

# Project Notes

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## **THE PUNE WATER SUPPLY AND SEWERAGE PROJECT**

**Note No. 3  
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The Pune Municipal Corporation (PMC) proposes to undertake an investment program for water and sewerage services based on long term planning up to the year 2025. The proposed investments are expected to provide impetus to the growing economy of the city, which is fast emerging as a service and industrial metropolis of India. The investment program aims to meet the current deficiencies as well as cater to the future demand expected as a result of growth in and around the city. In addition, to these investments, PMC also plans to undertake capital improvements for other services such as roads, solid waste, river improvement and land development.

The Pune Water Supply and Sewerage Project will be implemented through private sector participation, so that it becomes possible to incorporate appropriate technology, ensure timely completion of construction work and improve efficiency of service delivery. The private sector participation is expected to be for construction and operation of selected new facilities, reduction of unaccounted for water and introduction of an improved management of billing and collection systems in selected localities. The PMC has received technical assistance for development of this project under the Indo – US Financial Institutions Reform and Expansion (FIRE) Project, funded by the United States Agency for International Development (USAID).

### **Project Identification and Selection**

The FIRE Project involvement with the city of Pune began by assisting the PMC to produce an Environmental Status Report (ESR) for the city with help from a local non-governmental organization. The ESR surveyed a range of environmental challenges such as safe drinking water and rising vehicular traffic, and was developed with input from local stakeholders. Its conclusion focused on the proliferation of slums as the next challenge for municipal managers, and reaffirmed the need, already identified by the municipal leadership, for improvements in the water supply and sewerage sectors. Ultimately, the report helped the city to refine its investment priorities in different sectors, particularly in the water and sewerage sector. The ESR was also a statutory requirement for PMC under the municipal legislation of Government of Maharashtra. The following year the PMC prepared a second

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annual ESR with the help of the same NGO.

The work on ESR was followed by a detailed assessment of the city's finances and its investment capacity. This process included a revenue enhancement strategy, a financial assessment, and prioritization of the city's proposed infrastructure projects. Then, through the Project Pre-Feasibility Analysis framework, the FIRE(D) project team worked with the city to analyze the impact of different budgeting and financing scenarios and to arrive at a viable scale of investment. Continuing financial analysis focused on a strategy for rate revisions in the water and sewerage sector and analysis of pricing and cost recovery.

#### **The Process of Private Sector Participation**

Once the technical and financial aspects of the projects were defined, the PMC decided to introduce Private Sector Participation into its water supply and sewerage sector project. In March, 1997, the PMC issued a notice inviting "Expressions of Interest" from private firms, following a sanction from the High Powered Committee on Privatization of Infrastructure of the Government of Maharashtra.

From among the large number of national and international firms that expressed interest, eleven were short-listed for the next stage. At this point, six consortia, each with at least one international partner, have been pre-qualified for the next stage of bidding on the project. The bidding documents will be issued by January, 1998, and it is expected that the contract will be awarded by July, 1998.

#### **Project Components and Costs**

Overall investments in the water and sewerage sector are proposed in three phases starting from 1998-99 and

progressing until 2025. Over the subsequent phases, the city will move towards a 24-hour water supply system with 100 percent population coverage and full treatment of sewage, including recycling for irrigation purposes. Access to collection system will be increased to 100 percent over the next two phases. A detailed design report for long term investments has been prepared by the PMC in association with the Kirloskar Consultants, Ltd., of Pune. The first phase is slated for implementation during the three year period from 1998-99 — 2001-02.

The main components of the water project during the first phase include: laying of close conduits for transmission of raw water; construction of a water treatment plant; improvement of the distribution network and storage reservoirs in city water supply zones; and construction of new reservoirs. The proposed components of the first phase for the sewerage sector include: laying of a conveyance system; collection system in the extended areas; construction of sewage treatment plants; and provision for recycling of water for irrigation. Specific proposals for reducing unaccounted for water and improving the billing and collection system in selected localities are also included in this phase. The total investments in this phase are estimated at Rs. 7350 million (US\$ 210 million).

#### **Implementation Structure**

The project is envisaged to be implemented through three contractual agreements between the PMC and a private contractor, as follows:

- 1) Construction Contract
- 2) Operations and maintenance contract for selected facilities for up to 5 years, and
- 3) Management contract for billing and collections for a period of 5 years.

