

Urban Infrastructure Financing



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Urban Infrastructure Financing is the process by which cities obtain the right mix of funding that they need to extend and improve their physical infrastructure, so that eventually all their residents have access to adequate services. Urban infrastructure financing combines: (1) local government capital budget allocations; (2) grants from state and central governments; (3) bank and institutional loans; (4) proceeds from long-term municipal bonds; (5) proceeds from pooled bonds issued by urban infrastructure funds on behalf of smaller local governments; (6) micro-credits for the poor; and (7) other emerging financing options, such as leveraging municipal assets and private equity. Depending on the creditworthiness of the local government and the commercial viability of its projects, the mix of financing components will vary.

Strengths. Urban infrastructure financing enables local governments to extend and improve municipal services. It spreads the cost of infrastructure over the useful life of the physical asset. It is more responsive and flexible than relying on one source of funding, such as limited grants, and it enlarges the envelope of financial resources available to local governments and the urban poor.

Weaknesses. Urban infrastructure financing in India still lacks a regulatory environment that can simultaneously encourage deepening of financing options and protect against risky transactions. It is not yet well understood by state and local government officials. Institutional support for adequate local government project development is lacking, and key financing components have yet to be broadly replicated.



Key Things to Remember

- 1. It is essential to expand the investment envelope by mobilizing long-term debt financing from the financial markets.** There are never enough budget resources available from government and donors to expand urban infrastructure coverage at a pace that keeps up with rapid urban growth.
- 2. Local governments need to implement sound and transparent financial management practices and demonstrate the creditworthiness of their proposed investments.** Financial markets require accurate and timely information about the risk of investing in urban infrastructure before they will provide long-term debt financing.
- 3. Urban infrastructure needs to be financed on longer terms than is typically available through bank loans.** Most bank loans are constrained by the bank's need to match the terms of their assets and liabilities. This usually prevents banks from offering financing with a term that approximates the useful life of urban infrastructure.
- 4. A mixed finance approach is required to increase the overall funding available for infrastructure and to match the timing of funds with when they are needed.** A mixed approach strategically utilizes own-source revenue, grants, borrowing (loans and bonds), and equity. By leveraging these varied sources against one another, local governments will be in a better position to fully finance their priority projects.
- 5. The small projects of multiple local governments need to be aggregated into one investment vehicle to provide them with access to long-term financing at reasonable cost.** Smaller and financially weaker local governments have difficulty obtaining long-term financing because the amount they can afford to borrow is too small to attract capital market investors, and their individual credit ratings would typically be below investment grade.
- 6. Careful project development and financial structuring is essential to attracting long-term debt financing.** Most local governments have little or no experience preparing projects for financing and require both financial and technical assistance throughout the process.
- 7. The urban poor can afford house connections to infrastructure when they can pay for them over time.** The urban poor rarely have significant savings and their income may fluctuate substantially from week to week. They need a flexible means to pay off infrastructure connection fees over time, rather than in a single large payment.

This chapter describes the efforts to improve the way urban infrastructure is financed in India. It summarizes the innovations that have been introduced and identifies areas for further consideration and action.

Articles in this chapter:

- *Choosing Debt: Term Loans versus Municipal Bonds*
- *Municipal Credit Ratings*
- *Municipal Bonds*
- *Pooled Financing*
- *Urban Infrastructure Funds*
- *Microfinance for Access to Urban Infrastructure*
- *Current Innovations in Urban Infrastructure Financing*

ARTICLE 6.1

Introduction to Urban Infrastructure Financing

Since the mid-1990s, India has become a leader among developing countries by creating a paradigm shift in the way that urban infrastructure is financed. The old paradigm relied primarily on central government funding of infrastructure through a combination of national budget allocations, sovereign borrowings from multilateral development banks (channeled through government financial institutions), and grants from international development agencies. The new paradigm uses central government funding to leverage investments from national capital markets and Indian private investors to create a broader “mixed” financing option for urban infrastructure.

By supporting reforms and innovations across states and local governments, India has evolved a sustainable mixed financing approach for urban infrastructure. Lessons learned from a variety of pilot projects have been incorporated into new policies, programs, and institutional arrangements that are described in this chapter. Urban infrastructure financing continues to evolve with additional approaches and mechanisms; some of which we touch on briefly. Yet there remains much to be done by policy makers and practitioners to scale up the application of the new paradigm, and understanding the evolution of urban infrastructure financing in India will enable more local and state governments to take advantage of mixed financing options in the future.

Ask Yourself

If you are responsible for implementing projects

- Have you been able to access sufficient financing for priority infrastructure projects?
- Has enough been done to assemble a suitable mix of financing sources to implement your capital investment plan?
- How can you demonstrate your jurisdiction’s ability to service long-term debt financing for priority projects?
- Can you make use of municipal bonds or pooled financing as part of your infrastructure financing strategy?
- Do the urban poor in your jurisdiction have access to financing for infrastructure house connections on terms adapted to their financial realities?

If you are responsible for setting policy

- Does the legal and regulatory environment do enough to encourage local governments to become more creditworthy and to seek long-term debt financing for their infrastructure?
- Are there effective institutional arrangements in place to assist local governments in developing commercially viable infrastructure projects and financing them with an appropriate mix of funding sources?
- Has provision been made for an appropriate role to be played by Indian institutional investors and private sector financial services providers in expanding the volume of financing for urban infrastructure?

The Challenge for Urban Infrastructure Financing in India

Even well-designed urban projects struggle to find funding. Large-scale infrastructure—water and sewer systems, electricity grids, roads, and public transportation networks—are all capital intensive and expensive because of their nature, size, technologies, materials, and breadth of area covered. Furthermore, their design and construction is intended to last a long time. Properly built infrastructure can last 30–50 years or longer, but city-wide operating systems also require capital improvements periodically. The financing of infrastructure projects consists of a large capital investment during construction followed by smaller but continual operations and maintenance expenditures.



India's traditional approach to infrastructure financing relied on government grants and budgetary transfers, usually presented in national and state 5-year plans. The Government of India and state governments controlled the amount of funding and its purpose, even if the projects were local. Despite good intentions, the grant and transfer approach proved to be inadequate. For decades, the demand for infrastructure services increasingly outpaced the funding levels provided through grants and transfers to meet the demand. It resulted in low overall quality of services and restricted household access, especially for the poor.

Municipal borrowing was typically guaranteed by state governments and financed by central government-owned institutions, such as the Housing and Urban Development Corporation Limited (HUDCO) and Life Insurance Corporation (LIC). Both HUDCO and LIC were mandated by the Government of India directives to lend a certain amount to specific sectors, including the urban sector. The combination of directed lending and state guarantees undermined the lending rigor that normally encourages better project development (as defined in Chapter 5).

With the advent of economic liberalization, HUDCO and LIC have had to compete with other financial intermediaries, notably commercial banks, for mobilization capital, for customers to lend that capital to, and for control of non-performing assets. This paradigm shift has gradually led to a withdrawal of directed lending by institutions like HUDCO and LIC. Fiscal pressure on state governments has also forced them to reduce explicit state guarantees for municipal borrowing. Hence, the last two decades have been characterized by attempts to explore alternate forms of borrowing through municipal bonds and commercial borrowings from banks, which do not involve state government guarantees.

Ever since the 1998 Rakesh Mohan Committee Report quantified the financial implications of bringing India's infrastructure up to a globally competitive standard, it has been clear that public budget resources, whether central, state, or local, will always be insufficient on their own to fund the infrastructure investment needed by Indian cities. Estimates indicate budget allocations can only fulfill about 20% of India's infrastructure needs. In any case, funding infrastructure directly from annual budgets does not work well because the construction costs of most projects are just too large to be covered in 1-year budgets. **The urban infrastructure financing challenge has been to devise ways for public resources to be used to leverage private investment in urban infrastructure so that the entire funding envelope is expanded.** In part the challenge is being addressed through mobilization of private equity investment through the public-private partnership (PPP)/ private sector partnership mechanisms discussed in the previous chapter. This chapter discusses the work that the FIRE (D) Program has pioneered to attract long-term private debt financing to urban infrastructure. In essence, the introduction of the municipal bond as a financing mechanism represents one of India's major achievements in bringing market-based debt financing to urban infrastructure.

In India, PPPs and capital market borrowings have both gained credibility since the start of the FIRE (D) Program in 1994. The Government of India has initiated essential enabling legislation, and, as a result, the infrastructure finance tools available to Indian cities are growing. Once the municipal bond financing mechanism was successfully established in India, it quickly became clear that only a limited number of India's 5,000 urban local bodies (ULBs), referred to as local governments in this guidebook, were likely to be able to issue municipal bonds of their own. Small local governments simply do not have enough financial resources to support the scale of investment required to make their own bond issues practical. To address this second-level challenge, pooled bond financing provides a mechanism that aggregates the small projects of multiple local governments into a single financing at a scale that attracts market resources. India also continues considering alternative financing for local government, with such concepts as leveraging real estate assets for project financing.

Emerging challenges in urban infrastructure finance include organizing support for improved project development, adapting microfinance to help the urban poor finance their in-house access to water and sanitation, and addressing local governments' need for financing that bridges the gap that sometimes remains even after combining government grants and private debt financing.





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Technical Diagnostic on Infrastructure Financing

Mobilizing long-term debt in the Indian capital markets to supplement public sector investment in urban infrastructure is not a simple matter. Fortunately, the FIRE (D) Program has diagnosed most of the problems that make it difficult for local governments to access private credit to supplement public sector grants. First, a local government has to become creditworthy, as discussed in Chapter 4, and bring forward a commercially viable infrastructure project, as discussed in Chapter 5. But that is not enough.

- Before lending money for a local government project, the capital market investors require an assessment of the risk of the local government defaulting on its debt (Solution: credit ratings).
- The capital market needs a financing mechanism that is attractive to private investors through standardization, and legally recognized securities (Solution: municipal bonds).
- Because most local governments are small and relatively weak financially, and only need to borrow small amounts for their projects, a specialized financing mechanism is needed to allow smaller local governments to access private debt capital (Solution: pooled financing).
- The long and risky project development process required of local governments means that early funding and technical assistance for project development is needed to make their projects more financially viable (Solution: urban infrastructure funds [UIFs]).
- For the urban poor to access municipal infrastructure (especially water and sanitation services), better targeted subsidies and access to credit in a form that accommodates the poor is essential (Solution: microfinance).

After diagnosing the overarching problems standing in the way of long-term commercial financing for urban infrastructure, the FIRE (D) Program addressed them through a series of pilot projects that pioneered the innovations now widely used in India. Indian private investors are now able to assess the risk of financial default through a credit rating of the local government and its project financing structure before investing. Using municipal bonds, private investors have a simple-to-use, legal mechanism for channeling their funds into the local government's project and recovering their repayment. But local governments are not the only issuers of municipal bonds. State-level UIFs have also proven to be an important intermediary for channeling commercial financing into urban projects, especially for smaller local governments whose projects are not large enough to access stand-alone financing at a reasonable cost. And when it comes to providing cost-effective financing to poor urban families so that they can upgrade their access to water and sanitation, the role of microfinance is emerging as a crucial complement to capital market project financing.

Pilot Projects: Design, Implementation, and Policy Reform

As work progressed on the FIRE (D) pilot projects, the need for new or revised policies and regulations became apparent. This led to both policy reform and adjustments to the pilot projects themselves. This iterative dynamic strengthened both the enabling environment for urban infrastructure financing and the pilot projects. The following are some key examples.

- **Choosing Debt.** Most municipal debt consists of term loans from commercial banks, government-owned banks, or other types of financial intermediaries like UIFs. The process of accessing term loans differs from the process of accessing other types of debt, such as municipal bonds, but the key underlying principles, regarding project development, are equally important.
- **Municipal Credit Ratings.** To help investors assess the risk of default on local government bonds, the FIRE (D) Program piloted the first municipal credit ratings for the Ahmedabad Municipal Corporation (AMC) prior to its bond issue.
- **Municipal Bonds.** To address the need for a standard investment vehicle for local governments to attract private investors, the FIRE (D) Program piloted the AMC bond issue, the first in South Asia to be issued by a city without a guarantee from a higher level of government, and supported the development of tax-exempt bond legislation.
- **Pooled Financing.** To create a model mechanism that allows smaller local governments with fewer resources to access private debt capital, the FIRE (D) Program piloted the first two-pooled bond issues by the Tamil Nadu Urban Development Fund (TNUDF) and the Karnataka Urban Infrastructure Development Finance Corporation (KUIDFC).
- **Urban Infrastructure Funds.** To better manage and fund local governments' project development process, the FIRE (D) Program helped establish the UIFs in Maharashtra, Madhya Pradesh, Rajasthan, and West Bengal, and supported the creation of the national Pooled Finance Development Scheme.
- **Microfinance.** To help the urban poor gain access to municipal infrastructure through the provision of credit and subsidies to those in need, the FIRE (D) Program designed a specialized microfinance product in Bhubaneswar.

The subsequent articles in this chapter discuss each of these examples. A final article in this chapter examines some current financing innovations in urban infrastructure financing, including (1) the conversion of increased land value into a financing tool; (2) the Government of India's gap financing scheme; and (3) how to best orient debt, equity, and grant money to secure the resources needed for capital improvements. Currently, public budget resources, in the form of Jawaharlal Nehru National Urban Renewal Mission (JNNURM) grants, remain the main funding source for urban infrastructure projects in the country. JNNURM wisely provides an incentive for cities to implement key financial and management reforms. However, there is also the potential for crowding out of market investment, since local governments are tempted to structure projects to rely predominantly on free money. With appropriate planning of commercially viable projects, the supply of commercial financing could better complement grant funding and eventually grow to meet the extreme financing demand. There may always be the need for additional reforms to strengthen this evolving market, but compared to many other countries, India is in a good position to utilize a market-driven approach to infrastructure financing to supplement government funding.



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Table 6-1. Confronting Urban Infrastructure Financing Challenges in India

Pilot Work	Lessons Learned	Pending Issues	See Article
Choosing Debt	Due to its relative ease, term loans are an important and growing way to finance infrastructure development. Commercial lending has improved the appraisal process for government-owned banks. Financial viability of cities remains critical.	Standardized lending criteria to facilitate transactions. Combining term loans with bond refinancing could increase overall financing and help reach financial closure.	6.2
Municipal Credit Ratings	Ratings are an important step to issuing municipal bonds. Ratings provide an objective assessment of the risk of default. The ratings process increases financial transparency. Ratings make governments more accountable for their actions.	Wider use of municipal credit ratings needs to be encouraged so that local governments understand their current level of creditworthiness, and how to improve it.	6.3
Municipal Bonds	Municipal bonds are an excellent way to mobilize long-term debt financing for urban infrastructure, more complicated than obtaining a bank loan, able to offer longer terms than bank loans, able to reduce interest rates through credit enhancements, and able to substantially reduce the annual debt service burden of the issuing local government. By following the identified steps, a local government can successfully mobilize long-term private debt financing.	Relatively few municipal bonds have been issued, so a municipal bond market has been slow to develop in India. More standards are needed for municipal bonds. Incentives need to encourage their use by local governments and investors.	6.4
Pooled Financing	Pooled financing has enormous potential for financing small and medium-sized local governments on good terms. Pilots demonstrated the value and workability of the mechanism. Successful pilots led governments to make an important commitment to supporting pooled bond issues in the future. Expanding the use of pooled financing will be at the cutting edge of municipal finance in the coming years.	There have been few pooled bond issues so far. More states need to establish UIFs to expand the use of pooled bond issues.	6.5
Urban Infrastructure Funds	Successful UIFs focused on providing support for the development of commercially viable infrastructure projects. They are structured to cater to all types of local government infrastructure projects, with an emphasis on private sector participation. Some of these funds also combine direct project finance with their support for project development.	Relatively few states have completed the process of establishing their UIF. The relative merits of public sector or private sector management of the UIF remain open to debate.	6.6
Microfinance	The urban poor do not have enough money saved to cover infrastructure improvements. Home improvement lending in urban areas can be a new market for microfinance. It is essential that the monthly payment capacity of a household matches the financing terms for the infrastructure option it chooses. Households must also be able to afford ongoing service payments. In the pilot project, 90% of the households were ultimately able to finance their access to infrastructure through micro-loans.	Relatively few Indian MFIs work in the urban home improvement sector. Indian MFIs need a stronger capital structure to make larger home improvement loans with longer repayment periods. Before Indian MFIs can scale up lending for large slum upgrading programs, the current regulatory environment needs to be reformed.	6.7



Integrated Solution: Mixed Financing for Urban Infrastructure

As a result of the pilot projects and the subsequent dissemination of their lessons, there is now a well-established approach to mobilizing commercial financing for urban infrastructure projects in India. The approach can address both large- and small-scale projects and has proven to be a robust response to the challenge of supplementing government funding with private investment in urban infrastructure. The steps needed to complete a project financing transaction differ depending on the mechanism employed, but the goal of identifying the investment potential of projects and then translating it into financing is the same. With a PPP approach (discussed in Chapter 5), the goal is to bring in private sector resources and expertise through various types of service contract agreements. For debt market financing, contracts are also important to define the terms of lending. But because the connection between the investors and the project is more remote, there needs to be a standardized institutional mechanism to structure the financing. In India, this mechanism is the municipal bond.

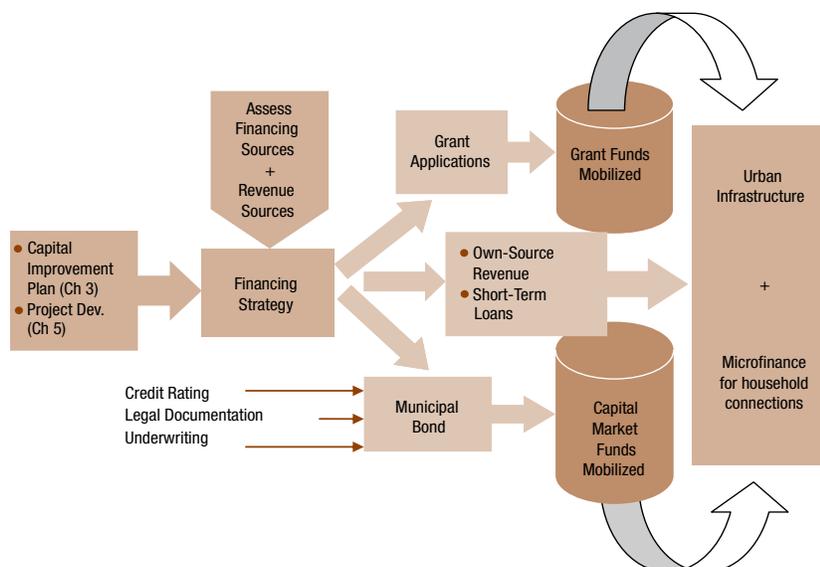
The debt financing process starts with a local government capital investment plan (see Chapter 3), followed by the creation of a financing strategy based on potential sources of financing (both grants and loans) and sources of revenues to repay any debt (both project revenues and broader tax/transfer revenues). Third-party professionals help translate the financing strategy into a specific financing structure suitable for a market transaction. These professionals include:

- Public finance advisors to design the structure of the financing and help the bond issuer manage the transaction process (costs approximately 1% of project costs)
- A legal team to prepare all of the documentation required for the issuance of bonds (legal, printing, marketing, and other document-related expenses cost approximately 1.5% of project costs)
- A credit rating agency to review the financial viability of the project financing structure and quantify the risk of default on the bond issue (costs approximately 0.1% of bond issuance)
- An underwriter who will purchase the bonds and then resell them to the ultimate investors (costs approximately 0.5% of project costs)

Prior to a capital market transaction, the issuer will need clearances from the Securities and Exchange Board of India (SEBI), the Ministry of Urban Development (MoUD), and the Ministry of Finance (MoF) for tax-free status if it is a municipal bond (see Article 6.4 for the process). Tax-exempt municipal bonds allow investors to earn tax-free income and therefore offer the city a lower nominal interest rate compared to corporate bonds with similar risk and term characteristics.

The mixed financing approach to urban infrastructure financing is illustrated in Figure 6-1 below.

