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The Water and Sanitation Program is an international partnership for improving water and sanitation sector policies, practices, and capacities to serve poor people

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Guidance Notes

Improving Water Supply and Sanitation Services for the Urban Poor in India

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In 2006–07, the Water and Sanitation Program–South Asia (WSP–SA) initiated a research to identify barriers to service delivery for the urban poor. The findings of the research have been presented in the *Guidance Notes on Improving Water Supply and Sanitation Services for the Urban Poor in India.* The Guidance Notes provide a systematic analysis of the barriers to service delivery for the urban poor and recommend practical solutions and strategies for overcoming these barriers. The Guidance Notes are based on an in-depth research of various initiatives from across the world (including South Asian, African, and Latin American countries) and consultations with urban poor communities across four major Indian cities (Mumbai, Bengaluru, Vadodara, and Delhi). An accompanying volume, *Global Experiences on Expanding Services to the Urban Poor*, is a documentation of 'Global and Indian Case Studies' and 'Consultations with Urban Poor Communities'.

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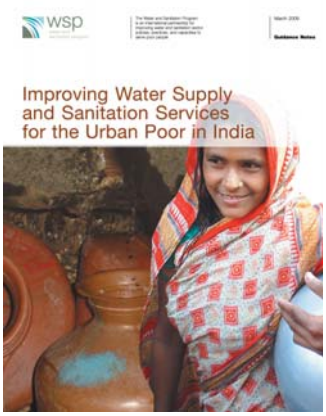
Accompanying Volume[1]: Global Experiences on Expanding Services to the Urban Poor



[1] *Includes documentation of 'Global and Indian Case Studies' and 'Consultations with Urban Poor Communities'.*

Acronyms and Abbreviations

ADB	Asian Development Bank
BMC	BrihanMumbai Municipal Corporation
BWSSB	Bangalore Water Supply and Sewerage Board
CAESB	Water and Sanitation Company of Brasilia
CBO	Community-Based Organization
CRC	Citizen Report Card
IDA	International Development Association
JNNURM	Jawaharlal Nehru National Urban Renewal Mission
KES	Kenyan Shillings
KIWASCO	Kisumu Water and Sewerage Company
LWSC	Lusaka Water and Sewerage Company
MBK	Maji Bora Kibera (Better Water Supply for Kibera)
MDGs	Millennium Development Goals
NGO	Nongovernmental Organization
NWSC	National Water and Sewerage Corporation of Uganda
O&M	Operation and Maintenance
OBA	Output-Based Aid
OPP	Orangi Pilot Project
PERPAMSI	Professional Organization of Water Enterprises of Indonesia
PKR	Pakistani Rupees
SANAA	National Autonomous Water and Sewerage Service of Honduras
SONES	National Water Company of Senegal
SPSP	Small Private Service Provider
TCC	Tiruchirapalli City Corporation
ULB	Urban Local Body
WAVE	Women's Action for Village Empowerment
WBI	World Bank Institute
WSS	Water Supply and Sanitation (or Sewerage)
WUP	Water Utility Partnership for Capacity Building

Section 1

Introduction

These Guidance Notes focus on practical actions—many of which can be implemented at least partially within the existing framework.

Purpose of these Guidance Notes

As policymakers and service providers in India take action to improve water and sanitation services for the poor, they can take advantage of lessons from several experiences in India and elsewhere. There are relevant examples, both within India and throughout the developing world, of initiatives that have led to improvements for both the poor population and the service providers. India could learn from the lessons of these examples, adapting them as appropriate, as the country addresses the needs of the urban poor and strives to meet the Millennium Development Goals (MDGs) for water supply and sanitation.

