

# Meeting the Financing Challenge for Water Supply and Sanitation

INCENTIVES TO  
PROMOTE REFORMS,  
LEVERAGE  
RESOURCES, AND  
IMPROVE TARGETING

Meera Mehta



THE WORLD BANK



Water and  
Sanitation  
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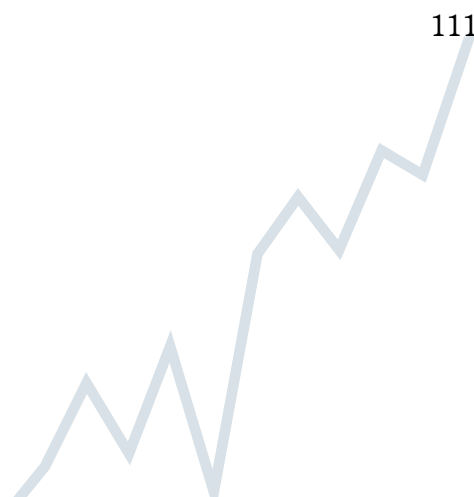
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## FOREWORD

The priority actions suggested by the Millennium Development Goals and the World Summit on Sustainable Development to enhance access to safe water supply and basic sanitation pose new challenges to the sector, and provide new opportunities to make significant progress on poverty reduction. While additional financial resources will help to meet these challenges, infrastructure investments alone do not ensure sustainability, efficient use of existing resources, community and private sector participation, better and sustained access to services, and increased coverage for all.

To ensure progress, we must put in place appropriate and effective financing mechanisms that leverage the needed change, promote and support sector reforms that yield effective institutional frameworks, guarantee appropriate use of limited public resources, and encourage well-targeted subsidies to achieve equity.

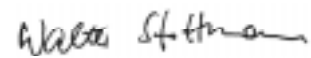
This paper, a review and synthesis of innovative financing in the water and sanitation sector, emphasizes the critical importance of mechanisms that (1) promote and support sound policies and reform (2) leverage more domestic resources from providers, users, and local governments and (3) help to improve the use of subsidies for the poor. The paper also identifies key issues that can guide the choice of financing mechanisms in different contexts.

A number of ongoing activities and projects of the Water and Sanitation Program (WSP) and the World Bank contribute to this priority area: decentralization and WSS service delivery, the new emerging thinking on output-based aid, increases in user financing even in rural water supply systems, assessment of resource flows and sector financing, use of guarantees to support enhanced private investments, and small and medium enterprises in service provision.

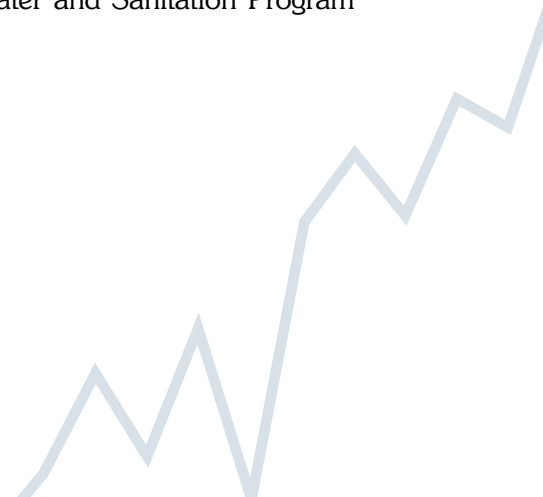
As different stakeholders gain and share new experiences, our collective ability to deliver improves. This paper is an important contribution to the process.

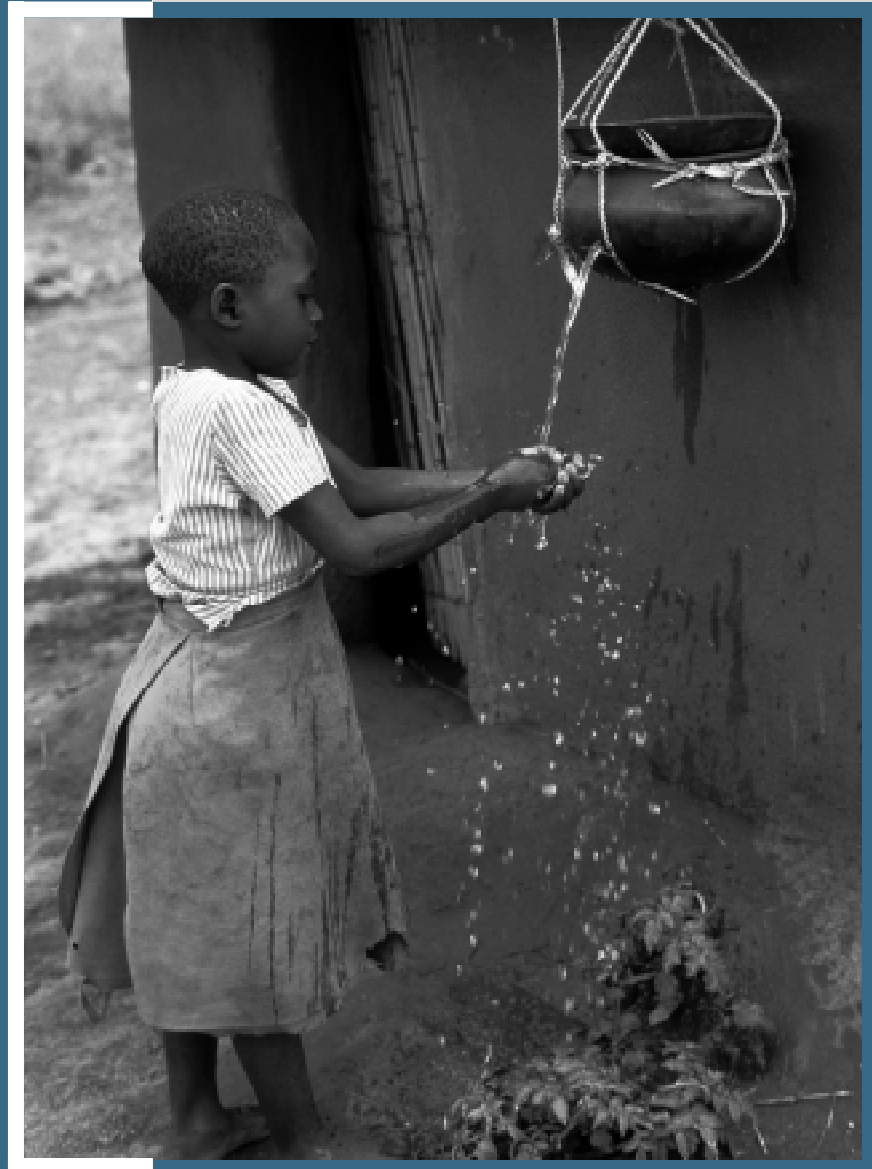


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We do see this as an evolving piece of work that will benefit from further feedback, ongoing documentation of financing mechanisms in different institutional contexts, and further research. Experience in mechanisms, such as programmatic approaches and output-based aid, is rapidly emerging and several new insights were being continuously gained as we worked on this review, strengthening the case for an ongoing documentation of experiences in a living document.

*Meera Mehta*  
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Co-task managers



## The Financing Challenge for Water Supply and Sanitation

In recent years, several countries have come together to identify and agree on development goals for reducing poverty and increasing welfare. These are reflected in the Millennium Development Goals (MDGs), which include targets for sustainable access to safe water and sanitation services. For the water supply and sanitation (WSS) sector, even after the major achievements in the past two decades, approximately 1.2 billion people lack access to an adequate water supply, and about 2.5 billion people have inadequate sanitation facilities. Achievement of these goals requires considerable additional resources, beyond those currently flowing to the sector.

### 1.1 Objectives of the Review

***To develop a framework for addressing the financing challenge for the water and sanitation sector and review the global experience in financing mechanisms.***

Over the past years, the water and sanitation sector has recognized the increasing importance of finance, though an important change in approach has occurred. During the 1990s, most discussion on financing the sector focused on service provision, particularly assessing the possibility of meeting the cost through public funds versus alternative resources. Private sector investments were assumed to carry the burden within the sector; but this has generally not happened, resulting in widening financing gaps. It is now well recognized that financing water and sanitation is not just an issue of mobilizing the required volume of investment. Equally important issues include appropriate institutional arrangements, developing related capacity, and selectively targeting expenditure towards intended beneficiaries. The use of limited public resources for promoting sector reform, thereby attracting community and market-linked resources, is also important. Finally, effective, efficient, and

transparent use of resources has gained recognition. This is the financing challenge for the water and sanitation sector in the new millennium.

This review of financing mechanisms for the water and sanitation sector explores ways of responding to this financing challenge. Its main objectives are:

- *Develop a framework for a review of financing mechanisms for water supply and sanitation (WSS).* To develop a framework for reviewing financing mechanisms, in order to promote or support sector reforms, and enable better leveraging and targeting of resources.
- *Provide a global review of financing mechanisms.* To review the available global experience on the development and use of innovative financing mechanisms, and to identify critical issues in their use. The review draws primarily on the currently available documentation of global experiences and secondary sources, and cannot be considered exhaustive.
- *Identify the directions for further research.* To identify directions for further research based on an identification of issues in the use of different sets of finance mechanisms, as well as the possible variations in their use in different contexts.

Poverty reduction strategies in most countries target improved access to WSS services as an important component of their overall plan. However, achievement of the desired impact cannot occur without critical sector reforms. A key constraint in the introduction of sector reforms, and their sustainable scaling up, has been inadequate attention to developing appropriate incentives and financing mechanisms.

Three problems characterize the agenda for sector finance: (1) bedeviling of the WSS sector by institutional frameworks and financing policies that result in ineffective and inefficient use of existing resources (2) inadequate availability of

public resources to meet the costs of sustained enhanced coverage and (3) the poor often do not benefit from increased coverage and the existing WSS services.

Addressing these problems requires consideration of three strategic issues central to the financing challenge facing the WSS sector and covered in this review. Table 1.1 provides an overview of the framework developed to address these. An extensive web-based search for secondary sources, Water and Sanitation Program (WSP) and World Bank (WB) thematic group studies, and follow-up discussions with WSP and WB staff provided the case examples forming the basis of the paper. Within this approach, an attempt has been made to identify some appropriate examples for each group of mechanisms within the framework developed for the analysis.

## 1.2 Financing Mechanisms to Promote WSS Sector Reforms

**Financing mechanisms need to provide incentives and support for appropriate sector reforms to ensure long-term sustainability of investments and improve efficiency of resource utilization.**

Given the importance of improved access to WSS services, an increase in public finance allocated to these services is expected. However, WSS financial allocations need to be made within the context of critical sector reforms for achieving the desired impact. Therefore, countries, bilateral donors, and development finance institutions need to promote sustainable introduction and scaling up of key sector reforms through mechanisms providing appropriate incentives and support.

**Table 1.1**

**Financing Challenge for WSS: A Framework**

The Financing Challenges	Addressing these Challenges
1: Institutional framework and financing policies that result in ineffective and inefficient use of existing resources	Providing incentives for promoting sector reforms
	through mechanisms related to: <ul style="list-style-type: none"> <li>a. Decentralization-linked mechanisms to support local-level reforms</li> <li>b. Special fund mechanisms for supporting reform-linked programs, local partnerships, or difficult institutional reforms</li> <li>c. Programmatic approaches to link sector financing to sector-wide programs</li> </ul>
2: Available public resources are often inadequate to meet the costs of sustained enhanced coverage	Leveraging additional 'market-based' resources
	through mechanisms related to: <ul style="list-style-type: none"> <li>a. Attracting private sector participation and investments</li> <li>b. Promoting local investments through development of local credit markets</li> <li>c. Enhancing household and community resources for water and sanitation</li> </ul>
3: The poor often do not benefit from increased coverage and existing WSS services	Using appropriate pro-poor subsidies
	through mechanisms related to: <ul style="list-style-type: none"> <li>a. Access subsidies for WSS, demand promotion, and hygiene awareness</li> <li>b. Improving cross-subsidies widely used in the sector through appropriate rules, universal funds, and auctions</li> <li>c. Output-based aid to provide incentive-linked subsidies for access, consumption, or pro-poor reforms</li> </ul>

**Table 1.2**

**Financing Mechanisms to Provide Incentives for Reforms**

Decentralization-linked Mechanisms	Special Fund-related Mechanisms
<p><b>Fiscal framework for decentralization:</b> Expenditure responsibilities and matching revenue mandates assigned to local governments (LGs) for local services. <i>Constitutional Amendment Acts and state efforts in India for mandates and fiscal powers of LGs (Box 2.1)</i></p>	<p><b>Social investment funds/special projects:</b> Independently managed funds to provide demand-responsive grants for infrastructure to communities <i>Ethiopia Social Rehabilitation and Development Fund (Box 2.6); Rural WSS Project, India (Box 2.7)</i></p>
<p><b>Inter-governmental transfers to promote reforms:</b> Using transfers to provide incentives and support for reforms through: i. <i>Conditional grants</i> tied to reforms in specific sectors/uses, available to all local authorities <i>Conditional RWSS grants in Uganda (Box 2.2)</i> ii. <i>Discretionary transfers</i> with conditions for local reform but not earmarked for specific sectors/uses <i>Local authority transfer fund in Kenya (Box 2.3)</i> iii. <i>Performance-based conditional grants</i> through a challenge fund structure <i>Nigeria local governance scorecards (Box 2.4); India Urban Services for the Poor Project (Box 2.5)</i></p>	<p><b>Community development funds:</b> Special funds for poor communities focused on creating social capital, capitalized from grants, with operational costs met through fund income <i>Community Organization Development Institute (CODI) in Thailand (Box 2.8); Civil society challenge funds (Table 2.1)</i></p> <p><b>Institutional reform-linked challenge funds:</b> Funds to meet costs of complex and difficult institutional reforms, implemented through a challenge fund structure <i>City restructuring grant in South Africa, city challenge fund and urban reform initiative fund in India (Box 2.9)</i></p>

**Mechanisms Linked to Programmatic Approaches**

<p><b>Sector-wide approach (SWAp) and medium-term expenditure framework (MTEF):</b> Support to sector programs, as opposed to financing individual projects; sector expenditure plan within resource ceilings from a macro framework; and budget or basket approach to donor support – <i>Use of SWAp and MTEF in several African countries (Box 2.10)</i></p>
<p><b>Sector investment and maintenance loan (SIM) or adaptable program loan (APL):</b> Support to a sector-wide strategy and program; lending is phased (APL) or in a single tranche (SIMs) – <i>Adaptable program loan for rural water supply and sanitation in Ghana (Box 2.11)</i></p>
<p><b>Sector adjustment loan (SECAL) or poverty reduction support credit (PRSC):</b> Budget support linked to performance on key milestones for policy and institutional reforms; lending can be a single tranche (SECAL) or phased (PRSC) – <i>WSS component in poverty reduction support credit (PRSC) in Uganda (Box 2.12)</i></p>

Based on the broad institutional and financing principles of sector reform, three areas emerge as important in the sector, although their nature and interpretation vary across regions and countries: (1) decentralization of service delivery (2) community-driven development (CDD) and (3) the possibility of private sector participation (PSP). A review of experiences highlights three sets of financing mechanisms to support this reform agenda as further discussed in Chapter 2:

1. *Decentralization-linked fiscal mechanisms*, largely through the traditional public finance

systems linked to budget allocations and fiscal transfers.

2. The use of *special fund mechanisms*, often developed independently of the regular government financing arrangements, at local, regional, national, or global levels.
3. More recent approaches in funding mechanisms structured within *programmatic approaches*, including a variety of program-linked financing arrangements and loan instruments.

Table 1.2 illustrates the use of different financing mechanisms to promote reforms. These mechanisms vary, ranging from those linked to fiscal decentralization and utilization of special funds or projects, to more programmatic approaches within the sector-wide approach (SWAp) frameworks. Each represents a different approach, with varying reliance on existing public finance mechanisms. Weak mechanisms or faltering countrywide reform commitment necessitate the use of special fund mechanisms.

In a country with strong commitment to decentralization, financing clearly needs to be within a fiscal framework for devolution. Under this, many national (and regional) governments use grants and transfers for promotion, support, and scaling up of reforms through local governments in rural and urban areas. The review suggests that these mechanisms are often able to enhance the finances and capacity of local governments, as well as enabling them to develop more demand-responsive approaches. However, promoting the critical institutional reforms required in the WSS sector through these is often difficult as these take time (often beyond the impact of annual or sub-annual allocations), and also because significant transaction and political costs occur during the transition period. Such reforms often require other mechanisms, such as special funds or programmatic approaches, both of which are discussed in Chapter 2.

Programmatic approaches are likely to be particularly relevant in providing incentives for key policy and institutional reforms. A number of different instruments are available in this context as illustrated in Table 1.2. However, they require a significant level of country commitment and capacity of lead sector institutions. This necessitates upstream efforts at country assessments and evolving policy consensus among key stakeholders.

### 1.3 Financing Mechanisms for Leveraging Resources

***Financing mechanisms need to use the limited public resources (domestic, as well as external aid) to help leverage additional resources for the sector from the private sector and community.***

In the world of manifold development needs, water and sanitation investments must compete with other sectors for limited public funds. In recent years, emphasis from several sector analysts and practitioners indicates that the means to meet these goals are beyond the capacity of the developing world alone. Global efforts therefore necessitate increased aid flows to developing countries, and additional measures taken for enhancing the developing countries' incomes through improved trade and finance flows. Despite the potential importance of these fund flows, a discussion on the nature of these measures lies beyond the scope of this review.

Available evidence suggests a significant shortfall of public funds in the coming years, severely affecting the achievement of the development goals. However, if properly leveraged, these limited resources would enable mobilization of additional market and community resources. Chapter 3 focuses on potential measures of leveraging resources through the innovative use of public and external aid resources. Along with their importance for leveraging resources, the measures discussed herein also contribute to enhancing investment sustainability by introducing the twin concepts of market rigor and greater community control.

Three sets of opportunities are identified for leveraging resources:

1. Those linked to *attracting private sector participation (PSP)* for both investments and efficiency improvements that result in enhanced internal cash generation. These take the form of tariff reforms, clear definition of the contractual obligations either through appropriate contracts or a regulatory framework, tariff models linked to financial equilibrium, partial guarantees for risk mitigation, and project development facilities.
2. Those linked to *promoting local investments through domestic credit markets* for local governments or other water and sanitation service providers, such as reforms to build the creditworthiness of local borrowers, enabling local borrowing through an intermediary such as MDF, SFI, or through direct market access using municipal bonds, and instruments for pooled financing or bond banks.

**Table 1.3**

**Financing Mechanisms to Leverage Resources**

Through Private Sector Participation (PSP)	Through Greater Community Resources
<p><b>Enabling reform framework:</b> Including tariff reforms to ensure financial viability, clearly defined contractual obligations within a financial equilibrium framework, and focus on small providers <i>Credit for gradual tariff reforms in Guinea (Box 3.2), appropriate framework of contracts for PSP in Senegal (Box 3.3), and appropriate sector framework for small private providers (Box 3.4)</i></p>	<p><b>Enabling sector framework:</b> Key aspects are appropriate institutional arrangements for local service delivery, cost-recovery rules suited to household and community needs, and appropriate regulation <i>Sector framework for RWSS through small public utilities in China (Box 3.13)</i></p>
<p><b>Partial guarantees for risk mitigation:</b> To mitigate noncommercial risks through instruments of international agencies or domestic financial intermediaries <i>Partial guarantee for a water concession in Ecuador (Box 3.5), partial guarantees for municipal infrastructure (Box 3.6), and guarantees for infrastructure for the poor under CLIFF (Box 3.15)</i></p>	<p><b>Credit for household/community infrastructure:</b> Credit from community-based or formal finance institutions (FIs) on a sustainable basis. Often facilitated by NGOs or other local institutions <i>Credit for household and community infrastructure in Vietnam, India (Box 3.14)</i></p>
<p><b>Project development support facilities:</b> Demand-based assistance to local authorities or local service providers to structure potential opportunities for private sector participation and investments <i>MIIU, a project support facility for municipalities in South Africa, and the experience with project development facilities in India (Boxes 3.7 and 3.8)</i></p>	<p><b>Integrated facility for scaling up:</b> Including credit from MFIs or formal FIs, supported by grants for sub-project development and partial risk cover <i>Community-Led Infrastructure Finance Facility (CLIFF) and India Community Infrastructure Finance Initiative (Box 3.15)</i></p>

For Developing Local Credit Markets for Local Investments

**Municipal development fund, specialized financial intermediary (FI) or refinance to banks/FIs:** To channel government or donor funds to municipalities as commercial loans to help establish precedents and credit history for municipalities. Refinance helps to develop interest in the sector among banks/FIs – *TNUDF in India and FINDETER in Colombia are MDF/SFI with market integration (Boxes 3.9 and 3.10)*

**Direct market access through municipal bonds and credit rating:** Bonds issued for municipal infrastructure by municipalities or municipal utility enterprises. Credit rating and a regulatory framework useful to ensure viability – *Emerging municipal bond system in India (Box 3.11)*

**Pooled finance mechanisms:** Through bonds backed by pooling credit of small municipalities or local borrowers by a state/regional authority; often with some credit enhancement backing – *Pooling of credit through state bond banks in the US and the proposed pooling facility in India (Box 3.12)*

- Those linked to *enhancing community contributions* for water and sanitation services, such as improving the sector framework to mobilize community contributions and scaling up sustainable access to credit for household- and community-level facilities through integrated support facilities.

Table 1.3 provides a summary of the financing mechanisms reviewed for leveraging resources. However, it is important to emphasize the need for certain upfront reforms as pre-requisites to the possibility of such leveraging. While the nature of reforms would vary for different forms of leveraging, some common critical elements include ensuring adequate internal cash



generation by the service providers through tariff reforms and enhanced revenue potential, appropriate regulatory or contractual framework to manage risks, and institutional forms to ensure sustainable management.

The review also suggests a few common elements that need emphasis in the design of financing mechanisms for leveraging both private and community resources while developing domestic credit markets:

- The need for an appropriate sector framework enabling resources to flow in.
- Emphasis on risk management and possible need for a partial risk guarantee framework.
- Appropriate support for project development and implementation, though institutional arrangements for these may vary in different contexts.
- The need for a good information base and its dissemination to enhance transparency and reduce risk perceptions.
- Ensuring linkages with financial markets so that the resources do represent real additions to public resources and are sustainable.

## 1.4 Pro-poor Subsidies to Enhance Access for the Poor

***Within the emerging reform framework, there is a need to ensure that the poor are not excluded, due to affordability concerns, through the use of well-designed subsidy mechanisms that help target the poor.***

The main rationale for subsidies in the water and sanitation sector is linked to the notion of universal service, justified on a number of grounds: the consideration of water and sanitation as merit goods (most recently exemplified by the MDGs), the positive externalities generated by WSS, and political concerns for equity across consumers and regions. Positive externalities make a strong case for sanitation services, which have wider public benefits, though the case tends to be weak for water. Also, the traditional system of subsidies often fails in meeting such objectives as they tend to be hidden in nature, are neither explicit nor clearly targeted, and often crowd out community and private sector resources. To overcome these problems, recent approaches focus on improving the targeting of subsidies for achieving the main

objective of ensuring or enhancing access for the poor while addressing other principles related to appropriate incentives and simplicity in design. Based on a review of these, Chapter 4 identifies key principles for the design of ‘good’ subsidies and the potential subsidy instruments.

Three sets of pro-poor subsidy mechanisms are identified and discussed in Chapter 4:

1. Use of *access subsidies* for either water or sanitation, as well as for demand promotion and hygiene awareness, either given directly to consumers or through the service providers.
2. *Improving the cross-subsidies* used throughout the world, through specific principles and rules to provide subsidies for access and/or consumption.
3. The more recent use of incentive-linked subsidies within the *output-based aid (OBA)* framework, including direct subsidies for access or consumption to consumers, minimum subsidy concessions targeted to reach the poor, and support to pro-poor reforms.

Table 1.4 provides a summary of financing mechanisms reviewed for improved pro-poor subsidies. Access subsidies emerge as important in both rural and urban contexts, and for water and sanitation. However, their form and design differ; for example, in sanitation, greater emphasis is needed on demand promotion, hygiene awareness and community approaches rather than individual household-level subsidies that have been commonly used in the past, particularly for latrines. Design of access subsidies also needs to take into account the notion of ‘basic service levels’ and avoid multiple and conflicting subsidy rules within a countrywide perspective. The review also suggests the need to use appropriate rules and principles in contexts where the use of cross-subsidies seems relevant. This may be further enhanced through the use of mechanisms, such as universal service funds and minimum subsidy concessions that have been more commonly used in other infrastructure sectors, particularly telecommunications.

Design of subsidies can be enhanced significantly by using the output-based approaches (OBA). When properly designed, OBA structures provide better incentives; enhance sustainability through the selection of more appropriate service providers; and avoid the

Table 1.4

## Mechanisms for Pro-poor Subsidies

Subsidies for Access to Water and Sanitation	Improving Cross-subsidies for Water Tariffs
<p><b>Partial capital grants for access:</b> For community-based rural water supply schemes and for slum upgradation in urban informal settlements <i>Partial capital grants in various World Bank-funded RWSS projects under a demand-responsive approach (Table 4.1 and Box 3.13)</i></p>	<p><b>Principles for improved cross-subsidies:</b> Rules to be used for maximizing net benefits of cross-subsidies <i>Rules suggested on the basis of a general analysis of cross-subsidies and assessment in Guayaquil, Ecuador (Section 4.3)</i></p>
<p><b>Demand promotion for sanitation and hygiene:</b> Public finance for promoting demand for sanitation and for hygiene awareness <i>Subsidies for demand promotion through global handwashing initiative, village rewards for sanitation in India, and provision of toilets in Burkina Faso and India (Box 4.2)</i></p>	<p><b>Universal service funds:</b> With contributions from relevant service providers to provide resources for services to target groups, such as those with low income or high service costs <i>Universal service funds used particularly in telecommunications sector in several countries, such as the United States and in Europe (Box 4.4)</i></p>
<p><b>Social connections for the urban poor:</b> Enabling poor consumers to connect to the urban networks by providing free/affordable connections <i>Subsidies in Côte d'Ivoire and Senegal for connections to utility networks (Boxes 4.3 and 4.7)</i></p>	<p><b>Auctions for minimum subsidies:</b> Services to special groups based on minimum subsidy bids to enable a market-based assessment of subsidy requirements <i>Examples from the telecom and energy sectors, for service provision in rural areas in Peru (Box 4.5)</i></p>

## Output-based Aid for Water and Sanitation

**For consumption through direct subsidies:** Means-tested subsidies to ensure financial viability of service provider while supporting consumption of water at adequate standards by the poor at affordable prices against actual delivery – *Direct subsidies to privately managed utilities in Chile and Panama (Box 4.6)*

**For access through social connections:** For affordable access to utility networks for the poor against actual connections – *Subsidies for social connections used by private service providers in Côte d'Ivoire and Senegal (Box 4.7)*

**Subsidy-linked concessions:** Minimum subsidy bid or a fixed subsidy to ensure concessionaire's financial viability, incorporated within performance-based concessions for services to the poor or with high service costs – *Pilot applications for fixed subsidy-linked concessions being explored in Paraguay through aguateros (Box 4.8)*

**For supporting transition to critical sector reforms:** Subsidies to support transition to politically difficult reforms, such as tariff revision or labor redeployment/retrenchment, generally provided on a declining basis against reform milestones – *Support for critical institutional reforms in relation to agreed milestones (Box 2.9) and support to implement gradual tariff reforms in Guinea leading to full cost-recovery tariffs over an agreed timeframe (Box 3.2)*

**Sanitation demand promotion:** To promote demand, provided in relation to actual performance on sanitation improvements – *Village rewards for overall sanitation improvements achieved by village LG and community (Box 4.2)*

crowding out of private and community resources. However, this approach is a more recent development and the experience so far has been limited. While using this approach, particular attention will need to be paid to measuring

outputs, adapting the choice and design to local institutional capacity and costs of administration, and in choosing a service provider, ranging from a small private provider to a community-based organization or even a rural local authority,

depending on the local context and specific WSS sub-sector. These mechanisms also require strong regulatory and monitoring systems.

The review suggests the importance of context-specific choice and design of subsidy mechanisms, which necessitates the development and structuring of the subsidy mechanism in relation to the real situation in a given context. A particularly important dimension, especially for the design of subsidy instruments, is the political and economic context defining the framework within which the instruments can actually be designed and implemented. Thus, the actual design and sequencing would need to respond to these ground realities.

## 1.5 Issues, Tradeoffs, and Directions for Further Research

***Use of financing mechanisms should be guided by local context, supported by continuing innovations in the development and use of financing mechanisms.***

Based on issues related to the use of different mechanisms reviewed, Chapter 5 identifies a number of critical and cross-cutting issues. This chapter also initiates a discussion on choice and tradeoffs in the use of financing mechanisms in different contexts, which also emerges as an important area for further research. The chapter summarizes this and other important directions for further research that emerge from this global overview.

Chapter 5 identifies a number of critical and cross-cutting issues:

- ***Fiscal viability at scale.*** A major drawback of WSS strategies has been the lack of fiscal viability of public resources with countrywide scaling up. Clearly, any financing mechanism using a direct subsidy element needs to be assessed and developed within a macro assessment of financial sustainability. A related issue here is also of sequencing of priorities, which need to be locally determined and agreed.
- ***WSS preparedness within a multisector context.*** Most financing mechanisms and public sector allocation mechanisms operate within a multisectoral framework. Market considerations of risk and returns also guide

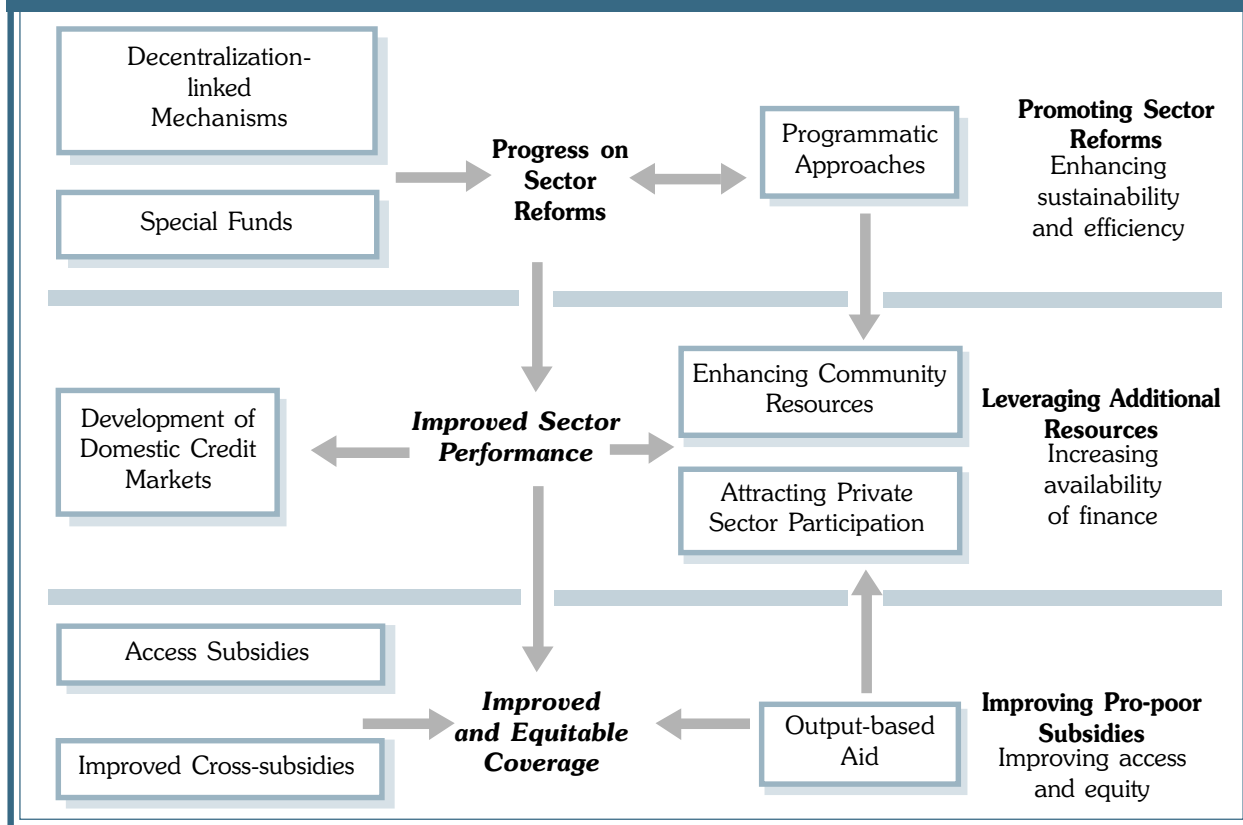
market resources, which necessitates that the WSS sector be relatively well prepared to absorb the resources available.

- ***Constraints in financing software and institutional reform.*** To meet the WSS financing challenge, public finance needs to focus on mechanisms that support funding of non-traditional activities, such as software, project development support, and support to institutional reforms. A major change in the mindset among decision-makers, supported by appropriate design of finance mechanisms, needs to occur in order to achieve this.
- ***Weak monitoring and information systems.*** Most new approaches focus on linking public finance and aid to outcomes and performance to enhance the finance-reform link. This requires better measurement of the targeted performance and setting up strong and transparent M&E systems. This is a key sector weakness, as past M&E efforts focused only on externally-aided projects to an almost complete negligence in the systematic collection of sector-level information, and monitoring and evaluation.
- ***Need for appropriate and flexible standards/ technologies.*** The review also suggests the need for appropriate and flexible standards as a first step in enhancing access for the poor. This would also enhance the fiscal viability when attempting countrywide scaling up.
- ***Design of financing mechanisms: “the devil is in the details”.*** The successful use of a financing mechanism is critically linked to its sensitive design in the local context. A number of factors affect successful design, and often the details require careful attention and determine success or failure.

The choice and use of different financing mechanisms in different country and regional contexts will be guided both by factors defining the macro country and the WSS sector context. The tradeoffs and sequencing of actions vary according to the particular situation in a given country. Figure 1.1 highlights the importance of improved sector performance for both leveraging resources and for appropriate use of subsidies. The focus in any financing approach thus needs to be first on promoting reforms that are essential

Figure 1.1

Addressing the WSS Financing Challenges



for improving sector performance. The design of a country-level financing strategy will need to incorporate these considerations for sequencing of activities and linked selection of appropriate financing mechanisms.

Three different levels of decision-making are relevant for choosing appropriate financing mechanisms for water and sanitation: (1) global, especially for bilateral and multilateral agencies (2) country/large region for national or regional governments and (3) local government, especially in the context of medium and large urban areas.

The process of choosing appropriate financing mechanisms in a given country requires an assessment of the country context in relation to a number of influencing factors: those operating at the national level and those linked to the country's infrastructure sector.

Chapter 5 provides illustrations of the nature of the tradeoffs involved in choosing between

decentralization-linked mechanisms and special funds, in choosing the mechanisms for the development of domestic credit markets, and in identifying the appropriate subsidy mechanisms to move towards the goal of universal service in different country contexts. Table 1.5 provides an illustration of the type of decisions involved in choosing mechanisms in different country contexts. Developing a better understanding of these key tradeoffs is important for addressing the WSS financing challenge.

This review provides a basis for further research. Based on this, key areas for further research are identified as:

*Analysis of choices in local contexts.* A number of factors influence the choice of a particular set of financing mechanisms as illustrated in Table 1.5. Useful research into this subject would include a better understanding of how such factors have actually

influenced the decision-making process and its impact on sector reforms, leveraging resources, and targeting of subsidies. Such analysis would also help guide local decisions and present options for sequencing in the use of financing mechanisms in different contexts.

*Exploring the issue of fiscal viability at scale.* Any financing mechanism needs grounding in the fiscal realities of a given country. A key issue cutting across most financing mechanisms in this respect is the fiscal sustainability of any measure at scale. Surprisingly, most efforts and programs in the WSS sector fail to address this key concern. In view of the increasing emphasis on the MDGs, it becomes imperative to assess the fiscal sustainability necessary to achieve these within a

reasonable timeframe. This requires a better understanding of the link between inputs and outputs and the actual flow of resources in the WSS sector. Where leveraging is important and other stakeholders also contribute to sector resources in a significant manner, analysis is required beyond the public sector resources. Such research has been recently initiated in East Africa and needs to be extended to look at the issues of fiscal sustainability at scale. A particular weakness in the WSS sector is inadequate emphasis on understanding, assessing, and measuring outputs and outcomes. When compared to other sectors, analysis of performance assessment in the water and sanitation sector lacks depth and analytical rigor. In the context of efforts to develop

**Table 1.5**

<b>Illustrations: Choosing Among Different Financing Mechanisms</b>	
<b>For promoting WSS sector reforms</b>	Choice between decentralization-linked mechanisms and the use of special funds is influenced by level of commitment and progress in decentralization, and commitment and capacity for fiduciary and performance accountability
	Possible preference for special funds or special projects to support critical sector institutional reforms that have high political costs and require at least a mid-term commitment
	Choice of programmatic approaches is contingent on sustained government commitment, leadership of a strong sector institution, and significant upfront efforts for sector assessment and stakeholder consensus on a sector-wide policy
<b>For leveraging additional resources</b>	While development of domestic credit markets is critical for the WSS sector, choice of mechanisms is critically dependent on the level of financial sector development and the capacity of local authorities and local service providers
	For leveraging private sector resources, the overall liberalization in the infrastructure sector and government commitment are crucial determinants. This may be aided through advocacy, initial focus on financial sustainability of service providers, and tariff reforms
	Level of development of the micro-finance industry and the costs of water services would influence choice of mechanisms for leveraging additional community resources, aided by a focus on appropriate technologies and social mobilization
<b>For improved pro-poor subsidies</b>	Choice of level and type of access subsidies is critically dependent on a macro assessment of financial sustainability over time and with countrywide scaling up
	Use of direct subsidy measures is dependent on government administrative and fiduciary capacities, as well as development of civil society and social capital
	In contexts of low economic development, high poverty levels and poor coverage, the emphasis needs to be on access subsidies rather than consumption subsidies

a sector-wide approach and a sector monitoring and evaluation system, this aspect needs critical attention.

*Continuing development and documentation of financing mechanisms.* The review identified the ongoing development and use of a number of innovative mechanisms, ranging from programmatic approaches, output-based aid, partial guarantees, new modes of engagement with the private and public sector, to special funds for sector institutional reforms. Many stakeholders, including country and local governments across the globe, NGOs, and civil society organizations, as well as bilateral

donors and multilateral agencies, such as the World Bank and other regional financial institutions, are undertaking such efforts. Further research needs to also focus on a more critical analysis of selected mechanisms to assess their impact on the three financing challenges identified in this paper. To enable the stakeholders from different countries in exploring their use, more detailed documentation on different financing mechanisms and their use in different contexts becomes necessary to provide guidance in the use of a particular mechanism while addressing key contextual issues.



## Financing Mechanisms to Promote WSS Sector Reforms

**Financing mechanisms need to provide incentives and support for appropriate sector reforms to ensure long-term sustainability of investments and improve efficiency of resource utilization.**

The recognition of improved access to WSS services as an important component of poverty reduction strategy implies possible increases in public finance allocated to these services. However, enhanced financial allocations to the WSS sector will not have the desired impact unless made within the context of critical sector reforms. This suggests that countries, bilateral donors, and development finance institutions need to promote sustainable introduction and scaling up of key sector reforms through mechanisms that provide appropriate incentives and support.

### 2.1 Key Principles and Approaches to Sector Reforms

Experience over the last decade suggests an emerging global consensus on some key principles of the institutional and financial dimensions of sector reforms essential to sustainable delivery of WSS services. However, the approaches used, and their implementation, vary in different contexts.

#### Principles of Reform

The key principles of *institutional reforms* include:

- *Decentralization of service responsibility* to the lowest appropriate levels of government, with the underlying logic that the lower levels of government have better information of citizens' preferences and the flexibility to respond to local conditions.
- *A community-driven and demand-responsive approach (DRA)* to water supply and sanitation, especially in rural areas.
- The notion of *autonomous utilities* with a commercial orientation and financial viability backed by appropriate forms of governance

and regulation, especially for service delivery in urban areas and small towns and for multi-village schemes.

- *Appropriate private sector participation (PSP)* in the delivery of WSS services, including small-scale providers, as well as higher forms, such as management, lease, or concession contracts.
- Clarification of the need for *unbundling roles and functions*, such as governance and regulation, monitoring, operational management of service delivery, and professional support in utility operations through appropriate restructuring of sector institutions.

These broad principles together lay out the institutional reform agenda associated with the changing notion of what constitutes a service provider in the sector, as the responsibility of service provision shifts from centralized government agencies to the lower tiers of government. The key aspect here is the separation of functions related to (a) service delivery through communities of users and private sector service providers with a more professional approach (b) the policy role of the upper tiers of government and (c) an independent framework for regulatory oversight. The broad agenda needs backing through appropriate legal mandates for institutions that define both their powers and responsibilities, as well as ensuring the right balance between the autonomy of the service providers and appropriate regulation. These reforms place a tremendous burden of new roles and responsibilities on the often-fledgling institutions. A critical factor in ensuring the sustainable introduction and scaling up of such reforms will be effective transition plans and appropriate demand-led capacity-building support.

The key principles of *financial reforms* include:

- *Water as an economic and social good.* As an economic good, WSS needs prices set in relation to its cost to ensure efficiency. As a social merit good, adequate and effective

access to water needs to be ensured for all citizens at affordable prices.

- *Financial autonomy and sustainability of service providers* to ensure long-term sustainability of service provision.
- *Linking funding and aid to outputs and outcomes* to guarantee that financing in the sector actually generates maximum benefits.

These broad principles together suggest a move towards greater cost recovery for services making certain that the poor and disadvantaged receive adequate access to basic services. They also suggest the need for a legal framework for financial autonomy, a consistent national policy on cost-recovery principles for different settlements and consumer classes, and a strengthening of the sector budgeting and monitoring systems. This requires the development of an economic regulation system. As for institutional reforms, demand-led capacity-building support will be critical in the successful introduction and scaling up of these reforms. Key areas of capacity-building support include regulation, financial management systems, and sector monitoring and evaluation systems.

### **Approaches to Sector Reform**

Based on these broad principles, three areas of reform have emerged as important in the sector though their nature and interpretation vary across regions and countries.

*Decentralization of service delivery.* In the period 1960 to 1990, there was a trend in several developing countries to reduce the mandate and powers of local governments for different functions while increasing the role of national or state-level government-owned utilities. This led to the erosion of the capacity of local authorities to deliver local services. During the 1990s, however, the trend reversed to decentralization with an emphasis on transferring responsibility for local service delivery, along with related powers and financial resources, to local governments, and building up their capacities to take on this role effectively. This global trend towards decentralization responded to the realization that centralized approaches to development had generally failed and an expectation that decentralization would introduce efficiency and effectiveness alongside increased local accountability.

As mentioned above, decentralization represents a process for transferring service responsibility to the lowest appropriate levels of government. A major transfer of responsibility involves the delivery of services, with water supply and sanitation perhaps the most suited to local-level planning and management. Such transfer of responsibility may occur through (a) *deconcentration*, which essentially redistributes responsibility to different levels of central government itself, frequently used in unitary states (b) *delegation*, enabling transfer of public functions to semi-autonomous organizations with some discretion in decision-making and (c) *devolution*, whereby transfer of authority and responsibility is made to units of local government with independent corporate status.

The global trend towards decentralization suggests the need for devolution of functions in the WSS sector, increasing the responsibility of local authorities to provide improved WSS services. It also recognizes the important role of local governments in guaranteeing service provision and not actual service delivery. Delivery may be delegated to community organizations, autonomous utilities, or the private sector through appropriate contractual arrangements. The key issues here relate to the adequate mandate and associated capacity for local governance. If done properly, decentralization provides the institutional setting for community-driven development and private sector participation in the delivery of WSS services. However, the implications of devolution for the delivery of WSS services at the local level need careful assessment so that they do not result in a government takeover of existing community-managed schemes.<sup>1</sup> Three aspects deserve attention for WSS-related reforms in this context:

- *Reform of national and regional utilities.* The reform of water utilities or central/state-level WSS organizations and the transfer of existing water supply assets and services, first to local authorities and ultimately to community groups or commercial utilities.
- *Local authority capacity and finances.* Strengthening local authority finances and capacity, especially regarding sanitation, to ensure access of the poor to improved WSS services.

<sup>1</sup>See Mehta (2001b) for a discussion of such a possibility in Benin where community management is widely prevalent and devolution may result in local authorities taking over management of such schemes.



- *Local-level autonomous utilities.* Establishing or strengthening local-level utilities within an appropriate governance and regulatory framework to ensure autonomy and incentives for sustainability in improved performance.

*Community-driven development (CDD).* The second important area of reform is the key role envisaged for the community in planning, management, and delivery of WSS services. Depending on the context, such responsibilities may range from articulating demand, procurement, construction and management of investment funds, and operations and maintenance (O&M) management of small water supply systems in rural areas to the community role in monitoring performance of private sector providers of these services. A greater community role requires a rethinking of the traditional government position of service provider to the more challenging enabling and facilitation roles. This also requires capacity-building of community-level organizations, such as water and sanitation users committees (WSUCs), to assure sustainability and integration of this approach within larger decentralization and governance reforms. An approach to CDD requires the government to focus on facilitation rather than direct service provision. Implementation of CDD also obliges the local government and community to take the lead, as without a sense of ownership at the local level, sustainability will be at risk (Cleaver and Williams 2002). The role of non-governmental organizations (NGOs) is likely to be important in supporting this process (World Bank 2000b, 2001, and 2001b).