Figure 6-1. Mixed Financing Approach to Urban Infrastructure Financing



It has been more than 10 years since the AMC issued India's first municipal bond not guaranteed by a state government. In the last 8 years, 12 cities and 2 state-level agencies have issued municipal bonds, raising Rs. 15,491 million.¹ This demonstrates that bond financing for infrastructure is feasible, but also shows there are still constraints on the widespread use of municipal bonds as an infrastructure financing mechanism in India. The constraints affect both the demand for and the supply of capital. Identifying the causes of these constraints, and finding ways to overcome them, is critical to the development of India's bond markets and its urban infrastructure (see "The Way Forward" section of this article).

Capacity Requirements and Resources

Multi-sector skills are required to pursue the mixed financing approach outlined above. These can be developed overtime within a local government and other relevant state government institutions. Some of them should also be contracted to the private sector or civil society groups.

Table 6-2. Capacity Requirements for Financing

Functional capacity required	Personnel required
Capital Investment Planning and Budgeting	Economists and financial analysts
Project development	Engineers and environmental experts Economists and financial analysts Social development experts and community organizers
Financial structuring	Public finance and legal experts
Preparation of financing agreements	Legal experts
Institutional and investment fund management	Senior general managers Bankers and investment managers
Provision of microcredit	Community organizers Microfinance managers and micro-credit product development specialists

Resources

FIRE (D) Program and Credit Rating and Information Services of India Ltd. (CRISIL), 1996, *Credit Assessment of Municipal Authorities and Other Functional Authorities and the Development of Appropriate Structured Arrangements for Debt*, Volumes 1 and 2, New Delhi: India.

Joseph, James C., 1994, *Debt Issuance and Management: A Guide for Smaller Governments*, Government Finance Officers Association, Chicago: Illinois, USA, <http://www.gfoa.org>.

Ministry of Urban Development, *Guidelines for Issue of Tax-Free Municipal Bonds*, <http://www.urbanindia.nic.in/programme/ud/tfmb.htm>.

Ministry of Urban Development, *Pooled Finance Development Scheme Toolkit*, http://www.urbanindia.nic.in/programme/ud/urban_devel.htm.

Srikumar, Sujatha, 2010, *Municipal Credit Rating Evolution and Implications for Urban Sector Financing in India*, FIRE (D) Program, New Delhi: India.

¹ Ravikant Joshi, "Developing India's Municipal Bond Market: Constraints & Way Forward," a presentation to the Conference on Developing India's Municipal Bond Market, Mumbai, December 10, 2007.

The Way Forward

For India's new urban infrastructure financing system to continue to develop, there needs to be a substantial increase in the volume of commercial investment (through new bond issues, long-term loans, or PPP equity). This means that projects have to become more commercially viable: local governments need to improve their creditworthiness and internal management and then develop projects and capital investment plans (CIPs) with commercial financing in mind. This is the only way enough investment will be raised for massive infrastructure improvements across the country. JNNURM or similar central government programs simply cannot supply all the funding required.

At the same time, capital market investors need to demonstrate an increased appetite for municipal bonds as a component of their investment portfolios. These requirements are two sides of the same coin. On the one hand, there are constraints on the demand for capital from local governments; on the other hand, there are constraints on the supply of capital from the investment community. The most important of these constraints are summarized as follows.²

Constraints on the Demand for Capital through Municipal Bonds

1. There are too few creditworthy issuers seeking capital market financing.
2. There are too few financially viable projects seeking capital market financing.
3. There is a lack of professional support to help issuers design bond structures that respond to investor needs while providing the issuer with the longest possible tenor, lowest possible interest rate, and lowest possible cost of issuance.
4. There are a variety of "administrative" constraints that inhibit and discourage potential issuers of municipal bonds, such as unclear authority and rapid changes in leadership.

Constraints on the Supply of Capital through Municipal Bonds

1. Institutional investors with long-term funds face regulatory constraints (e.g., mandatory holding requirements) on purchasing municipal bonds, as do commercial banks.
2. Investors perceive municipal bonds to be risky for a variety of reasons.
3. The fixed cap on tax-free interest rates for municipal bonds does not respond to market conditions. Municipal bonds become unattractive when market rates exceed the cap.
4. Municipal bonds are relatively illiquid investments for lack of an active secondary market where municipal bonds can be traded.

2 Discussed by expert group, which convened to consider ways to finance urban sector projects, chaired by Secretary, MoUD, in August 2008, and submitted to the Planning Commission, Government of India. Summary found in Vaidya, Chetan and Vaidya, Hitesh, 2010, "Market-Based Financing of Urban Infrastructure in India," in Kochar, S. and Ramchandran, M. (eds.), *Building from the Bottom*, Academic Foundation, New Delhi: India.

The funding and reform agendas of JNNURM and the Pooled Finance Development Scheme (PFDS) will help address some of the constraints on the use of municipal bonds on the demand side. At the local government level, there is a great need for officials to broaden their thinking about approaches to financing urban infrastructure. One way to achieve this is to prepare a city financing strategy that is linked to the local government's city development plan (CDP). The concept is to estimate the financing requirements for the local government's prioritized capital investments on a rolling year-by-year basis for the next 5 years ahead. Once the annual funding mobilization targets are clear, then potential sources of funding can be identified and matched to the projects: local government surpluses, general capital project grants from the state or central government, sector-specific grants, loans from government institutions, PPPs, and capital market debt financing. Experience-based assumptions about the amount of time required to tap each source are essential to the phasing of the plan. Ultimately, the local government's city financing strategy becomes a roadmap to finding the resources it needs to implement its CDP (see Article 3.7). This encourages more creditworthy issuers to enter the capital market for their funding needs.

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The crucial supply side constraints can only be addressed by the institutions responsible for the regulation and development of the financial markets. Determining the possible regulatory and administrative adjustments is the first step toward resolving key constraints on the use of municipal bonds.

In this context, it is useful to note the perspective of one of India's major institutional investors on how the municipal bond market could be deepened.³ In stark contrast to U.S. investors, Indian investors believe that municipal bonds are a relatively risky investment. The lack of adequate awareness of municipal bonds has amplified this risk perception. The investors' point of view stems from a number of factors. First, they see insufficient political consensus on the urban reform agenda promoted by JNNURM due to interference by state and political parties in local government decision making in some states. Second, they see a general inability among local governments to execute commercially viable projects. This is reflected in inadequate user charges and a perception of local governments as inefficient users of capital. Third, there is evidence of a poor and deteriorating position of municipal finances. For example, many cities have struggled to overcome the elimination of octroi revenue and replace it with another buoyant and reliable source of income. This is compounded by a fear of unlimited public debt in the absence of legislation establishing a debt ceiling. There is also the problem of a lack of full financial disclosure and standard accounting policies in most local governments, as well as the absence of compulsory audits. This leaves doubt about whether most local governments are amenable to greater public scrutiny.

The same institutional investor points out several other factors that make municipal bonds appear risky in India. There is a lack of continuity among the top management of local governments, and a change of guard can change fiscal and financial management priorities. There is a lack of a financial and management track record at individual local governments, which is compounded by a lack of available public information and the difficulty of assessing performance of project execution and management of services. There is concern about excessive co-mingling of funds from a bond issue with the general fund because there is no clear monitoring and accountability mechanism. There is also concern over the lack of legal precedent and clarity concerning the options available to investors in case of a municipal bond default. Most of these issues relate to good governance at the local level (as outlined in Chapter 1) and technical capacity.

The perceived risk of municipal bonds in India is also the result of operational problems that need to be resolved.

- Development of the municipal bond market is linked to overall debt market development. At this point, even the corporate bond market and securitized assets markets are illiquid (little secondary trading).
- Municipal bonds from different states have different supply and demand conditions, causing trading levels to vary significantly.
- No two municipal bond issues are exactly alike in structure. The lack of a standard benchmark for issue structure makes comparison and pricing difficult.
- The sizes of the issues are too small for there to be reasonable trading. This makes it hard to determine the fair market price for a bond.
- Finally, there is very limited credit information on issuers. Most don't have to report anything about their finances to anyone other than the rating agencies. Some have to make occasional financial reports available, but only if bondholders demand it at the time of issuance.

Overcoming investors' wariness of municipal bonds and taking steps to deal with operational problems facing the municipal bond market represents the immediate action agenda for national, state, and local governments. Some issues are relatively simple to address, such as promoting more standard bond models. Other problems will prove to be more intractable, such as the reluctance of local politicians to impose adequate user charges for services, or the lack of management continuity arising from the reassignment of senior civil servants to new posts. Further development of the municipal bond market as a source of much-needed debt financing for urban infrastructure will undoubtedly come with the application of India's great traditions of ingenuity and adaptability.

3 UTI, "An Investor Perspective on Municipal Bonds in India," presented at the International Conference on Developing India's Municipal Bond Market, December 10, 2007.



Recommendations for Infrastructure Finance in India

- Compare the investment needed for the city(ies) to achieve appropriate infrastructure coverage to the funding currently available from state government or national government programs, and estimate the gap that remains to be filled through increased commercial financing.
- Obtain an institutional credit rating for the local government to identify areas for improvement of financial management. Then make the rating results public as a demonstration of commitment to financial transparency.
- Compare the terms of repayment that banks are willing to offer on their infrastructure loans to the development, construction, and operations cycle of the infrastructure to be built. Do a similar comparison using municipal bond parameters.
- Determine how best to aggregate small infrastructure projects required by a wide range of local governments into a single investment vehicle that can attract long-term capital market financing.
- Establish and make use of institutional arrangements that provide project development and financial structuring assistance to local governments by making use of private sector professionals.
- Encourage local MFIs to develop new loan products that can enable the urban poor to finance their household connections to infrastructure on terms that take into account their actual financial circumstances.

ARTICLE 6.2

Choosing Debt: Term Loans Versus Municipal Bonds

Once a local government (or other implementing agency) decides to undertake a particular infrastructure project(s), two key decisions are (1) whether the local government will implement the project itself or will utilize a public-private partnership (PPP) mode, and (2) how the project will be financed.

Private investment through PPP arrangements is attractive to local governments, but should be explored only where project revenue streams are large enough to meet operations and maintenance (O&M) costs, as well as a substantial portion of capital costs (including a financial return on investment). In the event that project revenues are insufficient—and require substantial support from the general municipal budget to meet recurring costs and debt servicing—the local government should opt for a more conventional implementation model where the government finances and most likely implements the project.

If a local government intends to implement an infrastructure project through a conventional engineering, procurement, and construction contract, it undertakes a detailed project report (DPR), usually with assistance from technical engineering consultants,¹ and reviews all potential funding sources for implementation. This involves estimating all revenue surpluses, potential capital grants, and contributions from beneficiaries in the form of customer deposits or impact fees. If a funding gap exists, it is usually financed through debt, raised either through term loans or bonds.

For individual projects, a funding gap may not exist if central and state grants are generous and if the local government has surplus revenues. However, the infrastructure requirements of Indian cities are vast; and a comprehensive development planning approach (Chapter 3) will almost always reveal a substantial funding gap. Therefore, project prioritization and debt financing are required.

There is also a growing realization among local government officials about the importance of achieving financial closure prior to project implementation. Financial closure facilitates timely project implementation since it results in fewer delays than does an incremental funding approach to projects. Incremental funding occurs when projects are funded through annual budgets (own sources or intergovernmental transfers). It is very problematic for implementation because work often has to stop for extended periods, which undermines the overall quality of construction and escalates costs.

¹ The local government should also hire a third-party, independent reviewer of any technical design to confirm reasonableness for the local context, cost, and O&M.

Reaching financial closure allows project contracts to be executed and implemented more efficiently, but it often requires a degree of debt financing, either in the short term or over the life of the infrastructure project (long-term repayment schedules). In fact, a local government could initially finance an infrastructure project with debt to expedite implementation, and then use grant funds as repayment once they are received.

The two basic financing tools for local governments are term loans (through banks and other lending institutions) and municipal bonds (through capital markets). Although the appraisal process differs for bonds and term loans, all lenders—even government-owned banks—are increasingly concerned about the ability of local government to service its debt. As a result, developing infrastructure projects in commercial formats (Chapter 5) is becoming relevant for all but the most heavily subsidized projects.



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Before investing, commercial investors consider whether project costs are reasonable, whether city and project revenues are adequate to repay the debt, and whether implementation time frames are realistic. In addition, commercial finance is contingent on whether local governments can provide reliable and timely financial and project information. For this reason, local governments need to reform their accounting practices and financial reporting procedures to meet the standard requirements of the financial markets—where a proposed project competes with corporate entities that are also seeking financing. Whether considering bonds or term loans, the national urban reform agenda is very relevant to the infrastructure financing process.

Term Loans versus Municipal Bonds

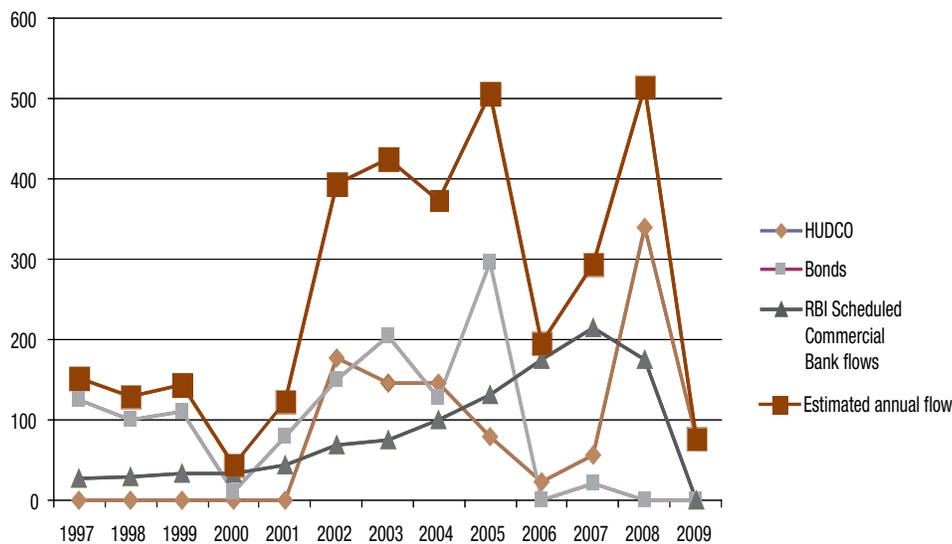
Neither municipal bonds nor term loans have been used in India on a large scale. In little over a decade, only 23 municipal bonds have been issued for a total investment of Rs. 1,353 crore (US\$300 million). Annex 6-1 lists all the municipal bonds that have been issued in India as of 2010. Bank lending to local governments is also relatively low, although it was increasing prior to the 2008–2009 financial crisis (see Figure 6-2). According to the Reserve Bank of India (RBI), total bank exposure to local-level institutions (local governments and port trusts) was only Rs. 521 crore (US\$116 million) in 2007, and the vast majority of this lending occurred through nationalized banks.²

Term Loans

Figure 6-2 provides annual debt lending to local governments. Since 2006, most of the lending has been for Jawaharlal Nehru National Urban Renewal Mission (JNNURM) projects through term loans (commercial and government-owned banks and Housing and Urban Development Corporation Limited [HUDCO]). The bond market has slowed completely, presumably because sizable grants have reduced the demand for large-scale borrowing. According to the Ministry of Urban Development (MoUD), under JNNURM about 17% (Rs. 1,280 crore or US\$285 million) of local governments' share of capital costs has been raised through term loans from banks and state-level funds, as of 2009.³ It is clear that only a fraction of the estimated US\$1.2 trillion urban investment required over the next two decades is coming from either bonds or commercial lending at this point. This has to change in the coming years, since government budgets cannot cover such levels of investment.

- 2 Approximately 80% of the banks in India are government owned, although large loans are syndicated by investment bankers.
- 3 MoUD, Government of India, 2009, "Leveraging JNNURM Funds by ULBs," New Delhi: India. Under JNNURM, additional debt financing has been raised by local governments through bonds and state-level funds (see Article 6.6). Most of this lending has been structured as term loans.

Figure 6-2. Annual Lending to Local Government, 1997–2009 (Rs. Crore)



Source: RBI, 2010.

Municipal Bonds

Municipal bonds are attractive for several reasons. They have lower interest rates than term loans on account of the tax break available to investors. The tax-free status of municipal bonds means that investors do not have to pay income tax on the interest they earn. Investors that have large tax liabilities (e.g., large corporations, financial institutions, pension funds, and insurance companies) often appreciate the special tax-free status of municipal bonds, and, as a result, the interest rate decreases. Typically, municipalities can raise loans from banks and lending institutions with 9%–10.5%, whereas tax-free municipal bonds usually have an interest rate around 8%.⁴ Because an interest rate cap exists on tax-free bonds, market demand for them decreases when the yields on taxable corporate bonds are high.

However, municipal bonds do have disadvantages. Municipal bonds require investment grade credit ratings and overall city financial viability, as defined in Chapter 4. In practice, municipal bond investors expect “AA” credit ratings or better, which very few Indian cities have (see Article 6.3). Equally important is that the development process results in projects ready to be implemented. Not only does project readiness give investors confidence, but, for practical reasons, projects need to begin as soon as the bonds are issued. Municipal bonds are normally issued in only one or two tranches within a year and have a minimum size of Rs. 50 crore (US\$11 million). Because this generates a sizable amount of money at a single time, local governments risk a negative interest arbitrage (i.e., interest paid on the bond is more than the interest earned by depositing the bond proceeds with a bank) if the bond proceeds sit in a bank account for very long. As a result, construction needs to reach scale soon after the bond transaction. Also, the entire process of raising municipal bonds is relatively expensive and time-consuming, taking up to as much as a year to complete.

Therefore, local governments need to time their bond issues well and target those investors for whom the tax-free incentives are attractive. It may be preferable to first access term loans to achieve financial closure, and then explore refinancing through municipal bonds once project implementation has reached significant scale (thereby allowing local governments to choose the most opportune time to issue a bond).

⁴ Actually, the Ministry of Finance caps tax-free municipal bond interest rates at 8%, which is a major limitation, because if overall interest rates go up, investors will also want municipal bond interest rates to go up.

Table 6-3. Term Loans versus Municipal Bonds

Parameter	Term loans	Municipal bonds
Interest rates	Costlier (9.5%–10.5%) and contain reset provisions.	Cheaper (around 8%).
Size	No minimum size, but upward limit of approximately Rs. 500 crore (US\$111 million), although a group of banks could lend more.	Minimum size of Rs. 50 crore (US\$11 million) due to costly project development. Upward limit depends on local government debt capacity and market conditions.
Tenor	Can be extended up to 15 years but interest rates reset every 3 years.	Currently available up to 10 years with fixed interest rates (used to be 7-year tenor). With market maturity, the tenor will increase more.
Time frame for financial closure	Appraisal process takes 3 months after obtaining approval from state government.	Time frame for raising municipal bonds can take as long as 1 year, including all the approvals.
Market timing risk	Not significant.	Significant risk, as timing can affect investor interest in buying the bonds.
Draw-down schedules	Funds can be drawn down in accordance with project implementation requirements. Interest is only paid on funds that are being used.	Funds raised in a 1-2 tranches, which can lead to negative interest arbitrage, wherein the borrower pays more interest than what is earned on the funds placed in fixed deposits.
Repayment	Flexible repayment schedules with options for equal monthly installments.	Often lumpy, bullet repayments with principal in the last 3 years of the bond issue (but can vary in structure).
Event of default	In the case of financial stress, term loans can be rescheduled relatively easily.	There is no cure for bond default, and this leads to immediate downgrade in the credit rating, although credit enhancements are designed to partially address this risk.

Procedure for Loan Financing

Because with the advent of JNNURM most local government borrowing has been structured as term loans over the last several years, it is worth describing the loan process (see Article 6.4 for the municipal bond process).

Before approaching a lending institution, a local government needs municipal council/standing committee approval to issue debt, as well as state government approval and a technical sanction for the project from the relevant state-level authority. The local government then contacts a number of lending institutions and requests an in-principle sanction for a term loan.⁵ The local government submits a brief description of the proposed project, with an accompanying financing plan, past budget documents, and necessary approvals.

With in-principle loan sanctioning, the local government submits a DPR to the lending institution so that it can verify whether all the internal lending criteria have been met. The lending institution then establishes loan terms based on the risk perception of the project and the local government's financial viability. This appraisal process typically takes 3 months. And if the local government has prepared its project properly, term loans can be quicker to mobilize than municipal bonds. The lending criteria of the Tamil Nadu Urban Development Fund (TNUDF) provide a representative sample.

