

Project Notes

Greater Bangalore Water And Sewerage Project (GBWASP), India

Note No. 35
June 2006

The eight urban local bodies surrounding Bangalore City are experiencing rapid growth due to burgeoning investment in industrial estates and IT parks. This rapid growth has severely strained existing rudimentary water and sanitation systems. When the Government of Karnataka asked the Indo-USAID FIRE (D) project to structure a method for funding a water and sewerage project to respond to this need, it chose to replicate the pooled finance model that FIRE (D) successfully used in Tamil Nadu. The FIRE (D) project structured the Greater Bangalore Water and Sewerage Project (GBWASP) on the basis of revision to existing feasibility reports. This Project Note reviews the project background, its design and implementation, and results.

The south Indian city of Bangalore, located in the state of Karnataka, is serving, both globally and within India, as the focal point of India's information technology (IT) revolution. Referred to as India's IT capital, or its Silicon Valley, IT firms in Bangalore employ thirty percent of India's pool of one million IT professionals and the city itself serves as the headquarters for billion-dollar companies such as Infosys and Wipro. Additionally, it is the center of numerous other large industries, including aerospace technology and biotechnology, accounting for 97 of India's 240 biotech firms.

Sometimes referred to as the fastest growing city in Asia, Bangalore has surged from a population of just over four million in 1990, to an estimated 6.5 million in 2005, and it is expected to eclipse eight million by 2015. The population upsurge combined with the proliferation of industries initiated a boom in real estate in the early 1990s, which focused in particular on vertical growth around the city's center. But with the core city quickly swelling to saturation point, development began to expand to the peripheral areas within the Bangalore Metropolitan Area. In 1996, the Government of Karnataka (GoK) created seven City Municipal Councils (CMCs) and one Town Municipal Council (TMC), whose collected population of 1.2 million in 2001 is expected to grow to more than three million by 2021.

In addition to serving as residential areas, these outlying urban local bodies (ULBs) are increasingly

serving as home to India's burgeoning IT industry. Industrial estates and software technology parks are already located in or around four of the eight ULBs, while two others are located en route to the new international airport, suggesting substantial potential for future growth. The Bangalore Water Supply and Sewerage Board (BWSSB) produces and distributes about 900 mld in the Bangalore city core area. The provision of water and sewerage services in the surrounding ULBs, which are not part of Bangalore city proper, was initially driven by household efforts through local groundwater systems. Rapid growth, however, resulted in the depletion of groundwater quality and sources, creating the need for rudimentary water supply systems, which was carried out by the ULBs and the Bangalore Water Supply and Sewerage Board.

In 1998, the Government of Karnataka instructed the BWSSB to prepare proposals for a water and sewerage project that would provide these facilities to the eight ULBs. However, due to a lack of adequate financial resources, the project could not be implemented. It was after this, in February 2003, that the Government of Karnataka requested the assistance of the Indo-USAID FIRE(D) project, whose Pooled Finance Model for a group of municipalities in the state of Tamil Nadu had the potential to serve as a financing model for the ULBs surrounding Bangalore.

Broader Context

With the inability of ULBs to obtain financing for the water and sewerage project, the Government of Karnataka sought a more innovative funding approach that is in line with the movement in India away from traditional dependencies on subsidized funds from state governments and semi-public financial institutions. Due to a number of factors, including the declining availability of state funds, State Government's Fiscal Responsibility Act, and the Reserve Bank of India's aspiration to discipline lending against state guarantees, ULBs have been compelled to explore alternative sources and methods of funding while instituting the basic reforms necessary for fiscal responsibility.

One such method, pioneered by the USAID FIRE (D) project in Ahmedabad in 1998, was for the larger, financially viable ULBs to access the domestic capital markets directly by the issuance of municipal bonds. The Government of India gave tax-free status to selected bond issues. By receiving investment grade credit ratings, 15 of these larger ULBs, several supported by FIRE, have since successfully issued municipal bonds, primarily funding water and sewerage projects.

However, several constraints exist that tend to impede expansion of the municipal bond market beyond the larger, financially viable ULBs. For one, investors were reluctant to invest in bonds that exceeded seven years, finding longer-term bonds too risky and, ultimately, priced beyond the financial means of many municipalities. Furthermore, the small and medium-sized ULBs, which account for the greater number of municipalities, did not have the ability to access the capital markets directly or if they did, would not find it cost-effective. Consequently, a more flexible and inclusive model for borrowing from domestic capital markets was needed.