CDD provides a framework for demand-responsive approaches (DRAs), enabling communities to make informed choices and contribute towards investment and operational costs. DRA also allows for efficient targeting of public subsidies by allowing government grant funding to be steered towards areas of high local demand. In the context of WSS-related reforms, three aspects are likely to be important:

- *Strengthening community management organizations.* Develop appropriate forms and scale of community organizations.
- *Demand-responsive approach.* Adequate support for capacity-building and for informed

choices by communities within a framework of rules defined in the context of available resources.

- *Financing community contributions.* Support to communities for meeting their contributions through appropriate financing mechanisms, including microfinance or community-based financing systems (see Section 3.4).

*Private sector participation.* The increasing emphasis on private sector participation (PSP) in WSS services, both as small producers and for utility management, reflects the possibility of efficiency gains and the potential for enhanced coverage. These gains essentially result from a changed system of incentives for service delivery that focus directly on consumers and improved services. This approach, as for CDD, involves a major rethinking of the government role as a facilitator rather than as a service provider.

PSP, within the context of WSS, pertains both to the private sector role in the management of commercial utilities for WSS and to small-scale independent providers (SSIPs). In the framework of WSS reforms, there are three important aspects:

- *Legal and institutional framework.* To reduce contractual risks, develop an appropriate legal and institutional framework at the country or province level, which defines the legal basis for modalities and approaches for different forms of PSP.
- *Focus on the poor.* Introduce measures to ensure that the poor benefit from improved services under PSP, and support the small-scale private sector that serves the poor.
- *Tariff reforms and regulation.* Introduce tariff reforms, either with an independent framework of economic regulation, to ensure financial viability and equity, or through appropriate contracts.

### **Variations in Implementation of Reforms**

These approaches have been articulated in different spatial contexts related to rural, urban, and small towns, as well as for specific subsectors, such as sanitation and hygiene, in different ways:

*Rural and small town water supply.* Within the rural context, the emphasis has been on creating institutional structures that allow communities to drive investment decisions through a demand-responsive approach (DRA). Several countries use

DRA throughout the world. Key DRA principles include: (a) water as an economic and social good, as expressed through participatory demand assessment, rule-based partial capital grants for water facilities, and the provision of services that the community is willing to pay for through community capital contributions and (b) management at the lowest appropriate level through full community responsibility for operations and maintenance (O&M), including management and financing. Within this framework, development and implementation of DRA in local contexts require attention to issues related to the capacity and legal status of community management organizations, community access to credit to meet capital contributions, appropriate institutional arrangements for technical support to local governments and communities, and a monitoring and regulatory framework to ensure accountability in service delivery (Water and Sanitation Program 1998). Recent work on a review of the CDD approach in rural water supply shows that this results in greater beneficiary satisfaction and thus a greater willingness to pay. However, it requires local ownership of programs, an appropriate legal environment for participation of local communities, linking “water and its management up the resource chain and the chain of government,” and emphasis on capacity-building of all stakeholders (Cleaver and Williams 2002:12).

In the context of small towns, community-based approaches have a number of shortcomings: these include the need for specialist services support (local operators or employees tend to do routine operations well, but towns cannot afford or access more specialist skills needed for longer-term planning, training and sustainability), and the legal basis for community contracting. Recent work stresses appropriate management models based on financial and management autonomy of water boards and professional support arrangements based on formal contracts with local independent operators with specialist services contracted separately. Such specialist services probably need to be organized on a pooled basis to ensure scale economies (see Roche and Pilgrim Forthcoming 2003 and Pilgrim 2003).

*Urban water supply.* Within the urban context, with higher densities and possibly higher

average incomes, effective demand for services is higher. Scale economies enable better efficiency and cost-effectiveness among larger systems and thus emphasize the development of autonomous and financially viable utilities within the municipal regulatory framework. Globally, however, opinion on these reforms varies considerably, with a far greater acceptance of this approach in Latin America and Sub-Saharan Africa than in South Asia. There, in general, either regional boards or the departments of municipal authorities continue to provide services. The key principles of utility reform for urban water supply are likely to vary between regions, but include (a) autonomous and financially viable utilities with efficient management (b) appropriate mechanisms for customer services and grievance redressal (c) a monitoring and regulatory framework that ensures accountability (d) commitment to serving the poor through appropriate partnerships and well-targeted subsidies and (e) tariff strategies to ensure internal cash generation, utility viability, and access for poor customers.

*Sanitation and hygiene.* Compared to water supply, there is less clarity and consensus on reforms related to sanitation. Several unresolved concerns plague this subsector: (a) fragmented institutional and financial responsibilities among public authorities for different components of sanitation, such as on-site sanitation, sewerage, solid waste management, demand promotion, and hygiene awareness (b) inadequate focus on a wider and integrated approach to environmental sanitation (c) lack of agreement on appropriate technology for ensuring access to safe sanitation (d) lack of clear definition of the need for public financing in terms of activities and components and (e) undue focus of public subsidies on private hardware facilities rather than on demand creation, hygiene promotion, and health education.

To address these concerns, the broad directions of reform may be identified as focus on demand promotion, the development of clarity in organizational responsibilities for different subcomponents of sanitation, and a focus of public resources on financing the services that provide wider public benefits with positive externalities coupled with well-targeted partial subsidies for the very poor. Within a demand-responsive framework, demand for sanitation

follows that for water, and thus cannot be addressed in isolation from first satisfying the demand for water. Despite some evidence of emerging consensus on these broad directions, there is still far less clarity in the implementation of sanitation reforms than in the implementation of water supply reforms.

### **Financing Mechanisms to Promote Reforms**

Even with the emerging global consensus on the broad principles and dimensions of such reforms, clarity in their implementation varies significantly, both across sectors (between rural and urban WSS, between water and sanitation) and across regions (for example, the introduction of private sector participation in WSS in Latin America and Africa is more advanced, though both differ in nature). While many apparently successful reform-linked projects have been piloted in different regions, successful countrywide scaling up has largely eluded the sector. With the large and often worsening deficit in water and sanitation services, attaining scale in a sustainable manner becomes a critical WSS sector agenda in most developing countries.

A key constraint on the introduction of sector reforms and their sustainable scaling up has been the inadequate attention paid to developing appropriate and sustainable incentives and financing mechanisms. Alternatively, examples are emerging around the world of innovative financing mechanisms that promote and enhance sector reforms. These are not necessarily confined to the WSS sector but are typically multisectoral in nature, with a focus on social services and infrastructure. Appropriate use of such mechanisms can become an important tool for creating the right incentives for articulation of reforms and supporting the process of their implementation in a sustainable manner.

Based on a review of experiences, three sets of options are identified and discussed in the following sections of this chapter:

- *Decentralization-linked fiscal mechanisms*, largely through the traditional public finance systems linked to budget allocations and fiscal transfers.
- The use of *special fund mechanisms*, often developed independently of the regular government financing arrangements, at local, regional, national, and global levels.

- More recent approaches in funding mechanisms structured within *programmatic approaches*, including a variety of program-linked financing arrangements, as well as output-based aid.

## **2.2 Decentralization-linked Fiscal Mechanisms**

Within the devolution-based decentralization framework, many national (and regional) governments use grants and transfers to promote, support, and scale up reforms through local governments in rural and urban areas. The review of different finance mechanisms suggests that these mechanisms often enhance the finances and capacity of local governments and enable them to develop more demand-responsive approaches. However, the relevant institutional reforms required in the WSS sector, such as those related to setting up autonomous utilities or further delegation of management to the private sector, are difficult to promote with these mechanisms. This may be due to the fact that these reforms take time, beyond the impact of annual or sub-annual allocations, and also because there are significant transaction and political costs that may need to be met through special funds during the transition period.<sup>2</sup> These are likely to require other mechanisms, such as special funds or programmatic approaches, both discussed in the following sections.

### **Fiscal Framework for Decentralization**

Effective decentralization requires clear policy and legislation within an appropriate fiscal framework, including consideration of expenditure assignment, revenue assignment, design of intergovernmental transfer, and arrangements for subnational borrowing. The impact of intergovernmental finances on the main economic objectives of government – equity, efficiency, and macroeconomic stability – depends on the overall system rather than on any one component. For example, significant decentralization of expenditures and revenues can lead to greater efficiency and accountability in the wealthier parts of a state/country, but may also result in a decline in equity for the poorer parts unless intergovernmental transfers compensate the

<sup>2</sup>This is especially true for those regions or local authorities that are early starters and help provide precedents, and which may be more easily taken up later by other entities. See the discussion on special challenge funds for institutional reforms in Section 2.4 later in this chapter.

poorer areas. Four interrelated aspects are important in such a fiscal framework:

- *Clarity and consistency of expenditure assignments.* For water and sanitation, this includes appropriate mandates for local governments for services such as water, sewerage, drainage, sanitation, hygiene promotion, and solid waste management. Three sets of issues are important in this regard: (a) the legal provisions for local government responsibility for service delivery (b) the actual realization of the legal mandate through the necessary transfer of responsibilities and related staff to the local level and (c) for WSS services, the transfer of existing facilities to communities, especially in rural areas, and/or the formation of appropriate autonomous utilities and the encouragement of private sector participation, especially in urban settlements. This process of expenditure assignments needs backing by measures for strengthening local capacity to take on these additional responsibilities.
- *Correspondence between expenditure responsibilities and local revenue potential.* Local functional responsibilities need proper matching with local revenue potential based on revenues assigned to local governments, as well as resources from the intergovernmental transfer system. Revenue assignments to local governments essentially depend on the overall system of taxation in a given country and include consideration of administrative efficiency, equity, fiscal need, and the efficiency of the internal common market.

The most commonly assigned local revenues are property taxes and charges levied on services such as water and parking. Issues related to poor tax/revenue collection often plague the actual revenue effort of local governments and require special attention. Another common problem is the inadequate revenue base of local governments in relation to their functional responsibilities. To address this, two options are generally possible: (a) permit the local governments to levy their own broad-based taxes as long as these burden local residents only<sup>3</sup> and (b) supplement local revenues with intergovernmental fiscal transfers, as discussed below. Regarding WSS,

it is also important to devise an appropriate tariff regime.

- *Framework for local borrowing.* Local government may also address the revenue gap through borrowing, though this is really only appropriate for capital investment in long-term projects that will help enhance services and productive capacity. Such borrowing is usually done by either the local governments themselves or by the autonomous utilities set up for service delivery.<sup>4</sup> With the development of domestic capital markets in many developing countries, it becomes increasingly possible for local authorities and service providers to borrow for long-term capital projects. To ensure that local borrowing occurs within a sustainable framework and helps enhance service delivery, issues related to borrower capacity and an appropriate regulatory framework become critical.<sup>5</sup>
- *Design of intergovernmental transfer system.* In many countries, intergovernmental transfers are an important source of revenue for local governments. They also offer an opportunity for promoting reforms through creating appropriate incentives for local governments. Hence, appropriate design of this system can often determine the success of decentralization and the improvements in local service delivery. Transfers can basically be divided into (a) general transfers that permit the local governments discretion in their use and (b) conditional transfers, generally linked to use in specific sectors/activities, and often also requiring some matching contribution by local governments. Conditional transfers may be necessary to ensure national priority outcomes, such as primary school enrollment and access to water and sanitation services. However, a balance between conditional and discretionary resources is also important to ensure that local priorities are not totally distorted by central directions. Intergovernmental transfers frequently attempt fiscal capacity equalization through general non-matching grants. For example, in Australia, the Commonwealth Grants Commission uses the principle of equalization

<sup>3</sup>In practice, the only broad-based tax that may be "both feasible and desirable is likely to be a flat-rate surtax (or surcharge) on a national personal income tax – provided that such a tax exists and works moderately well" (Litvack et al. 1998:12). <sup>4</sup>For example, in the United States, special-purpose authorities (which are essentially autonomous utilities with local authority ownership) do a large proportion of the borrowing for water-related investments through municipal bonds (Mehta, 1995b). However, in other cases, such as in Australia, though the autonomous utilities correspond broadly to local city/metropolitan jurisdictions, they do not have any administrative or governance links with the local governments and are owned by the state governments. <sup>5</sup>These aspects are discussed further in the next chapter (Section 3.3) in the discussion on development of domestic local credit markets to leverage resources for the infrastructure sector in general. Considerable work has been done in South Africa to develop a regulatory framework for municipal borrowing (Department of Finance n.d.).

for recommendations related to untied general revenue grants with an aim to equalize states' capacity to provide services, while leaving each state free to decide its own priorities (Commonwealth of Australia 2001).

Three key concerns are important in influencing the design of a transfer system: (a) it must be ensured that the transfers do not discourage local efforts at revenue mobilization (b) the system needs to be simple, transparent, and predictable in order to avoid any hidden political negotiations and to enable the local governments to adopt rational medium-term budgeting and (c) the system needs backing with independent and rigorous monitoring systems.

Most countries with emerging decentralization policies attempt to address these issues with varying levels of success (see Box 2.1 for the experience of India, where the last decade has seen a significant move towards decentralization). Key lessons emerging from this and the experience of other developing countries include: (a) the critical need for the introduction of a linked set of institutional reforms with a well-designed strategic transition plan for transfer of functions, staff, and resources to local governments, and in functions such as water supply further delegation to communities, the private sector, or independent utilities (b) adequate provision for capacity-building and technical support to enable local governments to take on the new functional mandates for service delivery and (c) the need for adequate capacity at all levels of government, with the assistance of civil society associations, to ensure transparency and independence in the design and continued implementation of a transfer system.

### ***Intergovernmental Transfers as Incentives to Promote or Support Reforms***

Within an appropriately designed decentralization-linked fiscal framework, intergovernmental transfers constitute one of the key financing mechanisms for enhancing service delivery by local governments. These may enable the national or regional governments to (a) help regional and local governments to establish WSS expenditure priorities taking into account sector reform and meet nationally agreed social objectives (b) provide incentives for the

introduction of planning and financial reform measures at the local level to strengthen local governance or the capacity of service providers and (c) provide incentives for improved performance for governance and service delivery among local governments. Examples of three such specific transfer schemes for each objective are discussed below. These provide an idea of the manner in which transfers can be used to meet specific objectives. It is important to note that in contexts where higher levels of government pursue different objectives, separate transfer schemes targeted at each objective will help to enhance clarity and effectiveness (World Bank 1996; Litvack, Ahmad, and Bird 1998). It needs to be highlighted that innovative use of transfers, while addressing the key issues discussed above, will help to promote reforms and strengthen local service delivery.

*Reform-linked conditional grants.* Higher levels of government (national or regional) may give conditional grants with a provision that the expenditure be directed to priority sectors, often with specific reform-linked conditions and related technical assistance. Even in more developed countries, such as the United States, conditional grants may be provided, for example to meet the high environmental standards imposed by the central government regulatory agencies for disposing treated municipal sewage.<sup>6</sup> In many developing countries, some earmarked grants are made available to lower levels of government for a variety of infrastructure and social services. For example, many states in India provide partial capital grants (ranging from 30 to 90 percent of total project investment) to local authorities for water supply facilities. However, often these grants are disbursed in an ad hoc manner without effective linking to reform, fail to leverage appropriate sector reforms, and may result in unsustainable investments. However, if developed and implemented well, conditional grants can introduce or scale up sector reforms, such as demand-responsive approaches for rural water supply and sanitation (RWSS) or tariff reforms for urban WSS.

An example of a WSS-linked conditional grant is the district conditional grant provided by the Government of Uganda to local governments at the district level for providing rural water supply

<sup>6</sup> In some US states, however, these grants are further leveraged to attract market-based resources, as discussed in Section 3.3.

## Fiscal Framework to Support Decentralization: Lessons from India

Though local authorities (LAs) have existed in India for a long time, it was only in 1994, 47 years after independence, that they attained a constitutional status through the 73rd and 74th Constitutional Amendment Acts (CAAs). Within the Indian federal system, however, determination of the functional mandates and fiscal powers of local authorities still rests with the state legislatures. As regards the fiscal powers of the LAs, the CAAs provide for State Finance Commissions (SFCs) to be set up by each state government every five years. The SFC is entrusted with the task of reviewing the fiscal position of LAs and making recommendations as to the measures needed to improve their financial position. It gives due consideration to the principles governing (a) the distribution between the state and the LAs of the net proceeds of the taxes, duties, and fees levied by the state (b) the determination of taxes, duties, and fees that may be assigned to or appropriated by the LAs and (c) the grants-in-aid to LAs from the consolidated funds of the state. The first set of SFCs was appointed in 1994. Most state legislatures have accepted their recommendations, though they have often not been implemented fully. In most states, the second SFCs are also now in place.

The experience so far in India on the key elements of fiscal decentralization illustrates the following:

- *Expenditure responsibilities.* The 11th and 12th Schedules of the CAA suggest functions for devolution to local authorities, though the power to do so is actually vested in the state governments through panchayat and municipal legislation. The actual assignment of functions varies in different states and has depended also on past institutional legacies. Though LAs have a clear mandate of responsibility for WSS-related services in some of the western states, state agencies retain responsibility in many other states. Further changes in responsibilities for expenditure will require significant institutional reform along with transfer of staff from the sectoral line ministries to local authorities. Even in a state such as Kerala, which attempted considerable administrative decentralization, management of urban water supply still remains with a state-level authority. More importantly, as regards WSS, further institutional reforms necessary for community management and the development of autonomous utilities have not been appropriately incorporated in any state so far.
- *Revenue assignment.* Almost all of the first set of SFCs recommended continuation with the same taxes, and no new taxes were assigned to LAs. The taxation powers of LAs generally include the authority to tax land and buildings; entry of goods into a local area for consumption, use, or sale therein; professions, trades, and employments; and entertainment. Several SFCs made wide-ranging recommendations for improving revenue collection, accounting and financial management of LAs, reform of property tax, better and fuller use of user charges and fees, and greater autonomy for local authorities in setting rates and charges. However, these have not yet been addressed adequately in most states.
- *Design of transfer system.* Recommendations regarding the extent and system of transfer to be made by the SFCs varied between transfers from a general pool, as in Karnataka and Tamil Nadu, to transfers linked to specific taxes, as in Kerala. The share of urban LAs in total local transfers has generally been around 15 percent. Some states have also introduced performance-linked transfers. In most states, however, the design of transfer systems has been severely constrained by a lack of information.
- *Subnational borrowing.* In the past, most local infrastructure was financed through budgetary allocations, leading to considerable inefficiency and little regard for financial viability. This was aggravated by debt write-off by some of the SFCs, as in one of the northern states. The increasing potential of commercial borrowing in India for urban infrastructure, directly through the market or through commercial financial intermediaries, requires a rule-based state framework that would apply to all municipal authorities that want to borrow on commercial terms to ensure financial viability and minimize the risk of defaults.

While suggesting specific fiscal measures to support decentralization, the second set of SFCs will need to address issues of autonomy, equity, predictability, and simplicity, while ensuring local incentives for improved performance. Based on a review of experience so far, special focus is required on improving the resource base of LAs, wider use of user charges, strengthened accounting and auditing systems, improved design of transfer systems, and development of a framework for local borrowing.

Sources: World Bank (2002g) and Mathur (2001)

and sanitation services (Box 2.2). Importantly, Uganda uses conditional grants within two wider reform initiatives: (a) an emphasis on institutionalizing the consultative preparation of poverty reduction strategy preparation with the medium-term budget framework and a rigorous and participatory monitoring and evaluation (M&E) system and (b) the WSS sector adoption of a sector-wide approach (SWAp) to develop a reform-linked and nationally agreed program for countrywide application. Based on the Uganda and other related experience, key issues that need to be addressed in relation to the use of such conditional grants include:

- *Fiscal consistency at scale.* There is a need to develop the rules for grant assistance to ensure that a higher level of government has the necessary fiscal capacity to guarantee countrywide scaling up. For example, in

Uganda, the WSS sector allocation has reached the maximum possible levels within the medium-term expenditure framework, and it will be necessary to review either the grant rules or the temporal coverage targets. In such cases, grant rules need reviewing along with other measures to leverage resources (see Chapter 4).

- *Balancing national priority and local preferences.* It is important to avoid undue distortion of local preferences. Some questioning in Uganda has gradually begun to emerge regarding the large proportion of non-discretionary resources being transferred to the local governments. Possibly moving towards a system of matching conditional grants would help to address this issue to some extent, though this also requires a strong own-source revenue base for local authorities or WSS service providers. As illustrated by a

## Box 2.2

### District Conditional Grants for Water Supply and Sanitation, Uganda

The decentralization process in Uganda has been linked to key reforms and changes in institutional arrangements for delivery of services. These give autonomy to local governments to take the lead in the enhancement and development of service delivery in their respective areas. The Ministry of Water, Lands and Environment (MWLE), through the Directorate of Water Development (DWD), has been playing a lead role in supporting implementation of the RWSS program by the local governments.

One of the measures in the intergovernmental transfer system in Uganda is the use of conditional grants earmarked for priorities identified at the national level through the poverty reduction strategy process, including education, health, and water supply and sanitation. A district RWSS conditional grant is used to guarantee an overall prioritization of sector investment among districts, as well as among various activities, such as sanitation versus water facilities, hardware versus software, O&M and rehabilitation versus new investments. The grant is co-funded by donors and government and also uses the debt service resources released through the Highly Indebted Poor Countries (HIPC) initiative. It is allocated to districts in quarterly transfers based on a formula recognizing the coverage situation specific to the district. The overriding principle of the grant is to provide common implementation strategies, linked to strengthening the demand-responsive approach (DRA) for RWSS, as a part of the priorities identified in the national-level proposals for sector investments. It also helps to encourage good management practices among local authorities.

This system of conditional grants has resulted in increased RWSS coverage, improved efficiency of local governments, and wide application of DRA. However, the DWD has been concerned with quality of service delivery and value-for-money actually achieved, and has initiated steps to improve its own and local government capacities to address related issues. Even though the results so far have been satisfactory, it has been noted that coordination and oversight of implementation by the MWLE needs strengthening to improve utilization and outcomes of the conditional grants. At the district and lower levels of local governments, more attention is needed on strengthening overall capacity for planning, implementation, and monitoring.

*Source: Based mainly on information from Government of Uganda (2001)*

recent study, the limited own-resource base of local authorities in Uganda is likely to make it difficult to increase their share of conditional grants (Mokoro and Mentor 2002).

- *Issues in local and central capacity.* It is important to guarantee adequate local awareness of, and capacity for, the implementation of reforms. This applies both at the level of central government (in planning, monitoring, and providing the technical support to local governments) and at the district and lower levels (in planning, implementation, and monitoring). Further,

“capacity depends not only on the skills of individuals, their numbers, and the resources available to them, but on the institutions (the procedures, the organizational culture, and the incentive and accountability frameworks) in which they operate” (Mokoro and Mentor 2002). In this context, it is important to recognize that conditional grants from different line ministries put undue burden on local governments to meet different procedural requirements. Thus, capacity strengthening is needed at two levels: the first is largely generic in nature, cuts across sectors, and requires

### Box 2.3

#### Local Authority Transfer Fund as Incentive for Local Reforms in Kenya

The Government of Kenya (GoK) established the local authorities transfer fund to address the fact that the lack of any intergovernmental transfer system hampered local authority ability to deliver local services. The fund is capitalized from a predictable and buoyant pool of resources generated by allocating 5 percent of the annual income tax revenues of the GoK. Transfers are made as discretionary grants, the use of which is decided by local governments through their annual budgets, which combine these resources with other central transfers and the local authority's own income sources. LATF operational guidelines are very broad, so these remain truly discretionary grants. The transfers are, however, used to provide incentives through a number of related conditions. The amount allocated for each local authority is divided into two basic components: the service delivery component and the performance component. The two separate accounts do not restrict the use of the funds by the local authorities, but merely emphasize the related conditions:

*Funds from the service delivery account* (60 percent) are released on submission of the basic budget document and meeting the related budget conditions for share of expenditure on personnel and development and providing for all new statutory debt. For the fiscal year 2002/03, the conditions included:

- The local budget estimates to allocate at least 50 percent of the LATF service delivery amount to capital projects and not more than 60 percent of the total budget to personnel.
- LAs are required to pay all statutory charges within the year in which they are due.

*Funds from the performance account* (40 percent) are released based on submission of various financial statements and plans as outlined in the LATF regulations. From fiscal 2002 onwards, LAs have been required to submit the following:

- A *simple statement of receipts, payments, and balances* for the year and an *abstract of accounts* for the preceding year.
- A *statement of debtors and creditors* for the year, along with a *debt repayment plan* for the five statutory creditors, signed by all the statutory creditors.
- A *revenue enhancement plan* outlining how the LA would increase its revenue mobilization during each subsequent year.
- A *local authority service delivery action plan (LASDAP)*, based on a participatory planning process to identify and prioritize local expenditures to be included in the annual budget process.

Achievements arising from LATF incentives include regular information on LA status, preparation of timely budgets and financial statements, improvements in resolution of LA debts, initiating thinking on staff rightsizing and restructuring, and the introduction of participatory budget-linked planning by all LAs.

Sources: World Bank (2002f), Government of Kenya (2000, 2001, and 2002), and Ngugi and Kelly (2002)



attention within an overall public reform program, and the second is linked to WSS in particular and needs to be supported through the sector ministry. Both are critical: inadequate capacity has in the past been used as the reason for centralizing service delivery in many countries.

- *Moving to output-outcome-based grants with monitoring and evaluation (M&E) support.* These experiences clearly point to the need to connect the conditional/earmarked grants to clear outputs and outcomes. Even in Uganda this capacity is weak, though the government is attempting to address this by introducing special tools, such as technical audits and value-for-money studies. Another useful tool is a clear memorandum of understanding (MoU) between the central and local government. However, the WSS sector particularly suffers from weak M&E systems. Drawing on the experience of other sectors (such as education and health), Uganda has initiated special monitoring studies for the RWSS component being implemented through the conditional grants.
- *The context of wider sector and public sector reforms.* The Uganda experience shows that conditional grants are best used within the context of wider sector reform using a sector-wide approach (SWAp). Further, in Uganda there is an overall government emphasis on public sector reforms and the development of a fiscal decentralization strategy that will review the conditional grants and better integrate them into the fiscal decentralization framework.

*Discretionary transfers with conditions for local reforms.* The process of decentralization necessitates a standard of governance at local government level sufficient to ensure efficiency and accountability in the delivery of local services. The past tendency to reduce local mandates for service delivery in response to low capacity generally worsened the situation, resulting in significant weakening of overall local government capacity. In addition, the fiscal framework for decentralization often does not provide appropriate incentives for local governments to improve their governance systems. To overcome these problems in the fiscal framework of decentralization, untied or

discretionary grants<sup>7</sup> through an inter-governmental transfer system may be used to provide incentives for the introduction of local reforms. These enhance the overall local government capacity and performance through improved financial management (transparent and participatory budgeting systems, revenue rationalization and enhancement, debt management), participatory and demand-led planning for local services, and more transparent and accountable governance systems.

Box 2.3 provides an illustration of the local authority transfer fund (LATF), a grant system operating for the last three years in Kenya. It provides for a formula-based transfer as discretionary budget support for all local authorities that meet the reform conditions laid down in guidelines and revised each year. Over the past three years, through the incentives provided by the LATF, local authorities in Kenya initiated a number of reforms related to planning and financial management. The Government of Kenya is considering further refinements in the transfer system along with capacity-building support for local and central government.

Lessons emerging from the experience in Kenya include:

- *Size and composition of the grant pool.* The size of the grant pool should be large enough to provide incentives to local governments, but small enough initially to avoid undue politicization of allocations. Gradually, as the local authorities improve their ability for service delivery, financial management and participatory planning, the size of the grant pool may expand in relation to the LA functional domain. The grant pool for LATF in Kenya is capitalized from the government's own resources (as a share of income tax revenue), which makes it far more sustainable than being funded through donor projects.
- *Transparency and predictability in transfers.* Allocations from the grant pool need to be made through a transparent and open process, preferably with some independent participation of the private sector for review and oversight. Linking with a source such as income tax revenues enables both buoyancy and predictability.

<sup>7</sup> These are also referred to as block grants. The main distinguishing feature of these grants is that the local authority has the autonomy to decide on its use and allocation within its planning and budget process.

## Local Governance Scorecards for a Graduation Approach in Nigeria

The local authorities (LAs) in Nigeria constitute the weakest level of government in the federal system and generally need improvement in budget formulation, execution and reporting, participation and planning, project implementation capacity, and personnel administration. The Government of Nigeria is preparing a Community and Local Government Development Project (CLGDP) for possible funding by the World Bank. The CLGDP aims to establish a viable, sustainable, and transparent institutional mechanism for transferring investment resources to local governments and communities to enable them to finance their own development priorities. Through a phased approach, referred to as the “graduation” process, responsibility for their own investments and for allocating financial resources to communities in their jurisdictions will be transferred to LAs, based on an independent assessment of their capacity. A list of performance indicators has been developed to facilitate the assessment process and to classify the LAs into three broad categories: weak (red light), neutral (amber light), and positive (green light). The weak authorities do not receive any funds directly, and the communities in their jurisdiction are also not considered eligible. Those in the neutral category would be able to advise on the selection of communities in their jurisdiction, but the funds will flow directly to the communities, whereas those in the positive category will receive funds directly and manage its disbursement to communities. The project provides for ways of graduating to a higher category. This approach provides strong incentives even for the weak LAs to improve capacity to access the CLGDP resources and encourages communities to put pressure on their LAs to improve capacity.

Sources: Esmail, Manning, and Orac (2001) and World Bank (2000g)

- *Revenue substitution.* One problem that may result from any transfers is the weakening of local incentives for revenue collections. There is some indication of such a trend in Kenya, the information for just one year demonstrating a decline in some of the own-source revenues. Similar results have been observed in other contexts. To overcome this, appropriate incentives for improved revenue performance need to be built into the design of the transfer system.
  - *Rigorous monitoring system.* A strong information and monitoring base is essential to establish transparency and adherence to rules. A good monitoring system also helps to generate reliable information about the local government financial and service delivery performance. The LATF monitoring support is being assisted through donor support and will need strengthening and institutionalization within the normal government arrangements.
  - *Wider reform framework.* A key aspect of the LATF design is its careful link to the overall directions of reforms. Within the LATF framework, however, introduction of reforms is gradual and incremental in relation to prevailing capacity. Over time, however, attention will need to be paid also to wider reform issues, such as civil service and other governance reforms that also affect local authority performance.
  - *Support for capacity-building.* Most of the positive aspects of LATF incentives noted above need to be combined with considerable capacity-building support. However, a difference within this arrangement is that the design of the transfer system creates an effective demand for strengthening capacity to meet the conditions linked to the transfers. This would considerably enhance the effectiveness of any capacity-building program.
- Conditional grants with asymmetric decentralization.* Two gaps appear relevant in the approaches described above: (a) lack of clear incentives for local governments to move beyond the required conditions to improved performance and (b) lack of recognition of the possibility of considerable variations in actual capacity across different local authorities to undertake general governance reforms or implement WSS programs within the reform framework. This requires an approach utilizing the principle of asymmetric

decentralization to allow a response to the varying capacities and needs across regions and type of settlements in allocating funds for specific functions or programs, as well as providing incentives to local authorities to improve performance.

Boxes 2.4 and 2.5 provide illustrations of approaches that may help to address the need for asymmetric decentralization. Both the Andhra Pradesh Urban Services for the Poor (APUSP) Project in India and the Community and Local Government Development Project (CLGDP) in Nigeria are structured as special projects rather than being integrated with the overall fiscal framework for decentralization. However, both provide an opportunity for a large number of local authorities to directly access funds in relation to capacity and performance against an agreed set of parameters or indicators. The graduated approach used in Nigeria in the World Bank-funded project (Box 2.4) provides an incentive to local authorities to improve their performance for community-based development by linking investment grants to LA performance as assessed by an agreed set of indicators. The other example

is of a special project, for all medium-sized towns in a state in central India, funded by the Department for International Development (DFID). Under this project, to become eligible to receive investment funds for pro-poor investments in their jurisdiction, local authorities must first demonstrate improvements in financial and management performance through a first-phase action plan. The project also provides funding to a local authority requesting assistance for this first-phase plan. This would enable even weaker local authorities to demonstrate their commitment to reform and become eligible for special assistance through improved performance in the second stage of the project.

Both examples described above are recent, and there has not been adequate time to assess actual implementation. However, based on the design of these innovative projects, key issues to be addressed in financial mechanisms to support asymmetrical decentralization are:

- *Ensuring inclusion of weak local authorities.* A concern in performance-linked approaches is ensuring that even the weak local authorities

## Box 2.5

### Municipal Reforms as a Step Towards Urban Services for the Poor: Andhra Pradesh Urban Services for the Poor (APUSP) Project

The Government of Andhra Pradesh in India, with the support of the DFID, has initiated a large urban poverty program to assist poor communities in 32 towns of Andhra Pradesh. The program will benefit an estimated 2.2 million slum dwellers. Unlike past poverty alleviation programs that focused exclusively on direct poverty-targeted projects and were more supply-driven, APUSP envisages a process whereby some basic municipal reforms precede access of municipal authorities to investment funding. It also includes a separate component focusing on strengthening the civil society capacity for better articulation of demand. Project governance is largely limited to the government representatives.

The central feature of the program is the Municipal Action Plan for Poverty Reduction (MAPP), which adopts a phased approach to planning, reform implementation, and financial assistance for investments. Its features include (a) a participatory planning process involving all stakeholders, particularly the poor (b) an evolving process from a simple Basic MAPP to a Full MAPP as a medium-term plan (c) development of a municipal information system to support the plan process (d) promotion of convergence with other programs and (e) leveraging project resources by mobilizing additional resources for the implementation of the Full MAPP. While all municipalities can receive the assistance for a municipal reform component under their Basic MAPPs, access to investment resources for infrastructure will be contingent on implementing the agreed reforms.

Key issues addressed by such a project relate to governance structure, the need for significant support required through state-level legislative and policy actions, and the need for advanced planning required for any additional resource mobilization as envisaged under the Full MAPP.

Sources: Government of Andhra Pradesh (2002) and <http://www.apusp.org>

or service providers would have a fair chance of benefiting through improved performance. This requires careful design of the transfer system through (a) devising a set of performance indicators based on assessment of the current situation and arrived at, and agreed upon, through a process of local stakeholder consultation (b) incorporating more than one set of graduating levels to reflect the differences among local governments in terms of current performance levels and capacity and (c) providing for adequate and appropriate promotion of the facility to assure that all eligible candidates are aware of, and if necessary, receive, the minimum assistance for preparing the initial application proposals.

- **Transparency and accountability.** Independent governance of transfer funds is necessary to guarantee appropriate appraisal and to avoid the use of these funds for short-term political gains. This also necessitates design of a simple set of measurable and consultatively agreed performance measures and a strong and independent monitoring system. The set of indicators and the design of the transfer system should be reviewed over time.
- **Parallel capacity-building support.** In order to ensure that the weaker authorities or service providers have a real opportunity to graduate to a higher level and the linked benefits, parallel capacity-building support needs to be included in the project designs. Design of such support needs to reflect effective local demand.

## 2.3 Special Fund Mechanisms

The last two decades have seen a significant growth in the use of special fund mechanisms operating at a range of scales, including very local-level urban funds, fast-growing social investment funds at the national level, and a number of global funds often capitalized by bilateral donor agencies. The reasons for the use of special funds vary, depending on different sector or country contexts. Often in specific country contexts, the introduction of wider reforms related to decentralization, WSS tariffs, community-driven development, or PSP may not be readily forthcoming for a variety of reasons, including lack of acceptance within the

government system, and inertia due to the vested interests of existing institutions. In such cases, the use of special funds helps to provide local successful precedents that demonstrate the relevance of reforms and paves the way for the emergence of a broader reform commitment.

Alternatively, funding agencies (external donors or higher levels of governments) may lack adequate confidence in the capacity of public finance systems to ensure the needed transparency and accountability, in the commitment of existing institutions to the needed reforms, and in policies that focus on the poor and the local community. Under such circumstances, it has been common to introduce the concept of independently managed reform-linked funds. These provide access to entities such as local community organizations, NGOs, or private sector firms to develop and strengthen capacities or to make investments within the broad reform framework. In some cases, such funds have been used in specific regions in a country where promotion of reforms through usual government channels is not possible due to low capacity.

These funds may also be established along with the introduction of wider reforms, as the development of market-linked sustainable financing systems to support reform implementation may not be possible in many countries due to inadequate development of the financial sector. The use of special funds to overcome the weak financial sector through either project development facilities or some variants of municipal development funds requires careful planning to avoid creation of unsustainable institutional legacies and vested interests. These issues are discussed further in the next chapter in Section 3.3.

### **Types of Special Funds**

Based on the prevailing practice and experience with different types of special funds, three specific categories are identified and discussed below for their possible relevance to the WSS sector: (a) *social investment funds* that generally promote community-driven development (CDD) for small investments and have received increasing attention in recent years in the context of decentralization to local authorities (b) *community development funds* that also promote CDD but with greater focus on

**Table 2.1**

**Illustrations of Special Fund Mechanisms by Purpose and Level of Operation**

Type of Fund (Main Purpose)	Level at which the Special Fund Operates		
	Global/Regional	National/Provincial	Local
<b>Social Investment Funds</b> (Investments)	■ Global Environment Facility (GEF)	■ Social Investment Fund (SIF): 98 projects in over 58 countries by the World Bank	
		■ Urban Poverty Project, Indonesia, funded by the World Bank	
<b>Urban Community Development Funds</b> (Institutional Development)	■ Civil Society Challenge Fund, DFID	■ Community Organization Development Institute (CODI), Thailand	■ Local Community Development Funds, such as: SIDA-supported local funds in South America or the uTshani Fund in South Africa
	■ Community-Led Infrastructure Finance Facility (CLIFF)		
<b>Institutional Reform Challenge Funds</b> (Institutional Reforms)	■ Public-Private Infrastructure Advisory Facility (PPIAF)	■ City Restructuring Facility, South Africa	
		■ City Challenge Fund and Urban Reform Incentive Fund, India	

Note: Refer to text for details of these mechanisms. While the South Africa Restructuring Facility is in the nature of a grant, its operation through an application process reflects a special challenge fund structure.

supporting community-led processes for linking with local governments and (c) *challenge funds for institutional reforms* that are more recent in origin and focus on critical institutional reforms.

The types of funds may be distinguished in terms of two factors:

- *Purpose of the special fund* relating either to (a) some form of infrastructure investments or (b) some form of institutional reform. Though most funds attempt to do both to some extent, the main purpose is important in determining the scope and nature of operations. For example, most of the World Bank-funded social investment funds (SIFs) focus on financing investments. This requires that the SIFs define in detail the type of activities and subsectors that they will support and the rules for access and implementation. In recent years the use of special funds to support major institutional reforms in urban areas is being explored: one has been

implemented in South Africa, and others proposed by the Government of India. Such special funds will need to define their rules carefully if their governance structure is to avoid undue political inputs in decision-making.

- *Level of operation* relates to the level at which the special fund operates, ranging from the very local level (urban area or small region), to the level of a country or a large region in a federal state, or at the global level. The level is important as it affects its governance structure and level of flexibility. Funds operating at the global level generally need to define the rules in more detail to secure transparency. They may also need to identify partnerships at the regional or local level to ensure contextual relevance. On the other hand, many of the local community development funds generally need to be more flexible in their scope of operations to respond to emerging local needs.

Table 2.1 provides illustrations of some special funds based on these two factors, and these are discussed below with some examples from different countries and contexts.

*Social investment funds.* One of the best known special funds is the social investment fund (SIF), an important vehicle for the World Bank to provide support to community-level initiatives on a demand-responsive basis (see Box 2.6). By May 2001 total investment by the World Bank in social funds reached about US\$3.5 billion covering 98 projects spread over 58 countries (World Bank 2002h:xv). SIFs, as designed in the Bank projects, channel resources according to pre-determined eligibility criteria to small-scale projects for poor

and vulnerable groups. The projects are proposed, designed, and implemented by public and private agencies, including local governments, NGOs and community groups. SIFs have often been initiated in response to the need for quick disbursement of funds for investment following some crisis, later acquiring a development function as they become the basis for community-managed investments in infrastructure expansion or improvement. While the institutional structure and powers vary across SIFs, they are generally agencies that enjoy special status. In most cases SIFs identify projects through demand-responsive approaches, though at times local authorities perform this role.

## Box 2.6

### WSS in Social Investment Funds: Ethiopia Social Rehabilitation and Development Fund

The Ethiopian Social Rehabilitation and Development Fund (ESRDF) was established by the Government of Ethiopia in 1996 as a five-year program. The ESRDF finances such small-scale community projects as local-level facilities for education and health, rural water supply and sanitation (RWSS), and small-scale irrigation dams. The ESRDF, like most World Bank-funded social investment funds, operates on the principle of a demand-responsive approach expressed through a community request for a given facility and its willingness to provide contributions to the capital costs.

RWSS subprojects funded by the ESRDF provide access to safe water through easy-to-maintain systems by promoting the use of low-cost appropriate technologies. In the selection of technologies, careful attention is given to the capacity of the community to take responsibility for upkeep and repairs. Community user fees are used to maintain facilities and special encouragement is given to the representation of women on community water committees. The subprojects assist not only in raising the health standards of rural communities, but also in reducing women's burden of fetching water. The ESRDF achieved significant RWSS coverage: during its five-year operation, the ESRDF has spent US\$33 million (about 30 percent of its total funding in Ethiopia) supporting over 2,300 subprojects and reaching an estimated two million people. Interestingly, the planned RWSS component funding was nearly US\$66 million. The slow offtake reflects the considerable mobilization time initially required for RWSS subprojects and the need to build such considerations into similar operations.

Some limitations in the ESRDF's RWSS operations include an inadequate emphasis on long-term sustainability. For example, a recent survey shows user charges being collected in only about one-third of the water schemes. However, a positive aspect is the focus on monitoring to assess outcomes. Further strengthening, however, requires greater emphasis on community mobilization at the time of subproject development, better promotion of the concept throughout all regions, and a more carefully planned capacity-building strategy linked with the project cycle.

A major contribution of the ESRDF has, however, been its influence on the RWSS policy and strategy in Ethiopia. When it initiated operations, there was no RWSS policy or strategy within the DRA framework and government operations were highly centralized through national level agencies. Through its successful demonstration of a demand-responsive approach to RWSS in Ethiopia, and its effort to coordinate its activities with the relevant sector institutions, the ESRDF has created a wider acceptance of this approach while continually striving to improve and refine it. The WSS policy and strategy developed by the Government of Ethiopia in recent years reflect this new outlook.

Sources: Garvey (2002) and [http://www.waltainfo.com/ESRDF/ESRDF\\_home.htm](http://www.waltainfo.com/ESRDF/ESRDF_home.htm)

WSS subprojects often form an important component of SIFs. In Ethiopia, Malawi, Mali, and Eritrea, for example, investments in WSS range between 10 and 45 percent of total investments by the SIF (Vezina 2003). SIFs encourage community-driven and demand-responsive approaches to small WSS schemes. A recent evaluation by the World Bank suggests enhanced outcomes for water services at least for some SIFs. In Bolivia, for example, over a five-year period from 1993 to 1997, the proportion of households with access to piped water increased and distance to a water source fell by more than 50 percent. In Honduras, over the same period, the Honduras Social Investment Fund (FHIS) helped increase availability of water, reduced average expenditures on water, and decreased time spent collecting water (World Bank 2002h:11).

Despite the popularity of SIFs based on their success in promoting community-managed investments in a variety of subsectors, recent evaluations also suggest some areas of concern. Those particularly relevant to the WSS sector are:

- *WSS-related sector reforms.* WSS sector practitioners recognize community-driven development as a key reform, particularly for rural areas. For SIF operations, however, two issues are important. First, in those countries with a lack of such acceptance, the role of the SIF would be to promote acceptance, demonstrating its usefulness and getting the relevant sector institutions to change their mindset and outlook. The SIF in Ethiopia has successfully played this role so that the sector strategy has been positively influenced (see Box 2.6). Secondly, in contexts where a demand-responsive strategy already exists, the SIF must align its funding of RWSS projects with it. For example, rules related to technology selection, community cost sharing, and management need to be consistent with the national strategies and other similar programs. In Argentina, for example, some of the subprojects being financed by the Participatory Social Investment Fund (FOPAR) through grants are the same as those financed through loans by another Bank program. For WSS subprojects the share of community contributions may also be different or the readiness (ability and

willingness) of the community to take on the O&M responsibilities may not be adequately assessed.