TNUDF Appraisal and Lending Procedures⁶

1. Eligible borrowers

For local governments (corporations, municipalities, and town *panchayats*) and statutory boards, the following norms are required:

- a. Maintain an average ratio of *total expenditure* (including debt servicing) to total revenue (tax and regular non-tax revenue) <1.
- b. $(Interest + principal\ repayment) / total\ revenue < 30\%$ for all local governments, and <50% for statutory boards and state public sector undertakings.
- c. In cases where the local government or statutory body fails to meet criterion b. above, but the financial rate of return of the project exceeds the lending interest rate by a margin of at least 2%, then TNUDF will require the borrowers to establish a special recovery and credit enhancing mechanism, such as an escrow account arrangement, a hypothecation (i.e., a security pledge), or a bank guarantee.

2. Eligible Projects

- a. The project is the highest priority in the capital expenditure program of the local government or the statutory bodies.
- b. The project supports water supply, sanitation, solid waste management, roads, transportation, sites and services, area development, and other remunerative and non-remunerative urban infrastructure contributing to the improvement of the living standard of urban populations, excluding power and telecommunications.
- c. Appropriate statutory and environmental clearances have been obtained, and these are documented in the project evaluation report.
- d. The projects comply with the environmental resettlement and social standards set forth in the TNUDF's environmental and social framework (ESF).
- e. The project adopts appropriate, proven, and cost-effective technology and specifications.
- f. The economic rate of return for project is at least 12% in the case of multilateral-funded projects. Otherwise, this does not apply.
- g. In case the project fails to meet the financial rate of return specified in 1c. above due to an externality, the minimum cost recovery target should be agreed upon with the project sponsor.

The term sheet for a loan specifies the interest rate, the repayment schedule, any necessary security mechanisms, and any relevant legal covenants. Annex 6-2 provides a sample term sheet that many lending institutions follow. A borrower needs to evaluate the term sheets of several lenders and should choose the one that best matches its own requirements.

5 These intermediaries include commercial banks (particularly those who already provide services for the local government), HUDCO, Life Insurance Corporation (LIC), Infrastructure Leasing and Financial Services (IL&FS)-promoted Pooled Municipal Debt Obligation Facility, and government-promoted municipal funds (e.g., Mumbai Metropolitan Redevelopment Authority, Tamil Nadu Urban Development Fund, and the National Capital Region Planning Board).

6 Source: <http://www.tnufd.com>.

Security Mechanisms for Term Loans

Loan securitization is not easy for municipal projects because the assets (e.g., a water treatment plant) usually have little commercial value to the lending institution in case of default.⁷ Further, mortgaging municipal land or other commercial properties may not be allowed under the prevailing municipal statutes of the state. In this context, many lenders rely on conservative assessments of municipal cash flows. Typically, lenders insist on escrowing project cash flows and other municipal revenues so that a safety margin of several times the annual debt service requirement exists (1.5-2.5 times annual debt service, depending on the credit rating of the local government and its surplus revenue trends).

Lenders also require setting up a debt service reserve fund equivalent to 3–12 months of debt servicing, depending on credit quality. In addition, a separate escrow mechanism must be established to replenish the debt service fund in the event of a drawdown (a similar structure to municipal bonds). The loan documents usually require the local government to replenish the fund (through general funds or intergovernmental transfers) before the local government can meet any other public expenditure obligations. However, the enforceability of these escrow arrangements, in the event of municipal fiscal stress, has not been seriously tested yet. More typically, it is those banks that already have an existing relationship with the local government—having complete understanding of the municipality’s cash flow patterns—that provide term loans at competitive rates.

Conclusion

There are no fixed criteria for determining when a municipality should finance infrastructure through a municipal bond or a term loan. Broadly, local governments should explore the bond market if they have (1) a good credit rating, (2) a large and immediate investment requirement, and (3) adequate project management skills for efficient implementation. The bond market also demands rigorous financial disclosure and periodic project reporting. Less financially viable local governments, and ones that need to finance smaller projects, should approach lenders for term loans with flexible draw-down schedules (also see Article 6.5 on pooled finance). In addition to these demand-side issues (i.e., the characteristics of local governments that want to borrow funds), market conditions currently favor term loans (see Article 6.1 for a list of demand- and supply-side issues). Still, most local governments can explore refinancing infrastructure through the bond markets during later stages of project implementation and at a time when market conditions are favorable.

⁷ Step-in-rights is the legal right lenders to take over the project assets in the event of default.



ARTICLE 6.3

Municipal Credit Ratings

In 1995, the Ahmedabad Municipal Corporation (AMC) took the ground-breaking step of requesting a credit rating from one of India's leading credit rating agencies, Credit Rating and Information Services of India Ltd. (CRISIL). At that time, no credit rating had ever been performed for an Indian municipality. CRISIL, with support from the FIRE (D) Program, worked to develop a rating methodology based on careful study of local governments in India and international experience in the rating of municipal bonds.¹ For India, development of a municipal credit rating system was important because a credit rating is a key element of the presale stage of a municipal bond issue. The rating indicates the risk level associated with an issuer's ability to repay debt and is an important tool used by capital market investors to compare the risk of a particular municipal bond to alternative rated investment opportunities (e.g., corporate debt).

Since the city of Ahmedabad received India's first municipal credit rating in February 1996, more than 30 cities followed suit prior to the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) launch. And under JNNURM, the Ministry of Urban Development (MoUD) commissioned credit ratings for all participating cities. While a credit rating is a key element in accessing capital markets, it has also come to be recognized as an important indicator of urban competitiveness. Andhra Pradesh and Kerala had all of their major cities rated not just for prospective bond issues, but for financial management and monitoring purposes (although this was a one-off occurrence and not part of a regular practice). JNNURM requires ratings for all participating local governments so that the impact of the implementation of their reform agendas can be assessed. Regardless of the purpose, once a rating has been issued, continued surveillance by the rating agency is important to identify changing conditions and trends in performance. The FIRE (D) Program has been facilitating the development of a municipal credit rating system in India, supporting both cities and rating agencies as they move forward.

Since its first rating exercise, CRISIL's rating methodology has evolved to focus on six major areas relative to a municipality's profile and existing operations, including financial and managerial performance. The credit rating also examines the specific project for which a local government intends to borrow funds. To further seed the development of a municipal credit rating system in India, the National Institute of Urban Affairs, under the FIRE (D) Program, contracted with the Investment Information and Credit Rating Agency (ICRA) and Credit Analysis and Research, Limited (CARE), India's other leading rating agencies, to develop additional credit rating methodologies.²

- 1 FIRE (D) Program and CRISIL, 1996, *Credit Assessment of Municipal Authorities and Other Functional Authorities and the Development of Appropriate Structured Arrangements for Debt*, Volumes 1 and 2, New Delhi: India.
- 2 Fitch Rating is a global credit rating service that also works in India.



Rating the Creditworthiness of Cities

1. Legal and Administrative Framework

The legal and administrative analysis focuses on the authority and responsibility of the local government for providing services, its statutory and discretionary powers, taxation, and borrowing of funds. This includes not only the city's powers of taxation, but specific measures that might have been taken to rationalize tax rates and add clarity to the system. In terms of borrowing, the manner in which sinking fund balances are transferred and monitored is also considered.

2. Economic Base of the Service Area

The city's economic base is analyzed to assess the potential for revenue generation by the local government. Key factors include population and projected growth rates; levels of commercial and industrial activity; characteristics of the tax base; per capita income levels; and other indicators of economic activity, such as the number of vehicles registered or requests for telephone connections.

Today the economic factors have limited use, except in octroi-levying cities, because of the lack of a clear link between the economic base and the tax base of most cities. It is expected in the future, however, that as cities move toward full cost recovery for services, the economic base will be an important indicator of users' ability and willingness to bear taxes and user charges.

3. Details of Municipal Finances

Financial analysis is based on a conventional framework reflecting a revenue account and a capital account. Receipts and expenditures for the past 5 years are assessed separately, and the accounting policies followed by the municipality are considered key inputs in the analysis. The first phase of analysis assesses overall surplus or deficit of the revenue account. Both tax and non-tax revenue, as well as state grants, are reviewed. Recommendations of the relevant State Finance Commission are evaluated, if applicable.

A second phase examines service-related expenditures—water supply, sewerage, education, public health, and public safety—along with operating expenditures, like wages and salaries, operating expenses, repairs, maintenance, and debt servicing. In cases where wages, salaries, and debt servicing constitute a majority of the local government's operating costs, flexibility and the potential for expenditure control will be limited, which affects the credit rating adversely.

Finally, a debt profile is constructed, considering sources, term, interest rates, and repayment schedules for all outstanding debts of the local government.

4. Existing Operations

This part of the evaluation methodology begins with a comparison of mandatory and discretionary services of the municipality, with more favorable light shed when there is emphasis on those services that are mandatory. Operating efficiency is evaluated with regard to core services as well as the organizational arrangements for delivery, existing infrastructure coverage, and level of revenue expended on these services. Efforts to curtail revenue expenditure are regarded favorably. Past trends, in terms of capital outlays and receipts, indicate future trends in these areas, based on comparison of budgeted and actual outlays, projects undertaken, relative management performance, and service augmentation in relation to standard norms.



FIRE (D) PROGRAM



5. Management

The foundation of the financial health of a local government is its managerial capacity. The credit rating methodology requires a review of the organizational structure, the administrative systems and procedures, and project management skills. The assessment tries to determine the level of control exercised on expenditure and initiatives that have been taken to enhance resources and improve revenue-collection mechanisms. Political influence on project management (positive and negative) is also an important aspect in this category.

6. Project Analysis

As part of the credit rating process, a project proposed to be financed by bond proceeds has to be analyzed in detail. This analysis covers all the project parameters: the existing levels of service, improvements expected as a result of the project, project cost, means of funding, and the effect of debt funding on the debt service burden of the municipal body. There must be adequate room for the project within the debt servicing capacity of the issuer.³ In addition, the proposed project will involve specific operations and maintenance (O&M) expenditures that have to be covered by existing and new cash flows of the local government, and this can affect the debt-servicing capacity of the municipality.

The objective of the rating analyses is to provide an objective basis for estimating the likelihood that a municipality will default on repayment of its bonds. The greater the likelihood of a default, the lower is the municipality's credit rating as expressed on a rating scale that has (in the case of the CRISIL scale) "AAA" at the highest and "D" at its lowest, with "+" and "-" indicators to increase the specificity of the rating (see Annex 6-4). In India, investors currently expect a credit rating of "AA" or higher for municipal bond issuances. Although few cities in India have such a high rating (approximately 10), credit enhancements can improve the rating of specific projects to ensure that they are an attractive investment (Table 6-4).

³ The debt service coverage ratio is the amount of cash flow available to meet annual interest and principal payments on debt, compared to the annual debt owed. The basic calculation is net operating income divided by total debt service. Lenders will require 1.5-2.5 at a minimum. The debt calculation incorporates several "out-year" trends for the full repayment period.

Table 6-4. Municipal Credit Ratings of JNNURM Cities

Rating Category	No. of Cities	Cities	Key Credit Factors
AAA	0	n/a	Highest degree of safety with regard to timely payment of financial obligations.
AA	10	Delhi, Greater Mumbai, Hyderabad, Navi Mumbai, Nashik, New Delhi, Pune, Pimpri-Chinchwad, Surat, Thane	Robust debt coverage ratios, strong finances, adequate management, technical competence, healthy economic base, and consistent revenue surpluses.
A	10	Ahmedabad, Chandigarh, Kalyan, Kolkatta, Mira Bhayanadar, Nagpur, Rajkot, Vadodara, Visakhapatnam, Vijaywada	Comfortable financial risk and favorable economic base.
BBB	18	Ajmer, Bangalore, Bhopal, Bhubaneswar, Chennai, Cochin, Coimbatore, Dehradun, Faridabad, Indore, Jaipur, Ludhiana, Madurai, Mysore, Nanded, Panaji, Raipur, Trivandrum	Weak financial profile, high dependence on government grants/transfers, and weak project implementation abilities.
BB	17	Agra, Agartala, Amritsar, Asansol, Guwahati, Howrah, Jammu, Jabalpur, Kanpur, Kulgaon-Badlapur, Lucknow, Meerut, Puducherry, Ranchi, Srinagar, Shimla, Ujjain	Cities possess marginal/negative operating surpluses, thereby limiting ability to borrow and service additional debt.
B	7	Allahabad, Bodhgaya, Haridwar, Jamshedpur, Mathura, Shillong, Varanasi	Inadequate and volatile grant support from respective state governments, poor economic base and adverse financial profile (marked by poor collection rates).
C	1	Puri	In no position to repay debt.
D	0	n/a	Default or expected to default on repayment.

Source: Srikumar, Sujatha, 2010, *Municipal Credit Rating Evolution and Implications for Urban Sector Financing in India*, FIRE (D) Program, New Delhi: India.

Debt Structuring Improves Credit Ratings

Local government credit ratings and the ratings for bond issues are now well established in India with four well-respected rating agencies offering the services. Local governments (and their financial advisors) now take care to design bond issues to achieve the best possible credit rating and therefore the best possible (least cost) terms for their financing. It has become common practice for municipal bond issuers to enhance the creditworthiness of their bonds by designing them as a “structured debt obligation” (SDO). SDOs are debt instruments secured by cash flow from a specific asset or source of revenue that are the primary means of servicing obligations to bond holders. In this way, an SDO is a credit enhancement mechanism.

The linkage between the repayment requirements on the issuer and the origination of the cash flow is one of the key considerations in assessing the extent to which an SDO enhances the stand-alone credit quality of the issuer. A well-designed SDO will be judged by raters to reduce credit risk, and this allows the issuer easier access to the capital market. Two basic mechanisms—escrow accounts and guarantees—can be effective credit enhancement mechanisms for specific debt issues.

In the case of local governments, property tax revenue constitutes steady cash flow and can be segregated and directed toward debt servicing. The pre-specified cash flow can be escrowed (collected in a designated account) and further utilized for the specific purpose of debt servicing. Such repayment structures are overseen by an independent trustee who ensures that the issuer adheres to pre-specified arrangements for collection and allocation of revenues into the escrow account (and ensures that all other terms of the SDO are satisfied).

Using an SDO approach, a city can achieve greater investor confidence and interest in its bonds. For example, Ahmedabad’s first credit rating—issued in 1996 for a general obligation bond issue of Rs. 1 billion (US\$25 million)—was originally rated A+, indicating adequate security for investors. After a reexamination of the project’s financial structure with attention to credit enhancement, the city’s financial advisor, Infrastructure Leasing and Financial Services (IL&FS), in association with the FIRE (D) Program, worked with AMC to shift from a simple general obligation bond to an SDO. The AMC returned to CRISIL the following year and received an AA(SO), indicating a higher degree of security. When the bonds were finally issued in January of 1998, the public portion of the issue was oversubscribed by more than 15%.



FIRE (D) PROGRAM

Like the AMC, the Vijayawada Municipal Corporation (VMC) credit rating was enhanced in 1997 by the development of an escrow mechanism. But unlike the AMC, the VMC does not collect octroi; the majority of its revenues derived from property taxes and rental of commercial properties. Thus, the debt instrument proposed was a Special Tax Bond, under which cash flows from gross property tax collections and commercial property development are brought together and discharged to a designated escrow account. These funds are monitored by a trustee until the point at which a given year's account is sufficient to cover the interest payment and principal repayment for that year.

To further enhance its credit, the VMC, in consultation with Housing and Urban Development Corporation Limited (HUDCO), CRISIL, and the FIRE (D) Program, proposed a senior-mezzanine debt structure under which Class I securities, municipal bonds, receive priority in terms of repayment, and Class II securities will be repaid only after meeting obligations on Class I. The advantage of such a structured borrowing program is that it ensures linkages between the overall revenue receipts position and the debt-servicing liabilities of the VMC, thereby reducing the risk of a default, increasing the level of the credit rating, and making it easier for the city to obtain affordable financing for its projects.

Conclusion

The FIRE (D) Program's introduction of municipal credit ratings in India was an important step in enabling local governments to issue municipal bonds to mobilize debt capital for their infrastructure projects. Ratings provide an objective assessment of the risk of default on a bond issue, and thereby provide essential information to prospective investors. The ratings process increases the transparency of local government finances to investors and citizens alike. Ratings also provide a way of making local governments more accountable for their actions, since changes in a rating reflect the ability of government leaders to manage their responsibilities and respond to changing circumstances. Continued expansion of the number of local governments and bond issues with credit ratings will contribute to India's progress in modernizing its municipal finance system and attracting private capital to finance urban infrastructure.

ARTICLE 6.4

Municipal Bonds

Background to a Successful Bond Issue

In January 1998, the Ahmedabad Municipal Corporation (AMC) issued Rs. 100 crore (US\$25 million) in bonds to partially finance a Rs. 439 crore (US\$110 million) water supply and sewerage project. This was a remarkable achievement, since it was the first municipal bond issued in India without a state guarantee. The AMC had previously instituted significant fiscal and management reforms (described in Chapter 4), with technical assistance from the FIRE (D) Program, including improved tax collection, computerization of the accounting system, strengthening of the AMC's workforce and financial management, and development of a comprehensive capital investment plan. These reforms laid the necessary groundwork for the AMC's bond issue and the successful implementation of the water supply and sewerage project.

The FIRE (D) Program's partnership with the AMC began in 1994 with preparation of the walled city redevelopment plan and an environmental risk assessment (see Chapter 3). In addition, as explained in Article 6.3, the FIRE (D) Program assisted Credit Rating and Information Services of India Ltd. (CRISIL) to develop a methodology for carrying out credit ratings of local governments in India. Ahmedabad was the first city where this methodology was applied. The FIRE (D) Program's multifaceted assistance to the city of Ahmedabad played a vital role in developing its pioneering bond issue. Since 1998, municipal bonds have become an established mechanism for mobilizing long-term, commercial debt financing for urban infrastructure projects. In little over a decade, 23 municipal bonds have been issued, worth Rs. 1,353 crore (US\$300 million). Although this is a significant capital market development, the municipal bond market potential is much greater and still requires further attention. Annex 6-1 lists all the municipal bonds that have been issued as of 2010. The lessons and insight gained from the FIRE (D) Program concerning municipal bonds in India is presented below.

Types of Municipal Bonds

Municipal bonds are of two general types. General obligation (GO) bonds carry the full faith and credit of the issuing authority, and are appropriate for infrastructure, such as roads or street lighting or other improvement projects for which it is difficult to levy user charges. In contrast, revenue bonds are tied to specified sources of revenue from the facilities or services that they finance. The revenue bond structure, used in 70% of the issues in the United States, must be backed by strong and credible legal covenants related to the revision of user charges, debt service coverage ratio, and additional debt mobilization.

In India, urban infrastructure financing is plagued by a number of constraints, including a low tax base for most cities; lack of credible credit histories; reluctance to impose cost recovery, especially for water and sewerage; and an image of urban projects as a "social" investment, which results in a lack of market rigor. Given these constraints, far-reaching reforms have to be completed before local governments can attain the market credibility needed for issuing project-based, non-recourse debt securities in the form of revenue bonds (i.e., bonds that have no other source of repayment beyond project-generated revenues). This is consistent with the characteristics of nascent bond markets in other countries. But with a limited track record and a poor market image of local governments in India, investors have been somewhat reluctant to invest in even their GO bonds, let alone project-based revenue bonds.

To address this problem, the FIRE (D) Program, in association with CRISIL and Infrastructure Leasing and Financial Services (IL&FS), introduced what are known in India as structured debt obligations (SDOs) for municipal authorities (discussed in Article 6.3). The primary benefit of an SDO is to raise the credit quality of the proposed debt instrument by earmarking reliable and predictable streams of revenue from specific tax and/or non-tax sources of the local government. The earmarked cash flow, which is the primary source of debt servicing, is kept separate from the issuer's general funds and is monitored by an independent trustee.



The SDO approach usually enhances the rating of a debt instrument compared to the stand-alone creditworthiness of the issuer, leading to easier access to the capital markets and less costly financing. The case of Ahmedabad clearly illustrates this point. With the SDO modifications to its first bond financing structure, AMC received an improved rating of AA(SO), and 75% of the issue was successfully placed with a dozen financial institutions, while the other 25% was reserved for the public. In the end, the bond was 10% oversubscribed.