The Government of India's Jawaharlal Nehru National Urban Renewal Mission (JNNURM) provides a framework for this, targeting 63 key cities and urban areas, focusing on services to the poor as one of its explicit missions. These Guidance Notes are aimed primarily at project planners, service providers, and community leaders, but provide some suggestions for policymakers as well. They have been developed in collaboration with the Ministry of Housing and Urban Poverty Alleviation and the Ministry of Urban Development. The intent is to identify barriers to providing adequate services for the poor and to propose practical solutions based on the experience of a number of relevant cases that have been reviewed for this purpose. These Guidance Notes focus on practical actions—many of which can be implemented at least partially within the existing framework. Promoting policy reform *per se* is not the primary objective, though more appropriate policy frameworks would ensure an enabling environment and are essential for long-term sustainability of services for the poor, especially for addressing many of the financial barriers discussed in Section 6. For this reason, desirable policy initiatives are listed at the end of each section and a final section summarizes them.

Overview of the Current Situation

The poor in India face severe hardships because they lack convenient access to efficient water supply and sanitation services. According to the 2001 Census of India, more than 28 percent of India's urban population lives in slums. Attempts to serve them to date have been sporadic and largely based on notions of charity, rather than treating the poor as legitimate customers of the utility. As a result, slum areas receive low-quality services that create a net drain on utility resources. There are increasing calls from the poor and civil society organizations that represent their interests to address this problem and the Government of India is taking important steps in that direction.

A visitor to a poor part of any city in India will see two common scenes: women lining up with pots waiting for water, and men and children defecating in the open. In Mumbai, a city of 15 million people, more than half the population lives in slums. Nearly 30,000 families live on the pavements. The Mumbai water utility produces an average of 158 liters of water per capita per day, but this production figure does not represent consumption by end users. It also conceals the acute inequality in distribution of basic services and the hardships faced by the poor, especially women.

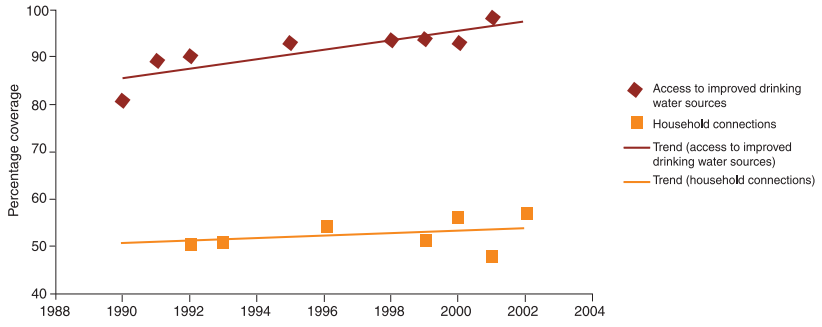
Access to Improved Water Supply

Despite the expansion of water supply infrastructure, those who have access to infrastructure do not necessarily get adequate services, and the poor continue to rely on alternative sources that are often very costly to the consumer and incur hidden costs to society. India has successfully expanded water supply infrastructure in cities, but this has not necessarily translated into improved service to the poor. Figure 1 shows the percentage of households that had access to a source of safe water (that is, piped water supply, tankers, hand pumps, and so on) versus the percentage of households that actually had a household connection to the piped system.[2]

The graph shows that more than 95 percent of urban households had access to safe water sources. However, having access is not the equivalent of receiving adequate service. Only 74 percent of the population had access to piped water supply and 55 percent of households had household connections. The remainder, primarily poor households, must rely on standpipes, neighbors' connections or alternative sources. Women, especially, spend hours and adjust their work schedules and sleeping patterns to stay up late at night to fetch water. Recent research shows that standpipe users are not satisfied with the hours of supply or the quality of water provided.

[2] World Bank. January 2006. *India Water Supply and Sanitation: Bridging the Gap between Infrastructure and Service.* Background Paper, Urban Water Supply and Sanitation, p. 12.

Figure 1: Percentage of Households with Access to a Source of Safe Water and Percentage of Households with Private Connections



Source: For 1991, Census of India; for 1993, Demographic and Health Survey 1992/93 and National Sample Survey Organization (NSSO); for 1996, NSSO; for 1999, National Family Health Survey 1998/99; for 2000, Multi-Indicator Cluster Survey.