The operations and maintenance contract for the selected new facilities, will include water and sewage treatment facilities and parts of the sewage conveyance system. The management contract for billing and collection is for water charges in selected localities of Pune and is designed in an incentive-based structure.

erage Project Fund, with structured payment mechanisms to be monitored by a trustee. In addition, as necessary for a particular debt source, additional security through a debt service reserve facility, financial guarantees from the State Government or from financial institutions, and /or mortgage of PMC assets may also be considered.

### **Financing and Security Arrangements**

#### *Financing Arrangements*

The project is expected to be financed from a variety of sources including PMC's own contribution, state grants as per the 23.3 percent scheme of the Government of Maharashtra, contractor funds, issue of municipal bonds and additional institutional finance. The PMC has already initiated the process of exploring resource mobilization through municipal bonds and has received a credit rating of 'AA' for an issue of up to Rs. 2000 million (US\$ 57 million). A portion of these resources is expected to be used for this project.

PMC is also exploring institutional finance from domestic finance institutions such as the Housing and Urban Development Corporation (HUDCO) and Infrastructure Leasing and Financial Services Limited (IL&FS) for funding under World Bank Line of Credit and Bank of Maharashtra. The proposed project has just received a commitment from USAID and the FIRE(D) Project of up to US\$ 25 million in USAID Housing Guaranty funds, which will provide access to long-term funds with a 30 year repayment structure.

#### *Security Structures for Debt and Contract Payments*

A charge on receivables is the main alternative envisaged as security for the debt to be mobilized for the project. This is proposed as a charge on specific revenue streams of the PMC (such as octroi and water charges) which would be escrowed in a Water and Sew-

### **Financial Viability Highlights**

Unlike other core sector infrastructure projects, the Pune Water Supply and Sewerage project is positioned within a larger urban finance framework and not within a conventional project finance structure. It is, therefore, necessary to consider the totality of municipal finances for analysis of financial viability. This is appropriate as given the priority accorded to water and sewerage services and the healthy financial position of Pune Municipal Corporation, explicit transfers from the general revenues to the water and sewerage sector are possible.

Over the past years, the PMC has had buoyant sources of revenue and a significant amount of revenue surplus. Over the last five years, the PMC has generated an annual revenue surplus ranging from 7 to 31 percent of revenue and in 1995-96, that surplus was Rs 720 million (US\$ 21 million). This has enabled the PMC to undertake a majority of the capital investments in urban infrastructure with the majority of financing drawn from its own surplus. As a result, the PMC has a relatively low level of outstanding debt, less than Rs. 360 million (US\$ 10 million) and a future debt servicing capacity of considerable size.

The PMC has undertaken a detailed financial viability analysis of the proposed project, with assistance from the FIRE(D) Project, using prudential norms for budget performance. In addition to water sector revenues, the PMC proposes to commit some of its other general

tax revenues in order to ensure the overall financial viability of the project. Detailed financial viability analysis suggests that, with these proposals, the debt service coverage ratio of at least 1.5 will be maintained throughout the debt servicing period. In addition, it is also expected that PMC's total borrowing in future years will be based on a covenant related to a minimum debt service coverage ratio of 1.5 to be ensured.

### Conclusion

The Pune Water Supply and Sewerage Project takes a significant step toward effective private sector participation in several areas. Most importantly, it heralds a new approach to project management, where private consortia will implement a large investment program on the basis of a fixed price and fixed time contract. The project also incorporates a management contract for the operation of a part of the new water and sewerage systems. A demonstration program in billing and collections is added through a management contract to be let for selected localities of the city. This is expected to demonstrate the greater efficiency in private management of billing and collection of water charges.

The project also hopes to introduce the concept of indexing water rates to reflect the cost of electricity – which accounts for as much as 60 percent of the cost of supplying water – as well as other establishment costs. The project also incorporates a plan for leak detection and reduction of unaccounted-for water. Finally, the financing of the project incorporates a variety of sources including market borrowing through municipal bonds, HG funding and contractor arranged debt. Successful implementation of this project will chart a new course for commercially viable projects with private sector participation.

The objective of the Indo-US Financial Institutions Reform and Expansion (FIRE) Project, funded by the U.S. Agency for International Development (USAID), is to support the Government of India in its efforts to strengthen domestic capital markets to enable them to serve as efficient source of development finance. The Debt Market/Infrastructure Component (FIRE-D) seeks to expand the debt market through the financing of commercially viable urban environmental infrastructure projects, by channeling USAID Housing Guaranty funds to selected demonstration cities and states to assist in the financing of urban environmental infrastructure projects.

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