Steps in the Process of Issuing Municipal Bonds

Based on the experience derived from the FIRE (D) Program, there are a series of steps that lead to the successful issuance of municipal bonds in India. Local governments that implement these steps carefully can expect their bond issuances to raise the financing needed to implement their projects.

1. Fiscal Strengthening and Capital Investment Planning

It is essential for a local government that wants to mobilize debt financing from the capital market to get its financial house in order. This involves adopting modern accounting practices that provide the local government with the financial information that it needs to understand its revenues and expenditures in a timely fashion, to prepare realistic budgets, and then to control expenditures while monitoring revenues. Measures that improve revenue-collection performance are also critical to making it possible for a local government to borrow. Debt financing is only possible once a local government has established a reliable fiscal surplus of revenues (from all sources) over expenditures (for all purposes). It is this reliable fiscal surplus that can be used to repay local government debts.

Once an annual fiscal surplus is available, a local government can plan its capital investments by costing, prioritizing, and phasing the infrastructure projects that it needs to implement. This project list enables the local government to estimate the amount of capital it will need to implement infrastructure improvements. The final step in the investment planning process then involves identifying the sources of capital for each project. The sources are likely to be a mix of grants from state and central government programs as well as debt financing from the public sector and private sector. The estimated annual debt service (repayments) has to be no more than the reliable fiscal surplus available to the local government each year. All or part of the debt financing identified in the capital investment plan can be mobilized through a municipal bond issue (see Article 3.7).

In Ahmedabad, the FIRE (D) Program team carried out preliminary revenue and expenditure forecasts. Various options were analyzed in terms of alternative revenue assumptions, expenditure forecasts, and borrowing. Utilizing an iterative process and estimated financial performance levels and borrowing terms, it was determined that the AMC could afford an investment of approximately Rs. 600 crore (US\$150 million). Based on this analysis, the AMC reviewed different project priorities and worked out a capital investment plan of Rs. 597 crore (US\$149 million) for 1997–2001.

2. Project Development

Before issuing municipal bonds to finance a specific infrastructure project, a local government needs to complete all necessary detailed engineering, costing, and procurement planning for the project. Experience shows that local governments are more likely to have success if they hire an experienced consulting-engineering firm to help them develop or independently review the technical side of the project. In Ahmedabad, Tata Consulting Engineers (TCE) helped prepare a city-wide water supply project, while AIC Watson Consultants prepared the sewerage project for the eastern parts of the city. The total cost of the projects was estimated to be Rs. 489 crore (US\$122 million) in 1998. The up-front costs of project development could be covered by state urban infrastructure funds (UIFs) that provide such services (see Article 6.6); if UIFs are not feasible, the cost will have to be paid for by the local government. Ultimately, project development costs can be added to the amount of the bond issue so that it can also be financed over a long term.



FIRE (D) PROGRAM

As part of the project development process (described in Chapter 5), the local government and its consultants should design the project to be commercially viable whenever possible. This way the project will generate revenues that will cover all or part of the debt repayments due on the municipal bonds. Commercial viability of the project underlying the bond issue creates greater investor confidence in the local government's ability to repay its debt.

3. Financial Structuring

Just as an infrastructure project needs to be carefully engineered, its debt financing also needs to be properly designed. Since most local governments have little or no experience structuring financing for their projects, the most successful transactions have been organized by financial advisors of one kind or another that are familiar with the needs of investors and that work with the local government to minimize the cost of borrowing. The FIRE (D) Program with IL&FS performed the financial advisory role for the Ahmedabad bond issue of 1998. Because city infrastructure projects are relatively new to Indian capital market investors, the importance of designing a financing structure that is reassuring to investors is of crucial importance.

Financial structuring is the process of (1) mobilizing funds on a timely basis for project implementation and (2) ensuring that debt or equity repayment is scheduled in an affordable manner for the local government (ideally spread out over the useful life of the asset created under the project). The financial structure needs to be attractive to investors by addressing all the risks (see Article 5.4) and providing competitive rates of return vis-à-vis other investment opportunities. The financial advisor and/or lending institution will examine all aspects of the project development (Chapter 5) to structure the financing appropriately. The major elements include:

- Type of financing (e.g., term loans, GO bonds, SDOs)
- Pricing (interest rate) of the debt based on current market demand; the number and timing of tranches/series of debt issuances
- Repayment schedule (e.g., number of months)
- Credit enhancements to make the investment more attractive to lenders
- How to best market the debt to investors

Project development also involves determining whether the bond will be issued by the local government itself or some other legal entity referred to as a special purpose vehicle (SPV), which serves to keep the debt off the books of the local government. The financial structure usually incorporates credit enhancements to make the bond more creditworthy and thereby increase its marketability and reduce its interest rate. There are many types of credit enhancements, but the ones that have been used successfully in India include:

- Mortgaging property in an amount that exceeds the annual debt service as collateral for the debt
- Pledging cash to maintain an annual debt service coverage ratio¹ in excess of 1-to-1
- Establishing a sinking fund to build up the funds necessary for principal repayment
- Designating specific well-performing revenue sources that will be pledged to repay bondholders first and only then passing the remaining revenues into the local government's general fund (SDO concept)
- Establishing an irrevocable trust account into which pledged revenues are automatically intercepted and deposited in advance of each periodic bond payment date (SPV concept)
- Pledging additional revenue sources to bond repayment in the event that the amount available in the trust account is less than the repayment due as of a certain number of days before the payment date
- Establishing a debt service fund as an escrow account that can only be used to pay bondholders and depositing into it (and maintaining) more than enough funds to cover one periodic payment as a backup to all other revenues
- Partial risk guarantees purchased by the issuer as insurance for the bond holders that a specified portion of their capital will be repaid even if the bond goes into default

In addition, financial structuring needs to determine if interest payments will be taxable or tax-free for the investor. Tax-free municipal bonds are more attractive to local governments, relative to loans with taxable interest, because there are savings on the interest expense that is paid by the city. A bond's term sheet lists the basic structure to help communicate it to investors and disclose the information to the public (see sample in Annex 6-3).

¹ The debt service coverage ratio is the amount of cash flow available to meet annual interest and principal payments on debt compared to the annual debt owed. The basic calculation is net operating income divided by total debt service.



4. Credit Rating

After initial structuring of the bond, the local government needs to have the bond issue rated by a reputable credit rating agency. In India, four credit rating agencies compete to provide public finance ratings on an Indian national rating scale for municipal bonds: CRISIL, the Investment Information and Credit Rating Agency (ICRA), Fitch, and Credit Analysis and Research, Limited (CARE). The local government pays for the rating, but having a rating is essential to obtaining the best competitive interest rate for the bonds. The rating itself will be presented in a rating report to the local government. In addition to the quantitative score on the rating scale, the rating report will present the principal analytical findings of the raters regarding reasons for default risk.

Currently, all local governments participating in the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) program must have institutional ratings that quantify their overall creditworthiness. However, a well-structured bond can actually obtain a better single-issue rating than the local government's institutional rating due to the credit enhancements provided in the bond structure. As mentioned previously, in Ahmedabad, structuring the bond with credit enhancements improved the rating from A+ to AA(SO) and resulted in interest cost savings for the AMC.

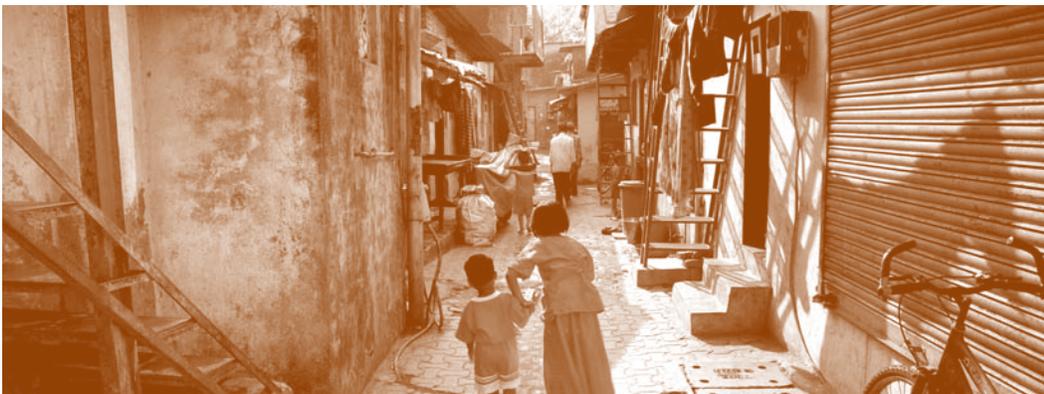
5. Authorization and Approval

Before proceeding to the capital market, a local government needs to have authorization from the local, state, and central (if it is to have tax-free status) governments to contract debt, as well as approval from the Securities and Exchange Board of India (SEBI). It is important that the bond issuance be formally authorized by the local government's legislative council, since the debt incurred will have to be repaid over a long time. Actually, in some bond issues in the United States (e.g., GO bonds), there is a specific referendum voted by the citizens of the jurisdiction. The point is to assure potential investors that there is a solid political commitment to repay debt that has been contracted for the purpose of implementing public infrastructure projects.

After the local government council/standing committee approves a borrowing, the state government needs to give permission. If the bond is intended to be tax-free, the state government then forwards the tax-free request to the Ministry of Urban Development (MoUD), along with the credit rating letter and a formal application.² MoUD forwards the application to the Ministry of Finance (MoF) for approval once it is satisfied that all the criteria have been met by the local government. On the government side, MoF gives final approval for tax-free status, while SEBI regulates financial investments in the Indian capital markets (and has disclosure requirements highlighted in the sample term sheet in Annex 6-3). This multistep approval process is one reason why bond issuance can take as much as a year to process.

The FIRE (D) Program recommends that a local government itself hire the services of a financial advisor/investment banker at the initial stages to assist in structuring the bond, getting the credit rating, and preparing the application for tax-free status. Once the tax-free status is obtained, the financial advisor and bond council (legal team) prepare an information memorandum to be circulated among potential bond investors, as well as a detailed prospectus to be filed with SEBI for its approval (with all project development and financing components detailed). Once SEBI approval has been obtained, the financial advisor commences the process of issuing bonds.

² MoUD, <http://www.urbanindia.nic.in/programme/ud/tfmb.htm>.



FIRE (D) PROGRAM

6. Preparation of Documents

The legal team prepares all of the official documents pertaining to the bond issue. Since local governments do not issue bonds frequently, it is advisable for them to use specialized external legal counsel rather than in-house legal staff who might be unfamiliar with the intricacies of the laws and judicial precedents pertaining to municipal bonds.

The legal team works closely with the local government's financial advisor to translate the financing structure that has been decided on into a set of legal documents that will be the formal basis for contracting the debt financing for the infrastructure project—serving as the tradable securities that legalize the borrower/lender relationship. Apart from the actual bond certificates, the most important legal documents required for a municipal bond are (1) the prospectus and (2) the trust indenture.

The prospectus provides the essential information to potential investors about the bonds. This information includes general information about the local government and specifics of the project that the bond is to finance. Most importantly, the prospectus provides full disclosure of all relevant information about the financial condition of the issuer (the local government or SPV) and the impact of the project on its financial condition. Financial disclosures include the rating assigned to the bond issue by the credit rating agency. The prospectus also spells out the nature of the credit enhancements that are part of the bond structure and how they will operate. The draft prospectus must be approved by SEBI based on its evaluation of how well it meets its standards for full disclosure.

The trust indenture is the contract between the local government (or SPV) and the trustee representing the bondholders. Since it would be complicated and cumbersome to deal directly with all the individual bondholders, the local government appoints a trustee (normally a bank) to represent and act on behalf of all bondholders collectively. This includes receiving the local government's periodic debt repayments and distributing them to the bondholders. It also includes enforcing the rights of the bondholders under the terms of the bond, including all covenants pertaining to repayment and credit enhancement features of the bond.

The trust indenture specifies, among other things, the final interest rate, the date of maturity, the procedures to modify the indenture after issuance, and the purpose of the bond issue. The name and contact information of the trustee are listed in the indenture. Because the value of a bond depends on the creditworthiness of the issuer, indentures might include protective covenants that restrict the issuer from doing things that would make it less creditworthy and that would increase the chance of default on interest payments or principal repayment.

While bondholders look to the trustee to protect and enforce their rights, they have limited ability in India to hold the trustee financially liable for failure to protect their interests. For these reasons, and to provide greater certainty that actions will be taken by the trustee to protect bondholder's concerns, it is in the best interest of the trustee, the issuer, and the bondholders if the trustee's powers are clearly and carefully prescribed. In a typical U.S. bond offering, a trustee's duty would be precisely defined and automatically triggered by specific actions. If an issuer fails to make a timely payment of principal and interest, a trustee would have specific instructions to follow without choice or discretion. This assures investors that the trustee will act in a specific manner and cannot exercise discretion that may not be in their best interest. Moreover, it protects the trustee against suits brought by bondholders for failure to properly protect their interests.

7. Marketing to Investors

Even as the legal documents are being prepared, the local government needs to begin seeking investors who will purchase the bonds. This is best accomplished by the local government's financial advisor, who will be familiar with the investor community, the current market conditions, and investor expectations. The financial advisor will circulate the bond's term sheet (see Annex 6-3) after developing a marketing strategy in terms of the types of investors (normally banks, insurance companies, pension funds, and mutual funds) to be targeted. The financial advisor will market the bonds through formal presentations to the potential investors, either individually or in groups.

One objective of the marketing process is to create awareness of the bond issue and its structural characteristics among potential investors. Another objective is to obtain information from potential

investors concerning their desires regarding the terms and features of the bond. The information feedback from the investor community may suggest ways in which the structure of the bond can be changed to make it more attractive or less risky to investors, and this can affect the drafting of the final legal documents.

The end result of the marketing effort is to ensure that all of the bonds can be sold. If the bonds are sold in a private placement, as is common in India, then firm purchase commitments from one or more institutional investors need to be in hand at the end of the marketing process. In some cases, an underwriter (or syndicate of underwriters) will offer to purchase the entire issue with a view of reselling the bonds to interested investors with whom they have negotiated commitments. If the bonds are to be offered to potential investors in a competitive auction, then the financial advisor needs to ensure that there is sufficient investor appetite to sell the entire issue prior to listing on the National Stock Exchange.³

Know the Current Market before Issuing a Bond: The Case of Nagpur

The importance of mounting a thorough marketing process is highlighted by the failure of the March 2007 Nagpur bond issue to achieve 100% sales. Because the Nagpur bonds were issued as tax-free, an interest rate cap was required by MoF. The maximum coupon interest rate was established at a level of 7.9%, but that was below what many investors were willing to accept for that particular bond at that particular time. Nagpur's marketing process for the bond issue did not alert them to the problem in time to make changes to the issue (either giving up tax-free status to allow a higher coupon interest rate or scaling back the issue to the amount that could be sold at the lower, tax-free capped rate). As a result, investors only bought 17% of the anticipated issuance.⁴ This reflected badly on the issuer, Nagpur Municipal Corporation, the FIRE (D) Program, and the merchant bankers who structured, marketed, and issued the bonds.

8. Completion of the Transaction

Once the market for the bonds has been confirmed and the legal documents have been prepared and approved, the bonds can be issued to the investors in return for their payment. For a local government to issue bonds, it must be listed on one or more of the stock exchanges in India. Before the bonds can be listed, the local government's financial advisor has to provide the stock exchange with a certified copy of SEBI's acknowledgment card and ensure compliance with the guidelines of the exchange.

At the financial close, all of the legal documents are officially signed and the local government receives its funds. It is good practice for the proceeds of the bond issue to be deposited directly into an escrow account that can be accessed only to pay for implementation of the project funded by the bond issue. It is also good practice to defer part of the payment of as many of the financial service providers (financial advisor, bond counsel, trustee, etc.) as possible until the financial close so that they have a strong interest in ensuring that the transaction is successfully completed.

9. Monitoring and Repayment

Once a local government has issued bonds, it has an ongoing responsibility to provide for repayment to the bondholders. Failure to make payment triggers a default on the bond, which will result in seizure of collateral. A default will also cause the credit rating agencies to downgrade the institutional rating of the local government to their lowest category, and effectively eliminate the possibility of future bond issues, without a high-quality 100% guarantee, which will be extremely costly for the local government.

For GO bonds, the local government normally performs the asset management function and assumes full responsibility for timely transmission of payments to bondholders. Financial managers within the local government need to monitor the level of deposits available in the account from which bond payments will be withdrawn on an established schedule by the trustee. The local government also needs to monitor its compliance with all other covenants included in the bond and the trust indenture. Careful monitoring will enable the local government to avoid any costly problems with the trustee for the bondholders. For SPVs, once financing flows into the trust fund, an independent asset manager acts as trustee to monitor the performance, authorize the subsequent flow of funds, and report to all the interested parties.

³ The National Stock Exchange has listing requirements that need to be followed for proper disclosure. See Annex 6-3 at the end of Chapter 6 for a sample bond issuance term sheet.

⁴ The anticipated issuance was Rs. 128 crore (US\$32 million), while the final subscription was only Rs. 21.2 crore (US\$5.3 million).

Transaction Costs

Completing all the steps for issuance of a municipal bond requires the assistance of a number of financial service providers: at a minimum, a financial advisor, a credit rating agency, a bond counsel, and a trustee. As a result, there are costs to the local government for completing the bond transaction, just as there are loan origination costs charged to the local government by banks for their lending.

In the case of the first municipal bond issued by the AMC in 1998, the transaction cost for the bond issue, including underwriters, brokers, and legal fees, as well as advertising and printing expenses, equaled 2.9% of the bond offerings or Rs. 2.9 crore (US\$725,000). This excludes the stamp duty cost. A state government guarantee of AMC bonds would have resulted in considerable savings in transaction costs. However, a state government guarantee fee, annually assessed at 1% of the outstanding principal balance, would have cost the AMC Rs. 5 crore (US\$1.25 million) for this particular financing. By not paying for a state government guarantee, the AMC more than offset the marginally higher transaction costs.

As municipal bonds become an increasingly common means of financing urban infrastructure projects, the transaction costs can be expected to decrease over time. Currently, it is reasonable to expect that transaction costs will be 1% of the proceeds/principal for private placement and negotiated bonds and as high as 4% for public issue under a competitive auction. Since not all of the transaction costs increase with the size of the bond issue, larger issues typically pay a slightly lower cost percentage.

Conclusion

Municipal bonds are an excellent way for local governments to mobilize debt financing for their urban infrastructure projects. However, most local governments are not making use of debt financing at all, and those who do are largely taking loans from the commercial banks that manage their bank accounts. Unfortunately, most commercial banks are not in a position to make long-term debt financing for infrastructure available on the scale that will be required. This is due to both a lack of expertise in this area and a need to maintain a close match between the terms of their liabilities (almost entirely short-term deposits) and their assets (loans to customers). The popularity of bank loans among local governments might have much to do with the relatively simple process required to obtain a loan and the fact that most local government finance officers are much more familiar with loans than with bonds.

As a result, most local governments are borrowing for terms that are much shorter than the useful life of the infrastructure that they need to finance. Their borrowing is actually being used as a short-term line of credit to pay expenses in advance of collecting revenues in full. One way out of this dilemma is for commercial banks to create a “standardized” long-term loan product for local governments so that multiple loans from the bank could be packaged into an “asset-backed security” and sold to capital market investors, much like a long-term bond. This would enable commercial banks to offer long-term financing without having to hold the loans in the bank’s own portfolio, where they would not match the bank’s liability profile.

Although the process of issuing a municipal bond is more complicated than obtaining a bank loan, most municipal bonds have a much longer term than what is available on bank loans and the interest rate can be further reduced through credit enhancements. These features of bonds compared to loans can substantially reduce the annual debt service burden of the issuing local government. By following the steps that the FIRE (D) Program has identified through its pilot projects, a local government can successfully mobilize commercial debt financing to supplement its other sources of government financing for infrastructure.