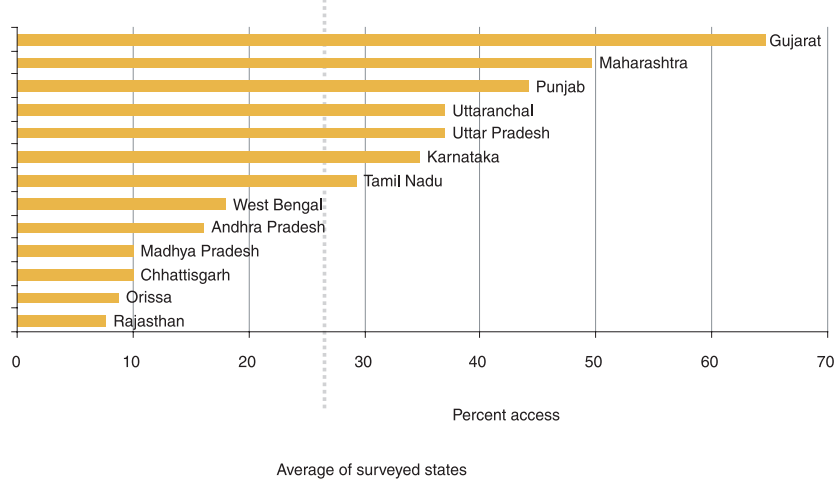
Intermittent supply, which results in unreliable and inadequate quantity and contaminated water, affects the rich and poor alike. As a result, large numbers of households rely on expensive tanker supplies and water vendors. With over 13,000 tankers, the tanker industry in Chennai mines the surrounding farmland for water, using government-subsidized power intended for agriculture purposes. In Delhi, about 1,400 water tankers supply water to residents. Half are privately controlled, and it is alleged that the owners are allowed to flout rules, pilfer water or extract it illegally. They then sell it at predatory prices.

Access to Safe Sanitation

The health and environmental costs of inadequate sanitation in slums are huge. It is estimated that only about 28 percent of the urban population has sewerage connections and only about 63 to 73 percent has a household toilet connected to a sewer or onsite disposal.[3] Figure 2 shows that there is a wide difference in rates of access to sewerage infrastructure among the 13 states for which access rates are shown. However, as in the case of water supply, access to infrastructure does not necessarily translate into adequate service. Often public toilets are not maintained and cannot be considered safe and sanitary. In many cases, sewers are not really a viable option: they do not function properly due to inadequate water for flushing, blockages, and the frequent failure of pumping stations. Disposal of sewage is frequently neglected. Many residents of slums defecate in the open and, even when they use toilets, most of the human waste goes into open drains. According to the 10th Five Year Plan, 'Three-fourths of surface water resources are polluted and 80 percent of the pollution is due to sewage alone.'

The lack of viable sanitation solutions in slums contributes to serious health and environmental risks for the entire population of Indian cities, not just those living in slums; the poor are, however, particularly vulnerable to infection from contaminated water. The health impact of unsafe water and lack of basic sanitation facilities are well documented.

Figure 2: Percentage of Population with Access to Sewerage in 13 States of India



Source: World Bank. January 2006. *India Water Supply and Sanitation: Bridging the Gap between Infrastructure and Service*. Background Paper, Urban Water Supply and Sanitation, p. 15.

[3] See Footnote 2.

Obstacles to Improving Service for the Poor

Why do poor people not get access to services? Consultations with a broad range of stakeholders in India resulted in the identification of obstacles to improving service to the poor. These obstacles have been grouped under six proposed action areas as follows:

1. Give the poor a voice.

- The voice of the poor, too often, is not heard and misperceptions about them persist.

2. Neutralize vested interests.

- Water vendors, organized crime, corrupt public officials, and dishonest utility staff may have a vested interest in preventing better services for the poor.