The model that presented itself, which was pioneered by USAID FIRE (D) in Tamil Nadu in 2003, was that of the United States bond bank. Principally a means to support participation in the capital markets by smaller and medium-sized municipalities, a bond bank is a state-sponsored intermediary that borrows from the capital markets, usually fortified by a state or federal credit enhancement, which then uses the proceeds to on-lend to local bodies to finance infrastructure projects. Because the bonds are repaid by a diverse pool of local borrowers, risk is diversified, which reduces interest rates for local governments. For the past 30 years, U.S. bond banks have provided financing at or below market rates for an array of municipal needs.

But even while bond banks reduce dependency on state guarantees, it remains important for the state to pledge some form of credit enhancement to provide interest rate savings to the borrowers. In the United States, as in Tamil Nadu's pooled finance fund, one enhancement used is the state grants-in-

aid intercept, which allows state grants to local borrowers that have defaulted on loan repayments to be 'intercepted' to make the debt service payments.

In Tamil Nadu, two additional methods of credit enhancement, the Bond Service Fund (BSF) and USAID DCA guarantee, were also utilized. Since this was the first successful pooled bond issue of its kind outside the U.S., this multi-layered method of credit enhancement was critical to reassuring investors and realizing the pooled finance model in Tamil Nadu. As a result, in February 2003, when the FIRE project was asked to structure a project to provide a method for funding the eight ULBs surrounding the city of Bangalore, it was the pooled finance model in Tamil Nadu that the Government of Karnataka sought to replicate. The FIRE (D) project structured the Greater Bangalore Water and Sewerage Project (GBWASP) on the basis of revisions to the original feasibility reports.

Project Particulars

The greater scale of the Karnataka project and its attendant larger price, combined with the fewer municipalities involved, suggested a greater amount of risk to investors. For this reason, the credit rating assigned by ICRA of LAA(SO) to the bond program, indicating a high-credit-quality and an investment subject to low credit risk, was decisive to the successful placement of the bonds.

Working closely with the Karnataka Urban Infrastructure Development Finance Corporation (KUIDFC), the Government of Karnataka, the Director of Municipal Administration (DMA), the BWSSB, and the ULBs, FIRE (D) structured the project wherein the BWSSB would undertake full implementation of the project, with responsibilities ranging from providing and operating the water and sewerage systems for the eight municipalities to setting and collecting tariffs. Further, it was agreed that the BWSSB would extend the services to the urban poor, establishing subsidized tariffs for individual house connections. It was lastly determined that due to the scale of the project, the water and sewerage components would be carried out as one project, but in separate phases.

The water supply portion of the project, whose financing fell under the pooled finance mechanism already being mobilized, will commence during the initial phase. The sewerage portion of the project, which will include the development of collection networks and pumping stations, will be financed along more conventional lines by the World Bank as part of the upcoming Karnataka Municipal Reforms Project. The total cost of the project came to Rs. 658.65 crores (\$153.16m), with Rs. 340.55 crores (\$79.18m) estimated for the water supply project and Rs. 318.10 crores (\$73.98m) estimated for the sewerage component of the project. A breakdown of the financing structure as per the GoK sanction for the projects is found in the following table.

Greater Bangalore Water And Sewerage Project (GBWASP)

Parameter	Component Value	
	Rs. Million	USD Million
Water Infrastructure	3405	79.18
Sewerage Infrastructure	3181	73.98
Total	6586	153.16
Funding Pattern		
State Grants	743	17.28
Beneficiary Contribution	1194	27.77
Market Borrowing	1000	23.25
Loan from Multilateral Agency	2291	53.28
Others	1358	31.58
Total	6586	153.16

greatly reducing revenue across the eight ULBs. The 40 percent minimum of revenue surplus, which was to be earmarked by the participating ULBs for servicing the debt, would be insufficient to cover both the market and the Mega City loan. Additional resources were therefore needed in order to ensure financial feasibility.

The additional resources necessary for the gap in servicing the market and Mega City debt were met by the State Government at the sum of Rs. 66.5 crores (\$15.47m) and Rs. 96.05 crores (\$22.34m) for the market and Mega City debt, respectively. While this upfront commitment was necessary, it is anticipated that a number of factors may contribute to reducing the annual grant requirements. As previously discussed, the one-time user contributions may yield additional funds when carried out in practice. Another factor expected to reduce the need for additional resources is the Government of Karnataka Self Assessment Scheme (SAS), introduced in each project ULB. This new property tax system is projected to increase revenues substantially. The FIRE (D) project has initiated technical assistance to the project ULBs for improving their creditworthiness and to this effect a pilot own-source revenue mobilisation exercise is underway in one of the project ULBs.