ARTICLE 6.5

Pooled Financing

Although much of India's urban infrastructure needs to be developed by relatively small local governments, it has been prohibitively difficult and expensive for these smaller local governments to utilize the municipal bond mechanism to mobilize long-term debt financing for their projects. Their weak financial viability (see Chapter 4) means that most are not creditworthy enough to access significant commercial financing. In fact, about 40% of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) cities have been rated as sub-investment grade during a study commissioned by the Ministry of Urban Development (MoUD) in 2008–09.¹ And in most cases, their individual municipal bonds are too small to attract institutional investors, and the fixed costs of a bond issue are a high percentage of the total amount borrowed (a bond should be about Rs. 50 crore [US\$11million] to be worth the transaction costs). However, by “pooling” the borrowing needs of a group of local governments, it is possible to achieve a bond issue scale that interests the capital markets and enables a special purpose vehicle (SPV) to assume the cost and management responsibility that small local governments don't have the capacity to shoulder.

The FIRE (D) Program worked with two states, Tamil Nadu and Karnataka, to introduce the pooled financing concept in India. The approach was based on the well-established state bond bank model from the United States. In this model, a “bond bank” creates and manages an SPV that issues bonds in its own name with the purpose of financing a pool of projects from a group of local governments. The funds mobilized by the bond issue are on-lent to the local governments by the bond bank/SPV, and repayment of the bonds is based on the stream of repayments coming to the bond bank/SPV from the participating borrowers in the pool.

Tamil Nadu Pooled Financing. The first state in India to undertake pooled financing was Tamil Nadu. Working with the FIRE (D) Program team, the Tamil Nadu Urban Development Fund (TNUDF) established an SPV in the form of a trust called the Water and Sanitation Pooled Fund (WSPF). The purpose of the trust is to channel financial resources, including financing raised from private markets, into high-priority infrastructure investments, contributing directly to improved living standards for the urban population. The trust finances and refines water and sanitation projects of small and mid-sized towns in the State of Tamil Nadu. This fund enables local governments to participate in the capital market without increasing the debt burden on the state.

In 2002, the FIRE (D) Program supported the efforts of the TNUDF-WSPF to structure a Rs. 30.4 crore (US\$6.4 million) bond issue whose proceeds financed small water and sanitation projects in 14 local governments. Each bond had a face value of Rs. 1 lakh (approximately US\$2,000), a 9.20% annual interest rate, and a 15-year maturity. The bonds were assigned an investment grade credit rating of AA(SO) by Fitch and AA(SO) by the Investment Information and Credit Rating Agency (ICRA). While the bonds were unsecured, a multilayered credit enhancement mechanism was set up to achieve these high quality ratings.

1 Srikumar, Sujatha, 2010, *Municipal Credit Rating: Evolution and Implications for Urban Sector Financing in India*, FIRE (D) Program, New Delhi: India, p. 8.



FIRE (D) PROGRAM



FIRE (D) PROGRAM

This was the first successful bond issue outside of the United States to use a pooled financing structure for financing water and sanitation projects of small and medium municipalities. One key to its success was that all of the projects pooled in the bond issue had already demonstrated their ability to collect user charges and/or fixed fees from citizens, so their commercial viability was established in advance. Since 2002, TNUDF issued another pooled bond, divided into two tranches (in 2008 for Rs. 45 crore [US\$10 million] and in 2010 for Rs. 83 crore [US\$18 million]). The most recent transaction has an interest rate of 7.5% and a 10-year term. The bonds cover 68% of the total project costs; the project consists of a sewerage scheme in six cities and water project in a seventh city.

Karnataka Pooled Financing. In 1998, the Government of Karnataka instructed the Bangalore Water Supply and Sewerage Board (BWSSB) to prepare proposals for a water and sewerage project that would provide improved water and sewerage infrastructure to the eight local governments in the metropolitan area surrounding the Bangalore municipality. However, due to a lack of state government financial resources, the project could not be implemented. So, in February 2003, the Government of Karnataka requested the assistance of the FIRE (D) Program to mobilize the necessary financing. The state government believed that the pooled fund model, first employed in the State of Tamil Nadu, had the potential to serve as a financing model for the local governments surrounding Bangalore.

The first step toward launching the pooled fund model in Karnataka was to establish an SPV in the form of a debt fund under the name of the Karnataka Water and Sanitation Pooled Fund (KWSPF). The KWSPF, created in 2004 under the management of the Karnataka Urban Infrastructure Development Finance Corporation (KUIDFC), serves as the intermediary between the local governments and the capital market. The KWSPF borrows from the market and on-lends to the local governments at terms determined by the KWSPF.

In June 2005, the KWSPF successfully floated an issue of 1,000 tax-free municipal bonds, with a total face value of Rs. 100 crore (US\$23.3 million), an annual interest rate of 5.95%, and a term of 15 years. The tax-free status of the bonds greatly improved the terms on which the local governments were to repay their loans to the KWSPF, 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% when compared to prevailing market rates for similar credit enhancement structures. The tax-free status also helped extend the bond's tenure to 15 years.

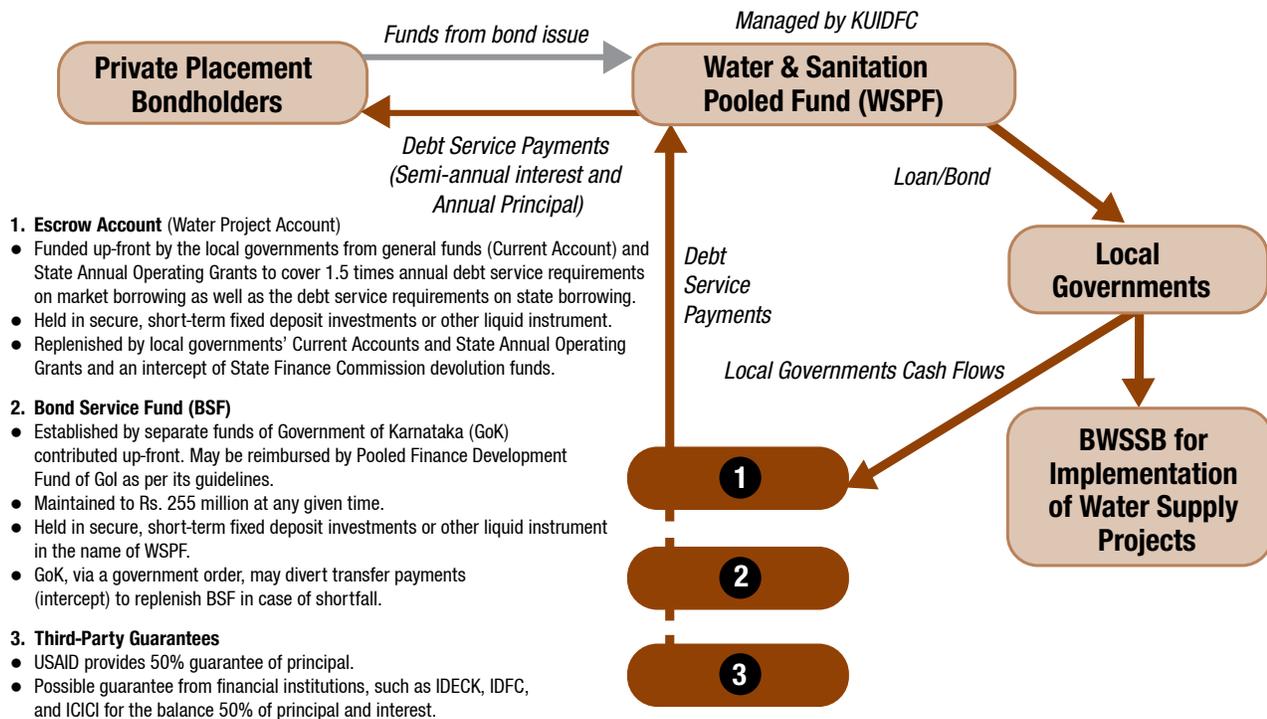
As in Tamil Nadu, the bonds were structured with multiple layers of credit enhancements to ensure timely repayment of the bondholders. If the primary repayment mechanism were to fail, there were second- and third-level mechanisms to assume repayment responsibility and avoid default. The AA(SO) credit rating assigned by ICRA to the KWSPF bond issue indicates a high-credit quality and an investment subject to low credit risk. This high quality rating proved decisive for the successful placement of the bonds.

The Pooled Fund Model

The FIRE (D) Program utilized similar financing structures for both the Tamil Nadu WSPF and the Karnataka KWSPF bonds. In both cases, the issuer was an SPV rather than the state government. This permitted the debt to be kept off the books for the state government and limited the potential recourse of bondholders to state funds for repayment. The SPV structure also ensured that a professional asset management company managed the bond issues, as well as the proceeds and repayments associated with the bonds. In Tamil Nadu, the asset management company is a private sector entity. In Karnataka, the asset management company, KUIDFC, is a state government corporation. In both cases, the asset management companies employ experienced financial managers to carry out their operations. Figure 6-3 provides the basic diagram applicable to both pooled financings (explicitly drawn from Karnataka's case).



Figure 6-3. Pooled Finance Model, Karnataka Water and Sanitation Fund



The key features of the structure that both bond issues have in common are (1) the use of a professionally managed SPV as the issuer; (2) funds on-lent by the SPV to the institutions in charge of project implementation (local governments in Tamil Nadu and BWSSB in Karnataka); (3) bond repayments flowing from the local governments through the SPV to bondholders, and (4) three layers of credit enhancements involving an escrow account, a bond service fund, and third-party guarantees.

Special Purpose Vehicle. The use of a professionally managed SPV facilitates the financing of smaller local government projects in several ways. It relieves the state government of the need to borrow funds in its own name to finance the projects. It therefore avoids adding to the state government debt burden and gives the bond the potential to achieve a credit rating that is actually better than that of the state government, with a resulting savings in interest cost. The SPV also handles the process of issuing and servicing the municipal bonds. This is a set of tasks that smaller local governments find difficult to perform themselves due to their lack of experienced financial and procurement management staff.

The SPV, known as a WSPF in the two pilots, is a trust that operates under a set of specific instructions on how the bond proceeds are to be used. The funds are never comingled with other funds, but are on-lent to local governments as needed to pay project implementation expenses. This helps reassure investors that there is appropriate supervision over the funds, but also establishes greater financial discipline at the local government level.

Debt service payments from the local governments are aggregated in the WSPF in advance of the payments due to bondholders. This permits the WSPF to enforce repayment discipline on the local governments in a more direct manner than bondholders can achieve, short of declaring a default on the bonds. The asset management team is equipped with the tools necessary to recover missed payments from local governments without ever delaying payments to the bondholders. This is particularly reassuring to investors, and makes the bonds more marketable to achieve the lowest possible competitive cost for the financing. The tools that the WSPF asset management team uses to manage the bond repayment flows are also the key credit enhancements incorporated in the bond structure.



Escrow Account. The first of these credit enhancements is the escrow account. This is where funds are held by the WSPF prior to payment to the bondholders. In some cases, such as the KWSPF, funds equal to more than the annual debt service amount can be placed in the escrow account even before the bonds are issued to demonstrate to prospective investors that resources are available to repay them. Funds in the escrow account are held in very liquid, low-risk securities. Local governments send their payments to the escrow account on a regular basis so that their full share of the WSPF payment is accumulated 30–60 days prior to the due date. The WSPF asset management team monitors the balance in the escrow account and takes active measures to collect all payments before the due date.

Bond Service Fund. If there is a shortfall in the payments deposited in the escrow account at the time a payment to the bondholders is due, then the bond service fund makes up the difference to avoid a default. The bond service fund (also known as a debt service fund) is the second level of credit enhancement in the pooled fund model. The money in the bond service fund is paid in before the bonds are issued. The money comes from a variety of sources, including the local governments in the pool, the state government, or even the national government. The amount of money in the bond service fund (always more than the amount of the annual debt service) is maintained at a constant level that is specified by legal covenant in the bonds. If the bond service fund has to transfer money to the escrow account to avoid a default on the bonds, then it must be replenished within a specified period of time (e.g., 90 days). This is done either by intercepting transfer payments that would have gone to the delinquent local government(s) from the state government or directly by an allocation from the state government itself. The amount specified in the bonds for the bond service fund represents the maximum contingent liability of the state government under the pooled fund model.

Partial Credit Guarantees. If for any reason the bond service fund is not fully replenished within the specified time limit, then the WSPF can turn to its final level of credit enhancement: third-party guarantees. These guarantees (such as the United States Agency for International Development [USAID] Development Credit Authority [DCA] partial risk guarantee) can be called on based on the terms of the guarantee agreements between the WSPF and the guarantor. This provides the final recourse to ensure payment to bondholders, but the amount of the guarantee will not exceed the total principal value of the bonds. It might very well be less than that, since the WSPF has to pay a guarantee fee (like an insurance plan), and the amount of the fee depends on the amount guaranteed, thereby adding to the cost of the financing.

All of these structural elements enable the state government to provide an appropriate form of support and incentive to its local governments to facilitate their development of urban infrastructure. The pooled fund model is now an important tool for enabling more local governments to access capital market financing on competitive terms. It has the potential to substantially increase the volume of high-quality municipal bonds available on Indian stock exchanges. This in turn would contribute to developing the overall market for municipal bonds.

The National Pooled Finance Development Scheme

Recognizing the importance of pooled financing for both the development of urban infrastructure and the deepening of India's capital markets, the Government of India established the Pooled Finance Development Scheme (PFDS), and with it a special fund to encourage the wider use of the pooled fund model.

The main objectives of the PFDS are to (1) facilitate local government access to capital and the financial markets for investment in essential municipal infrastructure, (2) facilitate development of bankable urban infrastructure projects (structured with appropriate credit enhancements in such a way that they demonstrate the capacity for servicing debt to the satisfaction of the rating agencies and potential investors), (3) reduce the cost of borrowing to local bodies by employing appropriate credit enhancement measures, and (4) facilitate development/strengthening of the municipal bond market. The PFDS also creates an incentive structure to support urban reforms, which would also be driven by covenants with financial market lenders to local governments.

Under the scheme, a Pooled Finance Development Fund (PFDF) provides a grant to the extent of 50% of a bond service fund (in this case called a credit rating enhancement fund) or 10% of the total bond issuance, whichever is less. In addition, up to 75% of the cost of project development would be reimbursed by the PFDF, as a grant to the local governments, after a pooled bond issue has been approved.

The national scheme encourages the state governments, along with small and medium-sized local governments, to pool their projects together to achieve an investable-sized structure and credit rating. At the same time, it helps mitigate risk for the capital through the bond service fund and by the nature of pooling in general. All of this helps enable commercial investing in the development of urban infrastructure for the country's burgeoning towns and cities. As of 2010, Tamil Nadu is the only state to use PFDS for two pooled bond issuances (2008 and 2010) for water supply and sewerage projects.²

Grant Assistance under the Scheme

For a state government to apply for grant assistance to their pooled bond's credit rating enhancement fund, the Government of India requires the following:

1. Creation of a state-level pooled finance entity or urban infrastructure fund (UIF), as the nodal agency of the state for coordinating pooled financing of urban infrastructure projects (in Tamil Nadu, the nodal agency is the TNUDF, and in Karnataka, it is the KUIDFC)
2. Identification of a pool of projects, development of the bond structure, and having the proposed pooled bond rated by a credit rating agency, including assessment of the credit rating enhancement fund required to make the pooled bond investment grade
3. Commitment by the local governments and the state government to create the first two levels of recourse/security to the bondholders (as illustrated in Figure 6-3)

Subject to fulfillment of the above, the pooling entity (e.g., UIF) can submit its application for grant support under the PFDS to the state-level sanctioning and monitoring committee and MoUD for approval.

² Karnataka and Andhra Pradesh considered participating in the scheme but did not move forward with it.



FIRE (D) PROGRAM

To assist cities and state nodal agencies, MoUD, with FIRE (D) Program support, has developed toolkits that outline the pooled finance development scheme in detail.

Toolkit I—Institutional Framework and Processes. This toolkit provides a description of the PFDS institutional framework and summarizes the overall process for the scheme.

Toolkit II—Project Development, Pooling, and Appraisal. This toolkit describes how the PFDS can be involved in project development and pooling of projects. The toolkit also provides guidelines for appraisal of projects.

Toolkit III—Credit Rating, PFDF Support, and Bond Issue. This toolkit covers obtaining a credit rating for project pools, the steps in the process for obtaining PFDF support, and the bond issuance process for raising capital.

Toolkit IV—Reform Agenda and Performance Monitoring and Review. This toolkit describes the reforms (as specified by JNNURM and the Urban Infrastructure Development Scheme for Small and Medium Towns) that must be pursued by local governments to benefit from support under the PFDS. It also provides guidelines for performance monitoring and review of the local government reform process.

Conclusion

Pooled financing holds enormous potential for providing small and medium-sized local governments access to capital market financing on good terms. Although there have been few pooled bond issues so far, the FIRE (D) Program has demonstrated the value and workability of the mechanism. For its part, the central government has made an important commitment to supporting pooled bond issues in the future. With more states creating UIFs (see Article 6.6), the opportunities for expanding the use of pooled financing will be at the cutting edge of municipal finance in the coming years.



ARTICLE 6.6

Urban Infrastructure Funds

The discussion in the previous articles about municipal bonds, pooled financing, and the Pooled Finance Development Scheme (PFDS) points out how urban infrastructure funds (UIFs) are beneficial in the financing process. UIFs are subnational financing entities established by state governments (sometimes in collaboration with private sector partners) to facilitate urban infrastructure investment for on-lending to local governments and other implementing institutions that may have difficulty raising commercial investment on their own. UIFs mobilize resources from central and state governments, from donors and multilateral development banks, and from private financial institutions.

Starting in 2006, the FIRE (D) Program began to replicate the UIF model in the states of Maharashtra, Madhya Pradesh, Rajasthan, and West Bengal. Drawing on the lessons and evolution of the Tamil Nadu Urban Development Fund (TNUDF) and the Karnataka Urban Infrastructure Development Finance Corporation (KUIDFC), the FIRE (D) Program created a model for UIFs that can be adapted to help local governments in many states have greater access to commercial debt financing for urban infrastructure development.

The Challenge of Project Finance

The UIF concept in India emerged from a mix of challenges, some of which were directly related to specific states and others that were faced by urban infrastructure projects across the country. While most local governments need significant assistance to access commercial finance, there is growing interest among financial institutions and capital markets in urban infrastructure projects.

Lack of project development. Despite the interest of financial institutions, as well as limited successes by some states and local governments in financing their projects, developing and implementing commercially viable projects has proven difficult in India. Sometimes, even when project development appeared to be adequate, process management and political commitment wavered. The FIRE (D) Program found that the main reasons for the shortage of viable projects are:

- Lack of financially sustainable tariffs
- Lack of basic understanding of the requirements for bankable projects
- Inappropriate project choices, often focusing on high-end facilities, such as water treatment, instead of focusing on efficiency improvements, such as reducing water leakages
- Little appreciation for risk management
- Minimal funding for project development
- Not enough good advice and process management support during project development

Lack of long-term capital improvement plans. Even when local governments have latent debt servicing capacity, most of them do not prepare medium- to long-term capital investment plans and secure political commitment to such plans (see Article 3.7). In the absence of such plans, there are no clear infrastructure investment priorities and no quantification of the need to mobilize financial resources.

Structural bottlenecks. Many urban services, especially water and sanitation, are plagued with bottlenecks that influence management practices, such as a lack of customer orientation, outdated accounting practices, low tariffs, limited resource mobilization measures, and little transparency or accountability (see Chapter 4).

In the light of the above, local governments need to work with state governments to deal with these problems:

- Supporting reforms and enacting legislation that will facilitate local government access to financing
- Attracting expertise in project development
- Improving management of local government finances
- Helping access capital markets for some portion of their financing requirements

Lessons from Successful Urban Infrastructure Funds

A number of state governments have set up specialized entities for supporting project development for urban infrastructure. These entities have, in most cases, been structured to cater to all types of projects, but emphasize ones that can be commercially oriented and attract private sector participation. Some of these funds combine direct lending with their project development support. The states of Tamil Nadu and Karnataka have the most well known and successful UIFs.