3. Eliminate administrative and legal barriers.

- Land ownership and tenure issues often create a barrier to the provision of service to the poor.
- The poor may be unaware of administrative and legal requirements, or find it difficult to understand them and comply.

4. Strengthen capacity, autonomy, and accountability of service providers and provide incentives to serve the poor.

- Public service providers sometimes lack the autonomy, as well as financial and human resources and incentives required to provide services to the urban poor.
- Municipalities and utilities are not held accountable for the provision of satisfactory water supply and sanitation services.
- The services provided by small private service providers (SPSPs) are not recognized, encouraged, and regulated.

5. Adopt appropriate financial policies.

- Tariffs do not cover the full cost of efficient services.
- Poor households find it difficult to pay connection fees upfront.
- Poor households find it difficult to pay monthly bills.
- Increasing block tariffs penalize households that share a single connection.
- Small-scale service providers lack adequate finance to extend networks into peri-urban informal settlements.

6. Overcome physical and technical barriers.

- The overexploitation and degradation of water resources affects the poor disproportionately.
- Physical and technical challenges make extending formal piped water supply and sewerage networks into informal and unplanned settlements more difficult.

What can be done to remove these barriers? Practical strategies are proposed in the following six sections of this document. These are illustrated by case examples of initiatives to deal with the obstacles.[4]

Each section ends with suggestions for getting started. There is (a) a list of relevant actions and strategies that the key players (policymakers/project planners, governance bodies/service providers, and community leaders/ advocates) can implement; and (b) a list of the relevant cases included in the accompanying volume.

The final section lists the policy reforms that would help to enhance and consolidate the success of these efforts.

Resources, including publications and organizations, are listed at the end of these Guidance Notes.

[4] Detailed case studies are presented in the accompanying volume.

Section 2

Give the Poor a Voice

Giving the poor the opportunity to participate in planning and design can make the difference between success and failure.

Obstacles

The voice of the poor is not heard too often, and misperceptions about them persist.

Project designers and service providers often assume they know what type of services the poor want and are willing to pay for. It is assumed that the poor cannot pay for services and that these should be provided free of charge. Politicians exploit the poor by promising free services in exchange for their votes. Such assumptions and practices result in costly and unsustainable supply-driven public programs to provide services. In contrast to common perceptions, evidence collected during the field work for these Guidance Notes shows that it is feasible for many of the poor to be legitimate customers who pay their bills. To promote that objective, it is essential that their opinions be heard.

Promote Meaningful Participation in Planning and Design

Giving the poor the opportunity to participate in planning and design can make the difference between success and failure, so adequate time and resources should be allowed for meaningful consultation during the preparatory phases of projects. Standard technical solutions are not always appropriate. Consultation with beneficiaries helps to assure that appropriate technological solutions will be selected, but project designers need to be aware that consultation takes time and resources. In their haste to qualify for funding or achieve quick results, local officials and utility managers may bypass the time-consuming and potentially messy participatory process unless it is required as a precondition of funding.[5] Project designs sometimes include a requirement that a certain percentage of residents make an initial contribution to capital costs or sign a 'commitment to connect' to services as a sign of their interest in the project, but there is a distinct difference between pressurizing residents to sign up for a project as compared to enabling a community to take some initiative and contribute to the project design.

Meaningful consultation involves eliciting ideas from the beneficiaries *prior* to the design of a project or program. It helps to ensure that the project design is responsive to demand, and that beneficiaries understand and accept their roles and responsibilities. Rallies, essays by school children, drawing and painting competitions, radio talk shows, articles in newspapers, and information posted on a municipal website are good ways to publicize a project and build awareness, but they do not necessarily constitute meaningful consultation *per se*. Similarly, surveys may provide useful data for assessing demand and attitudes, but do not constitute active collaboration or create community cohesion. Managers of the Jawaharlal Nehru National Urban Renewal Mission (JNNURM) have become aware of these distinctions. As a result, JNNURM guidelines are being revised to promote more meaningful participation of beneficiaries in planning. A model of a bottom-up approach that promoted meaningful participation in Brazil is described in Box 1. Another example of effective consultation in the context of the Slum Sanitation Project in Mumbai is described in Box 2.