- *Institutional reforms.* Within the WSS sector, a key reform being implemented in several countries relates to decentralization: putting responsibility for WSS with local authorities in order to develop commercially-oriented utilities for urban water with outsourcing to the private sector and communities. Responsibility for sanitation and hygiene, however, continues to be with LAs. Concerns have been expressed that the SIF may work at cross-purposes with decentralization. However, Parker and Serrano (2000) show that these will be complementary if “key decentralization policy reforms are in place and the social fund is aligned with them”. The recent trend in the design of new SIFs clearly recognizes this and even works through local authorities where possible.
- *Sustainability of WSS subprojects.* Recent World Bank evaluations of SIFs suggest that the sustainability of subprojects in general may be an issue requiring greater attention. This refers to sustaining the benefits “over the intended life of the subproject and beyond”. It requires attention to (a) “arrangements for ensuring technical quality” (b) “clarity and awareness of roles and responsibilities” and (c) “ability and willingness to undertake operation and maintenance obligations” (World Bank 2002h: 24-26). The valuations also suggest that within SIF operations, “water and sanitation projects tended to experience the greatest problems in operation from the outset because of poor or inappropriate technical design or lack of local organizational or technical capacity” (World Bank 2002h:28).<sup>8</sup> A related issue for WSS subprojects is the appropriate legal arrangement whereby the community management organization (funded by the SIF) takes on the development and O&M responsibilities and is linked with local government structures.

While most SIFs have been multisectoral in scope, a recent trend is to explore sector-specific special fund arrangements for CDD-linked investments. For example, several East African

<sup>8</sup> A 1997 study found that within a given country the SIF projects had a worse performance record than other similar projects (Katz and Sara 2000, as quoted in World Bank 2002h).

## WSS-focused Special Project for Rural Water and Sanitation in India

An example of a WSS reform-linked special project is used by the Government of India based on lessons learned from a series of community-based rural water supply and sanitation (RWSS) projects funded by the World Bank in India within the DRA framework. The Bank followed an approach of developing a generic project concept document to outline the reform approach, on which an assessment of demand from different states was based. These projects have focused on community-based water schemes, integration of hygiene with water, and an emphasis on watershed development to provide source sustainability. Successive projects also aim to gradually integrate RWSS reforms with wider decentralization by putting the rural local government firmly in charge of the development and implementation at the local level. This has been supported with extensive capacity-building support to all stakeholders.

The Government of India has also applied this reform agenda to some of its funding to state governments for rural water supply under the Accelerated Rural Water Supply Project (ARWSP) which funds a significant proportion of total rural water supply investments in the country. The attempt has been to scale this up countrywide, with the latest coverage of over 63 districts in 26 states in India. Preliminary results from the first phase suggest that progress is slow and implementation does not always follow the envisaged demand-responsive approach, with the rural local government and communities being in the driver's seat. Significant technical assistance inputs will be required for state governments to balance the reform agenda and meet the project time schedules.

This experience exhibits the need for successful demonstration of reform within the country, considerable technical assistance support for capacity-building built into the reform agenda, and the gradual linkage of the RWSS reform agenda to the wider decentralization reforms.

*Sources: World Bank (2000b, 2000l, 2001b, and 2002m) and WSP-SA (2001)*

countries including Kenya, Tanzania, and Ethiopia are considering special sectoral CDD-linked funds for water and sanitation.<sup>9</sup> A variant of such a special WSS fund is a reform-linked special project approach used in the World Bank-funded RWSS projects in India, which address many of the issues generally raised regarding the WSS component of SIFs (see Box 2.7). At the global level, the Global Environment Facility (GEF), which among other activities has a small grants program (SGP) that provides investment funds to small community projects that conserve and restore the natural world while enhancing well-being and livelihoods. Over the past few years, the GEF-SGP financed more than 2,300 projects in 60 countries around the world.

In the design of such special sector funds for water and sanitation, adequate attention will need to be paid to the role of the fund versus the sector institutions, as well as local authorities within the context of decentralization in a given country. The formation of appropriate community structures is more critical in urban areas where a homogenous community basis often does not

readily exist, and the downward accountability structures for urban local authorities tend to be weaker or nonexistent.<sup>10</sup>

*Community Development Funds.*<sup>11</sup> Community development funds (CDFs) are mechanisms for financing the poor with, compared to SIFs, greater focus on control of the fund by the poor and support for the civil society aspect of good governance. Despite the growth in the number of funds, their coverage is limited compared to SIFs, though exceptions, such as the Community Organization Development Institute (CODI) in Thailand (Box 2.8), exist. Most CDFs operate at a smaller scale in urban centers. In principle, a CDF is capitalized through public or donor resources and operates through a combination of grants and loans to communities. Its operational income is used to cover its full operational costs.<sup>12</sup> For example, CODI was set up as a revolving fund through a grant and has successfully managed to cover its operational costs through interest earnings. Though CODI now plans to expand its operations to rural areas, most CDFs are urban-based.

<sup>9</sup> For example, under a new Water Bill under current review by its parliament, the Government of Kenya has proposed a special community trust fund for financing small community-based water and sanitation schemes. The Swedish International Development Agency (SIDA) is currently exploring initial funding for its capitalization. It will be structured to attract other funding for future operations. <sup>10</sup> This issue is partly also reflected in the greater focus of most SIFs on rural areas. <sup>11</sup> The analysis of CDFs draws extensively on Satterthwaite (2002) and the special Community Funds issue of the newsletter of the Asian Coalition of Housing Rights, February 2002. <sup>12</sup> Operational income includes interest on loans and outstanding reserves, and operational expenditure includes all transaction costs and capacity-building support to stakeholders, as well as bad debt provisions.



A characteristic of the CDF is the local nature of its operations, with decision-making closer to the level where the proposals for community projects originate. Being placed at the local level and engaged directly with community networks, CDFs respond to “a multiplicity of needs (including some that require very little funding), and support many different entry points for reducing poverty” (Satterthwaite 2002). This increases flexibility, and the use of the local network of community organizations helps to keep the costs in check. CDFs often combine grants with loans to support community activities. However, CDFs tend to differ from the microfinance sector, especially in terms of their greater reliance on grant-based development resources.

In the complex urban contexts of developing countries, their flexibility, faster response time, and more direct local accountability structures offer

possibilities for “their strategic value in changing the official perceptions of the poor, in strengthening the capacity of urban poor organizations and in enhancing partnerships between community organizations and municipal governments” (Satterthwaite 2002). In the context of weak local government structures and inadequate monitoring systems for higher levels of government, strengthened community structures can play a significant role in enhancing downward accountability. CDFs essentially focus on this by building the capacity of poorer groups through constant pro-poor engagement with local processes that more distant agencies are generally not able to achieve (Satterthwaite 2002).

The issues that need to be addressed in future operations of CDFs include:

- *Time to maturity and scaling up.* The operations based on networks of local community organizations require time for

## Box 2.8

### Community Development Fund: Experience of UCDO-CODI, Thailand

The Urban Community Development Office (UCDO) was set up in 1992, as an initiative of the Government of Thailand, to manage the Urban Community Development Fund of 1,250 million baht (US\$32 million), which was to be used as a revolving fund to address the issues related to urban poverty. Its independent board includes members from the community organizations of the poor and from the public and private sectors. UCDO operated through community organizations and helped create a system of over 100 networks of community organizations. Community groups and their networks have guided its operations. Participation of networks helped to keep the administrative costs in check while enhancing the organizational and management capacities of communities. Its operational principles have been:

- Institutional independence through its board and the ability to cover its full operational costs through interest charged on loans.
- The use of savings and credit as tools to strengthen communities.
- An integrated credit system to respond to communities’ development needs with varying terms.
- Use of communities and networks as principal operating mechanisms.
- Innovative and entrepreneurial links to tap a variety of resources for community development needs.

By 2000, UCDO had expanded its activities to 53 of the 75 provinces, over 900 community groups had been formed with coverage of over 50 percent of the urban poor communities, 100 community networks had been set up, 2.4 million persons had benefited, and cumulative loan disbursement stood at over US\$33 million. In 2000, UCDO was merged with the existing Rural Development Fund to form the Community Organization Development Institute (CODI). UCDO-CODI successfully demonstrated an approach to a CDF working through a community-controlled and managed operational framework. One of the main factors in its success has been its institutional independence, which enabled it to benefit from the public institution status while ensuring innovation in its operations. This experience has also been disseminated widely in other countries in East Asia, South Asia, and southern Africa, resulting in the setting up of several community development funds in cities and countries in these regions.

Sources: UCDO (2000), Mitlin (2000), and ACHR (2002)

setting up these funds and for them to attain a level of maturity. CDFs essentially help to build up and strengthen social capital at local levels, while SIFs use the available social capital in a given area. This gives an edge to CDFs in areas with weak social capital, particularly in urban areas. This also suggests that as social capital develops, there would be the possibility of gradually moving to a SIF type operation and scaling up, though within the framework of governance structures that enable community control.<sup>13</sup>

- *Balancing community processes with outcome.* CDFs face the problem of striking a balance between community processes and visible and perceptible outcomes that sustain the interest and trust of both the community groups and the funding groups (governments and external donors). It requires identification of achievable tasks with outcomes that are clear community priorities. To address this, CODI provides the community with a revolving fund loan that the community organization uses to finance local needs, thus maintaining interest while building its management capacity.
- *Separating finance and development functions.* CDFs tend to fall between the SIFs, which operate purely on a grant basis using public resources, and the mature microfinance institutions (MFIs) that operate on more commercial principles and mobilize resources from member savings and other market sources. A crucial issue in this regard, however, may be achieving appropriate separation between finance and civil society development functions among different units of the community development organizations as reflected in the successful example of SEWA Bank's independent operation as a formal bank though within the overall fold of SEWA. Other units for community mobilization and technical assistance operate on a grant basis. This becomes particularly relevant in contexts with inadequate public resources to fully reach the entire poor population, but with a reasonably well-developed financial sector (formal or microfinance).
- *Ensuring institutional independence.* UCDO-CODI's institutional independence has aided

its success, both through a representative board and the national community advisory committee and through the ability to cover its own operational costs. While the board (and any advisory committee) composition will depend on the commitment of the government and other stakeholders, careful selection of early members, the chairperson, and the executive officer of the fund will be critical in setting the right precedents. To ensure a CDF's ability to meet its operational costs through its earnings from the revolving fund,<sup>14</sup> the size of the initial revolving fund needs to be carefully assessed in relation to its envisaged operations and the required fund organizational structure.

- *Capacity-building requirements.* As with most financing mechanisms, a concern relates to adequate and appropriate provision for strengthening capacity. In the case of CDFs the focus has to be on building the capacity of community networks, as well as of the fund managers, for appropriate process facilitation and monitoring progress and outcomes. In the case of UCDO-CODI, this has been a major strength. Besides the emphasis on learning by doing, a variety of other tools – such as exchange visits, training, and seminars – supported capacity-building. Importantly, most costs for this purpose were met through the earnings on the revolving fund.

*Special challenge funds for institutional reform.* Challenge funds to finance the transaction costs of reforms are a new genre of funds that provide support to public sector institutions or subnational (state or local) governments to undertake critical institutional reforms. While the experience on these is so far rather limited, their inclusion in the review is in response to their significant potential relevance to the WSS sector. As discussed earlier, despite the emerging global consensus on the need for critical institutional reforms for sustainable access to improved services, the typical public finance mechanisms, generally within the decentralization framework, may not be suitable to promote such reforms. It is likely that special funds will be needed to provide incentives and support for the difficult institutional reforms, such as restructuring of large regional utilities, restructuring of municipal governments, formation of local-level

<sup>13</sup> The Community-Led Infrastructure Finance Facility (CLIFF), a program recently approved by DFID, essentially does this. The local CLIFF at the country level envisages using the social capital developed under the earlier activities of the National Slum Dwellers Federation (NSDF) and SPARC (a professional NGO), for financing community-level housing and infrastructure projects. For further details, refer to Box 3.15. <sup>14</sup> The earnings from the revolving fund include both income from the interest charges after making due provision for bad debt and fund recapitalization at 1 percent each. Average interest on loans is estimated to be 7 percent. In addition, there would presumably also be earnings from the treasury operations on the non-utilized portion of the fund, as only a half of the total fund was actually used for loan disbursements.

## Challenge Funds/Facilities to Support Urban Institutional Reforms

Challenge funds to support critical institutional reforms are a new genre of fund. Examples from a grant facility in South Africa and the proposed challenge funds in India illustrate their potential.

*South Africa: local government restructuring grant facility.* The transition in South Africa to democratic and non-racial local government has placed both institutional and financial pressures on municipalities. Wide-ranging urban sector reforms are taking place, ranging from redemarcation of municipal boundaries to municipal access to capital markets. In response the local governments need to restructure their institutions and introduce fiscal reforms. These need to be developed with long-term perspectives, but often entail high costs in the short term. It is to assist with these that the Government of South Africa introduced a local government restructuring facility in 2001. This was developed in response to the Johannesburg crisis, and within the context of supporting cities to enhance their contribution to national development. GDP contribution of the 15 largest cities is estimated at more than 55 percent. It provides a multiyear grant of a significant size to provide adequate incentives and to meet the transition costs. It is awarded on a competitive basis through appraisal of locally prepared and owned plans. The early experience, however, suggests that many cities also needed initial support from the national government to prepare their proposals, which has now been introduced. Disbursements are linked to agreed milestones. The facility also provides an opportunity to create a partnership between the treasury and the important city governments.

*India: Urban Reform Incentive Fund (URIF).* Urban development in India has been constrained by a number of institutional and governance issues related to land and delivery of civic services. Under India's constitution, these reforms fall within the domain of state governments. However, the weaknesses in urban development have national economic implications. With this background the Government of India proposes to establish the Urban Reform Incentive Fund (URIF). URIF's initial allocation of 5 billion rupees (about US\$100 million) will provide reform-linked assistance to state governments to facilitate the urban reform process. URIF will seek to provide support for reforms to enable market-based improvements in the delivery of serviced land, housing, and civic services. The reforms would include such areas as land, rent control, development of comprehensive municipal legislation, restructuring stamp duties, framework for user charges, and enhanced resource mobilization from property taxes and public-private partnerships for civic services.

*India: City Challenge Fund (CCF).* The Government of India also proposes to set up the CCF to provide incentives to cities for institutional restructuring by funding the transitional costs of moving towards sustainable and creditworthy institutional systems of municipal management and service delivery. The CCF will assist cities and towns to undertake the necessary fiscal, financial, and institutional changes required to create efficient and equitable urban centers, and partially finance the cost of developing a comprehensive reform program. Transition costs will cover capacity development, costs of tariff and labor adjustments, and measures to protect the poor. The fund is expected to work on the principle of demand-responsiveness through awards on a competitive basis for the larger towns and cities whose development has an impact on national productivity. For this local ownership of the reform process will be a critical determinant. Budget support will provide assistance against reform milestones as defined by the city governments.

*Sources: Government of India (2002), Banerjee (2001), and Government of South Africa (2000a and 2000b)*

autonomous utilities, development of an independent regulatory framework, and appropriate restructuring of sector ministries and departments to take on the new facilitator roles. In contexts with significant external development finance, financial instruments within a programmatic framework may be used at the national level to promote such reforms, as discussed in the next section.

Support for institutional reforms becomes necessary, because often, despite their long-term benefits, they may lead to (or fail to address) short-term problems with serious political consequences such as tariff increases and labor retrenchment. External support to address these problems would help avoid undue political costs and create greater local commitment and consensus. The types of

support may include helping to cover the cost of developing the reform program including consultation, public information campaigns, and consensus-building; meeting the initial labor costs of rightsizing local authority staff structures, or the costs of safety nets; and easing the political costs of tariff reforms and of well-targeted subsidies for the poor in the context of local tariff reforms.<sup>15</sup> Identification of specific institutional reform needs to occur on a case-by-case basis, as specific local context is critical in determining appropriate and feasible options. The support will need to be as budgetary support in response to a locally defined and approved plan with clear milestones and activities that has gone through a rigorous public scrutiny.

Experience from South Africa of a local government restructuring grant, and the Urban Reform Incentive Fund (URIF) and the City Challenge Fund (CCF) proposed by the Government of India, provide illustrations of possible mechanisms. The South Africa facility provides incentives for “city restructuring” to local governments of large cities by meeting the initial transaction costs of comprehensive reforms, including institutional reforms. Within the federal structure in India, local government reforms require actions at both the state and local levels, and the two funds proposed by the Government of India in the recent national budget provide incentives for the state and local governments to undertake a variety of institutional and financing reforms. These reforms will enhance local government capacity to support local economic development and improve delivery of local services (Box 2.9). At the global level, the Public-Private Infrastructure Advisory Facility (PPIAF) provides a facility for national or local governments to explore private sector participation in delivery of infrastructure services. PPIAF, however, focuses on meeting the upfront design costs, rather than other measures to mitigate the political costs by supporting the transition phase.

Based on the limited experience in the development and use of such institutional reform support funds, some key issues that need to be addressed in their design include:

- *Governance system for accountability.* These funds generally operate (or are proposed)

under a challenge fund structure based on applications received by eligible candidates. Independent governance of such funds/facilities is essential to guarantee grants are made in relation to independent appraisal of feasible and locally agreed plans, while proper monitoring ensures that locally defined milestones are actually being followed, with disbursement linked to effective achievement of these milestones.<sup>16</sup> Without this, such facilities may be exploited for short-term political gains and fail to achieve the intended benefits of institutional reform.

- *Equity versus rewards for the best.* The high political cost of funding only the best candidates may be a problem that needs to be addressed in its design. Unless funding is designed with care, the equity concerns may result in such funds rewarding subnational governments for their past poor performance, and the restructuring grants may be treated as bailouts for local bankruptcy. In order to address this issue of efficiency versus equity, the CCF in India envisages a preparation window that provides assistance to prepare a comprehensive plan, as well as undertake initial short-term reform measures. This helps to create a level playing field in terms of initial proposal preparation. However, the assistance for comprehensive reforms will only be available to the best proposals on a challenge basis. Finally, well-designed intergovernmental transfer systems may better address equity issues.<sup>17</sup>
- *Supporting preparation of candidates:* In contexts where local governments have an interest in reforms but lack the necessary capacity to develop the proposals through local consultations, pre-application support for potential candidates is necessary. The proposed CCF in India plans to include such support when designing the fund structure and operations. Such support will be limited to preparation and sufficiently independent (through appropriate ‘glass walls’) to avoid a conflict of interest with the selection of proposals for support through the challenge fund/facility. The South African experience may prove useful for this, as the

<sup>15</sup> Refer to the case of tariff reform implementation in Guinea in Chapter 3, Box 3.2. <sup>16</sup> In this sense these grants are within a programmatic approach discussed in the next section, which is generally being adopted at the national level by several aid agencies. <sup>17</sup> See the discussion above in Section 2.1.

initial design did not provide for such support to avoid moral hazard and liability for the central government as the proposals were to be owned by the local governments. However, preparation assistance has been added after many cities faced difficulty in developing such proposals.

### **Key Characteristics of Special Funds and Issues Related to Their Use**

While the experiences across the different special fund mechanisms may differ in practice, some broad characteristics emerge:

- *Special reform focus.* All special funds generally have a strong identified reform cause that they focus on, such as community-driven development, greater demand orientation in infrastructure and service delivery decisions, strengthening capacity of the deprived and disadvantaged groups, and introduction of critical institutional reforms. The reform focus generally derives from wider global/national reform considerations, such as the increasing importance of demand-responsive approaches to community-based infrastructure projects, or the reforms required in a specific local or country context. A clear reform focus and emphasis is crucial to the design and operation of a special fund and ensures that they are not simply used to derive political benefits without any reform impact.
- *Multisectoral operations.* Most special fund operations tend to be multisectoral in nature as they provide funding for a variety of infrastructures and services. The advantage of this is the cross-learning across sectors and the possibility of sharing staff and costs across different sectoral compartments. On the other hand, given the complexity of the WSS sector, this may also result in inadequate understanding and focus in the fund operations on critical sector issues.<sup>18</sup> The multisectoral nature of operations helps to create competition across sectors vying for these funds. This requires better preparation across each sector to put forth its case and demonstrate performance in effective utilization of resources.

- *Demand-responsive or challenge fund structures.* The competition for resources reflects the demand-responsive nature of most special funds as the investment/allocation decision generally responds to some articulation of demand and within a challenge fund structure with an attempt to secure the demonstration of interest and capacity for sustainable investments. As most of the special funds provide grants (or subsidized loans)<sup>19</sup> and are therefore constrained by the public fund allocations, it becomes essential to develop clear rules by which the funds will be allocated to competing demands.
- *Municipal development funds for municipal reforms.* The next chapter discusses MDFs in more detail as a mechanism for leveraging resources through development of local credit markets. However, many MDFs do use their investment funds as incentives for introducing municipal reforms and capacity-building. A good example is Paranacidade in Brazil, which successfully introduced municipal reforms. However, it has essentially relied on debt servicing through direct deduction from fiscal transfers and has not made any attempt to develop a market-based resource mobilization strategy (Paranacidade 2002 and personal discussions). The Tamil Nadu Urban Development Fund (TNUDF) in India has also supported the introduction of municipal reforms (Box 3.9).
- *Independent fund flow structures.* While the three characteristics discussed above all apply to any well-functioning public budgeting system, probably the most important distinguishing characteristic of the special fund is a fund flow arrangement that is independent of regular public finance arrangements either through sector ministries/departments or the local governments. This independence ensures allocation of funds in relation to the professed reform objectives and not in efforts to win political favors. The independence is reflected in the special fund's governance structure, with a range of stakeholders represented on their boards and professional staff recruited in their operational

<sup>18</sup> Recently there has been a trend towards proposals for special funds focused on the WSS sector, for example the proposed Water Resources Development Fund in Ethiopia and the proposed fund for community-based WSS in Kenya. As discussed, while such funds would help to better focus on WSS issues, the cross-learning across sectors would also be lost.

<sup>19</sup> The only exceptions to this are some of the municipal development funds (MDFs) that may provide loans on a commercial basis. However, this would be relevant only to the extent that the MDF is able to mobilize commercial resources from the market rather than relying on government funds or other such preferred allocations. Available reviews of MDFs, however, suggest that most of them have not raised market resources to a significant extent.

## Box 2.10

### Elements of Programmatic Approach: Experience with SWAps and MTEFs in Africa

Experience with the use of SWAps and MTEFs is very recent and of a short duration. However, these evolved in response to the shift in policy dialogues from structural adjustment to public expenditure management and the need to reform aid. Opportunities also emerged in response to the sector reform programs in several sectors. Both, when used jointly, help to establish a greater coherence between policies, programs, and budgets.

*Sector-wide approach (SWAp).* No comprehensive review of SWAps is available. However, some experience in the health sector reported by Merrick (n.d.) suggests that most SWAps only capture public expenditures, approximately 50 percent of total sector expenditure. Also, there is probably inadequate ownership and participation of the wider stakeholder group and issues related to suitability in decentralized systems, along with concerns related to the weak accountability systems and inadequate government capacity to deal with NGOs and the private sector. Many of the donors also have difficulties with the loss of attribution that results from the pooled funding arrangements or budget support that is linked to this approach. On the other hand, SWAps can help put the governments squarely in charge and result in a more equitable application of interventions. A number of system improvements and accountability improvements are achieved throughout the sector rather than for selected projects. SWAps have been linked to a variety of financing arrangements: (a) pooled or basket funding through budget support (b) pooled with earmarking and (c) parallel funding for activities in the program. In some cases, as for the health sector SWAp in Ethiopia, a mix of different mechanisms is used with three or four different channels. Pooled funding through budget support is being used for the WSS sector in South Africa and is being explored in Uganda.

*Medium-term expenditure framework (MTEF).* South Africa and Uganda initiated MTEFs about a decade ago. However, they have recently received renewed attention in the context of formulation of poverty reduction strategy papers (PRSPs). In most cases in Africa, the World Bank was involved with the decision to adopt and implement this framework. This has usually resulted from the findings of a public expenditure review (PER). Poverty reduction support credit (PRSC), the new programmatic instrument to support implementation of PRSPs, will be based on the medium-term programs and costing in the country's PRSP and hence its MTEF. A recent review by Hourerou and Taliercio (2002) provides a comparative assessment of the design and impact of MTEFs on public finance and economic management in nine African countries. This assessment suggests that to be effective, MTEFs need to be preceded by comprehensive and detailed diagnoses of budget management systems and processes. Improved budget execution and reporting need particular attention. Appropriate sequencing of overall public expenditure management reforms is necessary, and the MTEF needs integration with the budget process from the outset. Importantly, success of the MTEF in some African countries, such as South Africa and Uganda, is critically linked to appropriate political motivations and incentives for its use.

Sources: Merrick (n.d.) and Hourerou and Taliercio (2002)

management. Special funds that fail to guarantee this independence often fail to meet their main objectives.

- *Intermediary for small community-based subprojects.* For most government structure and aid institutions special funds also represent an effective intermediary for small subprojects. This necessitates such funds to develop governance structures and staffing to respond to this in a cost-effective manner. The SIFs and CDFs respond in different ways to this challenge: the SIFs generally having a lean staff structure with more standardized rules, procedures and

outsourcing, whereas the CDFs rely more on local networks of community organizations for their operations.

## 2.4 Programmatic Approaches

In recent years, a new trend in development assistance and the planning and financing approaches of governments in developing countries has been to use programmatic approaches. This has emerged in response to a number of studies during the last decade that highlighted the factors influencing the effectiveness of development assistance. Research indicates that

the effectiveness of development assistance is much greater with high country ownership and commitment, and when all major development partners work in coordination with the government for one country program. Government readiness for reform is a key to effectiveness, but reform is an arduous process and often difficult to measure, with the government's actual track record being the most useful indicator (Operations Policy and Country Services 1999; Goldin, Rogers, and Stern 2000). Findings like these have shaped the key features of programmatic approaches. In regions such as Sub-Saharan Africa, where many countries have high levels of donor involvement, they represent a process that requires donor coordination and strong country commitment and leadership (Jones and Lawson 2000:1; Goldin, Rogers, and Stern 2000).

### **Key Features of Programmatic Approaches**

The programmatic approach is generally characterized as a movement away from the traditional project-based approaches to those linked to the existing public expenditure systems, usually more fully integrated into the budget cycles and planning processes of the country or subnational governments. The programmatic approach aims to support reforms by: (a) promoting the domestic ownership of development programs, which is more sustainable than simply implementing foreign-financed projects (b) working through existing institutions, seeking to strengthen their capacities and (c) promoting sector-wide coordination among donors and government so that they can

operate within a common framework. Within this broad approach, two interlinked key features are:

- **Sector-wide approach (SWAp).** Despite its growing importance, a single definition of this approach is not available, though it is generally agreed that SWAp is a process and an approach, but not an instrument. Some key elements of a SWAp include an underlying sector policy with common approaches and an expenditure program to support it, strong government leadership, and progression towards a reliance on government procedures for all investments. A recent description of a SWAp framework suggests “all significant public funding for the sector supports a single sector policy and expenditure program, under government leadership, adopting common approaches across the sector and progressing towards relying on government procedures to disburse and account for all public expenditure, however funded” (Water and Sanitation Program, Africa 2002). A common pool-funding arrangement for all sector funding is often included, though not essential. Available evidence suggests that, in general, it has been easier to develop SWAps for sectors such as education, health, and roads than for more complex sectors such as agriculture and water (Jones and Lawson 2000:5-6; see also Box 2.10 for the experience in Africa). Uganda (Brown 2002) and South Africa (DWAF 2000) both illustrate recent examples of SWAps for the WSS sector. In South Africa, a number of donors provide budget support through the Masibambane

**Table 2.2**

### **Programmatic Lending Instruments**

	Investment Lending	Adjustment Lending
<b>Single Tranche</b>	Sector Investment and Maintenance Loan (SIM)	Sector Adjustment Loan (SECAL)
<b>Phased Loans</b>	Adaptable Program Loan (APL)	Programmatic Structural Adjustment Loan (PSAL) Poverty Reduction Support Credit (PRSC)

## Box 2.11

### Adaptable Program Loan in Ghana

The goal of the adaptable program loan in Ghana (World Bank 1999f) is to help the government's Community Water and Sanitation Agency (CWSA) to establish sustainable operations and management systems for providing WSS services to 85 percent of the rural population by 2009. The program was initiated in 1999 with the Bank disbursing the first of three phases of disbursements. Each subsequent phase is supposed to build on the lessons learned from the previous phase, with the ultimate aim of scaling up reforms from pilot projects in four regions to eventually the whole country by the end of the last phase. Below are the goals for each phase of the program, reproduced from the project appraisal document:

Program Output	Phase 1	Phase 2	Phase 3
Investment	Test and refine decentralized implementation strategy for CWS in four regions Pilot community contracting	Expand project to two additional regions and increase to new districts	Support national program rather than ESA-supported regions
Capacity-building	Build capacity of DAs, private sector, and NGOs in four regions. Build foundation for sustainable and competitive supply chains	Expand to other regions Focus on long-term sale of spare parts and continued lowering of unit costs (for example, drilling)	Same as above
Policy	Support to CWSA through pilot management fee Discussion and consultation on decentralized approach Promote higher cost recovery	Full-scale implementation of management fee	Regulatory framework for national CWS funds in place and operational

The program is halfway through the first phase of the APL, which has focused both on implementing demand-responsive and sustainable water and sanitation services, and on strengthening the capacity of the private sector and NGOs to provide hardware and software services. The main challenge so far has been to transfer contracting functions from the centrally managed CWSA to the local district authorities. To provide incentives for this, the APL has funds at hand to remunerate the CWSA for implementation of the project components described above. There is also a fee for service paid to the CWSA for facilitating project implementation and for providing technical assistance to the districts.

Sources: Sara (2001) and World Bank (1998a and 1999f)

Program for rural water supply and sanitation within a SWAp. In Uganda, while the World Bank currently provides budget support through the poverty reduction support credit (PRSC, see Box 2.12), joint sector funding by other donors is also under consideration (DFID 2002).

Particular difficulties with the WSS sector for adopting a SWAp framework include the weak position of sector institutions in the national planning framework; varying

institutional arrangements (particularly the need for decentralization to local level with different stakeholders including local authorities, communities, and the private sector); often weak prevailing links with central budgets due to project funding and the increasing importance of devolution to local authorities that results in a lack of commitment from the ministry of finance; lack of homogeneity and consensus among stakeholders due to varying sub-sector issues



and significant inter-sector cross-cutting issues; and very weak or often non-existent sector-level information and M&E systems (WSP-AF 2002; Lister 2002).

- *Medium-term expenditure framework (MTEF)*. This provides a framework for structuring government-wide instruments of budget support. It helps to develop sector expenditure plans in relation to the ceilings established within more reliable and predictable macroeconomic and budget constraints. A key feature of MTEF initiatives has been the use of budgetary innovations aimed at linking budget allocations more directly and clearly to outputs and outcomes. Difficulties for its use in the WSS sector include the past sector reliance on project loans and off-budget donor and NGO contributions, the need for and use of demand-responsive financing mechanisms,<sup>20</sup> lack of

fiscal sustainability at scale for many financing and subsidy policies in the WSS sector, and weak information and analytical base for converting broad reforms and strategies to action programs with accurate costing (refer to Box 2.10 for the experience in Africa).

### **World Bank Instruments for Programmatic Approaches**

While a sector-wide approach can be supported through a variety of financing instruments, some instruments are more effective for this. In recent years the World Bank, in line with its thinking towards programmatic approaches, has introduced several new instruments to support programs in a specific sector or across sectors, as opposed to financing individual projects, and phasing to adjust programs to build on lessons learned from preceding loans. These instruments support investment or adjustment programs and can be

## Box 2.12

### Poverty Reduction Support Credit in Uganda

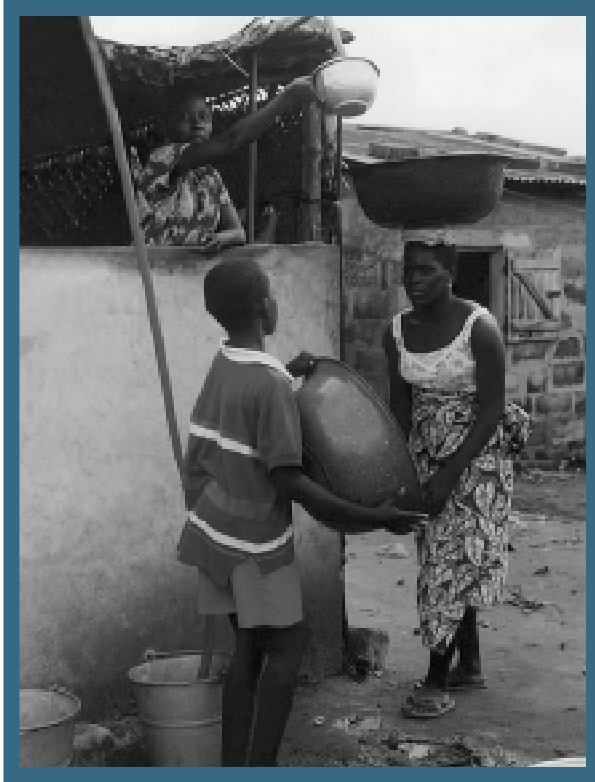
In 2001 and 2002, the World Bank disbursed the two tranches of the PRSC to Uganda (Brown 2002). Each tranche was valued at \$150 million, with a subsequent tranche of similar size planned for the third year, subject to continued performance on the credit. The PRSC is designed to help the government implement its PRSP. The Government of Uganda had already developed its own Poverty Eradication Action Plan (PEAP), which demonstrated its commitment to reform.

By working through the government system, the programmatic approach enabled by the PRSC promotes Ugandan ownership. Having the government in the driver's seat means more predictable funding, strengthened budgetary institutions, and reduced transaction costs in the delivery of external assistance. Since the PRSC is innovative in changing the lending philosophy, this has meant that establishing coordination and consensus among donors and government has been one of the main challenges. Nevertheless, strong leadership both on the part of the government and from the Bank task manager has contributed to the success of reforms. The second PRSP tranche was approved in June 2002 with all policy benchmarks being met and a 90 percent utilization rate of budgeted resources. This client-driven approach to setting targets is more effective than the traditional conditionality tied to loan agreements.

The water sector has benefited from the comprehensive, system-wide approach of service delivery. Rural, small town, and urban WSS have all seen improved coverage, and private sector management contracts have increased, in accordance with targets. Key lessons from this experience focus on strong leadership from both government and Bank managers, thorough sector work and background work, and the need for parallel TA projects to deal with complex issues and improve the quality of service delivery. Though very recent and ongoing, lessons from this experience will provide directions for future use of programmatic approaches in the WSS sector. In this context greater emphasis is necessary on strengthening sector-level monitoring and evaluation systems to enhance program effectiveness and analyze lessons learned. Recent results from ongoing monitoring studies do highlight problems with appropriate measurement of performance and emphasize the need for a greater focus on strengthening sector performance monitoring.

Sources: Brown (2002) and World Bank (2000i, 2000j, and 2002l)

<sup>20</sup> This has been particularly true for the community-based RWSS subprojects where the demand-responsive approach has been used through either Bank-funded RWSS projects or the social investment funds.



phased in or a single tranche. Table 2.2 shows some World Bank instruments to support programmatic approaches.

A sector investment and maintenance loan (SIM) works through a government’s public expenditure programs and helps the borrower to develop the institutional capacity to plan, implement, and monitor an investment program. It is particularly relevant when the sector programs need extensive coordination and involve a number of donors. However, when complex, sustained institutional changes are essential for the success of a program, the phased adaptable program loans (APLs) are likely to be more appropriate. Institutional restructuring and systemic reforms generally require multi-stakeholder consultation to build consensus, for which time is required. The sequential nature of APLs allocates funding for ready program components, while allowing preparation time for other components with adequate consensus and local ownership. As long as donors and borrowers agree on the long-term development objective and the general sectoral policies, a program can be started even without knowing the full composition

of projects. This means that progress can be made while allowing time for consensus-building among different actors, particularly helpful with difficult reforms. Box 2.11 provides an example of the use of an APL for a rural water supply and sanitation project in Ghana.

Adjustment loans are appropriate with essential medium-term support for policy and institutional reform. Sector adjustment loans (SECALs) provide such support. However, with the greater sector emphasis on such reforms in sector programs in recent years, there is a tendency for convergence between SIMs and SECALs. Programmatic structural adjustment loans (PSALs) provide phased support for government policy reforms and institution-building. By tying successive tranches to specific target measures, PSALs aim to sequence social and structural reforms in a sustained manner. Poverty reduction support credit (PRSC) also phases in a series of two or three loans, but has a particular emphasis on institutional and policy reforms that accompany the government’s overall poverty reduction strategy. Box 2.12 details use of this instrument in Uganda, where improved access and equity in water supply and sanitation is one of the three components to increase the quality of life of the poor in two successive tranches of the PRSC.

The programmatic approach through these instruments promotes sustained reforms by cultivating the ownership and accountability of borrowers. This is accomplished because dealing with a SWAp necessitates working through local structures rather than individual projects. The programmatic approach thereby generates constructive discussion on the overall strategy for a country’s development, including overall use of resources, and on coordination between bilateral and multilateral donors. In addition, the adaptable loans used among programmatic instruments effectively promote reforms. For example, the first tranche of an APL can be used to test reforms in a small group of towns. Proceeding loan programs can then learn from this experience when scaling up to other townships.<sup>21</sup> Also, the phased instruments are beneficial to both borrowers and donors because both can easily exit from operations if the investment climate changes or performance criteria are not met.<sup>22</sup>

<sup>21</sup> Such is the case in the Philippines where the Local Government Unit Urban Water and Sanitation Project (LGU-UWSP) is implementing the second phase of the APL (APL2), which attempts to scale up the project design concept that was tested in APL1. <sup>22</sup> Tilmes, Veley, and Gigler (2000) note how the current Kathmandu Water Supply and Sanitation Program in Nepal is financed by an APL that sequences and stages activities according to clearly defined milestones and policy requirements. This has been done in response to WSS loans over the past 30 years that have been largely unsuccessful due to reasons such as political interference, inadequate institutional arrangements, weak management, and gross cost and time overruns.

**Table 2.3**

**Illustrative Examples of Financing Mechanisms that Promote Sector Reforms**

a. Decentralization-linked Mechanisms	
Fiscal framework for decentralization	Constitutional Amendment Acts in India that have increased the fiscal powers of local authorities (Box 2.1)
Intergovernmental fiscal transfers	
i. Conditional grants	Conditional RWSS grants in Uganda to district governments to be used with a demand-responsive approach (Box 2.2)
ii. Discretionary transfers with conditions for local reform	Local Authority Transfer Fund in Kenya (Box 2.3)
iii. Performance-linked conditional grants through a challenge fund structure	Local Governance Scorecards in Nigeria (Box 2.4); AP Urban Services for the Poor in India (Box 2.5)
b. Special Fund Mechanisms	
Social investment funds and special projects	Water and sanitation subprojects in Ethiopia Social Rehabilitation and Development Fund (ESRDF) (Box 2.6); Kerala RWSS Project, India (Box 2.7)
Community development funds	Community Organization Development Institute (CODI) in Thailand (Box 2.8)
Institutional reform-linked challenge funds	City Restructuring Grant in South Africa and City Challenge Fund (CCF) and Urban Reform Incentive Fund (URIF) in India (Box 2.9)
c. Programmatic Approaches	
Sector-wide approach (SWAp) and medium-term expenditure framework (MTEF)	Use of SWAp and MTEF in several African countries (Box 2.10)
Investment lending through sector investment and maintenance loan (SIM) or adaptable program loan (APL)	Adaptable Program Loan for Rural Water Supply and Sanitation in Ghana (Box 2.11)
Adjustment lending through sector adjustment loan (SECAL) or a poverty reduction support credit (PRSC)	WSS component in the Poverty Reduction Support Credit (PRSC) in Uganda (Box 2.12)

**Key Issues in the Use of Programmatic Approaches for the WSS Sector**

A number of key issues related to the development and implementation of programmatic approaches for the water and sanitation sector may be identified:

- **Government commitment.** A high level of government commitment to reforms was crucial for initiating both the PRSC in Uganda and the APL in Ghana. In both countries, reform programs had already started, so the programmatic loans played more of a role to help and support the reforms. Without

government support, sector work would be difficult, particularly during a leadership vacuum, in coordinating the hard task of building consensus between government and donors. Government commitment enabled a much more effective performance based on client-initiated targets rather than conditionality. Thus, the use of a programmatic approach within a SWAp framework for WSS requires an overall government and finance ministry commitment to such approaches, simultaneous introduction and progress on wider

governance and fiscal reforms, and donor coordination to assure sector rather than individual project commitment.

Government commitment can be strengthened by prior local demonstration of reforms and rigorous analytical work in the sector. For example, the APL in Ghana benefited from a previous program: the IDA-supported First Community Water and Sanitation Program, which laid the foundation for a comprehensive WSS program based on decentralized implementation. However, in many countries previous local experience of analytical work may be barely existent. In such situations, other approaches such as special funds or projects become useful as an enabling mechanism for local experience, to build a strong commitment and local ownership.

- **Strengthening the sector M&E framework.** Programmatic approaches entail a continuous and ongoing process of aligning the sector programs and expenditure allocations with intended outputs and outcomes with regular midcourse corrections. This involves a strong and functioning monitoring and evaluation system to provide reliable feedback on input-output-outcome links.
- **Dealing with decentralization.** For the WSS sector, alignment with the decentralization context is crucial, and this can affect the use of programmatic approaches in at least two ways: the tension between national versus local priorities, and the issue of varying capacities of different stakeholders.

The tension between nationally set priorities and WSS access targets, and the priorities of local governments, may play out differently in specific country contexts, ranging from centrally-driven conditional grants (such as those being used in Uganda to achieve priority targets agreed in the poverty reduction strategy), to a strengthened case of decentralization in Latin America where untied transfers to local governments are being made at a significant scale in several countries (Roberts 2002a and 2002b, and Development Strategies 2002).

The WSS sector is particularly characterized by the presence and active

involvement of a number of varied stakeholders including different levels of government, communities, NGOs, and the formal and informal private sector. These groups' capacities vary and an emphasis is necessary on building these stakeholder capacities for effective planning and implementation. Such capacity-building needs to be through participation of actors in the service planning and delivery process, and is contingent on the extent to which institutional arrangements create the necessary space for them, with adequate provision for demand-based technical assistance support. A related issue is the need to overcome the constraints in using public finance for software types of activities. Traditionally, public finance focuses on direct service delivery and hardware support. This requires a change in mindset among decision-makers for funding software activities related to community mobilization and sector development.

## 2.5 Summary

Based on the broad institutional and financing principles of sector reform, three areas emerge as important in the sector, although their nature and interpretation vary across regions and countries: (1) decentralization of service delivery (2) community-driven development (CDD) and (3) the possibility of private sector participation (PSP). A review of experiences highlights three sets of financing mechanisms to support this reform agenda as illustrated by the illustrative examples in Table 2.3. These mechanisms vary, and range from those linked to fiscal decentralization and utilization of special funds or projects, to more programmatic approaches within the sector-wide approach (SWAp) frameworks. Each represents a different approach, with varying reliance on existing public finance mechanisms. Weak mechanisms or faltering countrywide reform commitment necessitate the use of special fund mechanisms.

In a country with strong commitment to decentralization, financing clearly needs to be within a fiscal framework for devolution. Under this, many national (and regional) governments use grants and transfers for

promotion, support, and scaling up of reforms through local governments in rural and urban areas. The review suggests that these mechanisms are often able to enhance the finances and capacity of local governments, as well as enabling them to develop more demand-responsive approaches. However, promoting the critical institutional reforms required in the WSS sector through these mechanisms is often difficult as they take time (often beyond the impact of annual or sub-annual allocations), and also because significant transaction and political costs occur during the transition period. Such reforms often require other mechanisms, such as special funds or programmatic approaches, as discussed in this chapter. Within decentralization, a key aspect is also appropriate financing of transfer of existing WSS schemes often managed by centralized public utilities to community-managed organizations and to local-level commercial utilities. As for most other financing mechanisms, their use would be also affected by appropriate sector monitoring systems. While special funds may remain important for specific purposes, focus has to be on ensuring that these 'wither away' when the objective is achieved

and their transition to more regular public finance systems is planned upfront. A key aspect in the design of special funds remains appropriate governance to ensure that the funds are allocated in relation to planned reforms and do not serve other short-term populist measures.

Programmatic approaches are likely to be particularly relevant in providing incentives for key policy and institutional reforms. A number of different instruments are available in this context as illustrated in Table 2.3. However, they require a significant level of country commitment and capacity of lead sector institutions. This necessitates upstream efforts at country assessments and evolving policy consensus among key stakeholders.

A summary of issues across different sets of financing mechanisms is discussed in detail in Chapter 5. Choice of a particular mechanism from among different sets of mechanisms for promoting reforms would depend on the local context and is likely to be affected by a number of factors. Chapter 5 provides a more detailed discussion of issues to be considered when making such choices.

## Leveraging Resources for Water and Sanitation

***Financing mechanisms need to use the limited public resources (domestic, as well as external aid) to help leverage additional resources for the sector.***

In the world of manifold development needs, water and sanitation investments compete with other sectors for limited public funds. Available evidence suggests a severe shortfall of public resources during the coming years, greatly hindering the likelihood of achieving the internationally agreed development goals. This chapter focuses on approaches and financing mechanisms that enable the WSS sector to leverage market-based and community resources to meet the WSS-related development goals in a sustainable manner.

### 3.1 Need and Potential for Leveraging Resources for Water and Sanitation

One area with considerable consensus but little success in practice is the need to use the limited public funds to leverage resources for the sector. Section 3.1 traces the basis for this and identifies the potential options for leveraging.