Tamil Nadu Urban Development Fund

In 1988, the Government of Tamil Nadu (GoTN) began implementing the World Bank-financed Tamil Nadu Urban Development Project (TNUDP). TNUDP was a multisector project covering many cities throughout the state. One of the components was a state-level, municipal urban development fund, which provided direct debt finance to local governments (on-lending World Bank funds). Its success encouraged the GoTN to broaden the fund's scope to start attracting private capital into urban infrastructure. In 1996, the GoTN, with the assistance of the World Bank, invited three financial institutions—ICICI Bank, Housing Development Finance Corporation Limited (HDFC), and Infrastructure Leasing and Financial Services (IL&FS)—to convert the fund into a trust with a private manager. Established under the Indian Trusts Act of 1882, the partners named it the Tamil Nadu Urban Development Fund (TNUDF). While TNUDF is simply a financing conduit for urban infrastructure projects in the state, its management and technical support is provided by a public-private joint venture. The asset management company for TNUDF is called the Tamil Nadu Urban Infrastructure Financial Services Ltd. (TNUIFSL), with joint ownership by the GoTN (49%), ICICI (21%), HDFC (15%), and IL&FS (15%).

The main purpose of TNUDF is to mobilize and channel financial resources, including private financing, into high-priority urban infrastructure investment. It has approved more than 200 projects worth more than Rs. 1,000 crores (US\$222 million). The purpose of TNUDF is to help local governments with the following:

- Financing commercially viable urban infrastructure projects
- Mobilizing resources from the capital markets to supplement government funding
- Facilitating the participation of the private sector in urban infrastructure development through direct investment and through public-private partnerships (PPPs)
- Improving the financial management of local governments
- Operating a complementary grant fund to assist in addressing the problems of the urban poor

Some typical projects include a local government sewerage project utilizing a build-operate-transfer (BOT) framework, municipal bonds for a local government construction of a toll bridge, and implementation of an accrual-based accounting system in all of Tamil Nadu's cities. More recently, with assistance from the FIRE (D) Program, TNUDF created the Water and Sanitation Pooled Fund (WSPF) (see Article 6.5) for conducting municipal bond transactions.¹

Karnataka Urban Infrastructure Development Finance Corporation

KUIDFC, which was established in 1993, is a fully government-owned company. It originally acted as an implementing/nodal agency for urban projects funded by multilateral agencies. It also provides limited project development services to local governments. So far, it has acted as a financing conduit for the Government of India's Mega City scheme, the Asian Development Bank's Karnataka Urban Development Project (KUDP), and the World Bank's State Urban Development Project. KUIDFC pools resources from donors, government programs, and commercial finance for on-lending to local governments that qualify (see sample lending criteria in Article 6.2). In addition to lending, KUIDFC provides project development services for local governments that do not have the necessary skills (discussed in Chapter 5), and it monitors project implementation. Although KUIDFC is government-owned, the corporation operates autonomously, outside of the state bureaucracy. It is designed to bring commercial lending rigor to the sector.

In 2004, KUIDFC served a very commercially innovative role under the Greater Bangalore Water Supply Project (GBWSP), where the eight local governments surrounding the city center (they have since been merged into one jurisdiction) partnered in a pooled bond transaction worth Rs. 100 crore (US\$25 million) (see Article 6.5). This development is encouraging because KUIDFC successfully

¹ Three pooled bonds have been issued: one in 2002, one in 2008, and one in 2010. See Annex 6-1 for a list of municipal bond transactions in India.



blended commercial financing with grant/donor funds to (1) increase the overall funding envelope for infrastructure, (2) maintain commercial rigor in project development and implementation, and (3) keep the financing affordable for local government projects.

Infrastructure Development Corporation Limited of Karnataka

The Infrastructure Development Corporation Limited of Karnataka (iDeCK) was set up in July 2000 as a PPP by the Government of Karnataka (GoK) in partnership with Infrastructure Development Finance Company Limited (IDFC). The iDeCK is an entirely separate institution from KUIDFC (and theoretically its competitor). This new state-level institution promotes commercially viable infrastructure projects in Karnataka by utilizing private capital and professional management practices (while still serving a strong public interest).

The state government has supported the initiative with approximately Rs. 200 crore (US\$44 million) for launching its operations. iDeCK uses part of these funds (up to Rs. 50 crore [US\$11 million]) for professional project development services in priorities sectors. The other portion of funds is available for investment as “first mile equity,” which is an invaluable sign of commitment that helps mobilize private sector financing. iDeCK is an asset management company incorporated under the Companies Act of 1956, owned 49% by the GoK and 51% by IDFC with other private partners. IDFC has taken the lead responsibility for iDeCK, including day-to-day operations under a professional chief executive officer, while the state government names a nonexecutive chairman. Unlike the TNUIFSL joint venture in Tamil Nadu, iDeCK does not manage KUIDFC, but can still utilize the fund if proposed projects qualify for its lending.



FIRE (D) PROGRAM

The Urban Infrastructure Fund Model

After working with the fund entities in Tamil Nadu and Karnataka for many years, the FIRE (D) Program began promoting the UIF idea more widely to other states. A growing consensus in India is that UIFs can help fill the capacity gap that local governments face when trying to develop, finance, and implement urban infrastructure projects. However, the evolution has stalled to a great extent under the Jawaharlal Nehru National Urban Renewal Mission (JNNURM). In theory UIFs could serve as JNNURM nodal agencies/PMUs, but, for various reasons, this has not happened. The project management units (PMUs) set up under JNNURM to augment limited project development and implementation at the state level have usurped a principal role envisaged for the UIFs. Also, the emphasis of JNNURM is not developing commercially viable projects, since most of the project funding is through grants and budget allocations. Still, the long-term need for UIFs will persist, and states continue to consider.

Mission and Objectives. UIFs promote projects developed in a commercial format that provides adequate coverage, efficient operations, affordable cost, sustainable assets, and modern design for all intended users. UIFs mobilize a combination of public, private, and community-based resources to accomplish their missions. The key objectives are to:

- Support essential reforms in the urban sector of the state
- Improve the creditworthiness of local governments
- Develop bankable urban infrastructure projects
- Facilitate access to commercial finance and capital markets for increased investment
- Assist local governments to keep their infrastructure projects on schedule and on budget
- Reduce the cost of capital to local governments through appropriate credit enhancements
- Promote private and community participation within urban services

The Roles of Urban Infrastructure Funds

Driver of urban sector reforms. The UIF, as a state-level institution working with local governments to develop and finance urban infrastructure projects, is in a good position to promote essential reforms. Reforms that improve financial viability (see Chapter 4) make urban services more sustainable by decreasing their risk, strengthening municipal finances, and decreasing the cost of borrowing. Local governments become more creditworthy as a result of implementing such reforms, and this improves their access to commercial financing. The UIF can create incentives for local governments to adopt reforms by making its technical and financial support contingent on implementing the state's urban sector reform agenda.

Provision of project development services. Assisting local governments to develop projects is one of the key roles of the UIF. The UIF does not simply fund projects, but also ensures that appropriate technical, legal, and financial expertise is used to encourage commercial viability. One of the principal reasons that urban infrastructure projects fail to attract commercial finance is their weak structure that does not identify or mitigate all the risks associated with the project.

Monitor of project implementation. For projects that have attracted commercial finance, it is essential to ensure that there are no delays or cost escalations during implementation. This is another important role to be played by UIFs. Project monitoring can be undertaken by UIF staff or by contracting it to construction supervision specialists that help ensure the designs, contracts, and budgets all conform to the approved plans.

Credit enhancement. To enable local government to access long-term capital at reasonable costs, UIFs may need to create a debt service reserve fund, purchase credit guarantees, or structure other forms of credit enhancement. Credit enhancements can lengthen the term of debt and lower the interest costs, thereby improving the financial feasibility of a project. In this context, a UIF can serve as the nodal agency for the Pooled Finance Development Scheme (PFDS) to best utilize its credit enhancement support.

Capital investment. In cases where local governments are unable to access capital markets to finance their urban infrastructure projects, the UIF may provide direct lending. However, direct lending should not be confused with grants. Term loans by the UIF should be financed by capital borrowed from both the market and government sources. It can be passed on to local governments at interest rates and terms that enable the UIF to fully repay its creditors. This can be structured by utilizing grants to cross-subsidize/lower the interest and fees associated with commercial finance.

UIFs should act only as a “lender of last resort” if all other possible sources of financing have been tapped and there still remains a gap preventing financial closure of the project. Direct lending should not cover all of a project's debt, since a lack of other lenders indicates that the project has not been adequately developed and structured (except in some cases, referred to as new markets, where commercial finance is not yet forthcoming).

Provision of grants. To ensure that all segments of a city (especially the poor) are covered under a new project, the UIF can provide targeted grant funding. Although most people, including the poor, are willing to pay for improved infrastructure, low-income communities usually require much more engagement through community mobilization (see Article 3.2) and through special tariff structures that accommodate “lifeline” rates, allow sharing across several households, simply the connection procedures, and make payment options easier. Technical assistance and subsidies will be required to include some marginalized communities into mainstream infrastructure projects.



FIRE (D) PROGRAM

Fund Structure and Policies

The institutional structure of a UIF is crucial to ensure that its mission and objectives can be adequately fulfilled. Although there are several institutional variations, the FIRE (D) Program recommends the following based on pilot experiences throughout the country.

Project Development Fund. The project development fund (PDF) covers the cost of external financial advisors, consultants, lawyers, and engineers needed to help prepare a commercially viable project. Project development typically costs 3%–5% of the total project cost, as up-front expenses. Most local governments are unwilling or unable to pay this, since tangible results are still distant. Therefore, the size of a PDF is a major factor in promoting large-scale infrastructure improvements across a state. Each Rs. 1 crore (US\$222,000) available in a PDF should support the development of approximately Rs. 20–30 crore (US\$4.4–\$6.6 million) worth of investment.

As a matter of policy, the PDF should be a revolving fund: Projects that successfully access commercial financing reimburse the PDF for all costs expended to develop the project, plus a reasonable “success fee” to incentivize the professionals that provide the assistance.² It must be recognized, however, that not all projects receiving PDF support will reach financial closure. The fund’s depletion can be partially counteracted by the fee that the UIF charges at financial closure. Otherwise, new injections of grant funding will be required over time.

Credit Rating Enhancement Fund. The credit rating enhancement fund (CREF) provides funding for a bond service fund (also called a debt service fund) to help improve the creditworthiness of a bond issue or even a long-term term loan. A bond service fund is typically one part of a multilayered credit enhancement structure used to reduce the risk of a borrower defaulting, thereby improving the bond/loan credit rating and reducing the cost of borrowing (see Article 6.5). The bond service fund is paid into a trust account on behalf of the lenders before/at the time of financial closure. The money can come from the CREF, as well as from the participating local governments and beneficiaries. For qualifying pooled bond issues, 50% of the bond service fund can be reimbursed by the Government of India under PFDS.

The amount of money in a bond service fund (always more than the annual debt service) is maintained at a constant level, specified by legal covenants in the bonds (or loan) documents. If for some reason the bond service fund has to disburse money to avoid default on repayment, then the fund must be replenished within a specified period (e.g., 90 days). This is done by either a transfer intercept mechanism (i.e., the next intergovernmental transfer from the state government to the local government(s) automatically replenishes the fund) or the CREF can temporarily allocate further funds that the local government(s) repay. However, the initial capitalization of the bond service fund is the maximum liability that the UIF faces because, after using it for the first time, it is actually the responsibility of local and/or state government to replenish it.

Capital Fund. To the extent that the UIF intends to make direct loans for infrastructure projects, a separate revolving fund can provide the lending capital. Resources in the capital fund (CAPF) are a mixture of both government grants and the proceeds of financing mobilized by the UIF from donors or the capital markets. Blending state government grants with market borrowings has the advantage of leveraging state funds many times over, while also reducing the cost of CAPF loans charged to local governments.

As a matter of policy, the UIF only provides gap lending or “lending of last resort.” The CAPF lends to projects that have successfully managed to raise most of their debt financing (e.g., more than 75%) from external sources. If for some reason an otherwise viable project fails to mobilize sufficient funding (e.g., Nagpur’s 2007 bond issuance; see Article 6.4), the UIF could step in and offer the required debt financing to enable the project to achieve financial closure in a timely basis. There are several situations where the CAPF can be useful.

- **Financing for local governments to fund their contribution toward the project.** External lenders typically require the sponsor, i.e., the local government, to contribute between 15% and 30% of the total project costs from internal sources. The CAPF may lend to local governments to finance some of this contribution if internal revenue surpluses have not been saved long enough yet.

² Under PFDS, up to 75% of the cost of project development can be reimbursed by the central government to the local governments that participate in approved pooled bond issues.

- **First mile financing.** In cases where “external” lenders require initial commitment from a donor or state government to demonstrate confidence in the project, the UIF could play the role of first financier. This initial CAPF support is limited to less than 25% of the project’s debt amount, and is contingent on mobilizing the remaining debt required for financial closure.
- **Subordinate financing.** In the event that a project cannot generate enough commercial debt to reach financial closure, the UIF could lend the remaining amount (if it is small). However, there should be clear criteria for this situation, such as a gap of less than 15% of the debt required or a specific market failure preventing the debt from being mobilized (as in the Nagpur bond issuance). In most cases, a problem probably exists with the project structure if commercial financing is not forthcoming (i.e., the project is not actually commercially viable). If the UIF routinely lends in these situations, its lending rigor will be compromised and erode with time. Still, a government-sponsored institution can be more flexible than commercial lenders in structuring debt, while also expecting repayment. For example, subordinate financing can be of longer term than commercial financing, which eases the repayment schedule. Or it can be treated as equity for repayment with subsequent refinancing or asset disposition (e.g., a government could build a road and then recapitalize it as a toll highway at a later point). Bond banks in the United States frequently act as subordinate lenders, although lending criteria need to be very clear and specific to maintain lending rigor over time.

Grant Fund. UIF grants provide funding for project components that are not financially viable due to the nature of the infrastructure or the limited income of those receiving the service (e.g., affordable housing projects for slum dwellers). By definition, a grant fund is not a revolving fund and has to receive injections from the state or central government, from annual budgets of local governments, or from donors.

As a matter of policy, a grant fund is used only in well-documented cases where the investment is tightly linked to improving urban infrastructure that serves low-income neighborhoods. Preference is given to projects that demonstrate the participation of the affected residents in planning, implementation, and partial financial contributions.



FIRE (D) PROGRAM

Managing an Urban Infrastructure Fund

Project development company. Urban infrastructure projects require significant professional skills to structure them in a commercial format (see Chapter 5). As yet, the ability to develop well-structured projects is still scarce in India. A UIF can provide these skills to local governments with dedicated in-house staff or by contracting a project development company (PDC), like iDeCK or TNUIFSL. The PDC normally assigns a dedicated project development team to the UIF.

The PDC is contracted through a competitive process based on both technical and cost criteria (see Article 5.7), and the competition is repeated periodically to ensure that the UIF obtains the most cost-effective project development services. The PDC is paid through the PDF on a competitively determined price. The FIRE (D) Program recommends using a “cost-plus-fixed-fee” for the time and materials directly expended by the PDC team, as well as a “success fee” to incentivize bringing projects to financial closure.

Asset management company. Managing the resources held in the PDF, CREF, CAPF, and grant fund requires specialized skills that are not typically available in state government entities. The FIRE (D) Program recommends retaining an asset management company (AMCo.), such as a commercial bank, to independently and objectively evaluate all project proposals—based on transparent lending criteria—that come before the UIF. The AMCo. provides chartered accountants and other financial experts to professionally manage the funds. In addition, the AMCo. is responsible for advising the UIF on how to invest its cash balances (should be short-term and low-risk investments).

Like the PDC, the AMCo. is contracted through a competitive process based on both technical and cost criteria, and the contracting process is repeated periodically to ensure that the UIF is obtaining the most cost-effective services. Given its role, the AMCo. cannot have any corporate or financial connection to the PDC to ensure independent advice. The AMCo. is paid from the UIF’s operating budget on a “cost-plus-fixed-fee” basis for the time and materials contributed. It is also possible to provide a “success fee” incentive, based on the financial performance of the CREF and CAPF portfolios (i.e., no losses to the CREF and a timely repayment of CAPF loans). This fee structure is designed to ensure the AMCo.’s motivation in delivering sound investment and lending advice to the UIF.

Internal staff. Beyond the outsourcing of project development and asset management functions, the UIF can employ an in-house team responsible for the following administrative and strategic functions:

- Working with the state government to develop an urban reform agenda and engaging with local governments to implement the reforms
- Procuring and managing the contracts for the PDC, the AMCo., and any other services
- Participating in development planning (see Chapter 3) to conceptualize infrastructure projects across the state
- Monitoring and evaluating infrastructure projects and other initiatives, including JNNURM
- Mobilizing the resources required for the various funds, as well as providing support to local governments in their efforts to mobilize external, commercial finance
- Coordinating with the diverse agencies responsible for urban development across the state

Conclusion

Replication of UIFs across India’s diverse states will take time, and the model presented here is available to guide the process. The FIRE (D) Program has made substantial headway toward establishing UIFs in Maharashtra, Madhya Pradesh, Rajasthan, and West Bengal. Maharashtra established a UIF in 2004, and it has since been managed by a government-owned company. It has implemented several PPP projects with support from the Asian Development Bank, but has not facilitated any debt financing, in part because there was not enough money to create a capital fund at the onset. However, with the realization that PPP structures are very challenging for traditional urban infrastructure like water and sewerage, in 2009, the Government of Maharashtra renewed its interest in developing a debt component. In most cases, institutions like UIFs should continue evolving until their structure and operations fulfill their intended purpose. As more and more states adopt their own versions of UIFs, the volume of commercially viable and bankable infrastructure projects will continue to grow.

ARTICLE 6.7

Microfinance for Access to Urban Infrastructure

When developing city-wide infrastructure, one cannot simply assume that the whole city benefits. Many times technical designs only provide infrastructure upgrades for households that already have access to services. Other times, infrastructure expansion only includes main or secondary lines, but not distribution networks within neighborhoods. This is fine for new housing developments for middle- and high-income residents or government projects where the builders pay for the distribution networks, but it is problematic for retrofitting older neighborhoods and servicing the poor. Currently, 33% of India's urban population lives in slums, and India has more slum dwellers than any other country in the world. Cities can no longer pursue urban development, infrastructure improvements, or economic growth without also including slums. To do so would ignore a third of the cities' population.

Urban slums grow because Indian cities attract all types of people aspiring to take advantage of new economic opportunities. However, the growth of infrastructure and housing has failed to keep up with population growth. With an inadequate supply of acceptable quality, affordable housing and land, people live in miserable conditions without basic services or secure tenure.

There is a common belief that slum dwellers cannot afford to pay for proper infrastructure services. However, successful pilot projects around the country have contradicted this belief. In Dewas, Madhya Pradesh and Thane, Maharashtra, for example, the FIRE (D) Program focused on orienting city-wide projects to extend networks into the slums. Infrastructure extension into slums is a marginal increase to the cost of a large capital project, and paying for it can be financed like any other part of a network improvement. In Bhubaneswar, Orissa, the FIRE (D) Program is demonstrating that household access to water and sanitation services can be expanded within slums, partially using a microfinance model. In the Gyannagar slum of Bhubaneswar, the FIRE (D) Program introduced microfinance and attained full sanitation coverage, with 95% of the households opting for household water connections and toilets.¹ Encouraging households to invest in on-plot work and legal connections helps ensure long-term sustainability of infrastructure systems because slum dwellers become regular paying customers.

Access to Infrastructure

Infrastructure development usually focuses on public rights-of-way, owned and maintained by the city or some other public agency. Residents living in these areas can benefit by paying for connections to infrastructure, such as water, sewer, gas, power, or telecommunications. In new, formally developed neighborhoods, real estate projects construct infrastructure as part of the subdivision, with the costs embedded in home prices. In contrast, slums develop without the provision of infrastructure within the neighborhood. Slums frequently develop on land that is not formally part of the city and its service delivery area. As a result, there is no formal mechanism to expand infrastructure to these areas. This situation is complicated by the fact that slum households have difficulty paying for high utility connection fees as well as for the necessary costs of pipes, taps, meters, and other household-level items. Most also lack the formal documentation that many utilities require for household connections.