[5] See, for example: Baindur, Vinay. September 5, 2005. 'For the People, by Diktat.' *India Together* op-ed. http://www.indiatogether.org/2005/sep/gov-nurm.htm

Box 1: PROSANEAR Project, Brazil: People Were Asked What They Wanted

Prior to planning water supply and sanitation projects, PROSANEAR teams went into communities to ask what kind of water project the people wanted, if any, and what kind they would be willing to support with their money and labor. Residents were allowed to talk about the full range of problems they faced, but once the discussion turned to the importance of water supply and sanitation, they were generally eager to hear how PROSANEAR could help them. Neighborhoods were allowed to choose from a range of simple, innovative systems that made water and sanitation affordable and environmentally appropriate for poor crowded settlements. There were no blueprints. In many places, groups of households were batched together in a creative condominial sewerage system approach that not only made the networks more efficient and affordable but also forged new bonds among neighbors.

PROSANEAR sought to make a permanent impact by mobilizing local clubs, as well as women's, sports, and religious groups, to educate people about the importance of sanitation and teaching them how to operate and maintain their new systems. The results were powerful, and they went far beyond the better health and greater convenience enjoyed by 1 million people newly connected to water taps and toilets. For example, getting formal postal addresses and water bills in their names meant they had graduated from squatter status to resident—a new status in society.

Source: World Bank. 2006. *Community Participation and Low-Cost Technology: Bringing Water Supply and Sanitation to Brazil's Urban Poor.* Water and Sanitation Feature Story #10. See also Case Study 3, accompanying volume.

Box 2: Stakeholder Participation in the Slum Sanitation Program in Mumbai

The Slum Sanitation Program initiated by the BrihanMumbai Municipal Corporation in 1995 with World Bank support was based on a demand-driven and participatory approach, in which the municipality would provide the initial capital to build community toilet blocks, while community-based organizations (CBOs) or small local business enterprises would take full charge of operation and maintenance (O&M).

Nongovernmental organizations (NGOs) were engaged to mobilize communities, facilitate relationships with the local government, and train the communities in essential skills and attitudes. They initially carried out a general information campaign that assessed the willingness and readiness of the communities to participate in the sanitation scheme. Once communities mobilized and demonstrated an interest, CBOs or local enterprises were created (if not already existing and active). These organizations were then registered to obtain legal status, which allowed them to manage the community sanitation block (that is, obtain water, sewerage and electricity connections, sign a memorandum of understanding with the Corporation, open and maintain a bank account to deposit the maintenance fund and earnings, pay utility bills, and so on). It was only after the CBO or local enterprises had collected at least 50 percent of the expected maintenance fund from prospective users and had developed a technically sound and community-endorsed plan for the toilet block, that the Corporation issued the building permit and the actual construction of the community toilet block began.

Participation in the formal process of planning the services, creating a viable business entity, having it registered, opening a bank account, and working with the Corporation provided invaluable experience, created confidence, and inspired further entrepreneurial and community activities on the part of participants. In one case, a local enterprise that operates the toilets has also established a preschool in the new community center that was built adjacent to the toilet block.

Source: Nitti, Rosanna, and Shyamal Sarkar. 2003. *Reaching the Poor through Sustainable Partnerships: The Slum Sanitation Program in Mumbai, India.* World Bank. Urban Notes No. 7. See also Case Study 2, accompanying volume.