#### ***Development Goals and Funding Gaps for WSS***

Globally, several countries have come together to identify and agree on development goals for the reduction of poverty and increasing welfare. Reflected in the Millennium Development Goals (MDGs), they also include targets for sustainable access to safe water and sanitation services. Achievement of these goals will require considerable resources, far beyond those flowing to the sector today. For the WSS sector, even after the major achievements in the past two decades, an estimated 1.2 billion people lack access to an adequate supply of water, and about 2.5 billion lack adequate sanitation facilities.<sup>23</sup> In addition, the sustainability of existing services is often very poor, and with increasing urbanization, shortfalls in urban areas are mounting. For example, in some

countries in Africa the situation has worsened in urban areas over the last decade. To meet these shortfalls and targets, the global estimates of total resource requirements suggests a large funding gap of about US\$10 to 25 billion per annum (see Box 3.1; also Saghir 2002; Annamraju, Calaguas, and Gutierrez 2001).

#### ***Enhancing Aid, Debt Reduction, and Trade Flows to Developing Countries***

In recent years, several sector analysts and practitioners emphasized that the means to meet these goals lie beyond the capacity of the developing world alone. Global efforts must therefore increase aid flows to developing countries and take measures to enhance the incomes of developing countries through improved trade and finance flows (Muller 2001b and 2001c; Bonn Conference 2001b; Annamraju, Calaguas, and Gutierrez 2001; Wolfensohn 2002). For instance, the Ministerial Declaration at the recent International Conference on Freshwater at Bonn stated: “Critical actions for closing the financial gap are poverty alleviation and the improvement of opportunities for trade and income generation for developing countries” (Bonn Conference, 2001b).<sup>24</sup> At the recent World Summit for Sustainable Development (WSSD) in Johannesburg, the delegates adopted the resolution to “halve, by the year 2015, the proportion of people who are unable to reach or to afford safe drinking water (as outlined in the Millennium Declaration) and the proportion of people who do not have access to basic sanitation” (UN 2002a, 2002b). Regarding aid flows, the Bonn recommendation reiterated increasing development assistance to the internationally agreed 0.7 percent of national GDPs. Aid resources are also affected as donors become more selective as to which countries they support. For illustration, recent evidence from Africa suggests that “real levels of foreign assistance to Sub-Saharan Africa have fallen at 7 percent every year during the 1990s” (World Bank 2002j). On the other hand, resources are being freed due to debt reduction through the

<sup>23</sup>Based on World Health Organization 2000. For similar estimates also see Briscoe 1995, Bonn Conference 2001b, and Lamb 2001. <sup>24</sup>The Recommendations for Action at the Bonn Conference also stated: “Macroeconomic growth is necessary to strengthen the national and local public revenue base in developing countries, and hence to give the governments the opportunity to put more money into the water sector. For many developing countries, the prospects for such economic growth are linked to broader issues of equitable international trade” (Bonn Conference 2001a).

## Box 3.1

### Millennium Development Goals: Costs and Potential Finance Gaps

#### *Millennium Development Goals and Targets*

- Water and sanitation are embedded in Goal 7 of the MDGs, which aims to “ensure environmental sustainability”. There are two targets that are particularly relevant: *Target 10*: Halve by 2015 the proportion of people without sustainable access to safe drinking water and hygienic sanitation. Indicator: proportion of the population with sustainable access to an improved water source. *Target 11*: By 2020 to have achieved a significant improvement in the lives of at least 100 million slum dwellers. Indicator: proportion of people with access to improved sanitation.
- Water supply and sanitation also contribute to Goals 1 (poverty), 3 (gender equality), 4 (child mortality), and 6 (HIV/AIDS and other diseases).

#### *Costs of meeting the MDGs and potential financing gaps*

- Various estimates of costs of meeting the WSS MDGs have been made ranging from US\$25 to 100 billion a year, mainly depending on inclusion or otherwise of municipal sewerage.
- Estimates of current investments in water and sanitation in developing countries are about \$15 billion a year. Of this, it is estimated that about 75 percent is financed by governments, 11 percent by the private sector, and 14 percent by external support agencies.
- Thus, even for the lowest requirement scenario, the financing gap for WSS MDGs is about \$10 billion a year, representing a 70 percent increase in annual investments.

Sources: World Bank website on MDGs and World Bank (2002k)

Heavily Indebted Poor Countries (HIPC) Initiative.<sup>25</sup> Despite the potential importance of these fund flows, further discussion of the nature of measures needed to achieve these is beyond the scope of this review.

*Enhancing WSS share in national allocations/aid flows.* Other arguments for closing the funding gaps include a greater share of WSS in domestic public investments and in external aid to developing countries (Bonn Conference 2001b; Annamraju, Calaguas, and Gutierrez 2001; Muller 2001b). In principle, the use of more innovative financing mechanisms will encourage WSS sector reforms, building and strengthening sector capacity and ensuring better targeting of subsidies to the poor. This in turn increases the preparedness of the WSS sector to absorb greater resources and use these efficiently and effectively to achieve the development targets. These mechanisms, discussed in Chapters 2 and 4, respectively, will therefore help leverage more government and aid resources for the WSS sector. Experiences such as that of Uganda illustrate this, where resource allocation for WSS by the government and external donor agencies has improved dramatically.<sup>26</sup> However, continued rigor in the use of these resources will be necessary to ensure that this priority is

maintained in the future and investments lead to sustainable improvements in service delivery.

*WSS priority in participatory poverty assessments.* In this context, however, the poor have expressed a high priority for water and sanitation during participatory poverty assessments (PPAs) carried out in many countries in recent years. Water and sanitation generally come out high on the list of priorities, especially for women.<sup>27</sup> Thus, an emphasis on better development of such assessments and a strengthened analysis of WSS within them will necessarily emphasize the WSS priority within poverty reduction strategies. This becomes especially true in the countries likely to benefit from the Heavily Indebted Poor Countries (HIPC) Initiative. Within the HIPC framework, several countries have initiated preparation of poverty reduction strategy papers (PRSPs) through wide-ranging stakeholder consultations. However, despite the high priority generally accorded to water and sanitation in most PPAs, reviews in Africa suggest inadequate incorporation of WSS issues in PRSPs. This reflects a lack of strong institutional position for the sector in national planning processes and limited focus on programmatic approaches (WSP-Africa 2002; see also Section 2.4).

<sup>25</sup> Under the HIPC Initiative, about 41 countries will benefit from debt reduction. Resources freed under this initiative are to be used to support poverty reduction strategies, developed with civil society participation. Water supply and sanitation can be a key component in the PRSPs prepared by the countries. The total resources expected to be freed in these countries through the HIPC Initiative are about \$25 billion in NPV terms. <sup>26</sup> For Uganda, the share of WSS in total development expenditure is estimated at about 9 percent, representing an increase of about 20 percent over the past three years (Mehta 2001b). <sup>27</sup> See, for example, Mehta 2001b, based on a review of reported results of participatory poverty assessments in PRSPs in Sub-Saharan Africa.

## **Financing Options for Leveraging Resources**

Even with enhanced resource allocations, for most countries and local governments public sector resources are likely to be insufficient to meet the WSS development targets. However, if leveraged, these limited resources will enable mobilization of additional market and community resources. The review focuses on potential measures to leverage resources for the WSS sector through more innovative use of public and external aid resources. Along with their relevance for leveraging resources, the measures discussed in this review also contribute to enhanced sustainability of investments by introducing the twin concepts of market rigor along with greater community control.

Based on a review of experiences, three sets of options are identified for leveraging resources:

- Those linked to *attracting private sector participation (PSP)* for investments and for efficiency improvements that result in enhanced internal cash generation, such as tariff reforms, regulatory framework to clearly define the contractual obligations, partial guarantees for risk mitigation, and project development facilities.
- Those linked to *promoting local investments through domestic credit markets* for local governments or other water and sanitation service providers, such as building the creditworthiness and credit history of local borrowers, establishing the building blocks direct market access in the local credit market, and instruments for pooled financing or bond banks.
- Those linked to *enhancing community contributions* for water and sanitation services, such as improving the sector framework to mobilize community contributions and sustainable access to credit for facilities at household and community levels.

*Critical reforms as pre-requisites for leveraging.* The financing mechanisms to leverage resources reviewed below create access to market-based resources, with a focus on domestic sources. It needs to be emphasized, however, that such leveraging does require local commitment to and preferably introduction of a basic level of reforms that makes sustainable market access possible. While the nature of reforms would vary for different forms of leveraging as discussed below, some common critical elements include ensuring

adequate internal cash generation by the service providers through tariff reforms and enhanced revenue potential, appropriate regulatory or contractual framework to manage risks, and institutional forms to ensure sustainable management.

## **3.2 Private Sector Participation and Investments**

Possibly the most tried approach to leveraging resources over the last decade has been through private sector participation, though with less success than anticipated at the beginning of the decade. This section reviews the mechanisms that can enhance leverage through this mode.

### **Modes of Leveraging and Reform Context**

The participation of the private sector in water and sanitation service delivery has two main attributes: first, the ability of clients to access up-to-date professional expertise in the technical and managerial aspects of service delivery; second, access to additional sources of capital. While global experience has varied, in general it is possible to say that the expectations of the early 1990s with respect to the second objective have not been met. Various constraints have inhibited the actual private investments in the sector. In contrast, in some regions, small-scale private sector enterprises working as independent providers, often informally, have dominated service provision, and research also shows highly significant inflow of capital from household investments. In rural Bangladesh, as a case in point, the small-scale private sector has installed 67 percent of handpumps, while the public sector's share is only 33 percent (Water and Sanitation Program-South Asia 1999b). Nonetheless, where PSP instruments focus solely on technical and managerial inputs, this can increase the flow of resources to WSS by promoting their more efficient use, allowing reallocation of current resources to more projects. These different modes of leveraging resources through PSP are discussed below.

*Attracting private investments.* During the 1990s there was an emphasis on attracting private investments to the WSS sector as part of the overall private sector strategy for all infrastructure sectors. The initial years had considerable enthusiasm, with an expectation that private



sector investments would help to meet the funding gaps for infrastructure investments, though it was generally recognized that in the WSS sector, private investment flows would be limited initially: “The stark reality is that, as currently structured in most developing countries, the water supply sector will attract little private capital. The sector is bedeviled by a long history of under-pricing, and by a politicized debate about ‘basic needs’ and the moral imperative of subsidies, by high capital intensity and therefore long payback periods and associated risk.” (Briscoe, 1998b:3)

Expectations about the sector’s inadequate capacity to attract private resources were confirmed by the actual experience during the 1990s: private investment flows in the WSS sector were very limited, especially when compared to other infrastructure sectors. For example, during the period 1990-2001, the share of WSS in total private investments in infrastructure constituted just 5 percent at a total of US\$37.7 billion over the entire decade (Izaguirre and Rao 2000; Izaguirre 2002). This low level of private investments in the WSS sector at least partly reflects the nature of difficulties due to low tariffs and the lack of a clear and independent regulatory framework in most developing countries. Mitigating risks in the WSS sector has proven more difficult than in other infrastructure sectors. To enhance private sector investments in the WSS sector, these issues will need addressing through appropriate legal and regulatory reform, as well as more innovative financing mechanisms that help to mitigate some of these risks. A recent discussion by an international private water company highlights this vividly in terms of doubts about the viability of water business due to increased risks resulting from “unreasonable contractual constraints and regulator power and involvement,” demand for high universal standards in developing countries, and few contracts and several contractual or bidding failures. A fresh approach is needed focusing on more appropriate risk sharing, managing expectations from both sides, and more reasonable service standards and careful targeting of subsidies (Talbot 2002). The next section discusses financing mechanisms that address some of these concerns.

*PSP and enhanced internal generation.* Efficiency gains can free up a substantial amount

of resources because in developing countries, low tariffs, inadequate collection, and high rates of unaccounted-for water result in large subsidies of approximately US\$20 billion a year, while operational inefficiencies cost governments about US\$10 billion a year (World Development Report 1994, quoted in Haarmeyer and Mody 1997). Over the last decade a range of experience has emerged in private sector participation (PSP) for enhancing the efficiency in delivery of WSS services. Several successful illustrations of simpler forms of PSP, such as performance-based management contracts, are now available and have resulted in increased efficiency and a greater internal surplus for service providers. In Gaza, for example, a four-year water services management contract led to an improvement in services, expanded coverage, and a doubling of revenues within one year (Saghir, Sherwood, and Macoun 1998).<sup>28</sup> In view of the reality of nonexistent consumer services, collection performance on water charges remains poor in most developing countries, with weak local financial management systems, and a very high level of unaccounted-for water, well-designed and performance-linked management contracts can help to leverage resources by significantly increasing generation of internal surplus for water service providers.

*Need for tariff reforms.* For leveraging resources for WSS through PSP, a key condition is setting tariffs to enable full cost recovery, thereby enabling its financially sustainable provision. Moreover, effective economic regulation is needed to assure the private sector that tariffs are not easily changed with political discretion. Ensuring a fair tariff adjustment mechanism is important for PSP because the costs of providing water are likely to change during a water company’s tenure. Therefore, the economic regulator must have a framework for adjusting prices to exogenous factors outside a company’s control.

In most developing countries, it becomes essential to restructure and raise tariffs as a pre-condition for leveraging private sector resources. Although politically difficult, the shock of raising tariffs to households can be alleviated in several ways. First, governments can implement subsidy mechanisms to protect the poor and heavily publicize the subsidies in order to get political support

<sup>28</sup> Another performance-linked management contract was awarded for reduction of non-revenue water in Salangor, Malaysia. The initial contract hoped to recover the costs in less than three years (Myers 1998).

## Easing Tariff Increases in Guinea

In the late 1980s Guinea had one of Africa's least-developed urban water systems. Less than 40 percent of the population had piped water connections, and those that had connections faced intermittent water supply and poor water quality. The Government of Guinea decided to improve this situation in 1989 by granting a lease arrangement for PSP operation of urban water services.

At this time, tariffs were set far below cost-recovery levels, with households paying US\$0.12 per cubic meter (1989 US dollars), compared to an estimated rate of US\$0.68 for cost recovery. In order to have sustainable and financially viable water services and to give operators the incentive to expand coverage, the government committed to raising tariffs to cost-recovery levels. However, the government wanted to increase tariffs gradually to avoid major tariff shock at the beginning of the contract and to give time for water services to improve before consumers saw a hike in their bills.

To ease the transition to cost-recovery tariffs, in the first six years of the contract the government made use of International Development Association (IDA) credit to subsidize a declining share of the operator's verified supply costs, while tariffs gradually increased to cover costs. However, after the subsidy phased out, tariffs continued to increase to US\$0.83 in 1996, remaining constant in local currency for the remainder of the lease contract. This resulted in a steep fall in connections and a corresponding rise in inactive connections. The contract was not renewed when it expired in 1999, and the international partners subsequently left the country in 2001.

The contract resulted in considerable improvements, with access to piped water increasing from 39 percent in 1989 to 47 percent in 1996 and with piped water in the capital city complying with World Health Organization norms by 1994. However, regulatory capacity to balance consumer and PSP interests was weak, as evidenced by the fact that the government was unable to renegotiate a reduction in the tariff level. What can be learned from Guinea is that output-based subsidies can help to ease the transition to full cost-recovery tariffs. However, in order for the scheme to be sustainable and efficient, it must be accompanied by a credible regulatory framework and provide incentives for the private operator to cut costs, while passing the savings to consumers.

*Source: Brook and Locussol (2001)*

for reform (Halpern et al. 2000, Section 2.2.3). Second, tariffs can gradually increase, as done in Guinea with the World Bank support, to fund incremental increases in the tariff level (Box 3.2). Also crucial tariff increases must correspond with improved services. In Cochabamba, Bolivia, tariffs increased before improvements in service quality, triggering riots and the subsequent cancellation of the concession (OED 2002). Third, in the case where funding is not provided to ease tariff increases, such as when private operators bid for tariff levels in concession contracts, local governments can alleviate public adversity to higher prices by first raising tariffs before signing the concession, so that private operators can provide water services at a lower than existing rate, as done in Bolivia before the La Paz/El Alto concessions in 1997 (OED 2002). Finally, the government must clearly explain to the public the reasons for increasing tariffs, so that the benefits from tariff reform become widely known and transparent.

*Criticality of regulatory reforms.* The lack of transparent and sound regulatory frameworks is a substantial barrier for increased PSP. Private companies will be unwilling to operate WSS services requiring substantial long-term investments if there is an uncertainty over the credibility of governments to regulate and enforce contracts. Regulatory arrangements therefore need to be established in a way that gives confidence for PSP. Governments should determine the extent to which laws determine the regulatory framework and the extent to which it is guided by contracts. Whatever model a government adopts, it should be consistent in balancing laws and contracts to avoid overlap, giving credibility to the regulatory framework.

In practice, ad hoc regulatory arrangements are often set up to support PSP projects, due to undeveloped or non-credible systems. In Buenos Aires and Manila, the independent regulatory agencies oversaw the concession arrangements.

Contracting out some of the regulatory functions may also enhance regulatory capacity in the short term. This proves beneficial because contracted agencies can provide regulatory expertise to governments that lack experience, and their independence from the government can increase the credibility of the regulatory arrangements. A key aspect in regulation would be to protect the interests of the poor and provide for consultation to solicit their preferences (Evans 2002).

*Innovative contracts for financial equilibrium and nurturing sound relationships.*<sup>29</sup> A concomitant to successful private sector participation, either to attract investments or to enhance efficiency, is a focus on developing appropriate contracts based on local conditions in terms of

institutional framework and overall reform climate. A key aspect in exploring these is closing the revenue cycle through internal cash generation. Thorough background work with detailed financial analysis and modeling are needed to determine appropriate financial support for such contractual arrangements to ensure long-term viability along with access for the poor. There is probably so far a greater understanding of such contracts for medium to large urban centers, evolved through the experience in Africa (see Box 3.3 for an illustration of the Senegal experience). It needs to be recognized that an appropriate reform climate in the country, and particularly for the infrastructure sector, is critical for such an approach to be successful.

### Box 3.3

#### Senegal Water Sector Reform: Innovative Contracts and Sound Relationships

Recent reforms in the Senegal water sector have involved an innovative response to the conditions commonly found in many developing countries: a bankrupt public utility, decline in status of water services, including for the poor, and failure of most government attempts to introduce performance improvements. The focus in Senegal reforms has been on developing an appropriate contractual arrangement linked to improvements in financial health of the utility. This was accomplished through the use of a detailed financial model to ensure that initial donor support results in sustainable internal cash generation for long-term financial viability of the asset-holding company. The Senegal reform has also included a focus on ensuring access for the poor through access subsidies.

The main institutional change focused on transferring the assets to a government-owned asset-holding company, which, along with the relevant ministry, was a signatory to an operating contract with a private operator. The enhanced affermage contract used for this provided incentives to the private contractor for improved performance through two parameters: improved technical efficiency in operations and collection of bills. The financial model developed for this purpose also helped to track progress towards financial equilibrium, and the tariff increases were carefully calculated each year to ensure that the utility moved towards this goal. Local ownership and understanding of this approach was built through a series of workshops and capacity-building measures, as well as active participation of stakeholders in developing the framework through a local steering committee. This was supported through a transparent and extensive competitive bidding process with full government ownership. The reform, including an operating subsidy for the utility in the early years while tariffs gradually rose to cost-recovery levels, has been financed mainly by the World Bank and other donors, though about 10 percent of total funds have been mobilized through commercial bank loans. A part of the Bank and donor funds was provided as equity. In general, the outcome of this reform has been “more water to more people,” increased numbers of poor people connected to the utility, and improved financial health of the asset-holding company. An environment of trust and mutual respect has developed between the asset-holding company and the private operator, which has resulted in successful review of contract stipulations.

The reform implementation in Senegal is generally perceived as an example of well-planned and executed reform and has stood the test of time. Key aspects have been an overall climate for reform in the country, government commitment and ownership of reform, and the continued support of the World Bank and other donors to the process. It had wide-reaching effects, not only in Senegal, but also in many other countries in the African region. For example, subsequent reform in Niger and Tanzania has drawn on this experience.

Sources: Kriss and Janssens (2002) and Brocklehurst (Forthcoming 2003b)

<sup>29</sup> This sub-title is based on Brocklehurst Forthcoming 2003b.

## Box 3.4

### Teshi Tankers in Ghana: An Enabling Framework for Small-scale Independent Providers

Following the construction boom in Accra in the late 1980s, the demand for tanker water services increased. Initially illegal tapping of water from fire hydrants flourished, coupled with a lack of quality and price control. However, Ghana Water Company Limited (GWCL) responded to this by becoming involved in negotiations with the tanker owners. Over time, three separate tanker associations have been established and a growing number of tankers has since formally entered the water supply market.

GWCL entered into contracts with these associations and established special service points at various locations. As a result of the contracts, associations now offer improved conditions for service, including regularization of previously illegal operations, access to a reliable water supply, and a favorable bulk rate for water purchased through the tanker association service stations. At the same time, the contracts also place responsibilities on the associations. For example, the water tankers may no longer transport fuel, the associations regularly inspect the trucks for cleanliness and are responsible for collecting charges from the tankers and making regular monthly payments of bills to GWCL. Any failure to comply with these conditions leads to a cancellation of the entire contract, which acts as a self-regulating mechanism. Greater transparency in prices has also resulted. The presence of three associations also gives tanker owners a choice and GWCL the advantages of benchmarking and cartel avoidance.

While in the long run the role of water tankers may be affected by the proposed privatization of GWCL, this enabling framework and public-private partnership has resulted in a number of benefits: better information for low-income consumers and vendors, improved revenues for GWCL, more reliable access to water for the tankers, and improved water quality. Consumer confidence increased. For the tanker owners, a greater recognition and legal basis has reduced risks, allowing for increased investment and better and more affordable services to consumers. Negotiations with GWCL are possible regarding more service points and appropriate bulk prices.

Sources: Kariuki and Acolor (2000) and Ehrhardt (2000)

### **Small-scale Private Sector in Water and Sanitation**

Despite the focus within wider policy and analysis on large-scale private sector investments, the actual and potential role of small-scale private service providers, often operating in the informal sector, has not been recognized and planned for adequately. Recent studies in Africa and Latin America highlighted their existing and potential role in service provision, but policy responses and financing mechanisms to support them have been inadequate. For example, Collignon and Vezina (2000) highlight the important role played by the small-scale independent providers (SSIPs) in urban areas in Sub-Saharan Africa.<sup>30</sup> The study also suggests that constraints on formal finance limit investments by SSIPs. A Bangladesh study shows that the financing of SSIPs needs to take a dual approach. The enterprises themselves require access to capital, and a lack of collateral hinders access to loans. This results in the majority of small businesses being self-financed, and frequently the

quality of the product declines, undermining consumer confidence. On the other side of the equation, the consumers frequently do not have access to liquid cash, and inadequate collateral similarly limits them from getting credit (WSP-SA 1999b; see also Section 3.4).

Box 3.4 illustrates the importance of an appropriate enabling framework in enhancing the role of SSIPs in the water and sanitation sector. Such a framework would also aid in mobilizing larger investments from SSIPs. Another recent study exploring the potential for participation of private sector operators in small towns in Ghana shows that while the potential exists, considerable constraints will need to be overcome through capacity-building, awareness, and a clear policy and regulatory framework. Work in Ghana also shows the necessity for access to finance for small private sector operators (Manu 2001).

Financial institutions need to explore the possibility of such markets. Most conventional finance institutions tend to explore opportunities

<sup>30</sup> While similar detailed studies for other regions are not available, anecdotal evidence suggests that in South Asia, particularly India, the role of SSIPs in serving urban low-income populations may not be as high. This may be due to the more widespread provision of minimum shared basic services in slum settlements in India over the last three decades.

for financing large infrastructure projects with private sector involvement. However, the need to focus on more decentralized opportunities is important from two perspectives. First, recent worldwide trends indicate only limited participation of the large private sector in water and sanitation projects, and a possibly declining market trend in this segment; and second, growing evidence, particularly from the African continent, points to the significant role played by private small-scale independent providers in service provision for the poor and low-income groups in peri-urban areas. A new infrastructure finance company in India, Infrastructure Development Finance Company (IDFC), has adopted a more aggressive approach to exploring opportunities for financing the private sector for decentralized infrastructure. This approach also relies on the unbundling of the infrastructure industry, particularly at the retail end, to permit more providers to enter at the distribution end (Ehrhardt 2000; see also Boxes 3.8 and 3.15). As this is a very recent and fledgling effort, it will be necessary to assess its actual performance to derive lessons for such support in the future.

### **Partial Guarantees for Risk Mitigation**

An important aspect for private sector participation in the WSS sector is to have an appropriate risk management framework to mitigate and allocate project – and operations – related risks. In the conditions of early reforms and a lack of long-term debt in domestic debt markets, partial guarantees would make it possible to provide a cover for some of these risks and enhance the prospects of successful private sector operations. Even in more mature markets some risks cannot be mitigated, and a cover for these will increase investor confidence. When designed properly, partial guarantees show achievement close to a five-fold leverage of private resources in infrastructure, while also helping to enhance tenor and reduce the costs of funds (Wormser 2001). Currently financial institutions offer guarantees, including the World Bank Group, several bilateral export guarantees, as well as by private insurers. In emerging markets with developed bond markets, issuers can make use of bond insurance. Bond insurers make their money via risk arbitrage, by identifying when the

capital market overcompensates for underlying risks. Similar to guarantees, bond insurance for emerging markets is a recent phenomenon, but has a great potential to enable issuers to access a larger pool of investors, reduce financing costs, and lower market access volatility (Bond 2001).

*Types of risks and guarantee products.* The first step in risk management would be to clearly identify risks at different stages of a transaction: pre-development, development, construction/implementation, and operation. Each risk needs to be assessed for possible mitigation and then allocated if it cannot be fully mitigated. Partial guarantees in the water sector can help to provide for risks that are likely to be difficult to allocate, such as:

- *Risks associated with the long periods for WSS projects.* Due to its highly capital-intensive nature, the WSS sector generally requires long-term investments. To reduce the risk associated with long payback periods, partial credit guarantees (PCGs) can extend the maturity period of a loan. PCGs provide coverage against all risks for portions of scheduled repayments, usually later cash flows, of loans or bonds. The World Bank offers PCGs mostly for privately funded public projects in countries where long-term debt markets are not yet developed. The International Finance Corporation (IFC) offers credit-enhancing PCGs to private companies, and they have the special feature of being able to be issued in foreign or locally denominated currency. The China Ertan Power Project used this successfully, where a World Bank guarantee for debt service for later periods helped to extend the financing term to 12 years from an average term of 6 years generally available from the commercial banks (Wormser 2001). In India, IDFC offers a similar product, termed “take-out finance,” to enhance the tenor of commercial bank loans for private infrastructure projects.<sup>31</sup> IDFC also provided take-out finance for infrastructure-linked bonds for a toll bridge in Delhi, India.
- *Risks associated with political interference or non-performance.* The risk of political interference or government non-performance in contractual arrangements is another

<sup>31</sup> Based on information from the IDFC website [www.idfc.org](http://www.idfc.org) and IDFC (1998).

deterrent towards private investment. There are several financial institutions that offer protection from such risk. The World Bank and other multilateral banks (ADB, EBRD, IDB) all feature partial risk guarantees (PRGs) that protect debt service defaults arising from government non-performance, such as failure to deliver services required under the concession, early termination or “unfair” breach of contracts, or inability to transfer or convert foreign exchange. Specifically within the WSS sector, risks may include failure to increase tariffs, failure to meet financial commitments or make critical investments under the contracts, failure to pay termination amounts, or interference in the arbitration process (Wormser 2002). PRGs cover only the non-commercial risks and should be considered in situations such as “early stages of reform, larger or riskier operations, and operations highly dependent on support/undertakings of weaker governments or municipalities” (Wormser 2001). Partial

guarantees (PCGs and PRGs) are flexible instruments adaptable to various types of financial schemes to support PSP in infrastructure services, including stand-alone project financing, concessions, output-based aid schemes, and municipal credit schemes. The Multilateral Investment Guarantee Agency (MIGA) and export credit agencies, such as the Overseas Private Investment Corporation (OPIC), also provide political risk coverage and extend insurance to cases of expropriation, war, and civil disturbance. In most cases guarantees from the World Bank and some of those from other multilateral banks require a counter-guarantee from the sovereign government, whereas those by MIGA do not (see Box 3.5 for a recent MIGA guarantee for a water project).

- *Risks associated with investing in a project with foreign currency.* Investing in a project in a foreign currency has two main risks that can offset profitable returns: currency inconvertibility and currency devaluation.

### Box 3.5

#### MIGA Guarantee for Water Concession in Guayaquil, Ecuador

In 2001, MIGA signed its first water project guarantee in Guayaquil, Ecuador, offering a US\$18 million guarantee for investments by International Water Services B.V. of the Netherlands in an Ecuadorian subsidiary. The guarantee supports a new concession agreement that privatized municipal water services in Guayaquil. The concession includes progressive qualitative standard measurements, and noncompliance triggers a performance bond at any time during the 30-year concession. The performance bond, posted by the company in accordance with the concession, guarantees the company’s successful management, expansion, and operation of the water services.

Guayaquil is the country’s financial and industrial hub, with about two million inhabitants. During a 20-year period its population doubled, putting strain on existing infrastructure and basic service providers. Poor areas have little access to basic services. At the time of privatization, the water utility collected about 50 percent of revenues, and one-third of consumers did not receive adequate services. The new company is working to upgrade services and improve performance. The concession calls for an improvement in quality of service as well as coverage.

The guarantee has two components: (a) providing protection against the risks of expropriation, war, and civil disturbance and (b) covering breach of contract, denial of justice, and wrongful call of the performance bond, as well as the equity investment, in case that the company successfully manages, expands, and operates water services. The guarantee arrangement provides that “the amount of compensation will not exceed the amount of the performance bond”.

Currently, the Guayaquil guarantee is the only MIGA WSS contract outstanding, as promoters in this sector have started using MIGA products only recently. However, in line with the Millennium Development Goals, MIGA has targeted the WSS sector as a priority, and it is working with other parts of the Bank to put together packages that would be attractive for this sector.

Source: MIGA (2002). See also the MIGA website: <http://www.miga.org/index.htm>

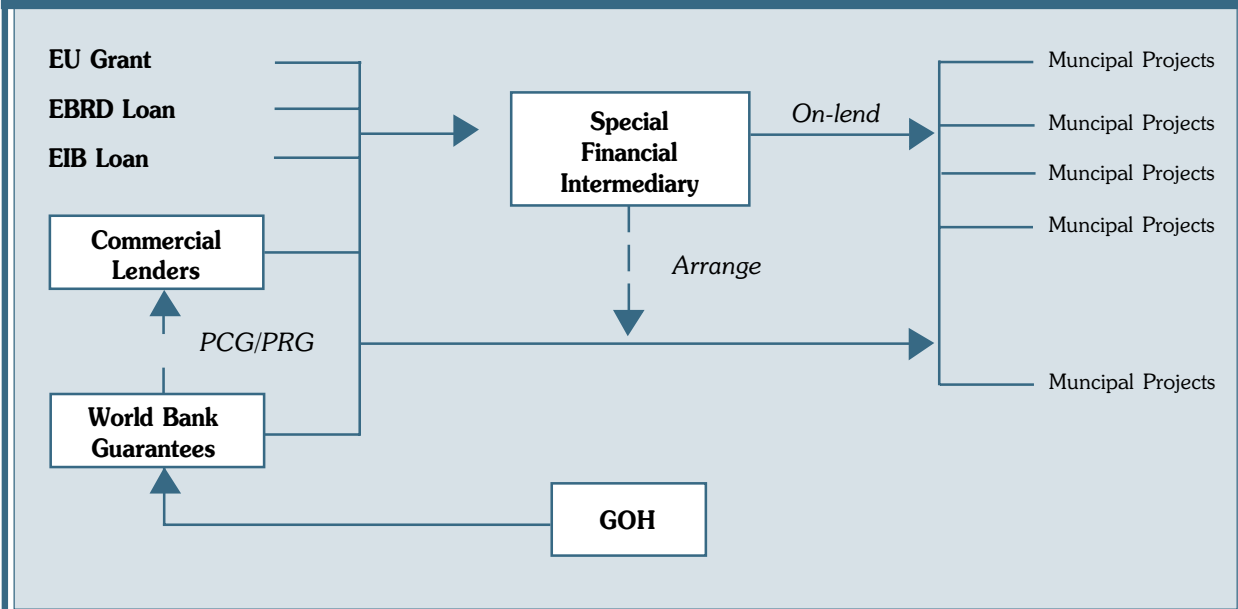
### Box 3.6

## Using Partial Guarantees for Municipal Infrastructure

Decentralization of municipal infrastructure services in many Central and Eastern European countries left the majority of municipalities with substantial financing difficulties, due to their lack of existing resources and their inability to attract private capital on their own creditworthiness. World Bank partial credit or partial risk guarantees are being considered to mobilize private capital to those municipal projects that otherwise would only have been financed through conventional fiscal or on-lending arrangements. If successful, this would be the first case of using World Bank guarantees at the subnational level.

The guarantee scheme relies on having a subnational financing intermediary (SFI) to serve as a vehicle for channeling financing from public, as well as private, sources. The SFI can be established as a multifunctional vehicle capable of utilizing both PCG and PRG instruments for mobilizing resources, as described in the diagram below.

### Guarantee Facility (Hungary): Overall Scheme



In discussions with local commercial banks and consulting firms in Budapest, the importance of the capacity and neutrality of the second tier SFIs was repeatedly emphasized. Another challenge in setting up the guarantee scheme is to obtain the sovereign counter-guarantee, critical for the World Bank's involvement. This requires a pre-agreed contract between the municipal and national governments to provide a disincentive for the municipal government to default on its loan agreements, for example, through an intercept (clawback) of transfers arrangement. Setting up a guarantee scheme for subnational borrowing remains difficult because compared to traditional on-lending, due diligence and market checks need to be performed for private sector investment, thereby making up-front costs per loan relatively high. However, this may potentially have a substantial impact on reform by promoting a shift to greater credibility and PSP involvement. The guarantee scheme for increased PSP in municipal infrastructure is currently under discussion with the municipal and national governments, and they are in the process of selecting pilot projects.

Sources: Shimazaki (2000 and 2001)

Since currency inconvertibility is a result of political interference, the risk associated with it is covered by the partial risk guarantees described above. For currency coverage, not many insurance instruments are available, but OPIC recently piloted a facility that protected against devaluation for bonds issued for the AES Tiete project in Brazil. However, OPIC has yet to offer devaluation coverage as a standard product (OPIC 2001). In more developed financial markets, hedging products may cover the forex risks.<sup>32</sup> It is also worth noting that the IFC and the World Bank offer PCGs in local currencies, which eliminates the foreign exchange risk for local borrowers. USAID has also introduced a scheme that provides guarantees in local currencies through its Development Credit Authority.

*Guarantee facilities.* In recent years, the World Bank Group initiated work on some new products that help to address issues specific to the infrastructure sector, which may have particular relevance for the WSS sector. The guarantee facility, one such new product, focuses on wholesale or bundling arrangements to meet the credit enhancement needs of smaller subnational borrowers or local service providers. Under such an arrangement, the World Bank would provide a backstop facility to an intermediary agency for guarantee contracts for smaller water and sanitation projects. Two particular features of the World Bank partial guarantees stand out. First of all, World Bank guarantees cover only debt instruments, and do not cover equity. Second, World Bank guarantees require a counter-guarantee from the sovereign government, and this provides added incentive for the sovereign and municipal governments to adhere to contract obligations. The sovereign government signs the counter-guarantee, but incentives can still be provided for municipal governments in local-level projects through a clearly defined intercept clause, whereby the municipal government would lose central government transfers if it failed to meet obligations. If carefully designed, such guarantee facilities would replace lines of credit or direct loans to subnational governments and help reduce government risk. However, such facilities must operate on commercial principles, with

guarantees issued after rigorous appraisal.<sup>33</sup> Box 3.6 provides an illustration of a guarantee facility being designed for municipal-level infrastructure projects with Hungary as a reference case.

*Issues in the use of guarantees for leveraging resources for the WSS sector.* In general, use of partial guarantees to support private sector participation has been more common in other infrastructure sectors, though all the institutions within the World Bank Group are also exploring such possibilities for the WSS sector. Issues to be addressed while exploring the use of partial guarantee instruments for the WSS sector include:

- *Critical need for reforms.* Concern often arises among sector professionals that the guarantees may become a substitute for reform. This is important and it needs to be ensured that PRGs are provided only in cases where reform has been initiated and a clear government commitment to reform exists. It is also important to have appropriate structures in place to monitor reforms. In the early days of reforms, or when reforms require ongoing actions over a long period, guarantees would help bridge any credibility or confidence gap between the market's expectation and what the government can live up to. In any case, the government's serious commitment to reform will be essential for a feasible guarantee scheme and to avoid the pitfall pointed out by Benoit (1996): "Guarantees are generally inefficient instruments where there is a strong likelihood that the risks guaranteed against will occur. In these cases, efforts should focus on reducing the risks to a reasonable level."

Private investment is more likely to be attracted if companies are creditworthy. Effective tariff reform aids this by enabling a sustainable composition of revenues and expenditures, and also by a clear regulatory framework to protect companies from the government's undue interferences. After establishing these measures, credit enhancement facilities can then add credibility to a loan agreement. One way to avoid the risk of partial guarantees adversely affecting credit appraisal is to use the credit enhancement only in cases with an underlying minimum credit quality or rating.<sup>34</sup>

<sup>32</sup> The World Bank also offers hedging products in some countries. In India, hedging against forex risk has been through back-to-back loans against forex deposits with domestic banks that also have forex operations. <sup>33</sup> For example, in India the state governments provide guarantees to local government and other local government-owned enterprises on a rather ad hoc basis without rigorous appraisal and reform linkage, for borrowing from banks or other government-owned financial institutions. Such guarantees are not sustainable and do not effectively reduce government risks (Economic Times 2002). <sup>34</sup> For example, in India the credit rating agency CRISIL accepts credit enhancement as a part of its rating process only in cases where the borrowing entity enjoys a minimum investment grade rating.



- *Use of simple credit enhancement mechanisms.* In the context of many small water supply and sanitation projects, use of the available guarantee instruments or development of the special facilities discussed above may become impossible. In such cases simpler project- or firm-specific credit enhancement mechanisms may help, such as a special debt service reserve fund or a special escrow account to hold reliable cash flows from selected customers. However, these measures should only be used when the overall financial viability has been determined and covering some special risks becomes difficult.
- *Context of decentralization.* Within the context of decentralization in the WSS sector, an important factor becomes the dominant role of local-level entities and smaller subprojects. This requires the use of pooling arrangements and guarantee facility types of products, as discussed above.

### **Project Development Support**

A constraint in attracting private and domestic resources to the infrastructure sector in general, and water and sanitation in particular, is the lack of available bankable opportunities. This reflects both, the lack of commercial orientation and incentives. However, in situations

## **Box 3.7**

### **Project Support Facilities for Infrastructure: South African Experience of MIIU**

South Africa has in recent years embarked on an ambitious program for infrastructure development. As a part of this effort, its Department of Constitutional Development has taken on a number of activities to support the development of municipal infrastructure. The Municipal Infrastructure Investment Unit (MIIU) was set up in 1998 to facilitate this process, with a focus on private sector participation. It is intended as a five-year intervention to develop the market for technical assistance in this area, as evidenced from its mission statement:

- “To encourage and optimize private sector investment in core local authority services, on a basis that is sustainable for both local authorities and at a national level and
- “To assist the development of an established market containing informed local authority clients, private sector advisers, and private sector investors and service providers, so that MIIU can be wound up no later than five years after the date of its establishment.”

MIIU is established as a Section 21 company to manage the process of developing projects in a professional manner and “free from political intervention”. MIIU structure has three interlocking components, namely:

- “A Board of Directors with a broad oversight and policy role, and a specific fiduciary duty with respect to the grant fund.
- “A Grant Fund, seed-funded by the Government of South Africa, to provide direct assistance to municipalities for the preparation of projects involving private sector funding and
- “A Project Preparation Unit, which is the operational core of the MIIU and which processes applications and manages the fund.”

MIIU has successfully leveraged the limited government funding of about 20 million rand to support the completion of 14 projects with a total contract value of 5.6 billion rand in municipal services such as water and sanitation, waste management, municipal transport, municipal power, and information technology. MIIU currently has 33 projects in the pipeline, consisting of 12 in water supply and sanitation, 7 in solid waste, 5 in transportation, 3 in power, 2 in information technology, and 4 other projects. In WSS, the Nelspruit and the Dolphin Coast projects were among the first long-term concession contracts in the country.

MIIU has helped to create greater awareness and provided support for the projects with private sector participation. Its completed projects provide benchmarks and documentation for future project development. In addition, it has also provided support to the national reforms of municipal services and of the regulatory framework for water-related contracts. It is, however, not clear whether MIIU has helped to develop a market for these services so that its support would not be necessary after a five-year period. Also, given its limited mandate, MIIU has not provided support to municipalities for public sector reform, often required as precursors to private sector participation.

Sources: MIIU (2001a and 2001b), MIIU website <http://www.miiu.org.za/MIIUindex.htm>, Hlahla (n.d.), and Jackson (2000)

where sector institutional and financing reforms have been initiated, the development of local precedents in completed projects will create wider support for reforms. The process of project development will also inform the reform process in terms of areas of focus.

*Need for project development support.* In most countries where public funds dominate the financing of infrastructure projects, the development of commercially viable bankable projects presents a new concept. It generally requires participation of a wide range of actors and often lacks clarity in the approach and roles of different actors. Also, with sector reform generally in an evolving stage, the sponsor constantly needs to pursue reform and related changes to mitigate and minimize the project risks. Typically, most public sector agencies lack the necessary person-power to carry out these tasks. The development of bankable projects for infrastructure and WSS is a complex process. It requires clarity of institutional arrangements for service provision, the participation of multiple stakeholders, a sound incentive framework, inputs from experienced, legitimate, and committed advisers, and full government commitment. Such support requires considerable preparatory work, as well as ongoing process management throughout the development and implementation period. The advisers require both capacity and legitimacy to provide such support.

*Experience in project development support arrangements.* Boxes 3.7 and 3.8 present two examples of the experience related to the arrangements for providing such support from South Africa and India. In order to meet the growing demand for municipal infrastructure, the Government of South Africa set up a dedicated facility, the Municipal Infrastructure Investment Unit (MIIU), to encourage and support private sector participation in municipal services and create market capacity for project development in the country. The good performance of the MIIU reflects the demand for private sector projects from local authorities within the context of a supportive policy and legislative framework at the national level.

On the other hand, the Indian experience has varied across the continent and has evolved over the past decade (refer to Box 3.8). Following the liberalization of the early 1990s, there has been

a growing focus on infrastructure development on a commercial format, in order to attract market-based and private sector resources and management. A number of different types of arrangements emerged with the latest emphasis being placed on more flexible memoranda of agreement between state or local governments and agencies providing project development support. Despite the short project-time, the performance of these project development support arrangements, especially in India, has been lower than anticipated. The main reasons for under-performance include lack of capacity for and commitment to comprehensive reforms at the levels of local and state governments, lack of political will to address harder issues in reforms, and lack of appropriate sectoral policy and regulatory frameworks.

*Key issues in successful project development support for WSS transactions.* Based on lessons from South Africa and India, key issues in developing more effective support include:

- *Focused attention and dedicated capacity for WSS.* Dedicated capacity in such project development facilities has helped to create awareness and resulted in the development of initial projects in the infrastructure sector in general. Most facilities are managed independently, either through board-managed companies or private sector ownership and management. The government has provided legitimacy and credibility through participation in management and funding these facilities. However, given its complexity, development of private sector projects in the WSS sector has not been common and more focused attention is likely to be required.
- *Criticality of sector reforms.* The performance of these funds illustrates that project development cannot substitute for sector reforms and enlightened leadership. For example, in South Africa, with policy frameworks in place, the performance has been better. Project development will, however, help to identify key areas of policy and capacity-building intervention required through learning by doing. Though each project context differs and adaptation to local issues and contexts will be necessary early on in the reform process, a few successful models

## Box 3.8

### Project Support Facilities for Infrastructure Investments: Indian Experiences

Many state governments and private sector enterprises in India have recognized the importance of project development for attracting private investments in infrastructure. Over a dozen different initiatives have emerged in the last few years. There are several different types of initiatives:

- Pure project support facilities, such as the Gujarat Infrastructure Development Board, or those in Andhra Pradesh (APIIF), Uttar Pradesh (UPIIF), Punjab (PIIF), Kerala (I-KIN), West Bengal (I-WIN), and Rajasthan (PDCOR).
- Integrated agencies providing project development and financing support, such as in Tamil Nadu (TNUDF), Karnataka (I-DECK), Gujarat (GIIF), and Maharashtra (MUIF).
- Project development partnership agreements, such as those signed by the state governments of Andhra Pradesh, Himachal Pradesh, and Goa with the Infrastructure Leasing and Financial Services (IL&FS) for development of infrastructure projects with private sector participation.
- Memoranda of Understanding (MoU), as signed by the state governments of Tamil Nadu and Uttaranchal with the Infrastructure Development Finance Company (IDFC) for development of policy frameworks and project structuring in various infrastructure sectors.
- Dedicated private sector project development and equity fund for urban infrastructure to invest in private sector projects, as set up by Feedback Ventures.
- Several donors and programs including USAID, WSP, and AusAID also provide support to project development for projects with private sector participation, and public sector projects with commercial orientation.