From an affordability perspective, slum dwellers have difficulty paying the full cost of extending the distribution network into their neighborhood. However, microfinance has enabled slum dwellers to pay modest connection fees for a house connection with home improvement loans. Slum dwellers are often willing to invest in on-plot work, since the household directly benefits from improved services and appreciated property value. Ankuram Sangamam Porum (ASP), a microfinance institution (MFI) in Andhra Pradesh, conducted a survey in 2004 that showed that 79% of households were interested in home improvement loans, and 18% of the MFI's borrowers reporting that they used part of their business loans for housing anyway.²

1 Households without individual toilets decided to share a community toilet, operated on a family "subscriber" model, where those families using it receive key access to the facility and pay monthly charges for cleaning and maintenance.

2 Young, Cheryl, 2007, *Housing Microfinance: Designing a Product for the Rural Poor*, Institute for Financial Management and Research, Centre for Micro Finance, Working Paper Series No. 19, p. 13.



The FIRE (D) Program pilot in Bhubaneswar worked with an MFI, the local government, and seven slum communities from 2008 to 2010 to provide households with legal connections to the municipal water and sewer networks. Improved services reached all households in the settlements through a variety of solutions: water taps, household toilets (new and renovated), shared toilets, and an improved community toilet with a community-based management plan.

The pilot blended public and private financing for infrastructure improvements. First, the Public Health Engineering Organization (PHEO) paid for augmenting the current water supply serving the slum areas. The supply of water to the slums was increased to match the supply of the surrounding neighborhoods, approximately 135 liters per capita daily, 7 days a week. This allayed the concerns of neighboring residents that the slum improvement project would reduce their water pressure.

Second, the Michael and Susan Dell Foundation (MSDF) provided a grant to pay for the capital costs of extending the water and sewer distribution network within the slums. The distribution lines were planned in such a way that every household could connect. Table 6-5 shows the cost of the onsite infrastructure for the first slum, Gyannagar.

Table 6-5. Cost of Onsite Infrastructure in Gyannagar Slum

Underground infrastructure	Piping required (in meters)	Development cost (Rs.)
Water supply	200	383,000
Sewerage	250	277,000
Total onsite infrastructure	450	660,000

The PHEO helped develop the technical design of the infrastructure and subsequently constructed the onsite infrastructure through a deposit contract (from MSDF funds). At the same time, individual households began to save for and finance their on-plot facilities so that all components finished together.

Microfinance for Household Water Connections and Toilets

Most households in the pilot did not have enough money saved to cover the full toilet costs up-front, and therefore opted for MFI financing. For the most part, Bharat Integrated Social Welfare Agency (BISWA), the MFI, wanted the pilot to fit its typical loan parameters. The loan carried 20% annual interest, repaid monthly in 24 constant installments. Closing costs included 2.5% of the principal for loan processing, Rs. 15 (US\$0.33) for bonding any group loans, and Rs. 120 (US\$2.60) for stationary costs of the documents. These closing costs were financed as part of the loan.

Mandatory savings of Rs. 50 (US\$1.10) per month, prior to and during the course of the loan, served as loan collateral. Low-cost life and health insurance for each household also served as collateral and became mandatory parts of the pilot project.³ Each borrower had to be a member of a community self-help group (SHG) through which s/he deposited his/her monthly savings in a non-interest-bearing bank account. Except for emergencies, SHG members did not have access to the savings until after their loan repayment. With these loan terms (which comply with Reserve Bank of India [RBI] rules and are competitive relative to other MFIs in India), the average monthly costs for each “typical” option in the pilot is listed in Table 6-6.



FIRE (D) PROGRAM

Table 6-6. Microfinance Options for On-Plot Work (in Rs.)

	Water connection only	Basic toilet	Toilet renovation	New 3' x 3' toilet	Toilet-cum-bath	Bath only
Principal, including connection costs	1,316	3,354	3,479	7,286	13,314	7,944
Average closing costs	42	93	96	191	342	208
Total interest paid over 24 months	274	699	725	1,518	2,774	1,655
Total debt service paid	1,632	4,146	4,300	8,995	16,430	9,807
Average monthly installment	65	166	172	360	657	392

Home improvement lending in urban areas became a new market for the local MFI. It had lent for toilet construction in rural areas, but primarily for pit latrines under the Government of India Community Led Toilet Scheme. MSDF facilitated the MFI's entry into this new sector by paying for planning and community mobilization costs. The FIRE (D) Program helped develop the right pilot design, focusing on household affordability: the combined analysis of (1) borrower capacity to pay, (2) borrower willingness to pay, (3) lending terms, and (4) cost of home improvements.

In addition to loan repayment (associated with each construction option listed above), households have to pay several other ongoing costs. At the minimum, households have to be able to comfortably afford the water and sewer tariffs to use the services. The project team incorporated these ongoing costs into the affordability analysis to help determine the borrowing capacity for each household (see Table 6-7).

Table 6-7. Ongoing Costs apart from Loan (in Rs. per month)

SHG savings (inaccessible during loan)	50
Healthcare and life insurance (Rs. 325 annually)	27
Monthly water tariff	58
Monthly sewer tariff	20
Subtotal	155

Households have to be able to afford these ongoing expenditures to participate in the project. It would not be sustainable to build a toilet or provide a water connection if the beneficiary could not pay the monthly water and sewer tariffs.⁴ Together, the water and sewer tariffs, insurance, and mandatory monthly savings for loan collateral is Rs.155/month (US\$3.50). Although this appears small, the amount is in excess of all routine household expenditures prior to this project, as well as the new loan.

Affordability Strategies

It is essential that the monthly payment capacity of each household matches the microfinancing terms of the desired water/sanitation option. Affordability analysis is a fundamental part of reviewing the credit risk of each household. The analysis partially stems from household surveys and partly from discussions with the SHGs to understand how much financing they are comfortable with. The primary parameters include:

- Household income and types of jobs
- Use of loan (whether it will increase household income or decrease monthly expenditures)
- Current savings and expenditures patterns
- Terms of loan product offered by the MFI
- Individual versus group loan structure (whether the SHG shares the liability jointly for all member loans)

⁴ Note that these monthly tariffs are constant for all PHEO customers in Bhubaneswar. They will likely change as part of the proposed Jawaharlal Nehru National Urban Renewal Mission (JNNURM) 24x7 water project, which plans to convert all households into a metered system.

Illustrative Affordability Analysis

1. Determine monthly household income (include all sources of income from all members).
2. Subtract routine, monthly household expenditures, including other debt or mandatory savings.
3. Subtract new, ongoing costs associated with the project (Rs. 155/month from Table 6-7).
4. Subtract emergency/non-routine expenditure parameter (e.g., 10% of gross income).
5. Equals disposable income available for debt service on a monthly basis.
6. Compare this amount with the average debt service for each typical toilet option in Table 6-6.

If a household desires a particular option but cannot afford it, then an alternative strategy needs to be implemented. In the pilot project, more than one household could share a single connection/toilet, or a household could join a livelihood enhancement program (operated by the MFI and the city's Slum Improvement Office) to help boost income before taking a loan. For the poorest households in the pilot project, community toilets (operated as a microenterprise) offered the lowest-cost option for proper sanitation. For small monthly installments of approximately Rs. 30 (US\$0.66), households gained access to toilet facilities maintained by one of the community SHGs. The community toilets are connected to the water and sewer lines and have electricity. Locks prevent nonmembers from using them. A grant from MSDP paid for building the community toilet. In the pilot project, most of the households were ultimately able to finance their access to water and sanitation through micro-loans, as illustrated in Table 6-8.

Table 6-8. Distribution of Households Participating in the Pilot

Participation in the pilot	Water	Sanitation
Use MFI for on-plot work	69%	40%
Shared solution with another household (with MFI)	29%	19%
Community toilet	n.a.	34%
Already had toilet and water connections before pilot	0%	5%
Not participating in pilot	2%	2%
Total	100%	100%

The Future of Microfinance for Infrastructure

India has a huge market for water/sanitation microfinance specifically and for home improvement more generally. The market potential represents 45% of total Asian and African demand, based on the 2008 survey by the Gates Foundation of 38 countries in those regions.⁵ That portion equals approximately Rs. 270 billion (US\$5.4 billion) in loans and 56 million borrowers. Although the market for water/sanitation microfinance is enormous, serious limitations constrain the sector's immediate growth.

Relatively few microfinance organizations work in the home improvement sector, of which toilet, bath, and water tap/piping upgrades are a part. Although several Indian MFIs are entering the market, only Ahmedabad's Self-Employed Women's Association (SEWA) is well established in urban lending. In fact, unlike other countries, urban lending is underrepresented in Indian microfinance. The added complexity of urban settings might be one explanation for relatively low market penetration. Also, the origin of microfinance in India is very rural based.

Historically, the primary driver for microfinance has been the joint liability, savings group model that focuses on women's empowerment. MFIs have worked with women to form self-help and savings groups, which then borrow as a single entity. The group shares both asset creation

⁵ Mehta, Meera, 2008, "Assessing Microfinance for Water and Sanitation: Exploring Opportunities for Sustainable Scaling Up," Bill & Melinda Gates Foundation.

(and benefits of the asset) and the loan liabilities. This makes sense from the gender and microenterprise perspectives, because MFIs have focused on improving livelihoods of women.

The approach also fits well into RBI regulations that prevent MFIs from mobilizing deposits and savings.⁶ RBI regulations do not permit MFIs to function as depository banks, and they are prohibited from offering savings accounts to members. Instead, SHGs deposit their savings in other commercial or state banks. For small-scale lending, savings is the safest form of collateral tying the borrower and institution together. Saving deposits are also the cheapest way for MFIs (as well as commercial banks) to raise capital for lending. Without this tool, MFIs in India have to rely on a limited supply of grants and very expensive commercial capital. In the water/sanitation sector, MFIs have to pay 15%–20% interest for capital from domestic banks, and the debt has to be repaid over short terms. In addition, domestic banks require significant fixed deposits before lending to MFIs. This really constrains the size and terms of loans that MFIs can offer its borrowers, it increases the interest rates that MFIs charge borrowers, and it limits the growth rate of the sector overall.

Supplying larger home improvements loans with longer repayment periods will be difficult for most MFIs in India right now due to how their own capital is structured.⁷ For this reason, MFIs are reluctant to change their lending models, even though the traditional model is not completely appropriate for the new sector (i.e., joint liability is not as appropriate for individual asset creation and ownership).

The Government of India's lending programs add further complexity. For example, the Interest Subsidy for the Urban Poor⁸ provides loans at 5% interest, well below market rates. Unfortunately, this interest subsidy is designed to flow through state-owned banks that do not work well with low-income communities. Compared with MFIs, state banks do not have community mobilizers that work hand-in-hand with slum households in designing interventions and ensuring repayment. Where MFIs have high (95%+) repayment rates, state banks experience much higher default rates among the poor. This experience reinforces negative attitudes toward the poor and makes the banks reluctant to participate.

In this difficult regulatory environment, it is unlikely that MFIs can scale up lending for large slum upgrading programs. Building on the experience from the Bhubaneswar pilot project, the FIRE (D) Program has proposed a revolving fund for the poor, which can be established by cities through a state's urban infrastructure fund (UIF) (see Article 6.6). These funds can be used to capitalize MFIs for specific types of slum improvement lending, thereby increasing MFI capital for water/sanitation lending and reducing interest rates for the poor.

6 Reserve Bank of India, 1 July 2009, *Master Circular on Micro Credit*, RBI/2009-10/40.

7 And it would be almost impossible for MFIs in India to provide micro-mortgage finance for proposed low-cost housing. For example, a small apartment can cost Rs. 3.5 lakhs (US\$7,800) and would need to be repaid over 15 years. This means that commercial banks would have to lend to the poor, but they are extremely reluctant to do so due to weak credit and other common reasons.

8 Interest Subsidy Scheme for Housing the Urban Poor (ISHUP) by the Ministry of Housing and Urban Poverty Alleviation.

ARTICLE 6.8

Current Innovations In Urban Infrastructure Financing

The foregoing articles of this chapter mostly examined major innovations in urban infrastructure financing that the FIRE (D) Program supported in India. This article discusses some other current innovations in urban infrastructure finance in India, including the use of land values to help finance projects, the use of “gap” financing to attract private sector investment, and the use of government grants to leverage commercial finance and encourage essential reforms at the local government level. The article concludes with a brief review of the constraints facing the development of India’s municipal bond market.

Unlocking Land Values¹

The installation of infrastructure (e.g., roads, water, sewer, and electricity) increases the value of the land in the vicinity of the infrastructure investment. Unused land owned by local governments or state government has a market value that can be put to use to accomplish development objectives highlighted in a city development plan (CDP). Converting land values into resources needed to pay for infrastructure is an important alternative to using debt financing and is being used in rapidly growing cities like Bangalore, Mumbai, and Pune.

There are a number of different ways to convert land values into infrastructure investment.

- **Betterment levies** are a one-time tax on the increased value of private land that benefit from service improvements as a result of public infrastructure investment.
- **Developer land sales** recover the cost of infrastructure installed by the developer (public or private) by adding those costs to the price of the land offered for sale.
- **Sale of public land adjacent to an infrastructure project** enables the government to capture the increase in land value resulting from a project.
- **Sale of development rights** is a way for government to raise money for infrastructure by selling developers the permission to develop their private property to a higher level than would otherwise be allowed due to zoning or building regulations.
- **Developer extractions** or **impact fees** are mechanisms to directly shift the cost of infrastructure from the government to the private sector developer whose project stands to benefit from a public investment.
- **Sale of underutilized public land** is a way for government to convert underutilized or unused land assets into cash for investment in infrastructure.

Each of these mechanisms has advantages and disadvantages, and not all of them have been utilized in India.

Betterment levies. Betterment levies are an easily understood means of taxing the financial gains of property owners who benefit from the installation of infrastructure, though they have proven difficult to implement in most developing countries. The value of a property in an area that is deemed to have benefitted from infrastructure improvements is assessed and compared with the assessed value of the same property before the introduction of the improvements. The increase in value is then subject to a one-time betterment levy at a fixed rate (as much as 50%–60% in some cities). The tax revenue is then used to pay off the financing that was initially used to fund the infrastructure. This has the advantage of providing a means of taxing existing properties that benefit from infrastructure improvements (rather than just new properties as in the case of developer extractions and impact fees). However, betterment levies are complex to administer and require carefully maintained and frequently reassessed property value registers. It also requires significant consensus building among the public at large, so that they realize the link between the betterment levies and improved infrastructure (connection charges can partially capture new investments if designed correctly). For this reason, only a few developing cities have chosen to employ betterment levies significantly (e.g., the Ahmedabad town planning scheme).

¹ For a full discussion of this topic, please refer to Peterson, George, 2009, *Unlocking Land Values to Finance Urban Infrastructure*, Washington, DC: World Bank, Public-Private Infrastructure Advisory Facility (PPIAF).



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Developer land sales. Another simple way to use land to finance infrastructure is for a property developer (government or private) to add the cost of the infrastructure to the price of the land or buildings sold. Commercial or residential property development projects that are destined for sale to the public can be required to provide the local government with all necessary “onsite” infrastructure as a condition for permitting their construction. That way, the developer will build the cost of the onsite infrastructure into the price of the property sold at the end of its project, and the local government will acquire completed infrastructure without having to finance it. If the property development project is large enough, the required onsite infrastructure may include schools, clinics, and police/fire stations in addition to roads, water, sewer, electricity, and telecom.

Sale of public land adjacent to an infrastructure project. A variant on the sale of government land involves the sale of “excess” land that the state or local government acquired to implement a specific infrastructure project. For example, there may be excess government-acquired land available along the right-of-way of new roads or adjacent to a public transportation terminal or a bus/rail transit station. The land is acquired in order to build the infrastructure improvement, but after construction, not all of the acquired land is needed for operation of the infrastructure/service. The land adjacent to the infrastructure improvement will have increased substantially in value compared to its market value at the time it was acquired by the state or local government for the project. Depending on the amount of excess land owned by the state or local government and the per unit increase in value, a public sale or development of the excess land may bring in enough money to pay for the entire infrastructure improvement project. This mechanism was considered for use in Bangalore, where excess land owned by the state government adjacent to the newly developed airport could have been sold at market rates to generate enough capital to build a new access road from the city to the airport. And it has been used very successfully in Delhi to fund a portion of the new metro rail. This mechanism has the advantage of linking the proceeds from land sale to a specific infrastructure project so that the chances of the funds being diverted are minimized. Its disadvantage is that it does not generate funding in advance of project implementation, so other funding (usually debt financing) has to be mobilized to acquire enough land and build the infrastructure before benefiting from land sales.

Sale of development rights. A more complex approach to capturing land value for development of infrastructure is to sell development rights. Where development controls, such as the floor area ratio (FAR) or restrictive zoning, are enforced by local governments or state government, the opportunity exists for permitting developers in a specific area to exceed established restrictions in return for a payment that is used to finance infrastructure in the area. This is the approach being used to mobilize funding for the redevelopment of Dharavi slum in Mumbai, as well as redevelopment projects in other Indian cities. Dharavi landowners pay a substantial fee to the Mumbai Metropolitan Redevelopment Authority (MMRDA) in return for permission to build high-rise buildings that would not normally conform to the FAR. MMRDA (and the developers themselves) use the funds derived from the sale of development rights to construct infrastructure in Dharavi at a level that will accommodate the projected demand from the increased development. The private developers have to calculate whether they can recoup the large fee paid to MMRDA from the sale or lease of the additional floor area they are allowed to develop (see Article 3.6 for more on how this is used for slum upgrading).

In other cities like Pune, development rights are made “transferable” so that the owner of land in an area designated for infrastructure improvements can buy development rights based on his land holding in that area, but use or sell the development rights to increase the intensity of development on a different land holding elsewhere in the city (often only in designated development areas where authorities are able to accommodate higher levels of development). While this can be an effective way to mobilize substantial amounts of capital for infrastructure, it requires detailed and up-to-date knowledge of land markets and land values by a local government, a state government, or other authorities. It also requires a sophisticated monitoring system in cases where developers agree to build the improved infrastructure (e.g., low-income housing) to ensure that the targeted beneficiaries actually receive the agreed-upon benefit.



Sales of development rights can be used strategically by local governments during periods of rapid growth. But the mechanism should only be considered a temporary way to advance development objectives. Over the long term, overly restrictive zoning laws prevent private sector development in cities (i.e., development that responds to market demand). In the face of rapid growth, the government needs to find all ways possible to facilitate quality construction. By restricting formal development, builders consequently resort to illegal and haphazard construction, which is difficult to guard against after the fact (see Article 3.5).

Developer extractions or impact fees. However, a property development project also increases the burden on infrastructure beyond the boundaries of the project itself (e.g., the supply of water to the neighborhood under construction). To pass on the cost of the necessary “offsite” infrastructure improvements to the project beneficiaries, the developer can be charged an extraction or impact fee as a one-time charge based on the cost of the infrastructure improvements necessitated by its project. The developer then builds this cost into its property sales price. All of these mechanisms have the effect of shifting the cost of infrastructure improvement from the state or local government to the property developer, and creating a strong linkage between the beneficiaries of the infrastructure improvements and the people who pay for it. However, these types of infrastructure financing can be complex to administer and can lead to “special deals” and other corrupt practices unless they are managed in a highly transparent manner.

Sale of underutilized public land. The most straightforward way to convert land value to funding for infrastructure is to sell government land. A local or state government may already own underutilized properties, which, because of their location, have a significant value to private developers. To determine if this is the case, the local or state government first needs to identify all of its land holdings (including land with buildings) and how each of the land parcels is being used. Next, the list of land holdings needs to be analyzed to determine if particular parcels are underutilized or no longer essential to the government. These parcels should then be examined to estimate their potential value if offered in the market. The FIRE (D) Program assisted Indore Municipal Corporation in carrying out this asset identification and valuation work with a real estate agency, as part of its broader resource mobilization effort (see Article 4.3). If the appropriate officials in the local or state government approve the sale of specific parcels, they can then be offered to the market in some form of competitive sale. The proceeds of the sale should be placed in a special account (preferably an escrow account) dedicated to funding infrastructure improvements. This mechanism has the advantage of providing funding for infrastructure projects without the government going into debt. Its disadvantage is that the funding is not necessarily closely linked to a specific infrastructure project, and there is always the temptation for cash-short governments to use the funds to support the annual operating budget rather than capital investment in infrastructure. This would be a mistake because the sale of land and other assets is limited to what government owns, and therefore should be considered “one-off” ventures. The proceeds should be used for strategic development objectives.

