract. The private company will first reduce unaccounted for water and improve operation efficiency. It will also arrange for financing new investments in the services.

(h) Navi Mumbai Municipal Corporation

Core Municipal Services are managed by the Private sector on a labour contract basis. Of the 42 contracts in operation, 19 performances - based services (PBS) contracts were prepared for managing the water distribution system and one for the transmission system. This was to increase the efficient operation of the system, and take specific steps to maximize the water billed, reduce leakage, detect illegal use of water, and take steps to minimize power consumption. The scope of work included systems operation, operation based on schedule of rates, water audit, energy audit, repairs and maintenance

and advice. The contract envisaged provision of service for three years with annual performance reviews.

(i) Jamshedpur Utiliteis and Services Company (JUSCO)

A wholly owned subsidiary of Tata Steel was formed in 2003 to provide and maintain urban service in the city. This private company provide very good urban services including power to its 7 lakh population. It entered into a management contact with Velia, a French company for O&M of water supply and sewerage services. This model is completely privately owned and not replicable model in near future.

Need for a New Approach

The initial focus of new investments in this sector has been on provision of bulk water supply. However, BOT projects often do not address problems of existing water supply and sanitation systems such as high unaccounted for water, higher expenditure on energy and low cast recovery. Adding more bulk supply without improving existing distribution systems will further increase proportion of unaccounted for water and energy consumption leading to additional financial burden on the urban organizations. Therefore, there is need for a new paradigm for encourage PSP in water and sanitation sector in India. The focus must shift from bulk water supply to improved management of existing systems. A PSP can first help top improve operational efficiency of existing systems through controlling leakage, improving billing and collection and energy savings. Improvements in the Existing systems, as against large bulk water projects, can be initiated with small investments and have big pay off.

Areas for Capacity Building

The process of developing urban projects in a commercial format is a relatively new trend in India. Unlike conventional projects, this type of project development requires considerable efforts in project documents, developing institutional arrangements for projects structuring, getting approvals, financial structuring, selection of contractors and management of project implementation.

(i) Role of Government

The role of the government has to change from provider of the services to facilitator in developing the system. Strong administrative and political support from the urban local body is necessary to successfully implement an urban infrastructure project with PSP.

(ii) Encouraging Local Leadership

Successful implementation of commercially viable projects require continuous leadership and involvement of the local community.

(iii) Regulatory Framework

There is need to develop a state level regulatory framework for the level, quality and price of the service provided as well as criteria and rules for PSP in the water supply and sewerage sector.

(iv) Appropriate Pricing

This is the most crucial issue for urban local bodies and the utility bonds. Present prices do not reflect the actual costs or willingness to pay for services. Recent studies on assessing people’s willingness to pay for urban services indicate that they are willing to pay much higher prices than they are currently paying when reliable and good quality services are provided (Vaidya, 1995).

(v) Accounting and Financial Management

Present accounting practices make it difficult to accurately assess the financial position of local authorities in general as well as particular services. For any debt instruments, accounting for separate revenue streams and service expenditure wil be necessary on a regular basis. There is therefore, a need to provide technical assistance and conduct training courses on appropriate accounting and financial management systems at the local level.

(vi) Access to poor

There is a need to emphasis on ensuring the access of low-income groups to these new systems (Mehta, 1998). Local level officials have to be made aware that specific masseurs are required to safeguard interests of the poor.

Delineation between Policy Makers and The Providers

At present, there is no clear delineation of roles between policy maker and the provider. ULBs and water supply boards are policy maker as well as provider of services and not accountable to the consumers. Four strategies can potentially separate policy makers and providers are: decentralizing assets, using private participation in operations, charging for services, and relying on independent providers to give clients choice (WDR, 2004).

CONCLUSION

The private sector participation can aid local authorities by taking over the following functions:

- ❑ Delivering infrastructure and quality public services in a cost effective and timely manner.
- ❑ Supporting local authorities in the implementation and maintenance of projects and local infrastructure.
- ❑ Ensuring regular review of performance, developments and prospects.

The private sector participation can help local authorities to gain private sector innovation in terms of technological, financial and management. This would ensure greater efficiency and effectiveness and ultimately delivering better quality of services. However, their participation should not lead to complacency of local body, in their duty to provide adequate services to citizens. It should monitor and act as regulator of the services provided by private parties. Coming to the Water Supply and sanitation sector, there is need to shift the focus of new investments in the sector from bulk water supply to improved management up existing systems, institutional strengthening and appropriate pricing of services. This approach will strengthen the role of urban organizations to provide the urban services more effectively and support the decentralization objective of the 74th Constitutional Amendment Act.

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