The IDFC has set up a special unit, referred to as Decentralized Infrastructure and New Technologies (DINT), to focus its efforts on ensuring the 'last mile access' in infrastructure. Such decentralized projects could provide access while stimulating local entrepreneurship and economic development. The DINT unit within IDFC has the corporate mandate to explore opportunities for development of such projects and pursue their appraisal for possible funding. This will be done for all the infrastructure sectors that IDFC finances, including power, telecom, roads and transport, and water and urban development.

These facilities and arrangements have emerged in response to an understanding that development of bankable investment opportunities requires assistance for technical studies and process management, as well as constant advocacy for tariff and regulatory reforms. Most facilities focus on a variety of infrastructure sectors and increasingly focus towards smaller projects. Most facilities concentrate on developing private sector projects. Only two of the above, TNUDF and the proposed MUIF, also include improvements to projects implemented by the public sector through greater commercial orientation.

Though it is early to assess their performance, many of the above arrangements fall far short of their initial targets. Preliminary review suggests that the poor performance reflects an inadequate emphasis on early capacity-building and wider institutional and policy reforms. It is also a result of wavering political commitment to private sector participation and a lack of incentives for reforms at state and local levels. The recent trend indicates, therefore, simultaneously focusing on reforms and moving towards more flexible partnership and MoU arrangements. Further inquiries and a detailed assessment are needed to review their relative performance and assess the factors that contribute to success or otherwise.

Sources: World Bank (2002g), FIRE Project (2002), and IDFC (2000 and 2002)

will help to build the demand for reforms at local and state levels.

- *Exploring smaller and decentralized options.* In the WSS sector, there will often be a need for exploring more decentralized options that are smaller with either community management or small private service providers. Such options are likely to be more

feasible and help to unbundle settlement-level services, and may be required where there is a demand for improvements to existing systems that have deteriorated due to neglect of public delivery systems. Most project support facilities discussed above have tended to ignore such smaller decentralized and community-level options. As an exception to

this, however, the recent effort by the Infrastructure Development Finance Company (IDFC) in India to set up a special group for Decentralized Infrastructure and New Technologies stands out. It features a mandate to explore such options for all infrastructure sectors in which IDFC provides services (refer to Box 3.8).

### 3.3 Local Investments through Local Credit Markets

Most discussion on closing the funding gap to meet the WSS development targets includes the domestic and local credit market as an important source. As an illustration, the Ministerial Declaration at the recent International Conference on Freshwater in Bonn mentions capital markets as an important means of closing the funding gap. The Bonn recommendations go further in referring to the development of domestic capital markets and the issuance of 'local bonds'. Past experience in accessing local credit markets for financing infrastructure suggests that this requires developing in a manner that helps to enhance service efficiency as well as to contribute to the overall financial sector development in a given country. In the industrialized world, infrastructure finance has contributed to the development of capital markets, and lessons from this need incorporating in developing access to local credit markets.

#### **Need for Accessing Local Credit Markets**

With the worldwide trend towards decentralization of service delivery, responsibility for service delivery choices and financing investments shifts to local governments. In the past, local authorities have often lacked sustainable access to commercial credit. The ad hoc credit allocations from central governments have generally resulted in service inefficiencies and a lack of emphasis on the financial viability of investments (Mehta 1995a). With the increased service responsibility, local governments or the local utilities for providing local services, will also need more sustainable access to investment funds. Against this background, the two most obvious arguments for the development of domestic local

credit markets for WSS investments include: (a) meeting the need for long-term capital necessitated by the more capital-intensive nature of WSS investments in relation to the expected revenue profiles<sup>35</sup> and (b) avoiding the foreign currency risks that cannot be covered easily in WSS services.<sup>36</sup> Equally importantly, however, access to domestic markets will help introduce market rigor in service delivery and the investment decisions of service providers.

Within the context of WSS sector reforms and the observed global trend in the structure of local credit markets, potential borrowers in the local credit market may either be local governments or the service enterprises or utilities, depending on the type of services for which credit is sought and the extent to which institutional reforms for autonomous utilities have been implemented. For instance, in the United States, where direct market borrowing through municipal bonds accounts for a large proportion of infrastructure investments, the most important borrower group is the public revenue authorities, which are essentially autonomous utilities for providing public services with direct user charges (Mehta 1995c and 1996a).

#### **Steps in Establishing a Local Credit Market**

Establishing a sustainable local credit market involves progression in several steps, each building on the previous step. Therefore, different measures depend on which step a country is in, reflecting the level of both financial sector development and the creditworthiness of its local governments or utilities. These steps, however, do not necessarily imply a straight progression and depend on the context of a particular country.

*Building the creditworthiness of local governments/borrowers.* This is the most important prerequisite for the establishing of local credit markets, because markets will not form without viable borrowers to lend to. Peterson (2000) writes, "The greatest constraint on municipal credit market expansion, almost everywhere but certainly in the first stages of market development, is finding creditworthy municipal borrowers that have well-defined investment projects." Local governments and utilities need to demonstrate their capability to manage their resources, even if they come largely

<sup>35</sup> For example, Briscoe (2001) points out that the ratio of asset requirements to annual revenue for WSS is very high at about 10.5, compared to ratios ranging from about 1 to 4 for other key infrastructure sectors such as telecom, power, railroad, and airlines. WSS investments thus particularly need to be more long-term in nature to ensure that the tariffs remain within a feasible range. <sup>36</sup> The problems in East Asia following the 1997 financial crisis illustrate this well. Many of the private sector concessions suffered heavy losses because of the domestic currency devaluation as there was an excessive reliance on foreign debt that was not adequately hedged. Many bailouts became necessary as a result, and several projects had to be refinanced or put on hold (see, for example, Darce 2000). As pointed out by Raymond (2002), greater efforts have since been made to secure local currency financing.

from central government grants. Steps towards building creditworthiness include maintaining a steady income stream through scrupulous collection of local taxes and user charges, implementing adequate accounting, disclosure, and reporting standards, stabilizing the system of intergovernmental transfers and shared taxes to ensure predictability, and building staff capacity to manage and operate systems. Earlier discussion in Chapter 2 (Section 2.2) provides an illustration of the type of financing mechanisms useful for providing incentives for such reforms. Finally, there should be an adequate legal framework that clearly defines such aspects as the items that the local government could use as collateral, such as land or future cash flows; the legal provisions that will protect private investors from undue political interference; and an appropriate regulatory framework for the user charges or a firm legal backing and autonomy for taxes that comprise the main revenue streams.

*Developing precedents for commercial local borrowing.* While the creditworthiness of local governments or local service providers is established, it is also necessary that they have the opportunities to create a track record of loan repayment and demonstrate that credit risks are controllable. Appropriate measures to support this will depend on the level of financial sector development in a given country.

In countries with a well-developed financial sector and a vibrant domestic debt market, it would be best to have measures supporting local governments and other local service providers to initiate borrowing on commercial terms from the markets. For example, the recent Urban Sector Strategy of the World Bank for India recognizes the relatively high level of financial sector development in India and the emerging interest of the financial sector and markets in financing infrastructure investments. In response, rather than advocating channels such as a municipal development fund (MDF) or a specialized financial intermediary (SFI),<sup>37</sup> the Urban Sector Strategy suggests support for “project development technical assistance, improvement of credit information, credit enhancement (used selectively), and parallel financing with commercial lenders” (World Bank 2002g:18; see also Section 3.2). In this context more

market-driven mechanisms, such as the use of rating of municipal bonds in India (see Box 3.8), can help to enhance the market image of local governments among the financial sector community in the country. The example of FINDETER from Columbia also illustrates the possibility of involving domestic banks and financial institutions in municipal infrastructure through refinance incentives (refer to Box 3.10). Such refinance enables the banks to overcome the term mismatch from providing long-term loans for infrastructure.

In contexts of weak financial sector development, the MDF is often preferred for this purpose by international financial institutions and/or higher levels of government. MDFs ideally have the dual objectives of providing loans to local governments for local investments and of encouraging transition to self-sustaining financial intermediaries. Unfortunately, the track record of MDFs has been unsatisfactory, with high levels of non-repayment and few programs graduating to become self-sustaining. However, MDFs can play an important role in giving local governments the opportunity to demonstrate that they are creditworthy borrowers. The emerging consensus indicates that MDFs can effectively achieve their mandate only if they have the following features:<sup>38</sup>

- Non-politicized lending according to explicit, simple eligibility criteria.
- Unbundling loans from grants, so that subsidies do not distort the financial market.
- Unbundling technical assistance from finance, to allow the emerging financial sector to allocate credit and share risks.
- Guaranteeing loans by using an automatic intercept of intergovernmental transfers to municipalities, thereby providing incentives for local governments to be financially accountable.

Perhaps the most important feature for an MDF is an explicit mandate of encouraging transition to sustainable local credit markets. However, according to Peterson (2000), most MDFs do not see this as their mission and have either fought to retain good clients in the private sector or displayed little interest in becoming sustainable institutions that raise capital in the private capital market instead of from governments and international financial institutions.

<sup>37</sup> An MDF generally focuses on improving the efficiency of resource transfers from higher levels of government, and an SFI helps build a credit culture on commercial terms among local governments (based on El Daher 2000 and World Bank 2002g). <sup>38</sup> See Codato 2001b and Peterson 2000 for discussion on MDF best practices.

*Establishing the fiscal and regulatory building blocks.* While local governments and other service providers begin to borrow money and build a record of loan repayments, governments should establish the fiscal and regulatory building blocks of a sustainable local credit market. These include macroeconomic stability and free market orientation, a predictable intergovernmental finance system, and a regulatory framework for local borrowing.

- *Macroeconomic stability, free market orientation, and debt market infrastructure.* While a high degree of macroeconomic stability may prove difficult to attain for a developing country, a baseline level of macroeconomic stability ensures that inflation does not make intermediate-term lending unfeasible. The financial sector should also have an orientation towards free markets, such that capital is not steered by the government through directed credit,<sup>39</sup> but by lenders who can make decisions based on the financial viability of projects. This process needs support from the overall development of debt market by addressing appropriate policy and procedural issues to enable easy trading, appropriate disclosure, and adequate information for potential investors through independent credit rating (ICICI Securities and Finance Company 1995; Mehta 1996b).
- *Predictable intergovernmental finance system (see also Section 2.2).* As discussed in the previous chapter, within the context of a fiscal framework for decentralization, design of the intergovernmental transfer system should occur in relation to key objectives and prove predictable over time. Predictability would help the local governments (or other service providers for access to grants) to develop their borrowing plans on a firmer footing. It would also enable them to develop structured-debt obligations using the transfer revenues, or intercepts as credit enhancement measures. This would help to enhance credit rating/assessment and subsequently the rates at which funds can be mobilized.
- *Regulatory framework for local borrowing.* Authority for borrowing by local authorities is an important part of the system of intergovernmental finance. However, local

borrowing needs careful regulation to ensure that local investments are financially viable and do not run the risk of defaults. Else, contagion effects of default on other local bodies and other subnational governments would be a major concern. It is also important to avoid the possible adverse macroeconomic impacts of a debt crisis through local borrowing, as has recently occurred in Brazil and Argentina (Ter-Minassian 1996; Ahmad 1999). Such a regulatory framework will need to include strong information systems; rules for municipal borrowing incorporated in legislation and with appropriate approval, disclosures, and supervision systems; separation of fiscal and financial systems; and the necessary bankruptcy legislation in case of defaults.<sup>40</sup> In countries where financial sector development has progressed, the regulatory framework for direct market borrowing should be structured within the general system of capital market regulation and include mandatory credit rating. In this context, it becomes necessary to review the indiscriminate use of blanket guarantees provided by the provincial (state) or national governments, as these would hinder development of the local credit market.<sup>41</sup>

*Progressing to sustainable market financing.* Once the above conditions are in place and the local borrowers have demonstrated their capability to borrow responsibly through the MDF, commercial financial institutions, or bonds in the capital market, the broader private market will be more confident in participating in the local credit system. In contexts with the existence of market-based initial precedents (as per the above step), the emphasis shifts to dissemination of information to the wider financial and investor community (see Box 3.11 on the use of credit-rating agencies to support such dissemination). In addition, continued support through the project development facilities' partial guarantees and credit rating mechanisms will also support such dissemination. During this phase, the role of the government will be to refine the regulatory framework to increase investor confidence.

In contexts where an MDF (or SFI) has been used, two methods of transition are possible. The first method, as suggested by El Daher (2000),

<sup>39</sup> For example, most infrastructure investments in India till very recently were made through directed credit from nationalized banks and life insurance funds (see Government of India 1996 and Mehta 1996b). <sup>40</sup> See, for example, Litwack, Ahmad, and Bird 1998; Ahmad 1999; Mehta 1998; Glasser et al. 1998; Department of Finance n.d.

<sup>41</sup> The experience from India, where such guarantees by the state governments have been unviable, provides evidence in this regard.

### Evolution of India's Tamil Nadu Urban Development Fund

In 1988 the Municipal Urban Development Fund (MUDF) was created as a revolving fund to finance municipal infrastructure projects as part of India's IDA-supported Tamil Nadu Urban Development Project (TNUDP). From 1988 to 1996, the MUDF effectively disbursed about US\$63 million to over 500 infrastructure projects in 90 out of 110 municipalities in the state of Tamil Nadu, with repayment rates of close to 80 percent. Despite the successes of the MUDF, it depended entirely on public financing, which rendered its lending capacity too small to meet potential demand. Also, the MUDF was located within the administrative structure of the government, making it susceptible to the risk of political interference.

As a result, in 1996 the MUDF was restructured into an autonomous financial intermediary, the Tamil Nadu Urban Development Fund (TNUDF), with the goal of providing self-sustainable financing for infrastructure investment. The Government of Tamil Nadu holds 72 percent of the capital, while the remaining 28 percent is held by three private financial institutions with a strong reputation in India's business and financial community. These three financial institutions also hold the majority stake in the asset management company of the TNUDF. This has helped to ensure private management of the TNUDF and a great degree of independence from any political interference in operational decisions. Since its creation in 1996, the TNUDF has gradually adjusted loan interest rates to market-determined rates. By 2000/01, its loan recovery rate had increased to 99 percent, and its annual disbursement had increased to six times the amount in 1997/98. TNUDF does benefit from the use of intercept as a security and credit enhancement. To its credit, however, it has strived to make these concepts available to other lenders to the municipal authorities. It has also assisted the municipalities to structure projects in a public-private format and raise private resources.

Under the restructuring, the TNUDP II Loan Covenant required the TNUDF to raise US\$50 million from the private sources, from bond and co-financing with financial institutions. In November 2000, the TNUDF successfully issued a US\$23 million bond with a five-year maturity. The TNUDF has assisted some of the larger municipalities in issuing direct bonds, and is currently assisting smaller municipalities to pool financing with a credit-enhancing scheme with support from the Government of Tamil Nadu and USAID under its Development Credit Authority (DCA). The TNUDF demonstrates that it is possible to convert an MDF into a market-oriented fund when there are clear mandates for private sector integration.

Sources: World Bank (1999b), Suzuki (2001), and Rajivan (1999)

involves the evolution of MDFs into sustainable institutions, as happened in Western Europe, where development funds were privatized into strong national banks, such as *Crédit Local de France (CLF)* (World Bank Institute 2000; see also Box 6.1). Box 3.9 presents the case of the recent restructuring of the Municipal Urban Development Fund (MUDF) in India into an autonomous financial intermediary, the Tamil Nadu Urban Development Fund (TNUDF). While TNUDF is one of the only MDF examples in the developing world of an attempt to mobilize resources from the capital market, this has taken time and has been limited in scope despite the well-developed financial sector in India. Peterson (2000) suggests the second approach, where the MDF does not transition into a fully sustainable bank, but rather gradually reduces its role as the private sector takes on more and more projects from municipalities that

demonstrate their creditworthiness. Box 3.10 presents the case of Colombia's *FINDETER*, which is trying to build up the private financial sector through second-tier loans. The Infrastructure Finance Corporation Limited (INCA) in South Africa provides another interesting case, wherein it was created from the outset in 1996 as a private sector financial institution specializing in infrastructure and municipal sectors. Its main shareholders are public-oriented but mostly privately owned and managed institutions.<sup>42</sup>

Different contexts require different methods of transition, and successful cases are available for both scenarios. Primarily, the MDFs must operate with the explicit goal of transitioning to private capital markets, as emphasized above. Therefore, if private financial institutions are willing to lend to the municipal sector, or if they are more capable of accessing long-term savings such as pension funds, then the MDFs should not prevent these from

<sup>42</sup> See World Bank Institute 2000, Chapter 6-B. Details are also available on the World Bank's subnational capital market development website.

## Box 3.10

### Subnational Financial Intermediation through FINDETER in Colombia

Colombia's FINDETER is a case of an internationally supported municipal development fund that has successfully helped to develop sustainable local credit markets. FINDETER was originally an infrastructure-financing window within the National Mortgage Bank, but in 1989 it was spun off as an independent subnational financial intermediary. The goal of FINDETER is to supply credit to municipalities through commercial banks, ultimately building their capacity for municipal lending.

FINDETER operates as a second-tier refinancing facility. It works with local governments to evaluate investment projects from a technical and financial standpoint. Once a project is approved, FINDETER helps the municipality to find a commercial bank willing to finance the project. FINDETER agrees to refinance up to 85 percent of the commercial bank's loan, but the commercial bank assumes credit risk for the entire loan and must perform its own credit analysis.

FINDETER has had a great track record compared to other MDFs, with less than 2 percent of commercial loans classified as non-performing. Reasons for its strong performance include (a) a voluntary intercept provision that strengthens loan security by diverting intergovernmental transfers or other local revenue streams to commercial banks in the case of default and (b) its second-tier structure means that lending is not influenced by political pressure because commercial banks take on all the credit risk.

Since the beginning of the 1990s, FINDETER has had a shrinking share of the market, with local governments increasingly accessing commercial banks directly. Also, the largest cities have recently used their creditworthiness developed under FINDETER loans to begin financing their projects directly through the bond market. While this has been a concern for the institution, it is a good sign that municipal lending is fully integrating into the commercial credit market.

Sources: Alvarado and Gouvarne (1994), Peterson (1996, 2000), and Codato (2001b)

happening. On the other hand, if such alternatives do not exist, then MDFs should make use of their unique role in the financial system and introduce measures for implementing sustainable credit markets. In reality this becomes difficult, as evident from the fact that most MDFs globally have not had a successful transition. Ideally, in new proposals, it would become essential to ensure that MDFs, if necessary, must mobilize a significant portion of their resources from the market from the outset. Also, their operation should avoid the vested interest outlook that inhibits development of the credit market. See Box 3.9 for the illustration of how the TNUDF in India has played a more positive role in such development.

*Choosing between direct access (bonds) and intermediation (bank borrowing).* In the process of transitioning to sustainable credit markets, governments will have the opportunity to decide whether to rely on borrowing from banks or to issue bonds. A municipal bond system unbundles the support functions that a development financial

institution (DFI) can provide, so the option to issue bonds should ideally come at a later stage of development, after the establishment of supporting services such as financial advisory services, technical assistance, and project oversight.

Several benefits arise from municipal governments issuing bonds (Peterson 2000). First and perhaps most importantly, bonds enable municipalities to get better rates of financing because each deal is competed on the open market and avoids costs of intermediation; total costs are also lowered because issuing bonds necessitates the unbundling of services, so supporting services are subjected to competition. Second, municipal bonds facilitate decentralized and more transparent financing because credit rating backs up local borrowing, which is monitored regularly by the rating agencies. Third, issuing bonds permits municipalities to receive all their funds upfront, instead of having to rely on partial payments based on monitoring, as happens with most DFI loans. However, this becomes beneficial only with a local borrower well prepared with investment plans and



projects. For instance, the Indian experience with municipal bonds suggests the possibility of even negative arbitrage when investment projects are not ready for disbursement (see Box 3.11 for details of the Indian experience).

While the relative advantages of borrowing from banks/financial intermediaries and issuing bonds sparks debate, Peterson (2000) argues that developing nations do not have to opt for one system over the other, since they can operate side-

### Box 3.11

#### Experience with Municipal Bond Issuance in India

Urban infrastructure investments in India have traditionally been financed through budgetary allocation and borrowings from higher levels of government or through government-owned financial intermediaries generally guaranteed by state governments. On the other hand, for its level of economic development India enjoys a relatively well-developed financial sector and capital markets. In response to this, direct market access emerged in 1997 as a potential new source of finance with the private and public issuance of municipal bonds by the Ahmedabad Municipal Corporation, with credit enhancement structures that did not rely on state government guarantees. Since then, six other municipal authorities have raised resources through municipal bonds without state guarantee. While the total volume of municipal debt remains a fraction of the Indian debt market, it does represent a new potential. The Rakesh Mohan Committee on Commercialization of Infrastructure endorsed the concept of municipal bonds, and the Government of India (GoI) provided income tax exemption for these bonds. With the development of the Indian debt market through the opening of the insurance and pension fund sectors, and better development of the market infrastructure, municipal bonds will develop as a potentially robust source if some of the issues discussed below are addressed:

- Municipal bonds in India have been structured obligations with credit enhancement essentially through escrow of dedicated revenue streams. Unfortunately, despite the early discussion on revenue bonds, all the bonds so far have used only general municipal revenues rather than other sources such as fees and user charges. Also, the limited market-based opportunities in the Indian market for credit enhancement<sup>43</sup> have limited the growth of this market to some extent.
- The credit rating by domestic rating agencies for these bond issues has proven an encouraging trend. CRISIL, the premier domestic credit-rating agency, took the lead in developing the methodology for rating these issues with support from the Indo-USAID FIRE Project. External review and monitoring by credit-rating agencies provides for the first time an independent review by private sector entities. It provides an assessment and periodic evaluation of credit quality and has created greater accountability for municipal leadership.
- The credit-rating agencies and investment bankers have played a role in creating market awareness and opportunities based on incentives for fee-based services. A large number of municipal authorities had their potential instruments rated. These efforts have also helped to create a greater awareness about better accounting and financial management systems.
- A major limitation in the evolving municipal bond system has been the limited number of municipal authorities with adequate credit quality to use this potential source for financing their infrastructure investments. Other reforms related to resource mobilization, expenditure management, and improved accountability systems, as currently pursued under the World Bank project in Tamil Nadu and through the FIRE Project, deserve greater emphasis. The Government of India also plans to pursue this through the recent proposal for the Urban Reform Initiative Fund (see Box 2.9). The GoI needs to also explore the possibility of linking the tax exemption incentive to such reforms.
- A limitation in municipal capacity has been weak project development and implementation capacity, which has hampered the timely and effective use of the resources mobilized through bond issuance. This needs to be addressed by appropriate project development support as discussed above, but equally by improved governance at the local level through better procurement and accountability processes.
- A more appropriate development of this source would also require addressing policy issues related to a conducive regulatory framework for municipal borrowing, string disclosure and rating requirements, appropriate bankruptcy legislation, and adoption of arbitrage regulation with the use of GoI's tax exemption provisions. This would need support by independent and regularly updated information about the municipal performance, as has been initiated by CRISIL through its benchmarking of municipalities.

Sources: CRISIL (1996, 2002a, and 2002b), Vaidya and Johnson (2001), and Mehta (1995c, 1996a, and 1998)

<sup>43</sup> Traditionally, loans for urban infrastructure have been based on blanket state government guarantees, which have failed to instill rigor in project development. Recently, many states have started to place statutory or administrative ceilings on total guarantees issued (Economic Times 2002).

by-side as long as neither is preferentially subsidized. Moreover, competition between the two types of funding can even decrease the cost of borrowing for local borrowers, while increasing the amount of information on credit quality. Development organizations should not therefore attempt to enforce a particular system, but rather allow the market and the country context to determine what happens. If the conditions are not right, then implementing municipal bonds will fail, as happened in the Philippines and Indonesia. On the other hand, if the conditions are right, then bond markets will appear without much external support. This happened in the Czech Republic, despite attempts by European aid agencies to create strong municipal banks with monopoly lending powers (Peterson 1996).

The important issue is to guarantee that financial markets are deregulated to the extent that bond markets are able to develop at their own pace. Countries should also consider implementing independent rating agencies ahead of market initiatives. This would help buyers of bonds as well as banks to get better information on the risks involved with their transactions, thereby increasing the credibility of the credit system. Box 3.11 uses

the Indian experience to highlight the types of issues that need to be addressed in the development of a municipal bond system.

*Promoting pooled finance mechanisms.* Smaller communities may encounter difficulties when attempting to issue bonds, because they must pay the fixed costs of issuing bonds but only have a low volume of bonds to cover those costs. To solve this problem, smaller communities can pool their bond issues and get economies of scale benefits through bond banks. In the United States, bond banks play an important role in helping smaller communities finance infrastructure projects, as described in Box 3.12. The Government of India incorporated this principle through its support for pooled finance mechanisms by state governments (Government of India 2002). Also, TNUDF is structuring a pooled arrangement for 15 small towns (see Box 3.9).

#### **Key Issues in Local Credit Markets and WSS**

Several key issues in the development and use of local credit markets for water and sanitation may be identified:

- *Understanding the country context for sequencing.* The steps identified in the section above would be taken up very

### **Box 3.12**

#### **US Bond Banks for Pooled Financing for Small Municipalities**

The municipal bond market in the United States dates back to the 19th century, but bond banks started appearing only 30 years ago with the creation of the Vermont Municipal Bond Bank in 1969, generally credited as the country's first general purpose bond bank. A broad definition of a bond bank is an entity that sells its own securities and relends bond proceeds to local governments, enabling them to pool their borrowing requirements. The in-built diversification of the pool means that bonds can be issued at lower interest rates than if they were issued for a single locality. Pooling also enables local governments to benefit from economies of scale by spreading the fixed costs of issuance.

Several features help the bond banks to limit credit risks. First, a sophisticated credit-rating system exists in the United States that reliably distinguishes risk. Second, most bond banks use some form of credit enhancement, possibly in the form of moral obligation pledges, state aid intercepts, general obligation pledges, or annual appropriation pledges. Thirdly, the United States has a competitive bond insurance market, which provides affordable insurance to support bond issues that may have lower underlying credit ratings.

Municipal bond banks have played a key role in enabling smaller local government entities to have access to the debt market. More recently, bond banks have taken on specialized areas of activity, including schools and environmental improvements. In some states specialized bond banks have developed for water and sewerage backed by partial grant funding, which enables them to offer lower rates through blending or credit enhancement.

*Source: Petersen (1997)*

differently in different country contexts. In a given context, sequencing would be affected by factors such as the capacity and creditworthiness of local authorities and local service providers, the development of the financial sector, the level of debt market development, the available domestic capacity for different functions in the credit market including credit appraisal, credit rating, and the development and implementation of bankable investment opportunities.

- *Ensuring the withering away of MDFs.* MDFs need to have the explicit mandate of encouraging the transition to sustainable local credit markets. Otherwise, they will sustain poor lending practices and inadequate due diligence processes and oppose healthy competition from commercial banks. This remains an important concern, as in many cases MDFs become a vested interest and inhibit the development of market-based credit systems. In recent years, discussion in some countries focuses on the setting up of special debt funds for the water sector.<sup>44</sup> Such efforts will need to take into account the wider experience with MDFs and address the issues that have generally been faced by these agencies.
- *Urban finance versus project/utility finance.* Most lending by municipal development funds and to local governments is structured using general municipal revenue. While this structure may prove valid for the provision of sanitation and sewerage services by local governments, for water services a project finance structure or balance-sheet borrowing by the local/regional utility would be more relevant. Given the lack of capacity for project development in commercial formats and the lack of credit history for commercial borrowing with most recent utilities, partial guarantees and project development support will need exploration (as discussed in the previous section).
- *Converting creditworthiness to bankable opportunities within the reform context.* Local credit markets cannot be established without viable projects to invest in. Assuming an adequate number of creditworthy borrowers,

either local governments or service providers, it is still necessary to use the potential borrower strength for creating a specific transaction opportunity. This is particularly relevant for water-related investments as these tend to be more complex and are likely to require good process management support (see Section 3.2). A key issue in developing these opportunities is that they develop within the utility structures operating on commercial terms for providing local water and sanitation services.

- *Need for information and benchmarking.* In contexts where local governments and other local borrowers lack exposure to financial markets, information about them in the financial sector is often poor. It therefore becomes necessary to develop independent and credible information about these entities on a regular basis. For example, the urban sector operational strategy of the World Bank for India proposes to address the lack of market recognition for the sector in two ways: first, by disseminating information and analysis about the urban sector performance and opportunities, providing opportunities for interaction between market and sector participants; and second, by increasing the opportunity for commercial financial institutions to make investments (World Bank 2002g). Steps should also be taken to build and improve on systems of subsovereign credit rating in developing countries, currently in nascent stages. This would help international and domestic investors to better evaluate investment proposals by local governments.<sup>45</sup> Internationally such comparisons are possible as rating of municipal debt is done in several countries worldwide. As a case in point, Standard and Poors has municipal ratings in nearly 30 countries.

### 3.4 Enhancing Household and Community Resources for WSS

The importance of investment by households and communities in WSS is being increasingly recognized, though generally not adequately facilitated. For example, the Ministerial Declaration at the Bonn Conference mentions community-based finance as one of the key

<sup>44</sup> For example, the Government of Ethiopia has decided to set up a special water resource development fund that will provide loans to water supply- and irrigation-related projects on a commercial basis (Mehta 2002). <sup>45</sup> See Mehta 1996a, El Daher 1999, and CRISIL 1996 for a discussion on the credit rating of subnational borrowing and the role that credit rating can play in sector development.

### Box 3.13

#### Sector Framework to Leverage Community Resources for Rural Water Supply: China

Compared to the widely prevalent low cost recovery for rural and small town water supply, and despite its being away from the 'fanfare of international declarations' related to cost recovery, the Chinese experience suggests that with an appropriate sector framework, it is possible to achieve high levels of cost recovery while maintaining prices at affordable levels for the population. The first World Bank-financed rural water supply project in 1985 initiated this, and it has been refined further over three subsequent projects. These projects serve nearly 23 million people in 18 provinces in rural China. Compared to the global norm of about 10 percent cost recovery, users of the piped rural water supply schemes in China pay about 75 percent of the capital investment and the full operation and maintenance cost. The capital cost is recovered through upfront cost sharing by the county government and community (25 percent each) and an IDA loan (50 percent), in turn repaid through user charges. User charges cover the debt servicing and full operation and maintenance expenses.

This approach has been possible due to a number of factors in a supportive sector framework, including:

- *Financially viable utility framework.* At the level of small town, many of the township water supply plants are registered as 'enterprises' under the Enterprise Law. Each plant is headed by a full-time plant manager with other staff members for assistance. The enterprise at the town level pays tax to the government and prepares annual reports and balance sheets as a company. The plant works as an independent and financially viable utility with responsibility for ensuring adequate services and meeting its own costs as well as debt servicing of the loans. Bill collectors in each village collect water fees from households. The utility structure provides a strong incentive for the plant management to be efficient, as their salaries are linked to the plant's financial viability.
- *Tariff-setting.* User charges are levied by the utility to meet its costs, with tariffs determined to cover the costs of electricity, salaries, water source fee, depreciation, debt servicing, other overheads, and tax. It is estimated that the monthly bills are about 3.5 percent of household income, despite the fact that the Bank projects used poverty as a major criterion to choose provinces. However, in remote and less densely populated areas, smaller systems (such as handpumps, rainwater collection systems, and small tube wells) are used, which do not have the debt servicing of loans included in user charges.
- *Regulatory framework for tariffs.* The regulation of tariffs set by the plant is done through the County Price Bureau (CPB). After deciding on a change required in tariffs, the utility sends it for approval to the CPB through the county project office. The CPB assesses the justification for tariff increases and consults with both the plant management and the concerned villages through public meetings. If satisfied, the CPB recommends it for approval to the county's standing committee to make the final decision. This process generally takes about three months. In some cases, the CPB may ask the utility to revise the proposed tariff.
- *Uniform cost-recovery policy across programs.* In China, unlike in many other developing countries, there is little difference between the cost-recovery policy of the Bank-assisted projects and that of the regular government-funded rural water supply programs. However, the government funds are used mainly for small schemes where the cost-recovery policy essentially comprises full labor contribution (typically 30 percent of the development cost) and full responsibility for O&M cost. The Bank program for schemes in remote areas uses the same principle. However, for meeting a higher level of service through piped water supply systems on a demand-responsive basis, generally only external funds are used.

It must, however, also be recognized that this approach succeeds due to the fact that, unlike most other developing countries, China did not have a long history of large subsidies provided by the central government, and there has always been a greater emphasis on cost sharing by provincial, county, and community institutions. The challenge is greater in more democratic governments with a long history of central government subsidies.

Source: WSP (2002)

sources for addressing the funding gap. Recommendation for actions in this regard, however, focus mainly on appropriate tariffs that will increase the financial viability of water service providers while ensuring that cost-recovery objectives do not block poor people's access to

water supply and sanitation (Bonn Conference 2001a and 2001b). The issues related to an appropriate sector framework and access to credit to enhance the share of household and community resources, especially in rural and peri-urban areas, require greater attention.

## **Improving the Sector Framework**

Enhancing the community share requires a sector framework that provides appropriate incentives for communities and a regulatory framework that makes possible sustainable access to credit for households and communities. The characteristics of an appropriate WSS sector framework would differ across the rural water, urban water, and sanitation subsectors:

*Rural water supply.* As regards rural water supply, an emerging consensus indicates that communities should meet the full costs of the operation and maintenance of WSS services, while making some contribution to capital costs, though the level and form of this contribution would vary between countries and type of projects.<sup>46</sup> Also, in more complex and larger systems with a utility-type management, greater possibilities exist for using the water tariff to recover a larger share of costs. Box 3.13 illustrates the case of China, where a clear sector framework has enabled a higher level of cost recovery from communities. An improved sector framework for rural water supply would include (a) clear rules laid out for cost recovery in rural water supply and made uniform across the country and across different sources of funds (b) establishment of a clear and firm legal basis for community group investment in and management of the water supply services, with utility arrangements where possible for larger systems and (c) a clear definition of the role of local governments and their monitoring and regulation of community-based service providers.

*Urban water and sanitation.* As regards urban water, cost recovery for the WSS service is generally through water tariffs, with leveraging of greater community resources linked to more rational tariff design and better regulation. However, for on-site utility networks, such as in low-income or slum settlements, the sector framework becomes important. Clear rules and plans for this would help to leverage greater community resources and mobilize finance for such investments by small-scale private providers.<sup>47</sup> Unlike in rural areas, development of slum improvement in urban areas has been more complex and difficult. Some of the key issues to be addressed include:

- *Land tenure.* The need for resolving the land tenure issues for enabling community

contributions to be used for improvements in community infrastructure.

- *Community-based organizations.* Appropriate institutional arrangements for planning and implementation within a time-bound program with clear rules.
- *Transparent rules and implementation arrangements.* Transparent and simple rules and implementation arrangements where the roles are clearly laid out and understood by all stakeholders.
- *Predictable finance commitments.* Secure multi-year financing to undertake a longer-term program with set rules and appropriate implementation management, rather than ad hoc improvements in areas often based on political priorities.
- *Need for a local champion with technical assistance support.* Given the institutional and policy complexity of urban slum improvement, the need for a local champion to maintain momentum, supported by adequate and appropriate technical assistance on an ongoing basis.

*Rural sanitation.* For sanitation in rural areas the key issues relate to financing household facilities, such as latrines, as well as the wider issues of village environment. The trend for household sanitation has evolved towards public expenditure on demand promotion to leverage household's own contributions for individual facilities. Thus, to maximize household contributions, a well-designed and implemented promotion strategy is important (see Box 4.2 in Chapter 4 for illustrative examples of such support). This may be further strengthened through sustainable access to credit for households for meeting the lumpy investments that are necessary.

## **Access to Credit for Household and Community WSS Expenditures**

One of the key aspects in leveraging greater community resources remains access to credit for households and communities that would enable them to increase their share of investments. This is necessary because of the lumpy nature of initial capital investments in WSS. Several successful initiatives over the last two decades in community-based finance and microfinance

<sup>46</sup> A caveat is necessary here for very poor households and communities, for which special measures would likely be necessary. A more rational community cost sharing in general would, however, help to release the limited public resources for the very poor. See Table 4.1 in Chapter 4 for details of cost sharing in Bank-funded RWSS projects.

<sup>47</sup> See Virjee (2002) for a discussion of financing issues for community-based or private small service providers in Kenya.

### Illustrative Examples of Credit for Household Facilities and Community Infrastructure

*NGO-linked credit for household toilets in Vietnam.* As a part of the World Bank-funded Three Cities Project in Vietnam, a revolving fund was set up with a local NGO, the Women's Union (WU), to provide credit for household toilets. The WU has over 350 savings and credit groups (SCGs), organized in groups of 12 to 15 persons, functioning in these cities. SCGs mobilize savings and provide credit for income generation. Credit for toilets (US\$150) is on a short-term basis (two years) with a recovery rate of over 95 percent. The rate of interest, at 6 percent per annum, is probably subsidized in relation to the market. It is backed up by demand generation and hygiene awareness in the monthly meetings of the SCGs. Over 4,000 households have borrowed in the first year and the target is to achieve almost full coverage of low-income households.

*Private financial institution-linked credit for household toilets in India.* The Indian Association of Savings and Credit (IASC) was set up jointly by the Palmyrah Society, an NGO in Southern India, and the Housing Development Finance Corporation (HDFC). The IASC has in the past successfully lent funds to its members for household toilets. However, it is now constrained by adequate resources and plans to mobilize resources from HDFC as well as other financial institutions for this purpose. This will require coordination with government subsidy programs along with appropriate grant support for the required social mobilization and hygiene awareness, which cannot be funded through the spreads on lending.

*Involving MFIs in water supply projects in Ethiopia.* A rural water supply and environment project, funded by the Finnish Government, in Amhara Region in Ethiopia, plans to use the local microfinance institution, the Amhara Credit and Savings Institute (ACSI), for routing the project funding to communities as well as for supporting the community-based collection of user fees. The MFI has already been involved with the community through a women's credit scheme from a revolving fund contribution from the first phase of the program. The involvement of the MFI in the second phase can help to establish links with the community-based organization (CBO) and enable it to assess its potential cash flow on a regular basis. This would enable the MFI to provide funding to the CBO for periodic maintenance activities or major repairs. Access to such funds can prove critical for sustainability, as lack of timely repairs in rural water supply often results in decapitalization and nonfunctional schemes.

*Credit for rainwater tanks in rural areas of Tamil Nadu.* The Dhan Foundation, an NGO working in rural India, has been working with tank associations in rural Tamil Nadu for development and rehabilitation of tanks for irrigation and drinking water. Tanks harvest rainwater for irrigation in drought-prone areas that rely largely on rain for water. So far, the self-help groups promoted by the DHAN Foundation have funded this through their members. Based on a request from the DHAN Foundation, the IDFC has been exploring the possibility of financing this activity. An analysis of the viability (based on a monthly payment by each household) suggests that this project can support commercial financing. However, actual funding would require proper risk management and appropriate project sponsors.

*Parivartan: Ahmedabad.* Ahmedabad evolved approaches for citywide scaling up of services through its Parivartan Project. Under this, the municipal government has worked with community-based organizations, NGOs, the private sector, and the renowned microfinance institution, SEWA Bank. The community provides a third of the capital costs of upgradation. Key features of the program include a clear set of rules for community contributions and types of infrastructure to be provided, formation and participation of CBOs in infrastructure provision, and the commitment of municipal resources to the program. A special implementation arrangement is also planned through the Ahmedabad Slum Upgrading Society (ASUS) with participation by both the municipal authority and leading local NGOs. Nevertheless, the pace of implementation has remained slow. A secure multi-year financing package and development of effective slum resident associations to take over local-level management may improve this. Attention will also be needed on improving the capacity of the service provider to cope with the resultant rise in demand, particularly for water.

*Sources: Vietnam: EAUDSU (2002) and World Bank (1999e). IASC: HDFC (2001). Ethiopia: Communication from RWSEP. Tamil Nadu: IDFC (2002). Ahmedabad: WSP-SA (2002c)*

systems have amply demonstrated the possibility of developing viable systems for providing finance to the poor. The development and maturity of these systems vary greatly across regions and countries.<sup>48</sup> While access to microfinance is often cited as a way to enhance community resources in WSS-related policy pronouncements, in general the sector has benefited only to a limited extent from these systems. While the use of microfinance for shelter-related credit has become increasingly common, its use for infrastructure has not materialized to a great extent. However, there is considerable potential as illustrated by the examples described in Box 3.14.

While exploring such potential opportunities, it is useful to distinguish between credit to (a) households for household-level facilities such as individual toilets, other household facilities such as bathrooms and kitchen, or on-plot connections for water, drainage, or sewerage (b) households for enhancing their contribution to community-level facilities such as water supply, sewerage, slum upgradation, and overall neighborhood improvements and (c) community-based organizations (CBOs) or private enterprises as small service providers.

*Credit for household facilities.* In the first two cases, as the credit risk is linked to the individual household, it can be based on its past savings and credit history. Most community-based financial institutions (CBFIs) and microfinance institutions (MFIs) generally have links directly with households or with self-help groups, which in turn lend to individual households. In addition, the individual household benefit derived from household facilities also makes it easier for recovery. Box 3.14 highlights some experiences with such lending from Vietnam and India. An important aspect in articulating such household-level demand will be the efforts required for demand promotion as discussed in the next chapter (see Box 4.2).

*Credit for community facilities.* In the case when a CBO acts both as borrower and project developer and at the time of initial project development and implementation, it will most likely be a new entity, and will lack any past credit history. In addition, with common community benefits from the project, rather than individual household benefits, there may be greater risk of

delays and defaults. However, as the CBOs develop a credit history and increasing capacity for O&M and for augmentation or service improvements, the possibility of credit links with CBFIs/MFIs will become easier. This would greatly ease if the CBFI/MFI is involved with the development of the community infrastructure project and also provides financial services to the CBO. The case from Ethiopia (Box 3.14) presents the potential of financing major repairs or service augmentation once the CBO has built up an ongoing relationship and collection history with the local MFI.

On the supply side, the nature of such lending, in terms of the loan size and the need for project preparation, is beyond the previous experience of most CBFIs and MFIs. For this reason such lending has not been common so far, though its potential is increasingly clear. Box 3.14 describes some potential cases from India and the related issues that will need to be addressed. An important point from these experiences is the need for a local-level institution (possibly an NGO) to facilitate the process. To a great extent the track record of this institution will help mitigate risks and, in the case of formal financial lenders, reduce their risk perception. An alternative involves having small-scale private providers in cases where the community infrastructure generates a user charge-based service such as power, water, or solid waste management (see Box 3.4 for the efforts being made by the IDFC in this regard).

*Integrated facilities for scaling up.* For scaling up financing through enhanced community shares, in general some link with formal financial institutions is likely to be necessary, particularly for mobilizing medium to long-term resources. This would require a number of measures such as: technical support for development of bankable opportunities, wider availability of performance information, and measures to cover non-commercial risks in financing such opportunities. Some of the examples in Box 3.15 and Table 3.1 highlight the possibility of links with formal financial institutions (FFIs) on a commercial basis. Such links would help bring more rigor, as well as enhancing the resources for financing community infrastructure. Over time, appropriate forms of lending for community infrastructure will need to emerge, including CBFIs, FFIs, and local

<sup>48</sup> For example, the development of the microfinance (MF) industry in South Asia and Latin America is generally of a higher order than in Africa, where the MF industry is at an early stage of development with very limited client outreach. See, for example, ICC (2002) for a review of Africa.

## Supporting Scaling up of Community Infrastructure Finance

A recent initiative explores the possibilities of scaling up some of the opportunities described in Box 3.14 for financing household and community-level infrastructure for the poor and low-income groups.

*Community-Led Infrastructure Finance Facility (CLIFF)*. CLIFF developed out of a partnership by UK-based Homeless International and its Indian partners, the National Slum Dwellers Federation (NSDF), Mahila Milan (a community-based finance system), and SPARC, a Mumbai-based NGO. DFID primarily funds the CLIFF initiative, which is focused on providing for three critical elements of community infrastructure financing: (a) development of pilot and demonstration projects (b) bridge finance for initial scaling up and (c) partial support for risk management and mitigation. CLIFF's operations require that the basic mobilization work has already been done and a strong institutional base of reputable stakeholders exists. CLIFF will be managed globally by Homeless International and in the first phase will be implemented through a special company (Nirman) set up by the Indian partners. CLIFF's initial projects are likely to focus more on housing, with which Nirman is involved at present. Later infrastructure financing will be taken up in selected urban areas.

This initiative combines the basic features of project development support, partial guarantees for risk mitigation, and accessing market-based investment funds. In another initiative, DFID and the World Bank are assisting the Government of India to develop an approach to involve both microfinance institutions and formal domestic finance institutions in financing community infrastructure. Both these initiatives approach the issue of scaling up with very similar features and program elements, but are housed at two ends of the financing spectrum and possibly would be complementary in practice. Thus, scaling up by market integration is achieved either through building the capacity of local community-based organizations to deal with the formal sector, or through developing capacity and experience among formal finance institutions to understand CBF and CBO profiles and risks.

Sources: McLeod (2002), and World Bank (Forthcoming)

facilitation institutions (such as NGOs or federations) as illustrated in Table 3.1. However, this requires efforts from the community-based organizations and the related CBFs, as well as formal financial institutions, to understand each other's contexts and risk management methods used, and create a degree of comfort in working with each other. Integrated facilities such as those illustrated in Box 3.15 aim to do this through actual project opportunities. These can support better information exchange and transparency about each other's operations through a better understanding and appreciation of vocabulary. Once the comfort is built up, and a credit history and channels for information sharing are established, the possibility of scaling up greatly eases up.