Gap Financing

Urban infrastructure in India can now be financed with a mix of public and private funding. As a result of the FIRE (D) Program’s pioneering efforts and major reforms adopted by the Ministry of Urban Development (MoUD), local government revenues and transfers from state and central governments, such as Jawaharlal Nehru National Urban Renewal Mission (JNNURM) grants, can now be used to leverage private capital investment in urban projects. Private capital may come in the form of equity investment under public-private partnership (PPP) agreements or debt financing mobilized through municipal bonds.

Adding private capital to the financing mix can significantly increase the investment resources for urban infrastructure beyond the amounts available from government and foreign donors alone. Over the last few years, government funding has begun to be used as an explicit catalyst for private investment in infrastructure. The FIRE (D) Program encourages this approach. The central government’s Pooled Finance Development Scheme (PFDS) uses a small amount of government funding to enhance the creditworthiness of pooled municipal bonds that might otherwise have difficulty attracting investors (see Article 6.5). For infrastructure PPP projects, a related approach is being used to attract private equity investment.

The Viability Gap Fund (VGF) is another initiative of the Government of India.² It began in 2005 to demonstrate the government's commitment to promoting PPPs in infrastructure development. The fund is designed to attract investment from private equity and introduce private sector management into infrastructure projects that are economically justified but not necessarily commercially viable on the basis of user fees alone. The VGF defines "viability gap funding" as a grant provided for the purpose of making a project commercially viable. The VGF is administered by the Ministry of Finance (MoF), with funds from an annual budget allocation. The total funding provided to a PPP project under VGF may not exceed 20% of the total project cost. However, the government entity that owns the project may provide additional grants out of its own budget up to an additional 20% of the total project cost. Funding under the VGF is typically provided as a capital grant for project construction, although a revolving fund also exists to help capitalize financial institutions operating in this sector.

To be eligible for funding under the VGF, a PPP project needs to meet several criteria.

- The project must be implemented, but not necessarily owned, by a private sector company (developed, financed, constructed, maintained, and operated) selected by a government entity through a process of open competitive bidding.
- The project must be from one of the following sectors: (1) roads and bridges, railways, seaports, airports, inland waterways; (2) power; (3) urban transport, water supply, sewerage, solid waste management, and other physical infrastructure in urban areas; (4) infrastructure projects in Special Economic Zones; or (5) international convention centers and other tourism infrastructure projects.
- The project must collect a predetermined tariff or user charge for the services it provides.
- The government entity involved in the project must clearly demonstrate that (1) the tariff/user charge cannot be increased to make the project commercially viable, (2) the term of the PPP agreement cannot be increased to make the project commercially viable (longer period to seek a return on capital invested), and (3) the project's capital costs are reasonable and cannot be further reduced to make the project commercially viable.

Using these criteria, MoF is in a position to provide up to Rs. 200 crore (US\$44 million) (more in exceptional cases) to PPP projects that would not otherwise be implemented for lack of commercial viability. Each such project has to secure private investment of at least four times the amount of the grant.

By moving beyond the use of government funds to cover the complete cost of urban infrastructure projects, innovative gap financing mechanisms, such as the PFDS and the VGF, are pointing the way to dramatically increasing the amount of infrastructure constructed with each rupee of government funding. This is an important intermediate step.

Ultimately, as local governments become more creditworthy and projects become more commercially viable, the amount of private investment attracted will go up. On a project-by-project basis, this will allow the amount of central government and donor grants to decrease. The savings can be used for other projects or for new sectors like green technology, or allocated for other priorities like economic development and poverty alleviation. In reality, gap financing is the difference between the money that the project owner (local government, utility, or development authority) can contribute through own-source revenue or raise themselves in the capital markets and the support required by an external grant/soft loan, such as JNNURM and VGF. Right now, grant funding is the default, while owner resources are minimal. The orientation should shift the other way around. A commercial viability approach is more sustainable because, among other things, it signifies an internal return on investment and less need for central government or donor grants (see Chapter 5).

Using Grants to Encourage Reform and Leverage Investment

One of the most important ways that grants can be used to facilitate infrastructure investment is to support and reward essential reforms at the state and local levels. This is the explicit purpose of JNNURM, and has been an operating principle behind the FIRE (D) Program from its beginning in 1994. The concept is simple: Government of India (and/or donor) grants are provided to cover the cost of introducing reforms in key areas like accounting, own-source revenue enhancement, project development, and capital investment planning. Additional grants are then used to cover part of the capital costs of projects proposed by those local governments that have successfully introduced reforms, thereby rewarding them for their reform efforts.

2 Ministry of Finance and Planning Commission, Government of India, 2005, *Guidelines on Financial Support to Public-Private Partnerships*.



It is important that support for reform at the local government level is well organized. More than just grant funding is required. Once a local government has agreed to undertake the kinds of reforms called for under JNNURM, the local government's senior managers will need assistance in defining the external technical assistance required, and in selecting the best service providers. This is a role that was played by the FIRE (D) Program team for many pilot projects, and increasingly, it is a role that falls to state nodal agencies responsible for managing JNNURM grants. Technical assistance providers also need to be managed carefully so that local governments get the best possible support for their reform efforts. The entire effort needs to be supervised by MoUD to ensure that the intended reforms are effectively supported by the JNNURM state nodal agency and fully implemented by the local government.

In principle, once the reforms are under way, local governments can submit their projects for funding. However, grants should only be a part of the capital funding mix. They can and should represent a reward for local governments that undertake difficult reforms in financial management and fiscal responsibility, but they should not become the principal source of project funding. If grants are the principal source of project funding, there will be less effort made by local governments to mobilize capital in the market to finance part of their project costs. For local government officials, the process of accessing capital markets is more difficult and less understood than requesting/applying for a government grant. Capital market financing needs to be strongly encouraged to increase overall capital investment across the country and to overcome the natural (and understandable) tendency of officials to rely on grant funding for their projects. Using grants as an incentive for mobilizing matching funds from the private sector is an essential part of the leveraging process for scaling up urban infrastructure investment. Leveraging government grant funding is the only way that India's local governments will begin to meet their infrastructure needs at the scale required now and in the future.

For the future, it is important that MoUD assess the impact of their JNNURM operations against the twin objectives of achieving actual implementation of essential local reforms and leveraging greater private financing in the funding mix for urban infrastructure projects. Achieving these objectives is complicated by the pressure for MoUD, states, and local governments to quickly disburse JNNURM funds to justify the scale of the program's budget. Rapid disbursement of grant funds often works against the careful use of those funds that would strategically support technical assistance and leverage commercial finance. Hastily prepared and poorly managed technical assistance will not achieve the intended reform objectives. State nodal agencies for JNNURM need to be incentivized to achieve reforms, not just disburse their grants.

One way to make the link between grants and private financing is to use the grant funds to subsidize the local government's repayment of principal to its bondholders and lenders. Under such a mechanism, a local government finances part of its infrastructure investment with bonds or long-term loans backed by a MoUD-funded "principal repayment system" managed by the JNNURM state nodal agency and/or a contracted asset manager. The JNNURM contribution to a project would be offered in terms of a percentage of the principal borrowed, rather than a percentage of the total project cost (the percentage rates could be adjusted to achieve the same level of overall contribution to the local governments). This creates a strong incentive for local governments to use debt financing, and it also provides greater assurance to the lenders and investors, since a portion of their capital is held in a secure fund or some other suitable mechanism. Finally, this mechanism makes it possible for MoUD to easily calculate the amount of capital leveraged from the market for every rupee provided as a grant.

Key Areas for Improving Urban Infrastructure Financing

- Encourage debt market development
- Strengthen the regulatory framework for municipal bonds
- Improve creditworthiness of bond issuers and their projects
- Provide more support for project development and financial structuring
- Link CDPs to specific capital investment plans

Chapter 6 Annexes

Annex 6-I. Municipal Bonds Issued as of 2010

City	Projects	Amount (Rs. million)
Bangalore (1997)*	City road/drainage projects	1,250
Ahmedabad (1998)*	Water supply & sanitation projects	1,000
Ludhiana (1999)*	Water supply & sanitation projects	100
Nagpur (2001)*	Water supply & sanitation projects	500
Nashik (1999)*	Water supply & sanitation projects	1,000
Indore (2000)*	City road projects	100
Madurai (2001)*	City road projects	300
Ahmedabad Municipal Corporation (2002)	Water supply & sewerage projects	1,000
Nashik Municipal Corporation (2002)	Underground sewerage scheme & storm-water drainage projects	500
Hyderabad Municipal Corporation (2003)	Road construction & widening projects	825
Hyderabad Metropolitan Water Supply and Sewerage Board (2003)	Drinking water projects	500
Chennai Metropolitan Water Supply & Sewerage Board (2003)	Water supply projects	420
Visakhapatnam Municipal Corporation (2004)*	Water supply projects	200
Visakhapatnam Municipal Corporation (2004)	Water supply projects	500
Ahmedabad Municipal Corporation (2004)	Water supply, storm-water drainage, road & bridges, and flyovers projects	580
Chennai Metropolitan Water Supply & Sewerage Board (2005)	Water supply projects	500
Chennai Municipal Corporation (2005)	Road projects	458
Ahmedabad Municipal Corporation (2005)	Road & water supply projects	1,000
Nagpur Municipal Corporation (2007)	Water supply & sewerage projects	212
TNUDF-Pooled Issue (2003)	Water and sanitation projects	304
Karnataka Water & Sanitation Pooled Fund (2005)	Greater Bangalore Water Supply Project	1,000
TNUDF-Pooled Issue (2008)	Tamil Nadu Towns Water Supply & Sewerage	450
TNUDF-Pooled Issue (2010)	Tamil Nadu Towns Water Supply & Sewerage	832
Total		13,531

*Taxable Issues

Source: Adapted from Vaidya, C. and Vaidya, H., 2010, "Market-Based Financing of Urban Infrastructure in India," in Kochar, S. and Ramchandran, M. (eds.), *Building from the Bottom*, Academic Foundation, New Delhi: India.

Annex 6-2. Sample Term Sheet for a Municipal Term Loan

Borrower	: [] Municipal Corporation
Lenders	: []
Purpose	: Term Finance of Rs. [] Mn for development of Project(s) [] approved under JNNURM
Facility	: Aggregate Rupee Term Loans of Rs. [] Mn to the Borrower for the Purpose as specified herein of
Tenor	: [10] years from the date of first disbursement
Project	: The project/s as prepared/undertaken by the Borrower and approved under the JNNURM and shall mean development, design, finance, construction and operation of urban infrastructure facilities in accordance with approved Detailed Project Report under JNNURM covering but not limited to [] as stated therein
Project Cost and Means of Finance	: The Project Cost is estimated to be Rs. [] Mn The Project shall be funded with grant assistance and in accordance with the means of finance defined under the scheme. The grant assistance to be provided to the Borrower through the State Government (including grant assistance from Gol and the State Government component) shall be in accordance with the policy decision given by the State Government. Means of Finance: 1. Grant from SLNA (JNNURM): Rs. [] Mn 2. Term Loans: Rs. [] Mn Total: Rs. [] Mn
Memorandum of Agreement or MoA	: Agreement dated [] executed under JNNURM between Government of India, Government of [state] and the Borrower
Base Case Business Plan	: The Base Case Business Plan (or the base case financial operating plan) shall mean the future forecast using the financial model agreed upon between the Borrower and the Lenders. The Base Case Business Plan will form an integral part of the Financing Agreements and would be used as the basis for budgeting and monitoring by the Lenders during the tenor of the Facility
Drawdown Requirements	: For Project, the Borrower shall drawdown amounts as per the drawdown schedule agreed with the Lenders
Security Trustee	: [] Trust Company Limited
Trust and Retention Agent	: [] Trust Company Limited
Trust and Retention Account	: (1) Borrower shall deposit all its receivables octroi, property taxes, other taxes and any other income (excluding government special purpose grants, water taxes and sewage taxes) into the TRA (2) The amounts in the TRA shall be first utilized towards servicing of the Facility (3) The Borrower shall at all times maintain a Debt Service Reserve Account with balances equivalent to [] months debt servicing obligations (including principal and interest) as a sub-account of the TRA. (4) Subject to the above, the surplus amount in TRA, shall be transferred to a designated sub-account of Borrower, to be utilized by Borrower as per its requirements. In the event of recall of Facility, on the happening of an Event of Default (as specified hereinafter), Security Trustee shall be entitled to appropriate the amounts lying in TRA for repayment of all the monies payable under the Facility
Trust and Retention Account Bank	: A Schedule Bank, designated as such and acceptable to the Lenders, with whom a Trust and Retention Account shall be opened in the form and manner acceptable to the Lenders.
Upfront Fee	: Non-refundable fee at []% of the sanctioned amount (plus applicable taxes, if any), payable upfront at the time of executing the Financing Agreements
Interest	: The Facility shall carry an interest rate of [] % p.a. payable monthly (plus applicable taxes, if any) in arrears, payable as per the Repayment Schedule from the date of disbursement
Interest & Principal Servicing	: The Facility shall be serviced in [] Installments payable in arrears commencing from the end of [] month from the date of first disbursement. Interest servicing will commence at the end of 1st calendar month from the date of first disbursement of Term Loan
Security	: The Facility together with interest, additional interest, penal interest, upfront fees, commitment fees, other fees payable, costs, charges, expenses and all other monies due to the Lenders shall be secured in favour of the Security Trustee by: a) First charge over all movable (including plant and machinery) and immovable properties relating to the Project, both present and future; b) First charge by way of hypothecation of all revenues, receivables, grants, octroi, property taxes, water taxes and sewage taxes and any other income of the Borrower, both present and future; c) First charge by way of hypothecation of all monies lying to the credit of the Trust and Retention Account into which grant, octroi, property taxes, water taxes and sewage taxes and any other income of the Borrower shall be deposited;

Annex 6-2. Sample Term Sheet for a Municipal Term Loan (Continued)

	<ul style="list-style-type: none"> d) First priority charge over all the Borrower's rights, title, interests, benefits and claims in, to or under Project Agreements, insurance policies and insurance proceeds; e) First priority charge over all intangible assets, including but not limited to goodwill of The Borrower; <p>Such other security as may be approved by the Lender and agreed to by the Borrower.</p>
Financial Covenants	<p>: The Borrower shall comply with the following covenants:</p> <ul style="list-style-type: none"> a) Minimum Debt service coverage ratio of [] at all times during the life of the Facility b) Debt Service Reserve Account as a sub account in the TRA to be credited with the amount equal to debt servicing requirement of [] months debt servicing requirements including principal and the interest (Debt Service Reserve) c) Undertake periodic review of revenue collection efficiencies, rate revision to comply with the Base Case Business Plan and MoA requirements d) Revise tariffs/tax rates and undertake reforms from time to time as per the Base Case Business Plan and MoA executed under JNNURM
Conditions Precedent for Execution of Financing Agreements/Security Documents	<p>: a) The Borrower shall have obtained all the requisite General Body resolutions and approvals including but not limited to approval of Government of [state] as required under Section [] for the terms and conditions of the Facility</p> <p>b) The Borrower shall have submitted a certified true copy of the General Body Resolution accepting the terms and conditions for financing and permit creation of security in accordance with terms stipulated herein</p> <p>c) The Borrower shall have submitted the details of properties to be mortgaged and copies of the title deeds in respect thereof and a title report from government pleader certifying that the title of the Borrower to the properties proposed to be mortgaged is valid, clear, marketable and unencumbered and the same can be mortgaged in favour of the Lenders by deposit of titled deeds or by registered indenture of mortgage.</p> <p>d) The Borrower shall have entered into revised Trust and Retention Account Agreement appointing [] as the TRA Agent or executed an amendment to the existing Trust and Retention Account Agreement executed with [] Bank Limited to the satisfaction of []</p>
Events of Default	<p>: The happening of any of the events mentioned hereunder, would constitute an event of default:</p> <ul style="list-style-type: none"> a) Default in payment of installments of principal, interest and other charges on respective due dates b) The Borrower fails to maintain Debt Service Reserve in TRA c) The Borrower has voluntarily or involuntarily become the subject of proceedings under any bankruptcy or insolvency law or the Borrower is voluntarily or involuntarily dissolved d) The Borrower is unable or has admitted in writing its inability to pay its debts as they mature e) A liquidator has been appointed or allowed to be appointed of all or any part of the undertaking of the Borrower f) If the Borrower has defaulted in honoring its financing obligations under any other Facility granted by it g) Failure on part of the Borrower to complete the documentation requirement to satisfaction of Security Trustee h) Failure on part of the Borrower to satisfy the conditions/requirements of sanction under JNNURM/MoA i) Failure on part of the Borrower to satisfy the assumptions underlying the Base Case Business Plan/Projections of the Municipal Fund j) Failure on part of the Borrower to comply with any of the covenants of this Offer letter

Annex 6-3. Municipal Bond Issue of Visakhapatnam Municipal Corporation

Month of Issue—March 2004		
	SERIES A	SERIES B
Issue amount	Rs. 50 crore	Rs. 20 crore
Instrument	Secured, Non-Convertible, Redeemable Tax-free Bonds	Secured, Non-Convertible, Redeemable Taxable Bonds
Number of bonds	5,000	2,000
Credit rating	AA(SO) by CARE. Double A Minus (Structured Obligation)	AA(SO) by CARE. Double A Minus (Structured Obligation)
Coupon rate	Coupon rate will be arrived at by book building process with the following indicative band: 6.75% to 7.25% p.a.	Coupon rate will arrived at by book building process with following indicative band: 7.25% to 7.75% p.a.
Tax benefit	Under Section 10 (15) (vii) of the Income Tax Act, 1961	Nil

Computation of interest	Annual
Payment of interest	Semiannual
Tenor	7 years
Redemption	30% at the end of 5th year 30% at the end of 6th year 40% at the end of 7th year From the deemed Date of Allotment
Interest on application money	Payable at the cut-off rate, applicable for tax-free and taxable bonds from the date of realization of the investment to the day before allotment. Total debt service shall be deducted before payouts in both tax-free and taxable cases.
Security	Pari pasu first charge/mortgage on the properties of the Godavari Drinking Water Supply Project only.
Credit enhancement	Escrow account of entire collection of the property tax account, which is a composite of the general tax and 30% of water tax
Listing	Proposed to be listed with the Wholesale Debt Segment of National Stock Exchange
Trustee	IL&FS Trust Company Limited, Mumbai
Holding	“Demat” only
Minimum Application	10 Bonds (Rs. 1 million) and multiples of 10 thereafter
Trading Lot*	10 Bonds (Rs. 1 million) and multiples of 10 thereafter

* 1) The minimum trading lot to trade through the Wholesale Debt Segment of the National Stock Exchange of India mechanism is Rs. 10 Lakhs (Rs. 1 million) and multiples of 10 thereafter.

2) The trading in these bonds would be allowed only in ‘demat’ form.

Annex 6-4. Defining a Credit Rating Scale

AAA (Triple A) Highest Safety	Instruments rated AAA are judged to offer the highest degree of safety with regard to timely payment of financial obligations. Any adverse changes in circumstances are most unlikely to affect the payments on the instrument.
AA	Instruments rated AA are judged to offer a high degree of safety with regard to timely payment of financial (Double A) High Safety obligations. They differ only marginally in safety from AAA issues.
A Adequate Safety	Instruments rated A are judged to offer an adequate degree of safety with regard to timely payment of financial obligations. However, changes in circumstances can adversely affect such issues more than those in the higher rating categories.
BBB (Triple B) Moderate Safety	Instruments rated BBB are judged to offer moderate safety with regard to timely payment of financial obligations for the present; however, changing circumstances are more likely to lead to a weakened capacity to pay interest and repay principal than for instruments in higher rating categories.
BB (Double B) Inadequate Safety	Instruments rated BB are judged to carry inadequate safety with regard to timely payment of financial obligations; they are less likely to default in the immediate future than instruments in lower rating categories, but an adverse change in circumstances could lead to inadequate capacity to make payment on financial obligations.
B High Risk	Instruments rated B are judged to have high likelihood of default; while currently financial obligations are met, adverse business or economic conditions would lead to lack of ability or willingness to pay interest or principal.
C Substantial Risk	Instruments rated C are judged to have factors present that make them vulnerable to default; timely payment of financial obligations is possible only if favorable circumstances continue.
D Default	Instruments rated D are in default or are expected to default on scheduled payment dates.