In addition to the State Government grant for the financing of urban water supply projects of 23.3 percent, which will finance Rs. 74.28 crores (\$17.28m) of the Rs. 340.55 crores (\$79.18m) water supply project, financing for the water supply project originates from several additional sources: one, a ULB contribution stemming from a one-time user contribution, which accounts for Rs. 119.44 crores (\$27.77m); two, market borrowing by means of the pooled finance model, which accounts for Rs. 100.00 crores (\$23.25m); and three, a Mega City loan of Rs. 46.82 crores (\$10.89m), for which the ULBs are eligible on account of lying within the Bangalore Metropolitan Area (BMA).

After an initial debate over the appropriate amount for each user contribution and whether it should be larger for non-domestic properties over domestic, the Rs. 119.44 crores (\$27.77m), which serves as the total ULB user contribution estimate, derives from the conservative assessment that 50 percent of the properties will contribute. The charges settled on, which vary between Rs. 2,500 (\$58) to Rs.15,000 (\$349) for domestic properties and Rs. 5,000 (\$116) to Rs. 20,000 (\$465) for non-domestic, will be in addition to the access and connection charges levied by the BWSSB and the road cutting charges to be paid by property owners to the ULBs, thus making the "intense and sustained public campaign" for collection of one-time contributions all the more imperative. Nevertheless, there is a broad consensus that the estimated 50 percent can be improved upon, thereby making additional funds available to the ULBs which could then contribute to servicing the debt incurred through the pooled finance fund. Further, based on feedback from the urban poor sections of the project area, the State Government exempted the urban poor residing in dwellings of less than 600 sq. ft. from paying the beneficiary contribution.

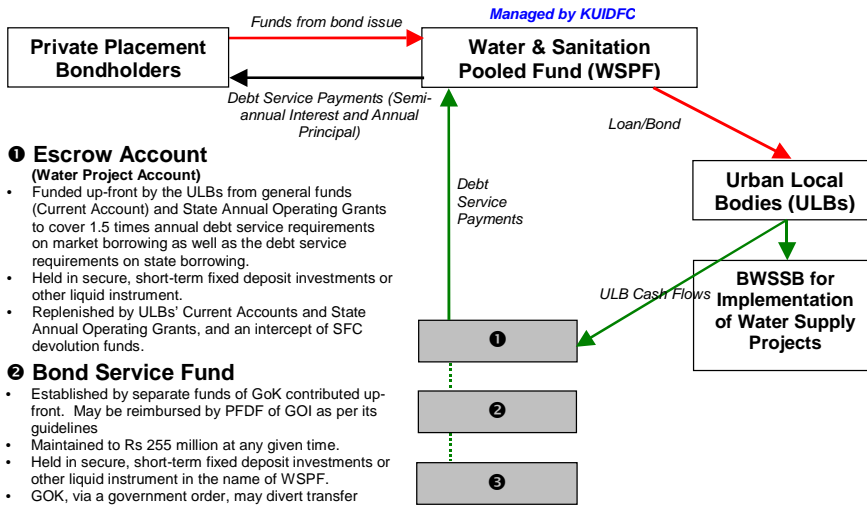
As part of the financial structuring of GBWASP, FIRE(D) closely examined the financial viability of the eight ULBs and the means by which they are to reimburse their market debt. At the time of the project proposal, the ULBs demonstrated the potential to continue their strong annual revenue growth. Tax receipts and state grants were the major revenue sources for the ULBs, together accounting for 95 percent of total receipts. In June 2003, however, the Government of Karnataka abolished one source of municipal revenue and reduced duty on another,

The first step to launching the pooled finance model in Karnataka was to establish a debt fund under the name of the Karnataka Water and Sanitation Pooled Fund (KWSPF). The KWSPF, which was created in 2004 under the management of the KUIDFC, serves as the intermediary between the local municipalities and the capital market. The KWSPF borrows from the market and on-lends to the ULBs at terms determined by the KWSPF. During June 2005, the KWSPF successfully floated one thousand tax-free municipal bonds, each with a face value of Rs. 10 lakh (\$23k) and an annual interest rate of 5.95 percent resulting in the aggregate sum of Rs. 100 crores (\$23.25m). The tax-free status of the bonds greatly enhanced the terms on which the ULBs were to repay the loans, which in turn elevated the confidence of the investors. It is felt that the tax-free status of the bonds lowered the interest rate by about 1.5-2.0 percent when compared to prevailing market rates with similar credit enhancement structures. The tax-free status also helped to extend the bond's tenure. The 15-year bonds will be redeemable in 15 annual instalments and are puttable/callable at the end of 10 years. The list of subscribers and amounts are:

Canara Bank	Rs. 25 crores
Vijaya Bank	Rs. 15 crores
Indian Overseas Bank	Rs. 15 crores
Karnataka Bank	Rs. 10 crores
State Bank of Mysore	Rs. 10 crores
GIC	Rs. 5 crores
ING Vysya Bank	Rs. 5 crores
United India Insurance	Rs. 5 crores
Union Bank	Rs. 5 crores
Laxmi Vilas Bank	Rs. 2 crores
Corporation Bank	Rs. 2 crores
ABB Ltd	Rs. 1 crore
Total:	Rs. 100 crores

Greater Bangalore Water And Sewerage Project (GBWASP)

Given the sum of money involved and the amount of debt and responsibility incurred by each ULB, combined with the fact that the pooled finance concept has a limited precedent in India, the investor risk in purchasing the bonds would seem substantial. It was for this reason that a stable security and credit enhancement structure for the market borrowing was created, which was central to earning ICRA's assigned credit rating of LAA(SO).



1 Escrow Account

(Water Project Account)

- Funded up-front by the ULBs from general funds (Current Account) and State Annual Operating Grants to cover 1.5 times annual debt service requirements on market borrowing as well as the debt service requirements on state borrowing.
- Held in secure, short-term fixed deposit investments or other liquid instrument.
- Replenished by ULBs' Current Accounts and State Annual Operating Grants, and an intercept of SFC devolution funds.

2 Bond Service Fund

- Established by separate funds of GoK contributed up-front. May be reimbursed by PFDF of GOI as per its guidelines
- Maintained to Rs 255 million at any given time.
- Held in secure, short-term fixed deposit investments or other liquid instrument in the name of WSPF.
- GOK, via a government order, may divert transfer payments (intercept) to replenish BSF in case of shortfall.

3 Third-Party Guarantees

- USAID provides 50% guarantee of principal.
- Possible guarantee from financial institutions, such as IDECK, IDFC, and ICICI for the balance 50% of principal and interest.

It is widely believed that the DCA guarantee of \$11.5 million over the 15-year term provided the final endorsement necessary for the success of the issue. The guarantee, which in particular facilitated the lengthening of the bond issue, not only demonstrated the USAID FIRE(D) project's belief in the importance of greater fiscal restraint and creative financial engineering, but also its confidence in the ability of both the federal and state levels of the Indian government. The pooled finance model as demonstrated in the States of Tamil Nadu and Karnataka has, subsequently, received tacit Government of India endorsement through the Government of India's proposed Rs. 400 crores Pooled Finance Development Fund, which would enable direct market access for other state debt funds and medium and smaller-sized cities.

GBWASP envisages provision of water supply to 1.5 million people residing in about 300,000 households, including some 60,000 urban poor households in 250 wards in the eight ULBs. The objective is to provide 135 lpcd of clean drinking water to the customers within a six-year period.

Implementation of the water component of GBWASP is in progress. Presently, BWSSB has awarded eight contract packages for laying distribution networks of 1,738 kilometer length at a total contract value of Rs.1,868.9m (\$43.46m). The feeder mains, costing Rs.886m (\$20.6m), are in the procurement stage. In addition to ongoing construction and procurement activities, additional distribution networks (1,221 km) are required to meet the sudden spurt in development of the GBWASP project area in the past 2 years. These additional works are estimated to cost Rs.921m (\$21.41m). Up to the end of February 2006, an amount of Rs.660m (\$15.34m) has been collected from the users. The GBWASP water project is planned for phased completion; residential water connections are programmed for commissioning in 45 wards by the end of July 2006 with the entire water component scheduled for completion by end of December 2006.

Philip Baker, in collaboration with the FIRE(D) team, wrote this Project Note using FIRE(D) project reports and memos and Government of Karnataka Letters and Government Orders. All Project Notes are available online at www.indiaurbaninfo.com under newsletters and at www.dec.org under title search "FIRE(D) Project Note".

The mission of the Indo-US FIRE(D) Project is to institutionalize the delivery of commercially viable urban environmental infrastructure and services at the local, state and national levels. Since 1994, the Project has been working to support the development of demonstration projects and of a sustainable urban infrastructure finance system. Now, the Project is also pursuing this mission through:

- Expansion of the roles of the private sector, NGOs and CBOs in the development, delivery, operation and maintenance of urban environmental infrastructure;
- Increased efficiency in the operation and maintenance of existing water supply and sewerage systems;
- Strengthened financial management systems at the local level;
- Development of legal and regulatory frameworks at the state level;
- Continued implementation of the 74th Constitutional Amendment; and
- Capacity-building through the development of an Urban Management Training Network.

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Funded under USAID Contract
#386-C-00-04-00119-00