### **Key Issues in Leveraging Household and Community Resources**

*Financing space for leveraging community resources.* In most developing countries, government

programs for supporting community infrastructure tend to crowd out the potential role of CBFs and other financial institutions (FIs). The first important constraint involves the lack of a financing space for financial institutions in community infrastructure programs, as often subsidies are provided for the full cost or a very high proportion of the cost.<sup>49</sup> The government programs tend to dominate the sector and create an expectation among households and community groups of possible access to subsidies. To create a financing space the rules for government programs will have to leave scope for additional community contributions.

*Interim need for partial guarantees.* Financing by FIs can be constrained by the potentially high policy and political risks in some of the opportunities that arise for their participation. Policy risk may arise out of changes in rules that would affect the project viability or implementation. Political risks may arise out of politically motivated decisions that lead to the failure of, or undue delays in, project

<sup>49</sup> See the discussion in Chapter 4 on access subsidies.



**Table 3.1**

**Forms of Lending for Leveraging Household and Community Resources**

Type of Opportunity	Flow of Funds	Illustrative Examples
<b>Community Facilities</b>		
Community infrastructure with a user charge-linked service	<i>CBO as service provider</i>	Drinking water and irrigation through tank development linked to self-help groups (SHGs) and federations in Tamil Nadu with Dhan Foundation as facilitator. Possible funding by FFI (HDFC or IDFC) to the CBFi (Box 3.14)
	MFI/CBFi → CBO/Household (HH) FI → MFI/CBFi → CBO	
	<i>Small utility as service provider</i>	Provincial government lending to small town water utility in China (see Box 3.13)
	FI/PG → utility	
	<i>Private enterprise as service provider</i>	Commercial banks lending to women's group for equipment for solid waste management services in Andhra Pradesh, India
FI → MFI/CBFi → private entrepreneur		
FI → private entrepreneur with NGO facilitation	IDFC lending to entrepreneurs for rural power distribution projects in India (see Box 3.4)	
Slum upgradation in urban areas	MFI/CBFi → CBO/HH	SEWA Bank lending to households or CBOs in slum communities in Ahmedabad under the Parivartan project (see Box 3.14)
	FI → MFI/CBFi → CBO with NGO facilitation	HDFC lending to SHG federation/community groups in Madurai for slum upgradation
	FI → CBO with NGO facilitation	Citibank lending to a housing society with SPARC/NSDF facilitation under the slum redevelopment (SRD) scheme in Mumbai (see Box 3.15)
		HDFC finances cooperative of poor households in Bangalore for housing and infrastructure investments facilitated by an NGO (AWAS)
<b>Household Facilities</b>		
Through convergence with a government/externally funded program	MFI/CBFi/SHG → HH	Households borrowing from SHGs/cooperative banks to meet the community contribution share in Bank-funded RWSS projects under the DRA framework in Kerala
		Households borrowing for latrines under the WaterAid projects in Trichy, Tamil Nadu
		Households borrowing from revolving fund by women's groups in Vietnam (see Box 3.14)
Direct to households without any government programs	MFI/CBFi/SHG → HH	SEWA Bank, Mahila Milan, and several other MFIs/SHGs lend to households for shelter and related purposes, including toilets and other infrastructure
		K-REP and Kenya Cooperative Bank lending to households for solar water heaters
	FI/Bank → MFI/CBFi/SHG → HH	HDFC lending to IASC (Palmyrah) for on-lending to households for toilets (see Box 3.14)

*Note: Some of the opportunities described above are for shelter-related finance. However, they illustrate the type of potential opportunity that would be possible for household/community infrastructure.*

implementation. They may also affect the willingness of the communities to repay loans to FIs if a loan write-off culture is brought in midway through loan tenor. It becomes necessary to explore appropriate measures to mitigate these risks, possibly through appropriate institutional structures and partnerships, as well as to provide partial performance-linked risk cover where necessary. Simpler forms of partial guarantees would be necessary to mitigate some of these risks.

*Meeting the transaction costs.* Transaction costs for development of financing opportunities for community infrastructure are incurred by both community-linked organizations (CBOs and CBFIs) and the financial institutions. Even with support to CBOs and CBFIs for subproject development, as envisaged in the two initiatives illustrated in Box 3.15, transaction costs for the FIs will remain high. Two issues are important: first, as the community infrastructure subproject

<b>Table 3.2</b> <b>Illustrative Examples of Financing Mechanisms to Leverage Resources</b>	
<b>a. Through Private Sector Participation and Investments</b>	
Enabling reform framework and appropriate contracts	Credit for gradual tariff reforms in Guinea (Box 3.2), appropriate framework of contracts with an emphasis on financial equilibrium and relationships for private sector participation in Senegal (Box 3.3), and appropriate sector framework for small private providers (Box 3.4)
Partial guarantees for risk mitigation	Partial guarantee for a private sector transaction for a water concession in Ecuador (Box 3.5), a framework for using partial guarantees for municipal infrastructure (Box 3.6), and guarantees for infrastructure for the poor under CLIFF (Box 3.15)
Project development support facilities and focused interest by financial intermediaries	MIIU, a project support facility for municipalities in South Africa, and the experience with project development facilities in India (Boxes 3.7 and 3.8), and focused attention on small-scale providers by commercial financial institutions (Box 3.8)
<b>b. By Attracting Local Investments through Local Credit Markets</b>	
Municipal development fund, specialized financial intermediary and refinance to banks/domestic financial institutions	TNUDF in India and FINDETER in Colombia as examples of MDF/SFI with efforts at market integration (Boxes 3.9 and 3.10)
Direct market access through municipal bonds, credit rating and regulatory framework for local borrowing	Emerging municipal bond system in India (Box 3.11)
Pooled finance mechanisms	Pooling of credit for small municipalities and local borrowers as being done through state bond banks in the US and the proposed pooling facility in India (Box 3.12)
<b>c. By Enhancing Household and Community Resources</b>	
Enabling sector framework for cost recovery and regulation in community WSS	Sector framework for RWSS through small public utilities in China (Box 3.13)
Credit for household facilities and community-level infrastructure	Credit for household and community infrastructure in Vietnam and India (Box 3.14)
Integrated facility for scaling up community infrastructure finance	Community-Led Infrastructure Finance Facility (CLIFF) and India Community Infrastructure Finance Initiative (Box 3.15)

is a rather new product, most FIs prefer to associate their development upfront to have the necessary level of comfort; and second, the costs of exploring such options are likely to be very high initially, making it difficult for the FIs to internalize these costs in their spreads. One way to reduce the transaction costs would be to address the issue of information constraint, both in terms of potential opportunities as well as risk assessment of the potential borrowers for community infrastructure. This may be through the recent approaches related to credit rating and assessment of MFIs and self-help groups (SHGs). It may also be useful to explore measures to rate community infrastructure projects on the line of housing projects once a portfolio starts being developed. More importantly, the subproject development process needs to involve the FI at the outset and at least through the design period. Appropriate measures to meet these costs will need to be assessed.

### 3.5 Summary

The review identifies two main avenues for leveraging additional resources, through private sector participation, that leads to enhanced internal generation among utilities and helps attract private investments in the sector, as well as by greater community resources. Importance of mobilizing resources through the domestic credit markets is underlined as all WSS revenues generally accrue only in domestic currencies.

Table 3.2 provides a summary of the financing mechanisms to promote WSS sector reforms that have been reviewed in this chapter. For each mechanism, at least one example has been provided and the issues related to its use are discussed above. However, it is important to emphasize the need for certain upfront reforms as prerequisites to the possibility of such leveraging. While the nature of reforms would vary for different forms of leveraging, some common critical elements include ensuring adequate internal cash generation by the service providers through tariff reforms and enhanced revenue potential, appropriate regulatory or contractual framework to manage risks, and institutional forms to ensure sustainable management. However, it is also critical to recognize that development and implementation of successful cases as a part of the reform process is critical to create local understanding and ownership.

The review of financing mechanisms also suggests emphasis on a few common elements in the design of financing mechanisms for leveraging both private and community resources while developing domestic credit markets:

- The need for an appropriate sector framework that will enable resources to flow in.
- Emphasis on risk management and possible need for a partial risk guarantee framework.
- Support for project development and implementation through appropriate project development support. Appropriate institutional arrangements for these are likely to vary in different contexts. It is also clear that to leverage resources on any significant scale, all three issues will need to be addressed in a consistent manner.
- The need for a good information base and its dissemination to enhance transparency and reduce risk perceptions.
- Ensuring market linkages so that the resources do represent additionality and are sustainable.

One donor that has taken a lead in combining these different elements to support leveraging resources is the Department for International Development (DFID). In recent years, the Government of the United Kingdom has used its grant funding to help its developing country partners to leverage private sector investment for essential infrastructure. For example, it has set up the special Emerging Africa Infrastructure Fund (EAIF), a debt fund for financing infrastructure. To provide support to the EAIF, DFID also plans to set up DevCo to help create infrastructure opportunities and GuarantCo to provide partial risk guarantees for financially and economically sound projects, to be given to local banks. These efforts help to combine the efforts to promote private sector participation along with development of domestic credit markets (DFID n.d.). DFID has also been the main partner in supporting the emerging initiatives for leveraging community resources discussed in Box 3.15.

The choice of a particular mechanism from among different sets of mechanisms for leveraging resources depends on the specific decision-making context and is likely to be affected by a number of factors. Chapter 5 provides a more detailed discussion of issues in making such choices.

## Pro-poor Subsidies for Water and Sanitation

***Within the emerging reform framework, there is a need to ensure that the poor are not excluded due to affordability concerns, through the use of well-designed subsidy mechanisms that help target the poor.***

With the introduction of institutional and financing reforms in the WSS sector, the emphasis shifts to evolving well-functioning institutions. This would help mobilize larger resources through better internal generation, and would also increase the possibility of leveraging market-based resources. However, given the very large gaps in sustainable coverage in the WSS sector in most developing countries, it requires significant levels of public investment over the next decades. In the past, most public investment occurred through subsidies, though often their extent and impact is not known. It is indeed surprising that very few estimates and analyses of subsidies in a local context are available. A few available studies (in India and Kenya) suggest the value of subsidy for water and sanitation to be in the range of 0.4 to 0.5 percent of GDP and 4 percent of all government subsidies.<sup>50</sup>

The main rationale for subsidies is often linked to the notion of universal service. Such policies are justified on a number of grounds: the consideration of water and sanitation as merit goods (most recently exemplified by the Millennium Development Goals), the positive externalities that WSS may generate through sanitation and sewerage services, and political concern for equity across consumers and regions (Clarke and Wallsten 2002:5-10). However, the traditional system of subsidies often fails to meet such objectives. Such subsidies tend to be hidden in nature and are neither explicit nor clearly targeted. Recent findings from a limited number of studies assessing the incidence of benefits from such subsidies suggest that the benefits accrue disproportionately to non-poor consumers. For example, a study in six countries in Central America found that the richest 60 percent of households captured most of the implicit subsidy.

Similarly, a study of urban tariffs in a metropolitan center in India suggests that the better-off domestic customers receive a much higher share of total subsidies (Walker et al. 2000; Foster and Homamm 2001).

To overcome such problems, recent approaches have focused on improving the targeting of subsidies to achieve the main objective of ensuring or enhancing access for the poor. Simultaneously, they address other principles related to appropriate incentives and simplicity in design. Based on a review of these, this chapter identifies key principles for the design of 'good' subsidies and the potential subsidy instruments and issues that need to be addressed in their application in a given context.

### 4.1 Key Characteristics and Options for a 'Good' WSS Subsidy

There has been considerable discussion on what constitutes a good subsidy in the water and sanitation sector, but far less on the actual identification of options using these principles. The available literature on both is reviewed in this section.

#### ***Characteristics of a Good Subsidy***

Based on recent literature<sup>51</sup> five basic characteristics of a good subsidy are identified as:

***Genuine need.*** It is necessary to assess the genuine need for subsidies to ensure adequate consumption within affordability considerations. Considerations for such an assessment include: the level of tariff required for ensuring the financial viability of the service provider, the minimum consumption of the service, and the prevailing income levels among consumers. For example, Raghupati and Foster (2002) find that, for urban India, only about 30 percent of the population would be able to afford a minimum consumption block of "10 cubic meters per month at tariff levels commensurate with operating and maintenance costs", which would fall to only 5 percent for full

<sup>50</sup> In a study of government subsidies for India, Srivastava and Sen (1997) estimate the value of subsidy for water and sanitation for India to be about 55 billion rupees (US\$1.8 billion) for the year 1994/95, which was equivalent to 0.5 percent of GDP and 4 percent of all government subsidies. Most of the subsidy is met through the budgets of regional governments. This estimate does not adequately account for subsidies provided by local governments and is therefore likely to be an underestimate. In another country-level estimate, Mehta (2001a) estimates the level of subsidies for rural water supply in Kenya to be about 3 billion shillings for the year 1999/2000 (or about US\$42 million), which was equivalent to an estimated 0.4 percent of GDP and about three times the actual budget expenditure on the sector in Kenya. <sup>51</sup> See, for example, Foster n.d.a; Janssens 2001; Lovei et al. 2000.

cost-recovery tariffs. A useful distinction is between the need for subsidy to gain access (in relation to the connection charge) and for consumption (in relation to the tariff and a minimum required level of consumption).<sup>52</sup> Genuine need has to be also assessed in relation to the level of demand and willingness to pay for the service by different consumer groups.<sup>53</sup>

*Minimized leakage through accurate targeting.* A key aspect of any subsidy mechanism is the extent to which it accurately targets the intended beneficiaries. A good subsidy scheme minimizes leakage through inclusion of non-poor households and exclusion of poor households. Actual targeting is generally done through either zonal or individual characteristics such as level of water consumption, size of connection, or the neighborhood where the dwelling is located.<sup>54</sup> The selection of variables is often constrained by inadequate information, the cost of administration, and the political reality that makes it difficult to remove or reduce subsidies in response to improved conditions. An alternative method may be self-selection through control of quality for the subsidized service, for example through shared service connections. In general, better targeting helps to reduce total costs of subsidies and maximizes welfare.

*Administrative simplicity and low costs.* Better targeting measures generally require higher administrative costs and suggest a tradeoff with reduced subsidy costs due to accurate targeting. An additional consideration is the simplicity of the subsidy measure to ensure transparency and a better match with prevailing administrative capacity.

*Preserving economic incentives.* Some subsidy mechanisms may provide perverse economic incentives for households while determining the level of water use and result in unnecessary waste of water. Full subsidies as well as fixed tariffs that are not linked to the level of water use may lead to such results. To avoid such perverse incentives it would be useful to avoid full subsidies, capping the subsidy in relation to consumption and linking it to the minimum payment by the consumers. In Chile, for example, “direct subsidies are capped at 85 percent of the water bill and are only disbursed upon proof

that the household has paid its share”. Eligibility is reassessed every three years (Foster, Lobo, and Halpern 2000).

*Coverage and scalability.* Many explicit subsidies are not linked to any clear idea of level of coverage and often result in a high level of subsidies to a limited population and failure to achieve significant coverage levels. Design of a subsidy scheme needs to be done in relation to the total targeted beneficiary population, so that scaling up of the service can achieve a significant coverage level over a defined period. Effective coverage and scalability are also linked to targeting, as minimizing leakage brings down the costs of subsidies and extends coverage with a given level of resources.

### **Key Considerations in Developing Subsidy Options**

Within the framework of these characteristics, three aspects are important in developing options for subsidy mechanisms:

*What is being subsidized.* It is essential to distinguish between access to a service and its actual consumption. Also, different subcomponents within WSS yield different streams of benefits ranging from fully public to completely private, with a range of options in between yielding both types of benefits. The literature generally suggests a preference for subsidizing access to services rather than consumption, and subsidies are preferred for those services with a greater public incidence of benefits. This is particularly important in regions with very low coverage – the social benefits of subsidizing access are likely to be much higher and accrue more to poor families than those of subsidizing consumption.<sup>55</sup>

*Sources used to fund the subsidies.* The three potential options for funding the subsidy include: (a) payment by the service provider through internal cross-subsidization by charging some consumers a higher charge (b) allocations by local or higher levels of government through budgets or some other external entity meeting the costs of subsidies and (c) a hybrid version where the water service provider pays an explicit fee or surcharge levied by the government and which can be made available to fund the subsidies.

<sup>52</sup> This would also vary in relation to the type of tariffs or charges actually levied, ranging from separate connection charges to a one- or two-part tariff structure. <sup>53</sup> Such demand may be assessed using contingent valuation methods by assessing the willingness to pay, or through the actual payments made for coping mechanisms to deal with lack of adequate services. <sup>54</sup> Foster, Lobo, and Halpern (1999) present interesting evidence for Panama by comparing zonal and individual indicators for targeting. Zonal criteria result in significant exclusion of target groups, whereas the use of individual criteria leads to significant leakage through inclusion that would result in significantly higher total subsidy costs. Use of zonal methods may be combined with self-assessment methods for distributing the tariff load within low-income neighborhoods. This would be similar to the self-assessment methods used in many of the poverty reduction programs of the Government of India. <sup>55</sup> The one region where this pattern may vary is Europe and Central Asia (ECA) where, on paper at least, coverage is high but the systems are so inefficient that no one actually gets water. Here it may be better to steer subsidies to improved operations and rehabilitation of the systems, which is subsidizing access but in a different form.

*Who is being subsidized.* Subsidies occur when society perceives a service need for all citizens, but there is mismatch between the affordable tariff levels, connection charges for that service, and the cost of providing it. Typically, two possible situations may require subsidies:

- *Subsidies for high-cost areas.* Subsidies may be desirable when the cost of providing the service is high, as, for example, for rural water supply services, especially in areas with scarce water resources or problems with the quality of potable water. For example, in Côte d'Ivoire, a single monopoly company provides water services to over 400 towns and charges a uniform tariff. The higher profits in Abidjan, the capital city, help to cross-subsidize the service in high-cost small towns (Clarke and Wallsten 2002).
- *Subsidies for the poor.* Subsidies are also justified when the consumers' incomes are too low to permit agreed minimum consumption levels in relation to the service costs. This, of course, does necessitate agreement on what constitutes a minimum level of service at the regional or local level. Actual identification of the poor who receive subsidies requires attention as discussed above.

*To whom the subsidy is being provided.* The two options for how the subsidies may actually be delivered and the related issues are:

- *Directly to the consumers,* with the related issue of appropriate targeting as discussed above.
- *To the service providers,* with the related issue of whether the subsidy provides appropriate incentives for efficiency in operations and targeting.

### **Potential Options for Subsidy Instruments**

Within these considerations, and based on a review of some recent experiences, three sets of options are identified for pro-poor subsidy mechanisms (see Table 4.1) and discussed in the following sections of this chapter:

- Use of *access subsidies* for either water or sanitation, as well as for demand promotion and hygiene awareness, either given directly to consumers or through the service providers.
- *Improving the cross-subsidies* used throughout the world, and which provide

subsidies for access, consumption, or both; through specific rules or mechanisms such as a universal service fund (USF) or auctions for minimum subsidies.

- The more recent use of incentive-linked subsidies within the *output-based aid (OBA)* framework, including direct subsidies for access or consumption to consumers and minimum subsidy concessions targeted at the poor.

## **4.2 Subsidies for Access to Water and Sanitation**

Most literature suggests a preference to subsidize access to water and sanitation services rather than actual consumption. The main rationale being that, without access to the system, the poor are not likely to benefit from any consumption subsidies. Subsidizing access can be done in a number of different ways: (a) through partial capital grants for the poor and low-income groups, commonly used both for rural water supply schemes and for neighborhood improvement schemes in urban poor and low-income settlements (b) subsidizing demand promotion, especially for sanitation, to meet the costs of social mobilization, education, and awareness and (c) grants for social connections to ensure access for the poor and low-income groups to municipal or utility infrastructure network systems.

### **Partial Capital Grants for Rural Water Supply Schemes and Slum Improvement**

Use of partial capital grants has been common, especially in formal areas and for low-income groups in urban areas.

*Capital subsidies for rural water supply.* Over the last decade, governments in several countries adopted the demand-responsive approach for undertaking rural water supply schemes by providing partial capital grants to rural communities. The extent of capital grants ranges from about 50 to 95 percent, on the premise that the community contributions reflect an articulation of demand, strengthened by the requirement for the community to be fully responsible for operations and management and meet the full costs thereof. This approach has also been used extensively in the World Bank-funded

**Table 4.1**

**Rules for Cost Sharing in RWSS Projects: Evidence from Recent World Bank Projects**

Country/Project	Rules for Cost Sharing and Related Details
Benin: Rural Water Supply and Sanitation Project, 1994-2000	<ul style="list-style-type: none"> <li>■ Community share to be 6 percent of total costs, ranging from 2 to 5 percent. Grant support at 95 percent of total costs</li> <li>■ No subsidy for household latrines</li> <li>■ Full cost of O&amp;M by community</li> </ul>
Bolivia: Rural Water and Sanitation Project, PROSABAR, 1996-2001	<ul style="list-style-type: none"> <li>■ Community share to be 20 percent of project costs (5 percent cash and 15 percent labor)</li> <li>■ Share of municipalities: 10 percent</li> <li>■ Low per capita ceilings on total subsidy to encourage least-cost solutions: \$70 per capita for water, \$65 per capita for sewerage, and \$65 per unit for latrines</li> <li>■ Government departments to cover all pre-investment costs</li> </ul>
China: National Rural Water Supply Projects	<p>Project I (1986-1990):</p> <ul style="list-style-type: none"> <li>■ Capital cost sharing: 1 percent central government, 17 percent provincial and county governments, 5 percent WFP, and 39 percent community</li> <li>■ 38 percent IDA loan passed on to the community and recovered through user charges</li> <li>■ Terms of loan: repayment period: 10 to 20 years and 4 percent rate of interest, varying for central government to province and to villages</li> <li>■ Use of a revolving fund mechanism for the loan that did not work in practice</li> </ul>
	<p>Project II (1992-98):</p> <ul style="list-style-type: none"> <li>■ Capital cost sharing: 1 percent central government, 17 percent provincial and county governments, and 39 percent community</li> <li>■ 58 percent IDA loan passed on to the community and recovered through user charges. Remaining loan recovered from province and county governments</li> <li>■ Terms of loan: repayment period: 15 years and 3 to 4 percent above IDA rate of interest</li> </ul>
	<p>Projects III (1997-2002) and IV (2000-05):</p> <ul style="list-style-type: none"> <li>■ Capital cost sharing: 25 percent provincial and county governments and 25 percent community</li> <li>■ 50 percent IDA loan passed on to the community and recovered through user charges. User charges at about 100 yen per capita, with partial subsidies for the very poor</li> <li>■ Terms of loan: repayment period: 15 years and 3 to 4 percent above IDA rate of interest</li> </ul>
Ghana: Community Water and Sanitation Project, CWSP-I 1995-2001; CWSP-II 2001-05	<ul style="list-style-type: none"> <li>■ 5 percent community contribution to capital costs</li> <li>■ 5 percent contribution by district agency, introduced during the second project</li> <li>■ Revenues from water sales (by community) to fully cover O&amp;M, replacement, and expansion</li> </ul>
India: State Rural Water Supply and Sanitation Projects	<p>Swajal Project, Uttar Pradesh (1997-2002):</p> <ul style="list-style-type: none"> <li>■ Community contribution of about 10 percent (1 to 2 percent in cash and remainder through labor), 5 percent by the state government, and 85 percent by central government</li> </ul>

Country/Project	Rules for Cost Sharing and Related Details
	<ul style="list-style-type: none"> <li>■ Cash payment to be made prior to commissioning of scheme</li> <li>■ Full cost of O&amp;M to be borne by the community</li> </ul> <hr/> <p>Kerala RWSS Project:</p> <ul style="list-style-type: none"> <li>■ Overall cost sharing of 15 percent community, 10 percent by village-level local government, and 75 percent by the state government</li> <li>■ Community cost contributions to vary for different components: 15 percent for water and 30 percent for drainage. Labor share not to exceed 50 percent</li> <li>■ Upfront payment of 50 percent of annual O&amp;M costs before commissioning of the scheme</li> </ul> <hr/> <p>Karnataka RWSS Project-II:</p> <ul style="list-style-type: none"> <li>■ Capital cost sharing for water schemes of 10 percent by community, 5 percent by gram panchayat (GP), and 85 percent by state government (SG); for community sanitation 5 percent by community, 10 percent by GP, and 85 percent by SG</li> <li>■ Community contribution to be at least 50 percent in cash and deposited in a bank account before start of the implementation phase, and at least 50 percent GP share to be made during planning phase</li> <li>■ Uniform capital cost-recovery policy implemented in the entire project area regardless of the source of funding for the RWSS schemes, and state-wide for the O&amp;M recovery policy</li> <li>■ Full cost of the O&amp;M expenses to be borne by the community</li> </ul>

Source: Based on information from relevant project appraisal documents or staff appraisal reports for different projects, communications from Bank project teams, and information from the ongoing study of scaling up RWSS by the Water and Sanitation Program

social investment funds (SIFs), providing partial capital subsidies to communities.<sup>56</sup> Table 4.1 provides an illustration of the cost-sharing rules used for providing such subsidies and the realities of actual practice in the World Bank-funded projects in several developing countries. Key observations based on this include:

- **Full O&M cost recovery by communities.** In all the projects reviewed, communities are expected to pay the full cost of O&M. However, no detailed studies are available to assess the extent to which this is really being achieved.
- **Variations in extent of capital cost sharing.** Capital cost sharing by communities ranges from only 5 percent in Ghana to over 25 percent in China. China is probably the only country actually recovering a large proportion of the capital costs from the rural

communities through user charges adding up to a total of 75 percent cost recovery (Iyer 2001; see also Box 3.13).

- **Role of local governments.** There has also been an increasing trend towards some cost sharing by regional and local governments and a moving away from exclusive reliance on subsidies from the central government. Interestingly, however, despite the trend towards strengthening decentralization, higher levels of governments still influence RWSS priorities.<sup>57</sup>
- **Uniform application of cost-recovery principles.** There is an increasing recognition of the need for uniform cost-recovery policies across different projects and sources of funds. In one of the larger projects in India, the cost-recovery policy is being extended to the entire project area of eight districts, regardless of

<sup>56</sup> For example, a study of SIFs by Frigenti and Harth (1998:43) found that the partial capital subsidies for community subprojects ranged from about 75 to 92 percent.

<sup>57</sup> See also the earlier discussion on the use of conditional grants in Section 2.2.



## Box 4.1

### Enhanced Community Capital Cost Sharing in Low-income Programs in Urban India

*Parivartan program in Ahmedabad.*<sup>58</sup> This innovative slum improvement program in Ahmedabad, India, features a tripartite partnership involving the municipal authority, the community, and the private sector, with the capital cost shared equally among them. While the private group withdrew after the initial efforts, local NGOs have been partners and the community cost share has been maintained and is paid upfront. Thus, the partial subsidy to the community is about 67 percent. Key participation in the program comes from the SEWA Cooperative Bank and the SEWA Housing Services Trust to provide financial management, community mobilization, and technical assistance services. The program was launched successfully and, after an initial pilot in one settlement, expanded to nearly 25 slum settlements. However, progress lagged due both to implementation capacity issues and the lack of any committed funding source to meet the municipal corporation obligations.

*Janmabhoomi program in Andhra Pradesh.* In 1997, the Government of Andhra Pradesh (GoAP) launched this program with a focus on community-driven development by providing partial subsidies of up to 50 percent of total project costs. These are meant for community-based subprojects managed by the communities themselves in both urban and rural areas. In urban areas the state developed, under a different program, community-based organizations: neighborhood committees (NHCs) at the settlement level, and a community development society, generally comprising several NHCs within a given urban center. These structures provide a base for developing and implementing proposals funded through the Janmabhoomi program.

*Lessons learned.* These new initiatives suggest the potential for enhancing the community share of the capital costs of neighborhood upgrading for low-income urban settlements. Key lessons in this regard include the need for (a) strong community-based organizations to take up the incentives provided by the partial subsidies (b) simple, uniform, and transparent rules across the program area (c) technical support and related institutional capacity for implementation (d) a system to monitor performance and revise the program features through learning by doing and (e) careful design of the nature and extent of the subsidy and rules to ensure fiscal sustainability in case the program is linked to the objective of citywide coverage, as for Parivartan.

Sources: *Parivartan: WSP-SA (n.d. and 2002c) and Janmabhoomi: World Bank (2002i)*

the source of funding used. China follows the same policy in the government schemes and in the project funded by the World Bank.

- *Per capita ceilings and basic service rule.* Many of the projects reviewed used the concept of a per capita grant ceiling, which provides incentives to use the least-cost option. This important aspect needs to be reviewed and linked more clearly to the notion of a nationally agreed basic service level.<sup>59</sup> Such an approach would avoid any perverse incentives for using high-cost options. It would also make easier an assessment of universal coverage costs in a given country, essential to ensure fiscal consistency of such subsidies at scale.

*Capital grants in low-income urban settlements.* In urban areas, similar capital grants have essentially focused on the poor and low-income settlements (generally referred to as slum settlements), for overall improvement of infrastructure services, including water, sanitation,

streets, solid waste management, and restructuring of housing where necessary. The new MDGs recognize the importance of slum upgrading, aiming for a significant improvement in the lives of at least 100 million slum dwellers through improved access to sanitation and secure tenure. Based on the limited available literature focusing on financial and cost-recovery issues in urban slum upgrading and improvement schemes, a few trends can be discerned:

- *Limited emphasis on community capital cost sharing.* Unlike the trend in RWSS projects over the last decade, available literature suggests a limited emphasis on cost recovery among the efforts related to slum improvements in most countries. For example, large-scale slum improvement in India over the last three decades has been through full subsidies. Similarly, a recent review of urban upgrading in Africa suggests that “local governments and target communities have

<sup>58</sup>Parivartan means ‘transformation’. <sup>59</sup>In Ethiopia, for example, the staff of the social fund that is engaged extensively in rural water supply suggested the notion of basic service and the need to identify the cost of providing it in different regions. The maximum amount of government subsidy then has to be fixed in relation to a share of these costs (ESRDF 2002b).

not had to contribute much from their own resources”, and “upgrading projects are almost never priced at cost and cost recovery has been limited” (Gulyani and Connors 2002:17). This review, however, suggests that the target range for recovery of capital costs was between 10 and 30 percent, though actual recovery has been far below this norm.<sup>60</sup>

Similarly, the successful PROSANEAR project in Brazil, which reached over one million poor residents in 15 cities between 1991 and 1996, did not have community cost sharing feature except through labor contributions. Even in cases where cost recovery was attempted, the experience has often not been very good. In an example from

## Box 4.2

### Forms of Subsidies for Demand Promotion: Sanitation Services

*Hundred percent sanitation: WaterAid experience in South Asia.* WaterAid has supported community-based participatory approaches for hygiene awareness and promotion of demand for sanitation. Bangladesh achieved 100 percent sanitation in five districts without any recourse to household subsidies for latrines, commonly used in most government programs. A clear message emanating from these experiences is the need to put emphasis on demand promotion and community-level incentives, rather than high fixed-cost subsidies that benefit only individual households. At the same time, based on its experience in India, WaterAid has also stated that “some financial support is necessary in the initial stages to ensure demand is realized and latrines are constructed to an adequate standard” (WSP-SA 2000).

*Village rewards for sanitation: Maharashtra, India.* Based on its own assessment of the lack of utilization of a large proportion of latrines built through government subsidies, the government in this western state of India introduced an innovative scheme to give rewards to villages based on their efforts for “complete sanitation”. This public sector scheme, known as the Sant Gadge Baba Abhiyan after a local saint, is essentially based entirely on local village-level effort supported jointly by the village-level local government and the village community. Based on transparent criteria and selection of villages for rewards, it provided an incentive to take up improvements in the village through communities’ own resources and labor contributions. The subsidy (in the form of village rewards) of 66 million rupees (US\$1.3 million) has generated action in over 2,000 villages with total investments worth an estimated 2 to 3 billion rupees (US\$40 to 60 million).

*Promoting sanitation through sanitation tax in Burkina Faso.* Initiatives for improving sanitation for the poor in urban areas require action on several fronts, including sewerage where necessary. An experience from Burkina Faso provides an illustration where support by the local WSS utility encouraged social mobilization for demand promotion and resulted in a significant increase in sustainable access to latrines. The utility mobilized resources for sanitation through a sanitation tax that is levied on all users of water services including those using public taps. These resources are ring-fenced and used within the framework of a strategic sanitation plan to meet the costs of hygiene awareness and demand promotion, partial subsidies for latrines, and full subsidies for institutional latrines in schools and the sewerage system. The expenditure on demand promotion and social intermediation is almost twice that of partial subsidies given for individual latrine facilities. The share of partial subsidy in the total cost of the latrine has been about 18 percent, though it varies in relation to the technology used.

*Public-private partnership for handwashing initiatives.* A public-private partnership (PPP) through the combined efforts of public, private, and development organizations was initiated first in Central America. Drawing from recent research indicating that “the simple act of washing your hands could almost halve the number of deaths from diarrhoeal diseases and save a million lives a year”, this initiative combined the energies of the public sector with those of the private sector through the soap manufacturers. Developed within a social marketing approach, the PPP initiative followed a four-phase approach with a focus on stimulating demand, strengthening supply, and building capacity for effective monitoring. This was achieved through partnership development, marketing research and strategy, and innovative use of media. The lessons from the first initiative have now been built into a global campaign initiated in India and Ghana. The initial subsidies in this initiative were used for strategy development and initial promotion. However, it is envisaged that the initiative can become self-sustainable later due to the participation of the private sector, which also has a commercial interest in marketing the handwashing soap.

*Sources: WaterAid: WSP-SA (2000 and 2002b). Village rewards: WSP-SA (2002a). Burkina Faso: Ouedraogo (2001) and WSP-WCA (2000). PPP for Handwashing: Saade, Bateman, and Bendahmane (2001)*

<sup>60</sup> Gulyani and Connors (2002) cite a number of examples from Senegal, Tanzania, Zambia, and Mali where cost recovery has been far below the planned levels.

Jordan, cited as a case for innovative financing, cost recovery for upgrading and expanding infrastructure through resident service charges was not achieved. This was due, in part, to difficulty collecting service charges higher than those in non-project areas.<sup>61</sup> Interestingly recent literature on criteria for success in slum upgradation projects omits community capital contributions. One reason for this outlook may be that the investment in slum infrastructure is believed to lead to private investment by households and communities.<sup>62</sup>

- **Controlling costs and per capita ceilings.** On the other hand, compared to RWSS projects, there seems to have been greater emphasis in slum upgradation projects on controlling costs through appropriate technology. In India, for example, per capita cost ceilings control government grants for slum improvement projects. Gulyani and Connors (2002) also suggest an emphasis on attempts to control costs. Similarly, the PROSANEAR project in Brazil used the notion of low-cost appropriate technology by establishing a per capita cost ceiling for both water and sewerage investments (Katakura and Bakalian 1998:9). The Latin American experience, however, suggests that such ceilings prompted some innovation in technology, the most celebrated example being the cost savings achieved through the condominial sewerage system.<sup>63</sup>
- **Recent examples of enhanced community cost sharing.** A number of examples from India illustrate more successful and higher levels of capital cost sharing by communities. The Ahmedabad municipal corporation initiated one of the more innovative efforts. Also, in Andhra Pradesh, a reforming state in India, the state government has introduced a development process called Janmabhoomi whereby it provides 50 percent of the capital cost for community-driven small development projects (see Box 4.1). Both examples highlight the importance of simple rules and transparency.

### **Subsidizing Demand Promotion for Sanitation and Hygiene**

The last decade has witnessed an increasing realization that in order to gain the health benefits from improved water services, improvements in

sanitation and hygiene practices are critical. While past efforts at sanitation largely focused on provision of latrines, experience suggests the need to focus on demand promotion, rather than subsidies for the facilities themselves. Large-scale subsidization of household-level sanitation facilities (such as latrines) that lack backing by effective demand usually resulted in wasteful investments with facilities largely remaining unused. For example, studies in Maharashtra, India, demonstrate that of the 1.7 million rural toilets constructed with support from the state government over a four-year period, only 57 percent were used (WSP-SA 2002a). Similarly, a study by WaterAid in South India showed that in the area studied, which had 100 percent latrine coverage, only 37 percent of the men used the toilet (WSP-SA 2000). Similarly, a three-country study in East Asia suggests that despite high coverage, only about 12 percent of the poor households in Vietnam and Cambodia had effective access to toilets (Mukherjee 2001).

Box 4.2 provides three sets of different examples detailing the corresponding subsidies used to support them. These examples suggest that when demand promotion has been supported through the public sector, NGOs, or public-private partnerships, it has led to increased provision, use, and improved practices by households themselves. While available information does not permit a detailed assessment of the subsidy mechanism, in each case either community or private sector resources have been leveraged, while enhancing sustainability in actual utilization. Key lessons from these experiences for the use of subsidies include the need for:

- Focusing the subsidies on public activities and on the community rather than the household-level to provide wider incentives.
- Careful design of subsidies to provide incentives for leveraging community and private sector resources.
- Assessing the need for linked subsidies such as (1) limited subsidies for latrines (as for the poorest in India) or partial subsidies (as in Burkina Faso) (2) technical support for village-level actions, technology choices, and strategy development (as in all the examples) and (3) subsidies for related activities if necessary (as for institutional latrines in Burkina Faso).

<sup>61</sup> Based on information from [web.mit.edu/urbanupgrading/upgrading/case-examples/](http://web.mit.edu/urbanupgrading/upgrading/case-examples/).

<sup>62</sup> For example, it is often suggested that US\$1 of investment in slum upgradation leads to US\$7 in home improvements.

<sup>63</sup> For example, see Foster (n.d.c) for details of the El Alto Project in Bolivia.

## Social Connections in Côte d'Ivoire

SODECI, a private utility company in Côte d'Ivoire, operates a social connection policy that enables households in planned areas to access a subsidized connection. All connections that are (a) for domestic use (b) require less than four taps in the house (c) are within 12 meters of the nearest main and (d) are on 'authorized properties', are eligible to receive a subsidized connection. The subsidy covers a 15-millimeter-diameter pipe from the meter to the house. To fund this subsidy, the national government established and maintains a Water Development Fund (WDF). It is capitalized through a special fee levied on all consumers through a progressive charge whereby those with a higher consumption level pay a higher charge. The utility accesses WDF resources in relation to the number of social connections it provides. The number of water consumers doubled in the last 10 years, and the connection rate increased from 5.6 to 8 connections per 100 residents between 1989 and 1998. More than 30,000 social connections were made between 1998 and 2001.

Despite its positive aspects, the policy as outlined above inhibits access by a large proportion of the poor living in areas beyond the specified 12 meters, as the utility network does not cover the entire city, and many do not fulfill the legal tenure. Further, as most of the poor completely lack access to water, they depend on communal standpipes or the often illegal resellers who do not receive any subsidies and face considerable risks due to their illegal status. In both these cases the cross-subsidies adversely affect the poor through the incremental block tariffs as they end up paying a higher total price for water. To improve this, a two-pronged approach is necessary: (a) extension of the main utility network to underserved localities with many unauthorized settlements in order to reduce the extension costs and bring the poor within the 12-meter range of networks and (b) reviewing the current informal reselling arrangements, particularly in terms of the connection costs, water tariffs, and legal status within an appropriate regulatory framework. In addition, design of the social connection system needs improvement to avoid perverse incentives for new connections by households that have been disconnected due to payment defaults.

*Source: Collignon, Taisne, and Sié Kouadio (2000)*

### **Social Connections for the Urban Poor**

For urban water supply systems, which have city-level utility networks, the key issue is to ensure access of the poor to these systems. This requires a focus on the ability of the poor to gain access to water through extensions from, and connections to, the existing infrastructure. While the poor in urban settings may be able to afford water (as they generally do at relatively high prices from alternative means), they are not capable of investing in water infrastructure, and therefore require a subsidy specifically addressing this concern. An innovative form of this subsidy has been used in West Africa, particularly in Côte d'Ivoire and Senegal, both of which have private sector participation in the utilities that supply water in urban centers as illustrated in Box 4.3. In Senegal, the policy of social connections resulted in success in outreach, though the private operator in Dakar, who works in cooperation with an NGO and local-level community management committees, has also introduced the concept of community-managed

standpipes with considerable success (Dieng 2002). Despite these successes in terms of increased outreach, improved targeting and linking with the informal sector on which the poor rely need considerable further efforts.

While private utilities or operators provide the social connections in these West African examples, the reforming Indian state of Andhra Pradesh innovatively used the funds for slum development under a central government-funded program. The state government worked with urban local authorities to provide a 50 percent subsidy on the connection charge for an individual house connection, ranging from 3,500 to 7,000 rupees (US\$73 to 146).<sup>64</sup> Over a three-year period about 57,000 tap connections were provided in 115 urban centers, including extension of the utility network where necessary and onsite connections. Women's groups that have been formed in the state over the last five years undertook the contracts for actual work in all the cities. The state government also supported the activity through dissemination of the scheme to

<sup>64</sup> At an exchange rate of 48 rupees to US\$1.

all slum dwellers, speedy approvals of all plans, and rigorous monitoring (Rao 2001). It is, however, not very clear whether there has been adequate assessment of the link between increased coverage on the local level and total production and supply capacity, as well as the extent of coverage achieved in relation to total requirements for such subsidies. The centrally-driven program, while it brings a campaign outlook to implementation, fails to capture the local issues related to effective demand and willingness to pay by the households.<sup>65</sup> The issues discussed earlier in terms of balancing decentralization with the objectives of central or state governments also persist.

### **Key Issues in Design and Implementation of Access Subsidies**

Despite their widespread use, especially through RWSS projects or urban slum improvement projects, a number of issues still require attention in providing such partial capital grants in a demand-responsive manner:

*Household versus community approaches.* The idea of access subsidies, especially for rural sanitation, includes both household facilities (such as latrines and baths) as well as community-level activities (such as demand promotion and wider village environment). There is some evidence to suggest that community-level activities generally create the necessary environment for improvement in demand for provision and utilization of household facilities. On the other hand, the emphasis on subsidies for household facilities without the necessary demand promotion activities has generally failed, as evident from low utilization and low levels of overall health benefits. For maximum health benefits, improvement in the overall environment is also essential. As a result, there is a need to focus on community-level approaches that create wider public benefits and the necessary environment for household benefits to flow.

*Linking subsidies to basic service levels.* It is generally desirable, when fixing the level of capital subsidies, to link it to some notion of a nationally agreed basic service level. In a given region or locality, the cost of the basic service may be determined in relation to hydrology, possible technology, and local costs. The maximum subsidy should then be fixed in relation to this cost. The subsidy level should enable most poor

and low-income communities access to basic service levels at affordable costs. Beyond this, however, the community would need to self-finance any additional costs of higher level service. On the other hand, in a given locality, savings through more innovative design or efficiency should remain with the community, to provide incentives for cost-effective designs. Actual costs can be monitored and subsidies adjusted periodically.

*Balancing supply-driven and demand-driven features.* Although, most approaches giving partial capital subsidies are developed within demand-responsive approaches, effective service delivery requires a good balance between both supply-driven and demand-driven approaches in any program. For example, effective demand-responsiveness requires that the rules guiding the subsidy design (such as eligibility criteria, targeting mechanisms, and the extent and nature of subsidies in relation to technology choices) are developed transparently and disseminated widely to the entire target population. On the other hand, demand-driven features require attention to factors such as social mobilization and technical support, appropriate choice of technology and financing mechanisms backed by adequate and timely supply of information, and flexibility for adapting the rules among community members through consultation. Specific balance between these two features would depend on local contexts and be determined by factors such as community capacity and feasible technical choices, as well as the ability and community willingness to take responsibility for operation and maintenance.

*Multiple and conflicting subsidy rules.* In most developing country contexts, different schemes operated by government and nongovernmental sectors run in parallel, and follow very different subsidy rules. Such situations create conflicts and confusion among possible beneficiaries with the resultant problems of either nonparticipation or inadequate demand articulation. It also makes it difficult for project implementers and community leaders to enforce rules and conditions linked to the provision of partial subsidies.

*Temporal stickiness and expansion of targets.* Determination of actual subsidy levels tends to be a political process and therefore suffers from two constraints: a tendency for the subsidy levels to be 'sticky' over time, and difficulty in expanding the

<sup>65</sup> The issue of simplicity in centrally determined rules versus the need to identify local priorities is important and is discussed below in the need to balance the supply-driven and demand-driven features of such programs.

scope of eligibility for political benefits. In India, for example, subsidies related to slum settlements have continued over time, and denotification of slums after improvement generally does not happen. To overcome these constraints, a good monitoring system linked to the planning system is essential.

### 4.3 Improving Cross-subsidies for Water Tariffs

Service providers in developing countries typically use some form of subsidies for water, generally with a view to helping the poor gain access to services. One of the most common modalities for this is the use of cross-subsidies through setting different prices for different consumer categories. This section discusses the available evidence on cross-subsidies and the possible principles and mechanisms that may be implemented to improve their use.