Publish the Stories of the Poor

The stories of the poor themselves give statistics a human side and can be used to improve the impact of research reports and policy papers. Sector actors should capture and enlist the media to disseminate stories that translate service delivery inefficiencies and deficits into their impact on daily life at the personal or household level. Poignant examples of the contrast between those households without easy access to safe drinking water and sanitation services, and those with access, can help to create an environment for making politically difficult or unpopular decisions viable, especially when combined with a broader strategic communications campaign to promote the expansion of services and more flexible approaches to serving the urban poor. A few representative examples of the daily impact of poor service provision that were recently collected in India include:[6]

- In a community where the Corporation does not provide water, most residents pay the plumber and get a water connection at a common point near their homes. The rest get their water from the tanker mafia.
- In one area, there were 28 toilets funded by the World Bank or the state and Member of Legislative Assembly (MLA) funds, and eight World Bank-funded toilets especially for children. These toilets are inadequate for the 25,000 people they serve, but at least they have reduced open defecation to some extent.
- One woman said it took her half-an-hour to fill two buckets of water from the hand pump. Each day, her family requires up to 10-15 buckets. In the morning, she fetches water for the morning chores and immediate needs. After returning from work, she fetches water for the rest of the day.
- Women dislike defecating in the open in broad daylight. They go in groups at night.
- Because of the lack of water, the residents do not bathe every day, which causes health problems—skin rashes, boils, and so on. They wash clothes once a fortnight.

[6] These and other examples were collected during field work for slum consultations conducted by Geeta Sharma, WSP-SA, along with NGO partners between December 2006 and January 2007 in Mumbai, Delhi, Bengaluru, and Vadodara. For details, see accompanying volume.

Inform and Educate Poor Communities

The poor are often unaware of official policies; and their attitudes and behavior may impede their access to services. Like many users, they may have misperceptions about the need to pay for public services. They may not be fully aware of the health impact of poor sanitation practices. Many are illiterate and unaware of their rights. Educational programs that give the poor the information and skills they need to participate as well-informed citizens are an essential component of any effort to promote their participation in planning and management of services. Programs to promote constructive attitudes and behavior that

will enhance their chances of getting and making effective use of services (for example, regular payment of bills and good hygiene) are also essential. Education that builds such skills and attitudes not only has a positive effect on access to water and sanitation services, it can also help develop basic financial management skills with broader applications and development impact.

Empower the Poor to Act within and beyond Their Own Communities

Community-based organizations and their federations can help the poor take action on their own behalf. All the strategies described above involve some form of outreach *to* the poor. These are essential to ensure that the formal structures and decisionmaking activities actively seek to serve the poor better. But it is equally important and effective for the poor to take action for themselves. By doing so, they gain self-respect and important skills, as well as better services. They also dispel commonly held notions that the poor are helpless or lack initiative. Self-help activities can be initiated by a dynamic individual within the community or a nongovernmental organization that is committed to the interests of the community. However, when an outside organization initiates action, it is

essential that the community actively expresses its demand and willingness to pay for services, and that the leadership quickly be assumed by someone in the community.

There is no blueprint for creating such organizations because the social dynamics in each community are often unique—only a savvy resident is likely to appreciate them fully. In fact, initial success often hinges on a single individual's commitment and leadership skills.

A number of well-documented cases demonstrate the willingness and ability of the poor to create or manage their own services.

The Orangi Pilot Project in Karachi was one of the first to demonstrate that the poor want good quality services and are willing and able to pay for them.

While local community user groups are useful for solving local problems, federations and networks enable poor communities to act beyond their boundaries to influence policies or access sources of development assistance. In Tiruchirapalli city, Tamil Nadu, a network of self-help groups is enabling poor residents get funding and assume responsibility for local sanitation (see Box 3).

Box 3: Community-Based Organizations and Federations (Karachi and Tiruchirapalli)

Two South Asian experiences—the Orangi Pilot Project (OPP) in Karachi, Pakistan, and the activities of self-help groups in Tiruchirapalli city, in the Indian state of Tamil Nadu—provide useful lessons about how community involvement can help projects.