#### **Evidence on Cross-subsidies**

Cross-subsidies essentially help the service provider or utility to raise adequate resources to ensure its financial viability by charging higher-than-cost tariffs to some consumers while the preferred consumers (such as the poor or rural consumers) receive the service at lower-than-cost tariffs, presumably set at affordable levels. Consumers may be distinguished by their level of usage of water (by consumption blocks or through the size of the connection) or by the type and location of their premises (for example domestic/non-domestic, rural/urban, or slum/regular housing). In case of large utilities covering entire countries or very large regions, they often cross-subsidize regions or sub-regions.<sup>66</sup> Cross-subsidies tend towards the principle of a universal service norm, implying that all consumers need to have access to the service, as has been more common for telecommunications in many developed countries (Clarke and Wallsten 2002). As water services tend to be monopolistic in nature, either through public or private provision, cross-subsidies may serve the purpose of funding universal service obligations.

*Forms of cross-subsidies.* Despite the criticism of cross-subsidies, they tend to be widely used throughout the developing world. For example, WUP 2002 suggests that most utilities use

cross-subsidies in some form. Similarly, in India, most municipal-based water supply service providers use cross-subsidies through charging differential prices.<sup>67</sup> As per the discussion above in relation to key considerations in design of subsidies, three forms of cross-subsidies are common:

- *Uniform price system.* A uniform price across regions/consumers helps generate additional revenues from low-cost areas to meet the costs of service provision in high-cost areas at acceptable and affordable price levels. This system is mainly used by utilities serving an entire country or large regions, for example in Côte d'Ivoire, to serve higher-cost small towns. Despite the trend towards decentralization, such large utilities serving entire countries are commonly found in Africa.<sup>68</sup>
- *Increasing block tariff.* Many developing countries with metering to permit volumetric charges for water supply use an increasing block tariff (IBT) to generate cross-subsidies. They generally use a minimum consumption block with very low charges affordable to the poor to permit lifeline rates. The higher prices for other consumption blocks help to cross-subsidize to ensure financial viability of the service provider/utility. The basic idea behind IBT is that the poor tend to use less water and therefore the subsidies would be targeted to them. Many developing countries commonly use IBTs. For example, 20 of 28 utilities in Asia that used volumetric charges cross-subsidized their operations through IBTs (Asian Development Bank 1993, quoted in Boland and Whittington 2000).

In some cases, a minimum block is provided totally free of cost. For example, in Durban, South Africa, this minimum block is 6,000 liters per month. This was introduced, as the cost of collecting the bills from the low-income consumers was higher than the revenue earned. The Durban approach made it possible to cut off connections for nonpayment while preserving universal access (Brocklehurst 2001). Drawing on the Durban experience, the Government of South Africa adopted a 'free basic water' (FBW) policy. This is, however, essentially a directive to local municipalities, which have the constitutional mandate to deliver water

<sup>66</sup> For example, the private company in Côte d'Ivoire that provides services in all the urban areas charges a higher price in Abidjan, the capital city, to cross-subsidize the costs of services in other smaller urban areas. <sup>67</sup> These cross-subsidies can be typified by quite a large ratio of industrial to domestic tariffs. In Delhi, for example, the ratio is 10.9:1, in Mumbai it is 28:1, and in Madras it is 30:1 (for 30m<sup>3</sup>/month). In Asia, the cross-subsidy range is typically 1.4-3.9:1 (ADB 1993). <sup>68</sup> For example, WUP (2002) reports "out of 48 countries for which information was available, a single national company provided water supply services in 26 countries" (as reported in Clarke and Wallsten 2002).

services. Financially the provision of free services is supposed to be covered either through the service (S-grant) component of the Equitable Share<sup>69</sup> (a block grant transferred to the municipalities on a formula basis), or locally raised through cross-subsidies within the sector or by allocating other municipal general revenues. Though the Equitable Share has been increased significantly in recent years, it may not be sufficient in many rural local authorities, which do not have a strong local resource base and lack any cross-subsidization potential. This is also evident from the reporting by the Department for Water Affairs and Forests (DWAF) on the population served by FBW, as the three poorer provinces show significantly lower overall coverage for FBW, particularly for the poor (Government of South Africa 2003).

- *Varying tariffs across consumers.* A common method of cross-subsidization, used especially by municipal service providers in India, involves charging different prices to consumers according to the purpose of water use. For example, the prices charged to industrial and commercial consumers in India are 10 to 20 times higher than those charged to domestic consumers (Brocklehurst forthcoming 2003a). Such differential price systems may be combined with IBT or used with fixed charges.

*Disadvantages of cross-subsidies.* Despite the apparently simple and strong logic of cross-subsidies, available literature indicates that in actual practice a number of problems make it difficult to achieve the twin objectives of affordability for households and financial viability for the utility within a universal service framework:

- *Inefficient pricing.* As cross-subsidies de-link price from actual costs, they tend to distort consumption and investment decisions. In economic terms, although all consumers benefit from some level of positive externalities, cross-subsidies represent inefficient pricing mechanisms. Only in cases where positive externalities for the poor exceeded those of the rich would it be efficient to use cross-subsidies.

- *Lack of transparency.* An important element of a good pricing and subsidy system is transparency so that its use can be easily monitored and assessed. Most cross-subsidies, however, tend to be implicit and therefore opaque, making it difficult to trace the incidence of their costs and benefits, and hence to monitor their impact.
- *Supplier disincentive for service to poor and high-cost areas.* Cross-subsidies, especially those that use uniform prices, tend to “reduce the providers’ ability and incentive to serve” the regions with higher costs. A policy of geographic price averaging may result in no or limited service. For example, the national water utility in Côte d’Ivoire “expanded service in the low-cost area (Abidjan) far more rapidly than it expanded service in higher-cost secondary centers in the late 1980s and early 1990s” (Menard and Clarke 2002; Clarke and Wallsten 2002). Similarly, cross-subsidies that require provision of services to the poor at lower-than-cost tariffs create disincentives for the provider to extend the services to these groups.
- *Specific problems with increasing block tariffs.* Despite their popularity and ease to administer, a number of problems limit the effectiveness of IBTs: (a) only those poor households that are actually connected to the system receive the benefits (b) even the ineligible consumers receive the benefits of the minimum block, and when the minimum block is too large, the middle-income groups receive a higher level of subsidies than the poor themselves (c) a number of poor families often share a connection or purchase water from neighbors or informal water resellers, which results in higher consumption per connection and therefore exclusion from subsidy benefits (d) consumers who fall in the larger consumption blocks may cross over to other suppliers, adversely affecting the total revenues of the provider/utility and (e) in many developing countries the cost of the metering systems discourages their installation, or if installed they do not work in practice, invalidating the basis of the IBT structures (Boland and Whittington 2000 and n.d.).

<sup>69</sup> Equitable Share (ES) is an unconditional grant to local authorities within the framework of intergovernmental fiscal arrangements and is protected by a constitutional right. The Government of South Africa plans to enhance the allocations to Equitable Share significantly over the next three years. This will be also supported by stopping the operational subsidies being received by the Department of Water Affairs and Forestry (DWAF) for the schemes that it operates and transferring this to the ES. The schemes are to be transferred to the municipalities in a phased manner (Government of South Africa 2003; DWAF 2001, 2002).

*Advantages of cross-subsidies.* Despite these basic conceptual and observed problems, the popularity of cross-subsidies suggest some inherent advantages in using this mechanism:

- *Internal absorption of subsidies.* Cross-subsidies enable the utility or service provider to meet the universal service obligations without having to rely on a significant level of unpredictable and unreliable grants from external sources. It also allows other resources with the government to be used for other important social needs. This is the main reason for its persisting popularity and an important consideration, especially when resources for the state and municipal budgets are not easily forthcoming to meet the subsidy obligations, as in many countries with poor public finances.<sup>70</sup>
- *Relative level of inefficiencies.* In a context where the need for some level of subsidization has been established, possibly to meet the universal coverage goal, it is necessary to compare cross-subsidies with other possible methods for funding the subsidies. To the extent that other methods, such as using general tax revenues and their transfers also tend to be inefficient, cross-subsidies may prove to be attractive even on economic grounds. “For example, if countries rely heavily on tariff or export taxes, redistribution through cross-subsidizing infrastructure prices might not be less efficient than redistributing income through the tax and transfer system” (Cremer et al. 1998, quoted in Clarke and Wallsten 2002). In such cases, “it may make more sense to fund service to low-income households and high-cost areas through the firms that provide service” (Clarke and Wallsten 2002:13). Further, in cases where positive externalities for the poor exceed those of the rich, it would be efficient to use cross-subsidies.
- *Incentive for technological change.* Interestingly, perhaps the water sector can respond as the telecommunications sector did, when the need to reach far-off regions led to the technological innovation of a fixed wireless system that did away with the need to string wires over long distances. Even in the water sector, private providers have adopted innovative approaches to reach the poorer

consumers when the contract mandates them to do that at affordable prices (Foster n.d.d; Brocklehurst 2001).

### **Principles for Improving Cross-subsidies**

Despite the associated problems in using cross-subsidies, in many cases it may be politically and administratively imperative to continue their use. In Ecuador, for example, Yepes (1999) points out that “a subsidy mechanism independent of the utility, like the one in Chile, is not a feasible solution...In such cases, cross-subsidies might have to be accepted as a second-best solution”. In these situations, some simple rules may be followed to overcome many of the problems of cross-subsidies:<sup>71</sup>

*Targeting the subsidy.* Subsidies must accrue only to the poor in order to promote basic consumption and facilitate access to the service. This method requires using simple and transparent means to identify the beneficiaries. However, the level and method for targeting will need to be balanced against the cost of implementation. For example, in an extreme case, South Africa considered it necessary to provide a small consumption block of 6,000 liters per month as a free basic service to all, as the easiest and cheapest way to ensure that affordable access remained possible for all.

*Size of subsidy.* The size of the subsidy needs to be set in relation to willingness to pay (WTP) and wider fiscal sustainability at scaling up for universal service provision. A critical aspect in the IBT structures would be to appropriately fix the initial block and the related tariff level. Ideally, the size of the initial block should be quite small (about 4-6 m<sup>3</sup>/month), and the tariff on it ought to cover at least the O&M costs. The tariff should cover the short-run marginal costs in the second block. Another important consideration includes ensuring that the poor who service multiple households from one connection are not adversely affected.<sup>72</sup>

*Crossover prices as limits.* Unfortunately, higher prices for the larger consumption blocks may force such consumers to stop buying from the provider/utility and cross over to other sources, including building their own supplies. To avoid this, it is necessary to assess the limits of such crossover prices for major consumer groups. In case the

<sup>70</sup> See, for example, the discussion in WUP (2001), which suggests that this may be a practical option in view of the “dire state of public finances across Africa”.

<sup>71</sup> These rules are mainly based on Yepes (1999) and Clarke and Wallsten (2002). <sup>72</sup> The logic behind this is as follows: when housing units with multiple households are served from a single connection, as is common among many poor and low-income communities, water use generally exceeds the lowest blocks (Evans 2002).



### Universal Service Fund for Telecommunications in the United States

Universal service as a goal for telecommunications in the United States was codified as early as 1934 through the Communications Act, which aimed “To make available, so far as possible, to all the people of the United States a rapid, efficient nation-wide, and world-wide wire and radio communication service with adequate facilities at reasonable charges.” This was reaffirmed in the Telecommunications Act of 1996 by establishing policies for the “preservation and advancement of Universal Service”. Prior to 1983 the AT&T essentially handled the affordability issue through internal cross-subsidies. Its divestiture and subsequent competition through new companies led to the establishment of an explicit Universal Service Fund (USF) in 1983 “to keep the telephone services affordable in a competitive telecommunications market”. The USF is capitalized through contributions from all telecommunications companies in the United States, including local and long-distance phone companies, wireless and paging companies, and payphone providers. They contribute to the USF less than 4 percent of the amount they billed in the previous year to their residential and business customers for telecommunications services. The exact percentage that companies contribute is adjusted every quarter, based on projected universal service demands. The local companies recover the costs of USF contributions through access charges levied on long-distance companies. The long-distance companies work in a competitive market, and the Federal Communications Commission (FCC) does not heavily regulate their prices. Hence, they are able to make a business decision on whether to include the USF contribution costs in their charges. Those that do include these costs add this explicitly as a “universal service fee” to the customer bills.

Companies that provide telecommunication services to selected groups are eligible to draw money from the USF to defray the costs of delivering discounted services to their consumers. Such compensation is available for meeting the costs of providing services at a discounted price to low-income neighborhoods and communities; to rural areas where the costs are high; and to rural healthcare providers, schools, and libraries.

USF is managed by the Universal Service Administrative Company (USAC) under regulations promulgated by the FCC. USAC is a private nonprofit subsidiary company of the National Exchange Carrier Association. USAC administers four programs to match the consumers who receive discounted service. It “implements fund rules, notifies companies of their obligations to the fund, collects their contributions, invests the funds, and makes payments to eligible service providers. It also provides guidance to the constituents of the universal service programs on how to obtain financial support from the fund”. A board of directors governs USAC and oversees the actions taken by management and the board committees. The USAC board of directors has 19 members and, in addition to the USAC CEO, includes representatives from the telecommunications and information services industry, state telecommunications regulators, state consumer advocates, low-income consumers, and education and library representatives. The board manages the business and affairs of USAC and has established an executive committee and programmatic committees to oversee each USAC division. These committees oversee the budgets and major administrative decisions of their respective divisions and are responsible for reporting to the USAC board. The full USAC board may review any action taken by a committee and has the authority to overrule any action taken by a committee.

Sources: Wellenius (2000) and USAC (2002)

financial viability of the utility requires higher prices to meet the universal service norm, it necessitates combining the use of other subsidies to keep the prices at such crossover limits.

*Special pricing for resellers.* Tariffs under an IBT structure may lead to increased costs for resellers of water (as observed above) and result in increased tariffs for their poor and low-income consumers. In such cases, it would be useful to explore the possibility of a single block tariff for these groups. Such approaches have been

used in Kenya and Ghana where the problem has been addressed by “recognizing the resellers and granting them a single block tariff with service obligations and requirements related to water quality” (WUP 2001).

*Uniform price with rebate (UPR) method.* The UPR option suggested by Boland and Whittington (2000) is best used when the marginal cost of supplying water exceeds the average cost. In this situation, setting the price equal to the marginal cost generates excess revenues for the

## Auctions for Minimum Subsidy Concessions for Rural Telecommunications in Peru

In 1992, Peru began reforming its telecommunications sector, establishing a regulatory authority, Osiptel, and opening the market to competition. These reforms largely neglected the high-cost rural areas, where 30 percent of Peru's population and 50 percent of its extreme poor live. So a fund, Fitel, was created to provide telecom services through promoting private participation. It was designed as a legally distinct entity from Osiptel, although Osiptel provided technical and administrative services to Fitel and approved its policies and projects. The ultimate target was the provision, by 2003, of pay phones in 5,000 rural towns and public access to the Internet in all 554 district capitals. In the end, 5,000 towns were targeted in six regions and held in two tenders with the winner granted a nonexclusive 20-year renewable concession. This required the installation of at least one public payphone in each locality listed, providing access to local long-distance voice and narrow-band data communications, and one point of public access to the Internet in each district capital.

By March 2001, three competitive tenders had been conducted for the six regions covering 5,000 towns, with new contenders, both foreign and domestic, entering the market. The competitive bidding on the pilot project resulted in a subsidy 41 percent lower than Osiptel's estimate, and fully 74 percent lower than the incumbent operator offer. A year into the project the average distance to a phone is a tenth of what it was; twice the population in municipalities have phone access; and user needs allowed the operator to introduce prepaid calling cards, dedicated Internet, and long-distance services. Although the operator's service suffered in the first six months of the program, 74 percent of the population were satisfied with the overall service, 50 percent had access to calling cards; and modest progress had been made in service outages, hours of service, and customer education.

The subsidy of the project came to just US\$11 per inhabitant. In comparison, the cost of mobilizing private investment was estimated at US\$22 per inhabitant. Administrative costs of the subsidy are also low: after the US\$1.7 million in start-up costs, the administrative costs were less than 2 percent of the funds collected.

Source: Cannock (2001)

utility, which should be rebated to the consumer. The UPR structure remedies this situation by creating a tariff where the household water bill is "based on (a) a volumetric charge set equal to marginal cost and (b) a fixed monthly rebate (negative fixed charge)". This design allows a more efficient structuring of the tariffs and more effectively transfers income. Though conceptually attractive, this design has not been actually used so far in any country or city (D. Whittington, pers. comm.).

### **Universal Service Funds and Auctions as Options for Improved Cross-subsidies**

To overcome many of the shortcomings of using cross-subsidies some innovative financing mechanisms, primarily used in the telecommunications sector, provide interesting possibilities. These mechanisms are also conducive to the participation of the private sector as service providers, as they provide appropriate incentives and do not adversely affect efficiency

in service provision. In view of the possibility of increased private sector participation (PSP) in WSS services and the related increase in competition, two such mechanisms that may have potential in the WSS sector are:

*Universal service fund.* In a very basic sense a universal service fund (USF) receives funds from all relevant service providers and provides resources to those providing services to targeted groups such as those with low income or high costs of service delivery. It can be administered by a special agency or company; by an existing financial institution; or through a virtual fund managed by a regulator and receiving direct payments from service providers, which are then disbursed to those providing discounted services to selected consumers.<sup>73</sup> USFs have been commonly used in the telecommunications sector (see Box 4.4 for an example from the United States). Contributions to universal service financing are

<sup>73</sup> As reported by Wellenius (2000), Ofitel has been preparing a blueprint for such a virtual fund in the possibility that British Telephone may need to be compensated for its universal service obligation.

generally assessed as a proportion of the total revenues of the service providers.

One disadvantage of the use of this arrangement may be a lack of incentive for the service provider to lower its costs of service provision for 'difficult' consumers. Also, in cases where the system pays subsidies only to the incumbent, new entrants will have no incentive to compete in these areas. These problems can be addressed by careful design of the fund management to enable a more competitive review of the costs of meeting universal service obligations and by reviewing criteria for access to the fund on an ongoing basis.

#### *Auctions for minimum subsidy concessions.*

One of the problems with the USF mechanism is appropriately determining the size of the subsidy. A large subsidy would act as a disincentive to service providers to reduce the costs of reaching the more difficult customers. One emerging mechanism for addressing this problem is to auction the service provision in difficult areas by inviting bids for service delivery contracts with minimum subsidies. Such auctions have been used for telecommunication services in rural areas in Chile and Peru. Use of this mechanism can help to reduce the costs of subsidies: in Chile the average winning bid came to about half the maximum subsidy offered, and in Peru it was about a quarter of the maximum offer (Intven 2000, quoted by Clarke and Wallsten 2002:14). Actual use of such mechanisms seems a practical possibility in helping to overcome the lack of true information on the costs of service provision in the difficult but preferred areas.

*Issues in the use of USF and auctions in the WSS sector.* These are new instruments for the WSS sector, and their use will need to address issues such as:

- *Cost of universal service and total revenue potential.* Use of the USF mechanism for telecommunications is also linked to the generally low net cost of universal service in relation to the overall sector turnover. Recent estimates suggest that these range from 0.2 percent in Chile to 5.0 percent of total turnover in the United States, depending on the objectives of universal service and costing methods. These costs are likely to decline further with efficiency gains, market growth, and technological innovations (ART 1998,

reported in Wellenius 2000, Tables 1 and 2). While such estimates are not readily available for the WSS sector, experience suggests that the shares are likely to be far higher.<sup>74</sup> Importantly, the problem of crossover to own supplies by large volume and commercial users in cases of very high prices would also be a problem in the WSS sector, particularly due to the current low coverage levels.

- *Private service providers for WSS.* A constraint in the use of these mechanisms for WSS services would be the lack of formal private sector providers in the sector. However, experience in some regions such as Africa suggests that a large number of small-scale service providers operate in the water and sanitation sector, though generally in an illegal or informal manner. Thus, the challenge in the WSS sector is to evolve an appropriate framework that provides an opportunity to incorporate and regularize such small-scale providers. Box 4.7 provides details of innovative experiments in Paraguay through output-based aid. Such approaches may also be developed for the ubiquitous small private providers in African cities.<sup>75</sup> Linking such efforts to a possible universal service fund or subsidy auctions needs further exploration in the WSS sector.
- *Strong regulatory and monitoring systems.* As for most other tariff- and subsidy-related mechanisms, an appropriate and functioning regulatory and monitoring framework becomes critical for successful introduction of a USF system. This needs to include details related to standards for service provision required and actually achieved, the number and characteristics of operators, and the actual performance of service providers. Involvement of communities and consumers in such monitoring systems will be very important. Also, the practical use of auctions whenever appropriate, as suggested in Box 4.5, would help to enhance the information with regulators, particularly as regulators generally have less information than private service providers (Clarke and Wallsten 2002:14).

<sup>74</sup>Such estimates have not generally been made in the water sector. Ongoing research by the Water and Sanitation Program, Africa, for assessing sector resource flows in several countries may provide such estimates. <sup>75</sup>This would require attention to an appropriate sector framework and related regulatory issues, as illustrated in Box 3.3 in the previous chapter.

## 4.4 Output-based Aid for Water and Sanitation

Traditional subsidies in the infrastructure, as reviewed above, often focused on inputs consumed by public water utilities and lacked any close correlation with the actual services delivered. This generally resulted in a lack of transparency, poor or adverse incentives for the service providers, and limited opportunities for leveraging the limited public funding through private or community resources. Some recent mechanisms, referred to generally as output-based aid (OBA), “seek to address these weaknesses by delegating service delivery to a third party (such as a private company or nongovernmental organization) under contracts that link the payment of subsidies to the outputs or results actually delivered to target beneficiaries” (Smith and Brook 2001). As a concept, OBA applies to any infrastructure or sector, and examples of its use are available in most sectors in different countries.<sup>76</sup>

### **Key Design Features of Output-based Aid**

The main challenge in the design of OBA schemes is to provide appropriate incentives, leverage nonpublic resources, and assess performance in terms of output and outcomes. To address this challenge the following design features need to be incorporated into any OBA scheme:<sup>77</sup>

*Defining performance and results.* When developing effective contracts, it is necessary to take into account the myriad of factors affecting outcomes beyond the contractor’s control and focus on specific outputs meeting specified requirements. The difficulty lies in identifying output indicators, as mis-specified or incomplete indicators become counterproductive and lead to biased behavior by service providers. Schemes focusing on outputs or outcomes generally offer the greatest promise, as they create opportunities and incentives for contractors to discover new and better ways of achieving the intended results. Additionally, the subsidized service definition should acknowledge budgetary constraints and the sustainability of the subsidies. As these considerations develop, a narrower definition of eligible recipients may develop, or it may ultimately

be decided to direct public funds to the one-time costs of service connection rather than the ongoing costs of consumption.

*Choosing the market environment.* A basic question in service design is whether to provide the service monopolistically or competitively. Ideally the service scheme offers a choice of providers for the consumer, and vouchers or other instruments help create efficiency and responsiveness to clients. Alternatively, a monopoly would be more appropriate in situations where concerns about market failures or subdued supply response exist. However, this decision should address how long the monopoly should last, as well as the extent of its mandate.

*Deciding which service providers are eligible.* Service providers need positioning to be responsive to incentives while operating at a distance from both regulators and the funding source. Similarly, OBA providers should comply with comparable tests. This does not imply that output-based schemes must be limited to the international private sector; often, small-scale local entrepreneurs are important suppliers. The decision to include these groups, however, should consider the possibility of establishing a level playing field between suppliers, so as to reap the benefits of competition.

*Choosing the form, level, and structure of payment.* The design of the subsidy payment to service providers is critical in determining the incentives they face, along with the possibility of capturing private financing. Usually in the form of cash payments, the subsidy level depends primarily on the anticipated service delivery expense and not on expected alternative revenues (such as user fees). For concession schemes, the contract may be awarded on the basis of the least expensive service, while another determining factor might be the relationship between the costs and the recipients’ willingness/ability to pay for the service. The primary issues in determining the structure of the payment include: (a) how tightly to link the payment to performance and (b) should the service provider receive some upfront payment? In the first case, considerations should include the question of whether most of the payment should be a fixed fee, rather than linked directly to performance with regards to specific indicators. In the second case, the question involves whether the service provider ought to receive an upfront

<sup>76</sup> See Brook and Smith (2001) for examples of cases from a variety of sectors, including education, health, water, power, and telecommunications. <sup>77</sup> Based on Brook and Smith (2001) and Smith and Brook (2001).

## Output-based Aid through Direct Subsidies in Chile

In the 1990s, as part of an overhaul of its WSS sector, the Government of Chile raised the water tariffs to all users in order to more accurately reflect the true economic cost of the service. Before the reforms, water tariffs covered only 50 percent of costs, which fell to less than 20 percent in regions where production costs were high. By using a direct subsidy structure, the government defrayed some of the water costs to low-income households to ensure adequate consumption at affordable prices. Water utilities, many of which are private, provide the service to the poor at discounted rates ranging from 25 to 85 percent up to a limit of 15 cubic meters a month. All consumption above the limit is charged at the full tariff. In return, the water companies receive a subsidy reimbursement from the municipal government for each qualified customer that receives the service in relation to the actual water consumed. The central government actually paid the subsidy.

It uses a means-tested subsidy targeted to individual customers rather than a traditional geographic or universal subsidy. Those households unable to purchase a subsistence level of consumption in relation to the World Health Organization (WHO) benchmark of 5 percent of monthly household income for WSS charges are targeted. To obtain a subsidy, a household applies to the municipality, which determines its eligibility on the basis of a scoring system called CAS. CAS is assessed using a questionnaire with over 50 questions canvassed by private survey companies to all those who wish to be evaluated. Actual scoring is, however, done by the municipality itself, with subsidies paid for three years, at which stage the household must reapply. This form of consumption subsidy was appropriate given the near universal coverage in urban areas. The direct subsidy used in Chile is within the framework of output-based aid, as the utility receives the subsidy only when it achieves the output of service to the low-income customers. While low-income households tend to lack the attention of water utilities under traditional subsidy schemes, this structure provides the utility with an incentive to serve the poor, as revenues increase with each low-income household that benefits from the subsidy. As the low-income consumers also pay a share of the costs, there is an incentive to avoid the wastage of water generally associated with traditional outright or hidden subsidies. Through this scheme, Chile established a market for water, offering subsidies where they are needed, ensuring profits to the water utility, and meeting the water needs of its citizens. They distributed 450,000 subsidies in 1998, benefiting almost 13 percent of households at an average of US\$10 per month, for a total cost of US\$33.6 million. In addition to being well below the cost of the previous universal subsidy scheme, the new plan resulted in utility surpluses and net profits of US\$107 million. This reduced funding requirements and demonstrates the efficiencies associated with better targeting.

Sources: Gomez-Lobo (2001), Foster (n.d.a; n.d.b), and Brook and Smith (2001)

payment or receive payment only after satisfactory delivery of services has been verified. Although hybrid schemes may present an ideal option, they are generally feasible only upon awarding a monopoly to the service provider.

*Designing effective administration.* Effective administrative arrangements should be broad in scope and consider options in a number of categories:

- *Breadth of aid.* Cover each narrowly defined sector or a broad range of services?
- *Extent of coverage.* Include only small subnational jurisdictions or national coverage?
- *Funding structures.* A separate scheme for each source or pool the funds from multiple sources?
- *Scheme management structure* (bearing in mind the importance of winning the confidence of service providers and funders

through the development of good governance practices). Management by a private firm, a non-governmental organization, or a public agency?

- *Accountability.* One entity responsible for all aspects of administration or some functions delegated or contracted to others?

### **Illustrations of Potential OBA Schemes for WSS Services**

With the increasing attention to shifting the actual provision of WSS services to either private or community-based service providers, the possibility of using OBA for all WSS-linked subsidies needs assessment. Based on recent experiences, a number of different types of OBA applications can be identified:

*Supporting consumption for the poor through direct subsidies.* Traditionally, most subsidies in

## Box 4.7

### Enhancing Access through an OBA Arrangement in Côte d'Ivoire and Senegal

Privately managed utilities in Côte d'Ivoire and Senegal provide subsidies for social connections to ensure maximization of access to the utility networks they operated. Both follow some form of OBA structure, though each is structured differently in terms of selection of beneficiaries and administration of subsidies.

In Côte d'Ivoire there are very simple administrative arrangements and targeting is not very strict. The subsidy of about 90 percent of the cost of connection is available to all those seeking a 15-millimeter domestic connection and who reside within 12 meters of a utility main. This has resulted in low administrative costs, but the program may be too successful in that the subsidies have accrued to over 90 percent of household connections installed over the last 10 years. On the other hand, the program fails to reach the customers who do not reside within the areas served by utility networks. SODECI, the private company, is reimbursed a flat fee for each subsidized connection from the Water Development Fund (WDF) on approval from the Ministry of Infrastructure. WDF is funded through a fee on all water tariffs. Though this is within an OBA structure, there are perverse incentives for the service provider to maximize the connections and for the consumers to also claim subsidies for new connections, sometimes even for reconnection after being cut off for not paying tariffs. These issues need to be addressed.

In Senegal, following a strategy of reform in the country, a private operator has been engaged to provide water services in urban areas. To pacify the apprehensions regarding a rise in water prices, the government followed a strategy of ensuring subsidized access to all deserving households, using a fixed affordable price for a social block of 10 cubic meters per month. The targeting system in Senegal for this preferential treatment is stricter and the related administrative costs are higher than in Côte d'Ivoire, though with better targeting being achieved. The access subsidies cover water and sewer connections as well as provision of shared water fountains in selected peri-urban areas and are being financed from special grants from different donors. While these subsidies are for new connections for the poor, adequate detail of the payment structures is not available, which makes it difficult to assess the nature of incentives through this system.

In Côte d'Ivoire, it would be useful to explore the tradeoffs between undue leakages in subsidies for social connections and funding expansion of utility networks, particularly to localities dominated by low-income groups. In both countries, focus is also needed on alternative approaches for ensuring access to the poor and low-income groups, such as improved linkages with the informal water resellers.

*Sources: Collignon, Taisne, and Sié Kouadio (2000), Lauria and Hopkins (2001, n.d.), Dieng (2002), and Kriss and Janssens (2002)*

the name of the poor are provided to the municipal department or to utilities as subsidized inputs for services. It is, however, difficult to assess the actual incidence of benefits for the poor. Under the OBA structure, governments provide subsidies for actual consumption by poor households that qualify under predetermined selection criteria. These subsidies are transparent and help maintain the integrity of market prices and signals. In contrast to traditional subsidies, this mechanism ensures that only the poor benefit from the subsidy, rather than all customers served by the utility. In order to properly structure this subsidy, however, detailed information is needed about the population in question. Obtaining this data (through surveys or other means) can prove to be prohibitively expensive, especially in relation

to the value of the good/service provided. Other infrastructure industries, such as telecommunications, generate more revenue at a far lower cost than water and can therefore justify implementing costly household surveys. Once collected, such information allows for more targeted subsidies that lower the degree of leakage from the system and provide proper price signals in the marketplace, helping to guide appropriate consumptive behavior.

Direct subsidies were first used in Chile (see Box 4.6) and also introduced in other countries such as Panama. Key issues related to their use include a well-functioning metering system as a prerequisite, high cost and capacity required for collection of information and administration, and appropriate governance and monitoring systems

to prevent undue leakages. While this structure has been used for private utilities in Chile and Panama, it would be relevant even for public utilities or within municipal authorities where the WSS department can be treated as a cost center.

*Supporting enhanced access and coverage.* In many developing countries, a more pressing issue before considering the need for consumption subsidies is to ensure that the poor and low-income households have access to utility networks. To meet this requirement, access subsidies have often been used successfully, as illustrated above in Box 4.3. Such subsidies can also be developed within an OBA structure.

Box 4.7 demonstrates this with examples of social connections in Côte d'Ivoire and Senegal. While using the OBA structure is simpler for access subsidies than for consumption subsidies, some issues do need to be addressed.

*Combining access and consumption through subsidy-linked concessions.* In many countries in Africa and Latin America small-scale private providers, often operating through the informal sector, provide WSS services. Some of the recent efforts in telecommunications and energy sectors suggest that the possibility of using appropriate concessions focused on service provision to low-income groups. However, there have not been

### Box 4.8

#### Subsidy-linked Concessions for the 'Aguateros' of Paraguay

Water services in rural areas and small towns in Paraguay are the responsibility of SENASA, which operates through more than 1,000 autonomous water users associations ('juntas'). However, coverage is only 30 percent of the rural population of 3.1 million. Capitalizing on the entrepreneurial spirit of its citizens, the Government of Paraguay looked to its small-scale private providers, locally known as 'aguateros', to help bring water to the peri-urban poor of Asuncion and Ciudad del Este. Aguateros formed out of the need for people living within marginalized areas of the urban landscape to obtain access to water. Typically, aguateros identify a community in need with an average demand of 100 households, drill boreholes, establish a well and pump system, invest in a piping infrastructure, and sell water to local residents. Estimates of aguateros number between 350 and 600 and indicate that they serve about 500,000 people, representing an investment of US\$30 million (US\$250/household). The development is entirely private, with the aguateros targeting a growing settlement, purchasing a lot, building a well and pump house, and finally selling water to the first groups of settlers. The entire investment and associated risks lie with the aguateros and have to be recovered within three years for the project to be profitable. The water fees are usually considerably lower than those levied by the public water company, and they tend to be well measured. Additionally, the aguateros can maintain a highly flexible relationship with the client, allowing for adaptations to account for fluctuations in payments. This prolongs both coverage and sustainability of the scheme, and indicates that even the lowest-income groups can pay the full cost of water as long as the service conforms to their circumstances.

Within SENASA's service area, there is a need to serve an additional two million people by 2010 to reach the 85 percent target coverage. However, total estimated costs range from US\$100 to 200 million, and at current levels of subsidy this target appears unattainable. To overcome this, SENASA has started to explore the possibility of subsidy-linked concessions, which would help leverage private sector resources by introducing a pilot program under an ongoing World Bank-funded rural water supply and sanitation project. This envisages small private operators bidding on 10-year concessions to design, build, and operate WSS systems in four small towns. The concessions include fixed subsidies linked to the number of connections actually made. The subsidies are about US\$150 per connection, 25 percent lower than the subsidies generally available to the juntas. The water tariffs to be charged are fixed, and the main bidding variable is the operator's minimum connection charge for each connection. In practice the operator may charge in installments at an interest rate not exceeding 24 percent. Special features are also made available as departures from a pure OBA structure to respond to the ground realities: partial (20 percent) mobilization payment against bank guarantees, borehole insurance for repeated failure to draw minimum water flow, and subsidies linked to some houses (up to one-sixth) on covered streets, even if they do not connect. After initial regulatory problems related to an appropriate conceding authority, there has been considerable local interest, and the bidding process is ongoing at present.

Sources: Bakalian and Drees (2001) and Drees, Bakalian, and Schwartz (2002)

many actual experiences in the water and sanitation sector so far. Box 4.8 provides brief highlights of subsidy-linked concessions, being explored for small private firms operating in Paraguay. The need to resolve considerable regulatory issues, and to rigorously assess actual costs, is evident from this evolving case. The capacity to monitor the performance of such contracts will also need to be developed, as their success would hinge on this. Initial efforts at introducing OBA for enhanced access and coverage are also under way in the East Asian region (Jagannathan 2002).

*Using OBA to facilitate reforms.* As discussed in Chapters 2 and 3, successful provision of water and sanitation services often depends on the introduction of key institutional and financial reforms. Many of these reforms probably have considerable political costs and may need support with appropriate subsidies during the transition phase. For example, Box 3.2 in Chapter 3 highlights the support for gradual introduction of tariff reforms in Guinea, developed within an OBA structure. Similarly, support for critical institutional reforms may also be introduced by linking the payments to specific milestones agreed upfront as illustrated in Box 2.9 in Chapter 2 for the restructuring grants in South Africa and India. Development of such a reform agenda in a given country or local context would be a prerequisite for developing the subsidy support through an OBA structure. The subsidies would help support the reform process in relation to the actual progress achieved.

*Sanitation promotion and environmental targets through OBA.* Another key area where subsidies would be appropriate is related to sanitation and environmental improvements that result in positive externalities at the community level. No clear currently available examples exist within an OBA framework. However, some of the examples in Box 4.2 provide illustrations of how the subsidies may be provided within an OBA framework. For example, the village rewards for sanitation under the Sant Gadge Baba scheme in India is potentially within an OBA framework, as the rewards by the state governments are made only after the village community and local government have made the upfront investments. There is also scope for linking the funding of promotional work to outputs; however, this would

require a firm assessment of the costs required to achieve a given set of outputs.

### **Issues in the Use of OBA for WSS**

The concept of using OBA to improve the use of subsidies is relatively new, and there have so far been few pilot schemes in the water and sanitation sector. Based on these efforts, as reviewed above, a conceptual assessment of the key issues in its use includes:

*Difficulties with measuring output.* Successful use of OBA in the WSS sector requires appropriate measurement of output. For an output-based consumption subsidy, it is necessary to develop a metering or monitoring system that can reliably supply usage data. Other difficulties include appropriate measurement of quality of water and service reliability. If such a system does not exist, or cannot be readily introduced in a cost-effective manner, an OBA scheme may not be viable. While outputs related to access may be easier to measure upfront, it is difficult to measure the sustainability of such access. Measures to support transition to reforms would also be difficult and would need to be specified as clear milestones jointly with the agency implementing the reforms. Any of these options would require a good and functioning monitoring system.

*Institutional capacity and cost of administration.* A means-tested subsidy (such as the one in practice in Chile) necessitates institutional capacity, particularly at the municipal level, and for countries with insufficient capacity this complex system may not be viable. The cost of administering a survey for a means-tested subsidy can be excessive for a relatively low-value resource such as water. To overcome this constraint, in Chile the same targeting instrument is used to distribute several welfare benefits, avoiding duplication of work and significantly lowering administrative costs. When costs are high and administrative capacities do not exist, a simpler targeting mechanism would be more appropriate, such as a scheme based on a geographic poverty map (as used in Colombia). Generally, a connection subsidy requires less institutional capacity than a consumption subsidy, because a household's eligibility needs just one-time evaluation. However, there would still be difficulty measuring whether these subsidies generate sustainable access.



*Choosing a service provider.* Most recent descriptions of OBA suggest the use of private service providers for an output-based approach. Two considerations, however, need be reviewed: first, the availability of private providers to participate in the potential subsidy-linked concessions is likely to be a key issue. A second related consideration is the

importance of including community-based service providers as well as local governments where appropriate, particularly for sanitation and village-level environmental improvement. This would involve appropriate separation of roles and definition of a framework for measuring outputs and ensuring that the service providers have the necessary incentives to ensure these outputs.

**Table 4.2**

**Illustrative Examples: Pro-poor Subsidies for Water and Sanitation**

a. Subsidies for Access to Water and Sanitation

Partial capital grants for access to RWSS and slum improvement	Partial capital grants (25 to 95 percent) in various World Bank-funded RWSS projects under a demand-responsive approach (Table 4.1 and Box 3.13)
Demand promotion for sanitation and hygiene	Subsidies to support staff and technical assistance costs of sanitation demand promotion through innovative mechanisms for global handwashing initiative, village rewards for sanitation in India, and provision of toilets in Burkina Faso and India (Box 4.2)
Social connections for the urban poor	Subsidies for private water service providers in Côte d'Ivoire and Senegal to provide connections to utility systems (Box 4.3 and Box 4.7)

b. Improving Cross-subsidies for Water Tariffs

Principles for improved cross-subsidies	Rules suggested on the basis of analysis of assessment in Guayaquil, Ecuador (Section 4.3)
Universal service funds	Universal service funds used particularly in telecommunications sector in several countries, such as the United States and in Europe (Box 4.4)
Auctions for minimum subsidies	Several examples from the telecom and energy sectors particularly for service provision in rural areas in Peru (Box 4.5)

c. Output-based Aid

For consumption through direct subsidies	Direct subsidies to privately managed utilities in Chile and Panama to meet the net costs for providing services to identified low-income groups at affordable prices (Box 4.6)
For access through social connections	Performance-linked subsidies for social connections used by private service providers in Côte d'Ivoire and Senegal (Box 4.7)
Subsidy-linked concessions	Pilot applications for fixed subsidy-linked concessions being explored in Paraguay through aguateros (Box 4.8)
For supporting transition to critical sector reforms	Support through special funds to meet the transition costs of critical institutional reforms in relation to agreed milestones (Box 2.9) and support to implement gradual tariff reforms in Guinea leading to full cost-recovery tariffs over an agreed timeframe (Box 3.2)
Sanitation demand promotion	Village rewards for overall sanitation improvements achieved through promotion and investments by village LG and community (Box 4.2)

## 4.5 Summary

Table 4.2 provides a summary of the financing mechanisms to improve targeting of pro-poor subsidies reviewed in this chapter. For each mechanism at least one example is provided, and the issues related to their use is discussed above.

Access subsidies emerge as important in both rural and urban contexts, and for water and sanitation. However, their form and design differ; for example, for sanitation, greater emphasis is needed on demand promotion, hygiene awareness, and community approaches rather than individual household-level subsidies commonly used in the past, particularly for latrines. Design of access subsidies also needs to take into account the notion of 'basic service levels' and avoid multiple and conflicting subsidy rules within a countrywide perspective. The review also suggests the need to use appropriate rules and principles in contexts where the use of cross-subsidies seems relevant. This may be further enhanced through the use of mechanisms such as universal service funds and minimum subsidy concessions that have been more commonly used in other infrastructure sectors, particularly telecommunications.

Design of subsidies can be enhanced significantly by using the OBA approaches. When properly designed, OBA structures provide better incentives, enhance sustainability through selection of more appropriate service providers, and avoid the crowding out of private and community resources. However, this approach is a more recent development and the experience

so far has been limited. While using this approach, particular attention will need to be paid on measuring outputs, in adapting the choice and design to local institutional capacity and costs of administration, and in choosing a service provider, ranging from a small private provider to a community-based organization or even a rural local authority, depending on the local context and the specific WSS sub-sector. These mechanisms also require strong regulatory and monitoring systems.

The review suggests the importance of context-specific choice and design of subsidy mechanisms. This necessitates that the subsidy mechanism is developed and structured in relation to the real situation in a given context for aspects such as coverage for access to the utility networks, extent and functionality of metering, administrative capacity and costs for identifying and reaching the poor and low-income groups, and existence of or potential for using private or community-based service providers. Choice of a particular mechanism from among different sets of mechanisms for promoting reforms would depend on the local context and is likely to be affected by a number of factors. A particularly important dimension, especially for the design of subsidy instruments, is the political and economic context that defines the framework within which the instruments actually be designed and implemented. Thus, the actual design and sequencing would need to respond to these ground realities.

Chapter 5 provides a more detailed discussion of issues in deciding on such choices.



## Meeting the Financing Challenge: Issues and Research Directions

***The local context should guide the use of financing mechanisms, supported in turn by continuing innovations in the development and use of financing mechanisms. Further research should focus on understanding the choice and sequencing in the use of financing mechanisms, and their assessment and documentation.***

The review of financing mechanisms in this overview paper has been done within the context of three aspects of the financing challenge for the WSS sector: to promote and support reforms, to leverage additional resources for the sector, and to ensure appropriate targeting of subsidies to the poor. This chapter summarizes the key issues in the use of the financing mechanisms reviewed and initiates a discussion on the choice of appropriate financing mechanisms in different contexts. This also emerges as an important area for further research. The final section summarizes this and other important directions for further research that emerge from this global overview.

### 5.1 Summary of Key Issues in the Design and Use of Financing Mechanisms

Chapters 2 to 4 report on the financing mechanisms within the framework identified in Chapter 1 to meet the financing challenge for water and sanitation. An effort has been made to identify examples and illustrations for each of the financing mechanisms discussed in these three chapters, and issues related to their use are identified. Based on this review, a number of critical and cross-cutting issues are featured below:

*Fiscal viability at scale.* The need for public fiscal resources is recognized as important in the WSS sector. However, a major drawback of WSS strategies has been the lack of fiscal viability for countrywide scaling up of programs to achieve agreed access targets in a sustainable manner within a reasonable timeframe. Clearly, any financing mechanism using a direct subsidy element needs assessment and development within

a macro assessment of financial sustainability. However, new approaches within several African and Asian countries that have introduced the concept of medium-term fiscal planning now give a clearer indication of the likely macroeconomic envelope within which such planning would need to be done. Any financing mechanism that uses a direct subsidy element needs to be assessed for such fiscal consistency. The review also suggests the need for appropriate and flexible standards as a first step in enhancing access for the poor, in order to ensure that the fiscal consistency of the total magnitude of subsidies is maintained when going to the scale required to reach all the poor within a defined timeframe.

*WSS preparedness within a multisector context.* Most financing mechanisms and public sector allocation mechanisms are operated within a multisectoral framework that includes either social or infrastructure sectors. Market resources would also be guided by market considerations of risk and returns. This necessitates that the water and sanitation sector be relatively well prepared to absorb the resources that are available through such mechanisms; otherwise, within a competitive framework, resources will flow to other sectors that are (or are perceived to be) better prepared. In many countries/contexts, it is likely that special efforts will be necessary to ensure that the WSS sector receives appropriate and adequate allocations from such funds through better sector preparedness. Sector preparedness is linked to government commitment to the required reforms and the capacity of different stakeholders. For example, to leverage additional resources for the WSS sector, an appropriate sector framework in terms of tariff reforms and regulatory framework is vital, as is the capacity to develop bankable investment opportunities.

*Constraints in financing software and institutional reform.* Traditionally, public finance in most countries has focused on funding direct service delivery and hardware support. To meet the WSS financing challenge, public finance mechanisms need to focus equally, and at times even more on funding other nontraditional

activities such as capacity-building, support to institutional reform, project development support, sector strategy development, sector monitoring and evaluation systems, and providing for performance-linked partial guarantees. A major change in mindset among decision-makers, supported by appropriate design of finance mechanisms, will be needed to achieve funding for such activities. It will also require a recognition that the cost of sustainable provision of services needs to include costs of software and management inputs, and the measurement of output and outcomes will need to include not just access but also parameters related to utilization and sustainability of services.

*Weak monitoring and information systems.* Traditional public finance models have generally focused on inputs rather than actual performance and outcomes. Many of the new approaches, however, especially when linked to reform agenda, tend to focus on linking public finance and aid to outcomes and performance. While this enhances the finance-reform link more strongly, it also requires measures such as better articulation and measurement of performance, ensuring that the service providers have the capacity to deliver the targeted performance, and setting up strong and transparent M&E systems. This is a key sector weakness as in the past M&E efforts have largely focused only on externally aided projects, and there is almost a complete absence of systematic collection of sector-level information and sector-level monitoring and evaluation. Both are essential to the development of improved sector-wide planning approaches and the enhancement of transparency and accountability in service delivery.

*Need for appropriate and flexible standards/technologies.* The review also suggests the need for appropriate and flexible standards as a first step in enhancing access for the poor, in order to ensure that the fiscal consistency of the total magnitude of subsidies is maintained when going to the scale required to reach all the poor within a defined timeframe. Interestingly, some of the more recent work on adopting more appropriate standards has been done using private concessions, as in Buenos Aires and Manila, where the need to meet the concession condition of reaching the poor has led to innovations. Innovations are required both in technology for water and sanitation as well

as in appropriate management of maintenance and billing and collection systems. The now famous condominal system developed initially in Brazil and applied in Bolivia and many other countries offers cost savings of more than 20 percent. Some innovations have also been driven by local authorities such as those in Durban, South Africa, where the Durban Tank System has evolved in response to the need to cater for the low-income population. This would also enhance fiscal viability when attempting countrywide scaling up.

*Design of financing mechanisms: “the devil is in the details”.* The review has pointed out specific issues in the design of each financing mechanism. Clearly, the successful use of a financing mechanism is linked to its sensitive design in the local context. A number of factors affect successful design, and often it is the detail that requires careful attention and determines success or failure. For example, if local authority accountability is weak, independent and autonomous governance arrangements need to be considered when using the challenge fund structures discussed in Section 2.3. Without this, such funds will be prey to political capture and will fail to achieve results. Similarly, access subsidies for water appear rather simple tools. However, unless these are properly designed they may provide perverse incentives. For example, if subsidy ceilings are not carefully designed in relation to basic service levels in given contexts, there would be a tendency for the communities to choose the most expensive technologies regardless of management complexity and high operating costs. On the other hand, if ceilings are carefully identified and the cost savings through local efforts accrue to the communities, it will result in considerable local innovations.

## 5.2 Choice of Financing Mechanisms in Different Contexts

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The choice and use of the different financing mechanisms reviewed in Chapters 2 to 4 in different country and regional contexts will be guided both by factors defining the macro country context and the WSS sector context. Relevant contexts for different mechanisms and factors influencing decisions in a country are discussed below.

**Table 5.1**

**Illustrative Contexts for the Use of Different Financing Mechanisms**

Promoting Sector Reforms

**a. Decentralization-linked Mechanisms:**

- Countries with emerging decentralization policies with clear policy and legislation for local mandates and a focus on enhancing capacity of local governments for managing improved service delivery

**b. Special Fund Mechanisms:**

- Where decentralization reforms are not forthcoming or community-driven development for infrastructure services is not accepted readily, or where the poor and low-income groups need support in negotiating with LAs
- Where high transaction and political costs are likely to be a deterrent to institutional reforms

**c. Programmatic Approaches:**

- Where there is a general agreement on sector reforms and the national government has adopted broader reforms for public expenditure management and budgeting. Strong leadership of sector ministry is essential
- Where institutional reforms are possible at least in the medium term

Leveraging Additional Resources

**a. Private Sector Participation and Investments:**

- Countries where an overall reform climate in infrastructure sector exists, and there is some level of financial autonomy for independent utilities with an emphasis on internal cash generation through appropriate pricing and operational efficiency
- Partial guarantees relevant where transactions are developed but the borrowing entities lack credit history, need to cover policy risks, or where lack of long-term debt adversely affects project financial viability
- Project development support relevant where there are some creditworthy borrowers and possible opportunity for good transactions, but a lack of capacity for project development potential among borrowers

**b. Local Investments through Local Credit Markets:**

- MDFs or special financial intermediaries are relevant where there is a reasonable level of existing/emerging municipal capacity but a low level of financial sector development or a lack of interest among the FIs in the municipal sector
- Direct market access is more appropriate where there is high financial sector and capital market development and a reasonable level of creditworthiness for borrowers. Pooled financing is relevant in case of many small borrowers

**c. Enhancing Household and Community Resources:**

- Would be relevant in all contexts where there is some level of ability and willingness to pay for WSS services
- Would be more viable when government policy enables community share in infrastructure finance and a good base and outreach available of strong CBOs, CBFIs and interest among domestic financial institutions

Improving Pro-poor Subsidies

**a. Subsidies for Access to Water and Sanitation:**

- In all developing countries where large shortfalls in access to safe rural water supply systems are prevalent: the level of subsidies should be linked to affordability, WTP, and fiscal viability at scale
- Demand promotion for sanitation and hygiene awareness is relevant in all developing countries where coverage of access to and use of safe sanitation is low and hygiene awareness needs to be enhanced
- Social connections are appropriate when urban water service providers have well-functioning networks but low levels of access to these for the poor

## Improving Pro-poor Subsidies

**b. Improving Cross-subsidies through Water Tariffs:**

- In contexts where they have been used in the past, and/or politically and administratively they appear relevant and necessary: use of minimum subsidy auction can improve determination of level of subsidies
- Universal service funds may be used where universal service policy for WSS is explicitly adopted and its cost (less other government subsidies) as a proportion of total sector turnover is reasonable

**c. Output-based Aid:**

- Direct subsidies may be used where utilities are able to provide reliable water services and the information and administrative capacities for cost-effective identification of the poor and low-income groups exists
- Subsidy-linked concessions may be used where affordability and willingness to pay for services among the poor is less than the service costs, and a base of small private providers with capacity to bid for concessions exists
- In contexts where there is commitment to reforms, but the cost of immediate reforms may be high or gradual, reforms are necessary for political reasons

The review identified a range of mechanisms within the framework discussed in Chapter 1. For each mechanism reviewed, an attempt has been made to assess the relevant contexts where its use will produce the intended results. Table 5.1 provides an illustrative idea of the relevant contexts for each main set of mechanism in this review.

### **Levels of Decision-making and National-level Influencing Factors**

Essentially, three different levels of decision-making are relevant for choosing appropriate financing mechanisms for water and sanitation: (a) global level, especially for bilateral and multilateral agencies (b) national level, or the regional governments, in the case of large federal countries such as India and Brazil and (c) local level for local government, especially in the context of medium and large urban areas. Table 5.2 provides an illustration of the nature of financing mechanisms across which such choices will need to be made at different levels.

In a given country, choice across different mechanisms would be guided by a number of influencing factors in the local context and a country specific financing strategy. The influencing factors for decision-making at the national level are discussed below:

*Macro country context.* It is essential to understand the country context to review the choice of a particular financing mechanism. This should be in relation to factors such as:

- *Overall progress on fiscal and governance reforms.* The choice of mechanism to promote WSS sector reforms will be guided by a country's level of achievements under wider fiscal and governance reforms. These determine the appropriateness of planning and the possibility of accountability in the public systems. For example, with strong fiduciary arrangements the possibility of scaling up through programmatic approaches would become possible. On the other hand, weak systems often result in choice of special mechanisms related to special funds or independently executed projects. Careful analysis is necessary for deciding the level of reforms at which such transition becomes possible.
- *Level of financial sector development.* The choice of mechanism for supporting market access for WSS service providers is linked to the level and nature of financial sector development in a given country. With a high level of domestic financial sector development, a variety of measures to avoid crowding out of domestic finance becomes viable. On the other hand, low development would necessitate measures that may later merge with markets. Alternatively, if local service providers are creditworthy, it will be possible to explore supporting external borrowing.
- *Level of microfinance industry development.* For enabling greater leverage of community and household resources, the development and maturity of the microfinance sector is an

important determinant. With a strong microfinance sector, the issue will be to develop adequate linkage through an appropriate sector framework to mobilize community resources. In the case of low levels of development, however, the emphasis will need to be on developing the WSS and community infrastructure products that would also help strengthen the microfinance sector. An issue here would be to strike a balance between the long time required for MF institutions (MFIs) to mature and the immediate requirements in the sector linked to scaling up.

- *Economic and demographic context.* Levels of income and poverty are also important influences in the choice of financing mechanisms. At higher levels of income, the issue of fiscal consistency at scale starts to ease, and choice of subsidy measures becomes easier. On the other hand, with low incomes and high poverty levels, the subsidy requirements will be higher, with a corresponding low access to fiscal resources. Similarly, the demographic context in terms of the level of urbanization and the spatial

distribution and density of settlements will also be important determinants of costs and the level and nature of subsidy requirements and will therefore influence the choice of financing mechanism for better targeting.

- *Development of civil society and social capital.* Accountability and client responsiveness are affected to a great extent by the strength or weakness of the civil society organizations, particularly those that affect households and communities as clients of WSS service providers. With weak community structures more support would be needed on the demand side, and special funds such as the community development funds discussed in Section 2.3 would be needed. It would also influence the design of subsidy-linked mechanisms.

*Context of the infrastructure sector.* The choice of financing mechanism is also influenced by the sector context and the status of overall decentralization and other infrastructure sectors:

- *Liberalization in the infrastructure sector.* Commitment to, and actual implementation of, difficult sector reforms require an overall

**Table 5.2**

**Levels of Decision-making for Choosing Financing Mechanisms**

Level of Decision-making	For Promoting WSS Sector Reforms	For Leveraging Additional Resources	For Improved Subsidies
<b>Global</b>	<ul style="list-style-type: none"> <li>■ Special funds</li> <li>■ Programmatic approaches</li> </ul>	<ul style="list-style-type: none"> <li>■ Partial guarantees</li> </ul>	<ul style="list-style-type: none"> <li>■ Output-based aid</li> </ul>
<b>National/ Province</b>	<ul style="list-style-type: none"> <li>■ Decentralization</li> <li>■ Special funds</li> <li>■ Programmatic approaches</li> </ul>	<ul style="list-style-type: none"> <li>■ Tariff reforms and internal cash generation by utilities</li> <li>■ Guarantee facility</li> <li>■ Project development facility</li> <li>■ MDF/SFI</li> <li>■ Regulatory framework for local borrowing</li> <li>■ Pooled finance arrangements</li> </ul>	<ul style="list-style-type: none"> <li>■ Access subsidies for rural water, urban slums, and sanitation demand promotion</li> <li>■ Universal service fund</li> <li>■ Output-based aid</li> <li>■ Auctions for minimum subsidies</li> <li>■ Direct subsidies for water</li> </ul>
<b>Local (Urban or rural)</b>	<ul style="list-style-type: none"> <li>■ Special funds</li> </ul>	<ul style="list-style-type: none"> <li>■ Appropriate sector framework for water and sanitation</li> </ul>	<ul style="list-style-type: none"> <li>■ Access subsidies</li> <li>■ Auctions for minimum subsidies</li> </ul>

orientation of the government to liberalization in the infrastructure sector. To some extent this may be assessed by consideration of the overall liberalization in the infrastructure sector, especially in subsectors such as telecommunications and power. If the reforms in these sectors are also not well developed, it will be generally more difficult to carry out institutional reforms in the WSS sector due to its greater political sensitivity.

- *Decentralization and capacity of local governments.* Another key influencing factor is decentralization. Two aspects are important: the level of decentralization achieved in terms of the fiscal framework (including the necessary administrative transfers), and the capacity of local governments to take on the enhanced role. In case of weak local capacities, emphasis would be needed first on mechanisms that provide incentives for building these capacities. On the other hand, with strong local governments, greater reliance on market mechanisms for local borrowing would be possible, and local authorities can leverage additional resources through private and/or community resources.
- *Autonomy and financial viability of WSS utilities.* Use of different financing mechanisms, particularly in small and large urban areas, depends critically on the extent to which independent utilities run on a commercial basis are available to provide water services. When they are present and largely financially viable, it becomes possible to effectively use mechanisms for leveraging additional resources and for using appropriate subsidies discussed in this review. However, when these are not present, initial emphasis would need to be on using mechanisms for promoting sector reforms that result in the setting up or strengthening of such utilities.
- *Government commitment to WSS sector reforms.* Several studies have shown that for aid to be effective, government ownership and commitment to reforms are essential. This requires first a general climate of reforms, especially related to decentralization, fiscal and governance reform, and liberalization in the infrastructure sectors.

The process of choosing an appropriate financing mechanism in a given country context is complex, and requires an assessment of the country context in relation to the influencing factors identified above. Table 5.3 provides an illustration of the type of decisions involved in the choice of mechanisms for different country contexts defined in terms of influencing factors.

### ***Illustrative Tradeoffs in National Decisions***

Some illustrative examples of the type of tradeoffs that will need to be considered in choosing a particular financing mechanism in a local context are discussed below. Developing a better understanding of these key tradeoffs is important for addressing the WSS financing challenge.

*For promoting WSS sector reforms: decentralization versus special fund mechanisms.* The operation of any finance mechanism is linked to the availability of transparent public finance management systems that permit accountability. Similarly, issues related to the capacities of local governments assume importance for transfer mechanisms within the decentralization framework. In many cases, special fund mechanisms (for example, social investment funds) or special projects have been used when such financial management and resource mobilization capacities are non-existent. While these mechanisms create parallel independent systems, rather than strengthening existing institutions and agencies, this may often be the only choice available if a wider reform acceptance does not exist or the public accountability systems are weak. In a long-term perspective there would also be a further tradeoff between the use of a programmatic approach linked to the government budgetary process and the use of sectoral projects. However, this necessitates government ownership, commitment, and leadership, as well as the use of a sector-wide approach linked to a medium-term planning and budgeting process.

*For leveraging resources: local creditworthiness, MDFs, and financial sector development.* For leveraging domestic resources in the WSS sector, key influencing factors include the capacity or creditworthiness of local borrowers and the level of financial sector development. If the capacity of local borrowers is low, the emphasis needs to be on measures to support local



**Table 5.3**

**Illustrative Tradeoffs at the National/Province Level in the Choice of Mechanisms**

Influencing Factor	For Promoting WSS Sector Reforms	For Leveraging Additional Resources	For Improved Subsidies
<b>Macro Context:</b>			
Overall progress on fiscal and governance reforms	Choice between programmatic approach and MTEF, special projects or special fund		Choice in the use of direct subsidies
Financial sector development		Choice related to measures for accessing domestic credit markets	
Micro finance industry development		Choice related to measures for leveraging community resources	Choice regarding level of access subsidies and credit
Economic and demographic context	Choice related to level and nature of grants through special fund mechanisms	Choice related to leveraging in relation to total resource requirements	Choice related to level and nature of subsidies
Development of civil society and social capital	Choice related to programmatic approaches and special funds	Choice related to measures for leveraging community resources	Choice related to type of subsidy measures for better targeting
<b>Context of Infrastructure Sector:</b>			
Reform commitment in the infrastructure sector: political economic context	Choice related to mechanisms to support sector institutional reforms	Choice related to measures for leveraging resources through private sector participation	Choice in the use of subsidies linked to output-based aid
Decentralization and capacity of local governments	Choice among measures related to fiscal framework for decentralization and reform-linked intergovernmental transfers	Choice related to access of local governments and service providers to domestic credit markets	
Autonomy and financial viability of WSS utilities	Choice regarding use of institutional reform-linked challenge funds	Choice of mechanisms for leveraging private sector resources	Choice of more effective cross-subsidies
Government commitment to WSS sector reforms	Choice related to sector-wide approach (SWAp) within a programmatic approach	Choice related to sector framework for tariff reforms and regulation for leveraging resources	Choice related to tariff reforms and subsidies

capacity development and to support institutional reforms through special challenge funds to meet the transition costs. However, when there is some emerging local government capacity with weak financial sector development, there may be a case for introducing a municipal development fund or a special financial intermediary, as long as care is taken to ensure that their design does not inhibit

later market integration. Whenever possible, the task of project development support to local governments needs to be unbundled, but especially when the financial sector development is better. In a context where the level of financial sector development is high but the local borrower capacity is still moderate or there is variable capacity among these entities, it would be

appropriate to explore support to a municipal bond system for more capacitated local governments, pooling arrangements for smaller borrowers, and partial guarantee mechanisms and special credit enhancement measures to assist these entities to develop credit histories. All the designs need to ensure that as the creditworthiness of local borrowers is enhanced and the country's financial sector development is advanced, it is possible to exit with increasing market integration of infrastructure financing.

*Appropriate pro-poor subsidies: costs of universal service and level of economic development.* The Millennium Development Goals agreed upon by most developing countries and several donor agencies suggest a move towards universal service. The plans and strategies of many countries also include goals of universal coverage within a reasonable timeframe. This will often require appropriate subsidies to ensure access to these services for the poor and low-income groups. However, in contexts where the level of economic development is very low, and when the existing WSS status is also poor, initial attention must first be placed on access subsidies. With some improvements, improved cross-subsidies may be the best approach, as there may be many demands on general government revenues to be used for subsidizing the water and sanitation sector, though in most contexts some possibility of cross-subsidization exists. The use of means-tested direct subsidies for consumption would generally become relevant at higher levels of economic development, when there is sufficient administrative capacity to implement the complex subsidy schemes. In contexts where the overall level of economic development is high but due to some historical circumstances the WSS coverage and quality are poor, such as in South Africa, subsidies from the government to support and ensure universal access to affordable services become relevant. As progress is achieved on coverage at the basic service levels, revision of basic standards becomes appropriate. Such revisions may be politically expedient even in low or middle-income countries. However, it is important that the standards for basic services are fixed and revised in relation to a careful assessment of fiscal sustainability at scale for the country or region.

### **Approach to Financing Strategies**

Financing mechanisms in this review are to some extent generic and would be relevant in different contexts. However, a WSS financing strategy must be context-specific and determine the allocation of available public resources across different financing mechanisms to achieve agreed WSS reforms and targets over a given timeframe. In the framework of WSS sector reforms, the three inter-linked principles of a WSS financing strategy would be:

- *Scale and sustainability:* the extent to which resources are linked to time-bound countrywide targets, ensure “fiscal viability at scale”, and are conducive to long-term sustainability of WSS systems.
- *Leveraging:* the extent to which public resources are used to leverage additional resources from community, private sector, and commercial finance systems.
- *Targeting:* the extent to which the public finance ensures targeting to the poor.

In this regard, the overall feasible resource envelope for the sector should guide the issue of trade-off between WSS standards and level of service versus the need to achieve countrywide coverage within a reasonable timeframe. Similarly, sequencing of activities to ensure upfront reforms will also be crucial. The approach to development of a country WSS financing strategy will be to start with an assessment of existing resource flows to the sector, a situation assessment for financial sector development, and position it within the context of ongoing WSS sector reforms. A WSS financing strategy for a given country (or region in a federal set-up) would comprise:

- Country/region-wide standards and targets for WSS coverage over the medium term and detailed cost estimation for different activities and investments to achieve the overall sector strategy.
- WSS financing policy including allocations and cost-sharing arrangements.
- Identification and design of potential financing mechanisms and allocation of ‘available’ public resources across financing mechanisms over the medium term within the context of a fiscally sustainable financing envelope determined in a wider macro-economic framework (such as MTEF).

### 5.3 Directions for Further Research

This study has provided a framework for understanding the WSS financing challenge and carried out a selective global review of financing mechanisms used in different contexts. Key issues in the use of these financing mechanisms in different local contexts have also been identified. In this chapter initial suggestions are made regarding the process for choosing appropriate financing mechanisms in relation to local country contexts. The review and analysis so far provides a basis for further research. Based on this, key areas of further research are identified as:

*Analysis of choices in local contexts.* As discussed above, and illustrated in Tables 1.5, 5.1 and 5.3, the choice of a particular set of financing mechanism will be influenced by a number of factors. Useful research into this subject would include a better understanding of how such factors have actually influenced the decision-making process in different contexts and their impact on sector reforms, resource leveraging, and subsidy targeting. Such analysis would also help guide local decisions and present options for sequencing in the use of financing mechanisms.

*Exploring the issue of fiscal viability at scale.* Any financing mechanism needs grounding in the fiscal realities of a given country. A key issue cutting across most financing mechanisms in this respect is the fiscal sustainability of any measure at scale. Surprisingly, most efforts and programs in the WSS sector fail to address this key concern. In view of the increasing emphasis on the MDGs, it becomes imperative to assess the fiscal sustainability necessary to achieve these within a reasonable timeframe. This requires a better understanding of the link between inputs and outputs and the actual flow of resources in the WSS sector. Where leveraging is important and other stakeholders also contribute to sector

resources in a significant manner, analysis is required beyond the public sector resources. Such research has been recently initiated in East Africa and needs to be extended to look at the issues of fiscal sustainability at scale. A particular weakness in the WSS sector is inadequate emphasis on understanding, assessing, and measuring outputs and outcomes. When compared to other sectors, analysis of performance assessment in the water and sanitation sector lacks depth and analytical rigor. In the context of efforts to develop a sector-wide approach and a sector monitoring and evaluation system, this aspect needs critical attention.

*Continuing development and documentation of financing mechanisms.* The review identified the ongoing development and use of a number of innovative mechanisms, ranging from programmatic approaches, output-based aid, partial guarantees, new modes of engagement with the private and public sector, to special funds for sector institutional reforms. Many stakeholders, including country and local governments, NGOs and civil society organizations as well as bilateral donors and multilateral agencies, such as the World Bank and other regional financial institutions, are undertaking such efforts. Further research needs to focus on a more critical analysis of selected mechanisms to assess their impact on the three financing challenges identified in this paper. Efforts should also identify their relevance in different WSS sub-sectors such as the rural water supply, urban water supply, systems in small towns, and sanitation and hygiene improvements. To enable other stakeholders from different countries in exploring their use, more detailed documentation on different financing mechanisms and their use in different contexts becomes necessary to provide guidance in the use of a particular mechanism while addressing key contextual issues.



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## ABBREVIATIONS

ACSI	Amhara Credit and Savings Institute (Ethiopia)
ADB	Asian Development Bank
ALGAK	Association of Local Government Authorities of Kenya
APL	Adaptable program loan
APUSP	Andhra Pradesh Urban Services for the Poor (India)
ARWSP	Accelerated Rural Water Supply Project (India)
ASUS	Ahmedabad Slum Upgrading Society
BNWP	Bank Netherlands Water Partnership
CAA	Constitutional Amendment Act (India)
CBFI	Community-based financial institution
CBO	Community-based organization
CCF	City Challenge Fund (India)
CDD	Community-driven development
CDF	Community Development Fund
CDMA	Commissioner and Director of Municipal Administration (Andhra Pradesh)
CGAP	Consultative Group to Assist the Poorest
CLF	Crédit Local de France
CLGDP	Community and Local Government Development Project (Nigeria)
CLIFF	Community-Led Infrastructure Finance Facility (India)
CODI	Community Organization Development Institute (Thailand)
CPB	County Price Bureau (China)
CSCF	Civil Society Challenge Fund
CSG	Community saving group
CSO	Civil service organization
CWSA	Community Water and Sanitation Agency
CWSP	Community Water and Sanitation Project
DANCED	Danish Cooperation for Environment and Development
DCA	Development Credit Authority
DFI	Development financial institution
DFID	Department for International Development
DINT	Decentralized Infrastructure and New Technologies (India)
DMAWS	Department of Municipal Administration and Water Supply (Tamil Nadu)
DRA	Demand-responsive approach
DWD	Directorate of Water Development (Uganda)
DWAF	Department for Water Affairs and Forestry
EAIF	Emerging Africa Infrastructure Fund



ECA	Europe and Central Asia
ESRDF	Ethiopian Social Rehabilitation Development Fund (Ethiopia)
FBW	Free basic water (South Africa)
FCC	Federal Communications Commission (United States)
FFI	Formal financial institution
FHIS	Honduras Social Investment Fund
FI	Financial institution
FOP	Finance and operating plan
FOPAS	Participatory Social Investment Fund
GDP	Gross domestic product
GEF	Global Environment Facility
GoAP	Government of Andhra Pradesh
GoI	Government of India
GoK	Government of Kenya
GoTN	Government of Tamil Nadu
GoU	Government of Uganda
GWCL	Ghana Water Company Limited
HDFC	Housing Development Finance Corporation (India)
HIPC	Highly Indebted Poor Country
IASC	Indian Association of Savings and Credit
IBT	Increasing block tariff
ICIP	India Community Infrastructure Project
ICPAK	Institute of Certified Public Accountants of Kenya
IDA	International Development Association
IDB	Inter American Development Bank
IDFC	Infrastructure Development Finance Company
IFC	International Finance Corporation
IFI	International financial institution
IL&FS	Infrastructure Leasing and Financial Services
INCA	Infrastructure Finance Corporation Limited
KLGRP	Kenya Local Government Reform Program
LA	Local authority
LASDAP	Local authority service delivery action plan
LATF	Local Authority Transfer Fund (Kenya)
LG	Local government
LGA	Local Government Authority
LGBFP	Local Government Budget Framework Paper (Uganda)
LGU	Local Government Unit
LIL	Learning and innovation loan
M&E	Monitoring and evaluation
MAPP	Municipal Action Plan for Poverty Reduction (Andhra Pradesh)

MDF	Municipal development fund
MDG	Millennium Development Goal
MF	Microfinance
MFI	Microfinance institution
MFPED	Ministry of Finance, Planning and Economic Development
MIGA	Multilateral Investment Guarantee Agency
MIIU	Municipal Infrastructure Investment Unit (South Africa)
MMRDA	Mumbai Metropolitan Regional Development Authority (India)
MoU	Memorandum of Understanding
MSP	Municipal Service Partnership (South Africa)
MTEF	Medium-Term Expenditure Framework
MUDF	Municipal Urban Development Fund (Tamil Nadu)
MWLE	Ministry of Water, Lands and Environment (Uganda)
MWSI	Mayniland Water Services, Inc (Philippines)
MWSS	Metro Manila Waterworks and Sewerage Service (Philippines)
NESDB	National Economic Social Development Board (Thailand)
NGO	Nongovernmental organization
NHA	National Housing Authority (Thailand)
NHC	Neighborhood committee
NSDF	National Slum Dwellers Federation (India)
O&M	Operations and maintenance
OBA	Output-based aid
ODI	Overseas Development Institute
OFWAT	Office of Water Services (England)
OPIC	Overseas Private Investment Corporation
PAF	Poverty Action Fund (Uganda)
PCD	Project concept document
PCG	Partial credit guarantee
PEAP	Poverty Eradication Action Plan
PER	Public expenditure review
PMU	Project management unit
PPA	Participatory Poverty Assessment
PPIAF	Public-Private Infrastructure Advisory Facility
PPP	Public-private partnership
PREM	Poverty Reduction and Economic Management (World Bank)
PRG	Partial risk guarantee
PRSC	Poverty reduction support credit
PRSP	Poverty reduction strategy paper
PSAL	Programmatic structural adjustment loan
PSM	Public sector management
PSP	Private sector participation

RWS	Rural water supply
RWSS	Rural water supply and sanitation
SCG	Savings and Credit Group
SECAL	Sector adjustment loan
SF	Social fund
SFC	State Finance Commission
SFI	Specialized financial intermediary
SFI	Subnational financing intermediary
SGP	Small Grants Program
SHG	Self-help group
SIDA	Swedish International Development Agency
SIF	Social investment fund
SIM	Sector investment and maintenance loan
SLPFS	State-Level Pooled Finance Structure (India)
SSIP	Small-scale independent provider
STAP	Scientific and Technical Advisory Panel
SWAp	Sector-wide approach
TNUDF	Tamil Nadu Urban Development Fund (India)
TNUDP	Tamil Nadu Urban Development Project (India)
TNUIFS	Tamil Nadu Urban Infrastructure Financial Service
UCDO	Urban Community Development Office (Thailand)
ULB	Urban local body
UPR	Uniform Price with Rebate
URIF	Urban Reform Incentive Fund (India)
USAC	Universal Service Administrative Company
USAID	United States Agency for International Development
USF	Universal service fund
UWSP	Urban Water and Sanitation Project
UWSS	Urban water supply and sanitation
WDF	Water Development Fund
WHO	World Health Organization
WMERD	Water, Mines and Energy Resources Development (Uganda)
WRM	Water resource management
WSP	Water and Sanitation Program
WSS	Water supply and sanitation
WSSD	World Summit for Sustainable Development
WSUC	Water and sanitation users committee
WTP	Willingness to pay
WU	Women's Union
WUP	Water Utility Partnership

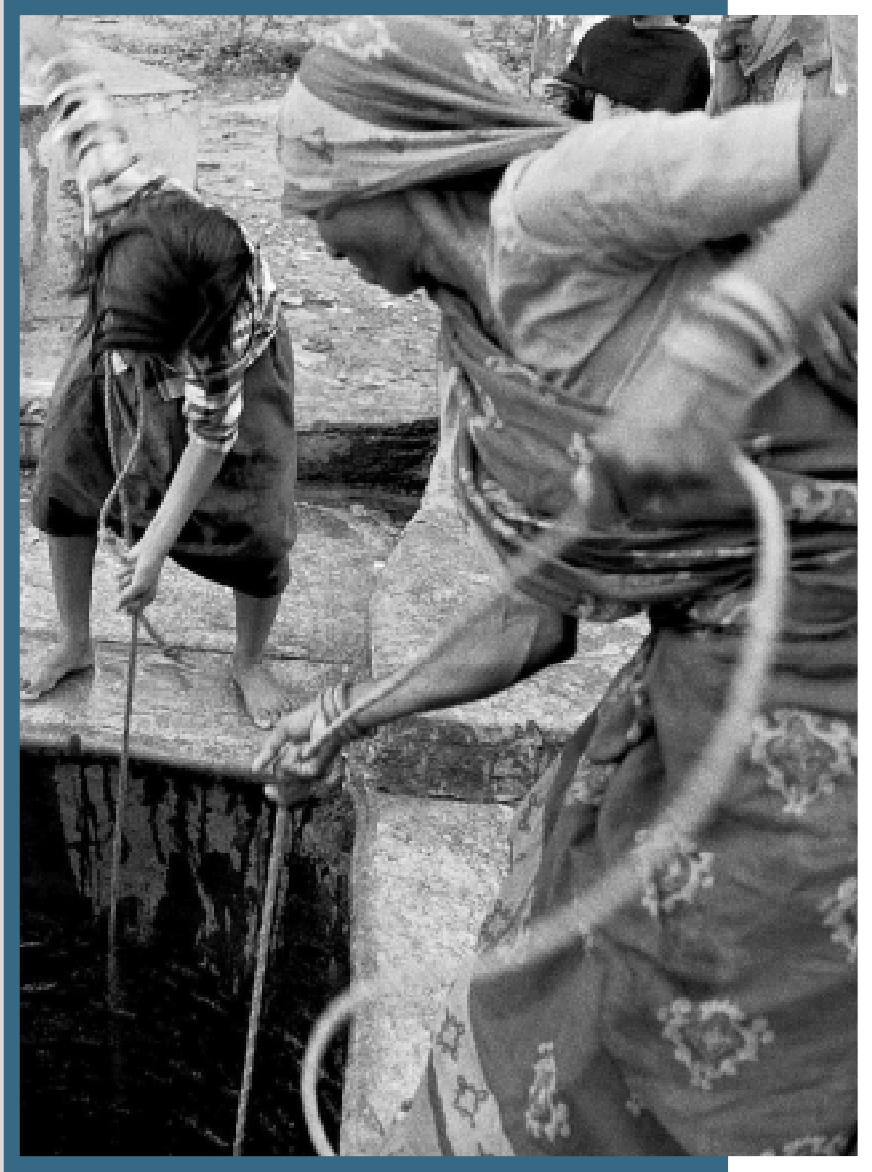


Table A1

## Financing Mechanisms that Promote Sector Reforms

Financing Mechanism	Description	Relevant Contexts	Illustrative Examples
<b>a. Decentralization-linked Mechanisms</b> – to promote local reforms			
Fiscal framework for decentralization	Expenditure responsibilities and matching revenue mandates assigned to local governments for appropriate services	Countries with emerging decentralization policies with clear policy and legislation for local mandates and a focus on enhancing capacity of local governments for managing improved service delivery	Constitutional Amendment Acts and state efforts in India that attempt to rationalize the mandates and fiscal powers of local authorities (Box 2.1)
Intergovernmental transfers to promote local reforms			
i. Conditional grants	Grants that are tied to specific sectors/uses, generally within a reform framework (e.g., DRA), available to all local authorities	Countries with strong national government priorities to achieve sectoral targets in the context of decentralization and good monitoring capacity	Conditional RWSS grants in Uganda to district governments to be used with a demand-responsive approach (Box 2.2)
ii. Discretionary transfers with conditions for local reform	Discretionary (untied) transfers linked to reform measures, to enhance the capacity for local finances and governance	Countries with need for introducing local government reforms to enhance local finances and governance, with possibility of transparent and formula-based decision-making for transfers	Local Authority Transfer Fund in Kenya (Box 2.3)
iii. Performance conditional grants within a challenge fund structure	Conditional grants linked to demonstrated improved performance and availed through a challenge fund structure	Where different local authorities are at varying capacity and performance levels	Local Governance Scorecards in Nigeria (Box 2.4); AP Urban Services for the Poor in India (Box 2.5)
<b>b. Special Fund Mechanisms</b>			
Social investment funds/special projects	Independently managed funds or special projects to provide demand-responsive grants for infrastructure to communities	Where decentralization reforms are not forthcoming or community-driven, development for infrastructure services is not accepted readily	Water and sanitation subprojects in Ethiopia Social Rehabilitation and Development Fund (ESRDF) (Box 2.6); Kerala RWSS Project, India (Box 2.7)
Community development funds	Special funds for poor communities focused on creating social capital, with operational costs covered through fund income	In urban areas where the poor and low-income groups need support in negotiating with LAs and local control of funds is possible	Community Organization Development Institute (CODI) in Thailand (Box 2.8)
Institutional reform-linked challenge funds	Funds to meet transaction costs of complex and difficult institutional reforms implanted through a challenge fund structure	Where high transaction and political costs are likely to deter institutional reforms	City Restructuring Grant in South Africa, and City Challenge Fund (CCF) and Urban Reform Incentive Fund (URIF) in India (Box 2.9)

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Financing Mechanism	Description	Relevant Contexts	Illustrative Examples
<b>c. Programmatic Approaches</b>			
Sector-wide approach (SWAp) and medium-term expenditure framework (MTEF)	Support to sector programs through SWAp, as opposed to financing individual projects; and development of sector expenditure plan in relation to sector priorities within resource ceilings from a macro framework	Where there is a general agreement on sector reforms and the national government has adopted broader reforms for public expenditure management and budgeting. Strong leadership of sector ministry is essential	Use of SWAp and MTEF in several African countries (Box 2.10)
Investment lending through sector investment and maintenance loan (SIM) or adaptable program loan (APL)	Support to a sector-wide strategy and program; lending is phased (APL) or in a single tranche (SIMS)	Where there is general agreement on sector reforms; phased instrument appropriate where implementation of specific reforms need time to develop. Strong leadership of sector ministry is essential	Adaptable Program Loan for Rural Water Supply and Sanitation in Ghana (Box 2.11)
Adjustment lending through sector adjustment loan (SECAL) or a poverty reduction support credit (PRSC)	Budget support linked to performance on key milestones for policy and institutional reforms; lending can be a single tranche (SECAL) or phased (PSAL/PRSC)	Where appropriate public expenditure management systems are available, commitment on sector reforms exists and institutional reforms are possible, in medium term. Strong leadership of sector ministry is essential	WSS component in the Poverty Reduction Support Credit (PRSC) in Uganda (Box 2.12)

Table A2

## Financing Mechanisms to Leverage Resources for Water and Sanitation

Financing Mechanism	Description	Relevant Contexts	Illustrative Examples
<b>a. By Attracting Private Sector Participation and Investments</b>			
Enabling reform framework	An appropriate reform framework including tariff reforms to ensure financial viability, clearly defined contractual obligations within a financial equilibrium framework and an appropriate regulatory framework. Emphasis is particularly needed on the small private sector	Countries where an overall reform climate in infrastructure sector exists, and there is some level of financial autonomy for independent utilities with an emphasis on internal cash generation through appropriate pricing and operational efficiency. For small providers, cities in most developing countries with a large informal sector	Credit for gradual tariff reforms in Guinea (Box 3.2), appropriate framework of contracts and relationships for PSP in Senegal (Box 3.3), and appropriate sector framework for small private providers in Ghana (Box 3.4)
Partial guarantees for risk mitigation	Within a broad risk management framework, partial guarantees to mitigate noncommercial policy or credit risks through different guarantee instruments of international agencies or domestic financial institutions and guarantee facilities	Contexts where transactions are developed but the borrowing entities lack credit history, need to cover policy risks, or where lack of long-term debt adversely affects project financial viability	Partial guarantee for a private sector water concession in Ecuador (Box 3.5), a framework for partial guarantees for municipal infrastructure in Hungary (Box 3.6), and guarantees for infrastructure for the poor under CLIFF (Box 3.15)
Project development support and focused interest by domestic financial institutions	Demand-based assistance to local authorities or local service providers to structure potential opportunities for private sector participation and investments. Special focus on small and decentralized infrastructure by domestic financial institutions	In contexts where there are some creditworthy borrowers and possible opportunity for good transactions, but a lack of capacity for project development potential among borrowers. Focus on small providers is relevant in most developing countries	MIIU, a project support facility for municipalities in South Africa and the experience with project development facilities in India (Boxes 3.7 and 3.8). Focused attention on small providers by financial institutions: case of IDFC (Box 3.8)
<b>b. By Promoting Local Investments through Local Credit Markets</b>			
Municipal development fund, specialized financial intermediary and refinance to banks/financial institutions	MDFs or SFIs help channel government or donor funds to municipalities as commercial loans to help establish precedents and credit history for municipalities. Refinance helps to develop interest in the sector among banks/FIs	In countries that have a reasonable level of existing or emerging municipal capacity but a low level of financial sector development or a lack of interest among the FIs in the municipal sector	TNUDF in India and FINDETER in Colombia as examples of MDF/SFI with efforts at market integration (Boxes 3.9 and 3.10)
Direct market access through municipal bonds, credit rating, and regulatory framework for local borrowing	Bonds issued for municipal infrastructure by municipalities or municipal utility enterprises. Credit rating and a regulatory framework useful to ensure viability	Contexts where there is high financial sector and capital market development and a reasonable level of creditworthiness for borrowers for municipal infrastructure	Emerging municipal bond system in India (Box 3.11)

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Financing Mechanism	Description	Relevant Contexts	Illustrative Examples
Pooled finance mechanisms	Issuance of bonds backed by pooling credit or projects of small municipalities or local borrowers by a state/regional authority. Often with some credit enhancement backing	Same as above but especially relevant when there are small borrowers with reasonable level of creditworthiness	Pooling of credit for small municipalities and local borrowers as being done through state bond banks in the US and the proposed pooling facility in India (Box 3.12)
<b>c. By Enhancing Household and Community Resources for Water and Sanitation</b>			
Enabling sector framework for cost recovery and regulation in community WSS	An enabling sector framework with appropriate institutional arrangements for local service delivery, cost-recovery rules suited to household and community needs and appropriate regulation	Would be relevant in all contexts where there is some level of ability and willingness to pay for WSS services	Sector framework for RWSS through small public utilities in China (Box 3.13)
Credit for household facilities and community-level infrastructure	Credit to households/communities for water or sanitation facilities from MFIs or CBFIs on sustainable basis. Often facilitated by NGOs or other local institutions	Interest among CBOs, CBFIs, or FIs available to pursue credit-based approaches for household/community infrastructure	Credit for household and community infrastructure in Vietnam and India (Box 3.14)
Integrated facility for scaling up community infrastructure finance	Credit to CBOs or small private providers for community-level infrastructure services from MFIs or formal FIs, supported by grants for sub-project development and partial risk cover. Often facilitated by NGOs or other local institutions	Government policy enables community share in infrastructure finance, a good base and outreach available of strong CBOs, CBFIs and interest among domestic financial institutions – constrained, however, by low capacity, lack of funds for sub-project development, and possibility of non-commercial risks when scaling up	Community-Led Infrastructure Finance Facility (CLIFF) and India Community Infrastructure Finance Initiative (Box 3.15)



**Table A3**

**Pro-poor Subsidies for Water and Sanitation**

Financing Mechanism	Description	Relevant Contexts	Illustrative Examples
<b>a. Access Subsidies for Water Sanitation</b>			
Partial capital grants for access to RWSS and slum improvement	Partial capital grants for access to community-based rural water supply schemes and for slum upgradation in urban informal settlements	In all developing countries where large shortfalls in access to safe rural water supply systems are prevalent. The level of subsidies should be linked to affordability, WTP, and fiscal viability at scale	Partial capital grants (25 to 95 percent) in various World Bank-funded RWSS projects under a demand-responsive approach (Table 4.1 and Box 3.13)
Demand promotion for sanitation and hygiene	For support to activities through public expenditure for promoting demand for sanitation and for hygiene awareness	In all developing countries where coverage of access to and use of safe sanitation is low, and hygiene awareness needs to be enhanced	Subsidies to support staff and technical assistance costs of sanitation demand promotion through innovative mechanisms for global handwashing initiative, village rewards for sanitation in India, and provision of toilets in Burkina Faso and India (Box 4.2)
Social connections for the urban poor	Enabling poor and low-income consumers to connect to the urban networks by providing free/affordable connections	In contexts where urban water service providers have well-functioning networks but low levels of access to these for the poor	Subsidies for private water service providers in Côte d'Ivoire and Senegal to provide connections to utility systems (Box 4.3 and Box 4.7)
<b>b. Improving Cross-subsidies through Water Tariffs</b>			
Principles for improved cross-subsidies	Rules to be used for maximizing net benefits of cross-subsidies	In contexts where they have been used in the past, and/or politically and administratively they appear relevant and necessary	Rules suggested on the basis of analysis of assessment in Guayaquil, Ecuador (Section 4.3)
Universal service funds	With contributions by all relevant service providers from special levies to provide resources for services to target groups such as those with low income or high service costs	In contexts where universal service policy for WSS is explicitly adopted and its cost (less other government subsidies) as a proportion of total sector turnover is reasonable	Universal service funds used particularly in the telecommunications sector in several countries, such as United States and in Europe (Box 4.4)
Auctions for minimum subsidies	Contracts for service provision to special groups based on minimum subsidy bids, which enable a market-based assessment of subsidy requirements	In contexts where the sector institutions/regulators do not have firm information on the level of subsidies required for specific services and a base of private providers exists	Several examples from the telecom and energy sectors particularly for service provision in rural areas in Peru (Box 4.5)
<b>c. Output - based Aid</b>			
For consumption through direct subsidies	Means-tested subsidies to ensure financial viability of service provider while supporting consumption of water at adequate standards by the poor at affordable prices against actual delivery	In contexts where utilities are able to provide reliable water services and the information and administrative capacities for cost-effective identification of the poor and low-income groups exists	Direct subsidies to privately managed utilities in Chile and Panama to meet the net costs for providing services to identified low-income groups at affordable prices (Box 4.6)

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Financing Mechanism	Description	Relevant Contexts	Illustrative Examples
For access through social connections	Subsidies to ensure access to municipal/utility networks for the poor at affordable prices against actual number of connections achieved	In contexts where urban water service providers have well-functioning networks but low levels of access to these for the poor	Performance-linked subsidies for social connections used by private service providers in Côte d'Ivoire and Senegal (Box 4.7)
Subsidy-linked concessions	Minimum subsidy bid or a fixed subsidy to ensure financial viability for the concessionaire incorporated within performance-based concessions to private sector for provision of services to special groups such as the poor or those with high service costs	In contexts where the affordability and willingness to pay for services among the poor is less than the service costs and a base of small private providers with capacity to bid for concessions	Pilot applications for fixed subsidy-linked concessions being explored in Paraguay through aguateros (Box 4.8)
For supporting transition to reforms such as tariff reforms	Subsidies to support transition to politically difficult reforms such as tariff revision or labor redeployment/retrenchment, generally provided on a declining basis against reform milestones	In contexts where there is commitment to reforms, but the cost of immediate reforms may be high or gradual reforms are necessary for political reasons	Support through special funds to meet the transition costs of critical institutional reforms in relation to agreed milestones (Box 2.9) and support to implement gradual tariff reforms in Guinea leading to full cost-recovery tariffs over an agreed timeframe (Box 3.2)
Sanitation through demand promotion	Subsidies to promote demand for sanitation provided in relation to actual performance on sanitation improvements	In most developing countries where demand promotion is already a local government (LG) mandate, but special efforts are necessary for the LGs to implement this mandate	Village rewards for overall sanitation improvements achieved through promotion and investments by village LG and community (Box 4.2)

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