Orangi is Karachi's largest *katchi abadi* (informal settlement) and has a population of 1.2 million. The OPP was established in 1980 by Dr. Akhtar Hameed Khan, the renowned Pakistani social scientist. The OPP provided social and technical guidance to enable low income families to construct and maintain an underground sewerage system with their own funds and under their own management. The project has shown that poor people can finance and build sewers in their communities. Working together internally as well as with the government to achieve their objectives has given community members dignity as well as confidence in themselves. To date, the people of Orangi have laid down 1.3 million feet of sewer line and invested about PKR 57.2 million (US$700,000).[7] About 900,000 people in 94,122 houses have benefited. The average cost of the system is very low—about PKR 1,000 (US$13) per household. The residents of Orangi maintain the system themselves at no cost to the government. The OPP Research and Training Institute is currently assisting initiatives in a number of other areas in Pakistan and other countries. Training in the OPP model has been provided to groups from Nepal, Cambodia, Vietnam, Sri Lanka, Thailand, the Philippines, Central Asia, Zimbabwe, and South Africa.

In Tiruchirapalli city, about half the 339 community toilets in the city are being managed by community-based organizations and half are managed by the city corporation. Since 2000, 41 of the community-managed toilets have been managed by local Sanitation and Hygiene Education (SHE) teams supported by the nongovernmental organization Gramalaya and the Women's Action for Village Empowerment (WAVE), a federation of SHE teams. In each community, the SHE team organizes its members (all women) into two to seven self-help groups with 15 to 20 members each. Each self-help group takes responsibility for managing the community toilets—collecting user fees, keeping accounts, and depositing the income in a bank account—for a month at a time. During that month, members of the responsible self-help group rotate as caretaker and fee collector for a day at a time. In addition, most SHE teams employ two cleaners and a watchwoman. User fees are used to cover operation and maintenance expenses. Each SHE team elects two members as team leaders who are responsible for operating the bank account and represent the SHE team at WAVE meetings. When a major expenditure on toilets is required, SHE teams can take a loan from the WAVE federation. For slum communities, the primary benefit of the community-managed toilet complexes has been access to clean and safe sanitation facilities and a decrease in water-borne diseases. The women who participate have gained new skills and confidence, which they often apply to other arenas in their communities and households. From the city corporation's perspective, one of the major benefits is that this arrangement reduces costs as a result of community-managed toilets. While some of the smaller toilet blocks require subsidies, these can be justified by the overall benefits.

Source: Case Studies 5 and 7, accompanying volume.

Existing community development societies, neighborhood groups, and neighborhood committees of women (that have been functioning since they were formed under the Swarna Jayanti Shahari Rojgar Yojana[8] of the Government of India in 1998), are well placed to play a meaningful role in articulating the concerns of the poor and playing a role in planning, designing, and managing services.

[7] US$1 = PKR 78 (as of September 30, 2008). Conversion rates are from www.exchange-rates.org/history/PKR/USD/T; all conversions in the text are approximations.
[8] Literally, the Golden Jubilee Urban Employment Scheme.

Getting Started: Actions and Resources

This section suggests the following actions for sector actors.

Policymakers and Project Planners

- Avoid top-down planning.
- Make meaningful participation by project beneficiaries mandatory. Facilitate beneficiary involvement in project design and development of proposed solutions.
- Allow adequate time for consultation and participation by beneficiaries.
- Hire qualified NGOs to facilitate mobilization of poor communities.
- Publish information for the general public about the living conditions and accomplishments of the urban poor, and about strategies to improve access to services.
- Make information available in formats that are accessible to the poor.
- Plan for an effective interface between community-managed services and the formal service provider.

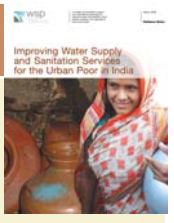
Governance Bodies and Service Providers

- Create a specialized unit within the utility to communicate with poor communities and facilitate access to services.
- Develop a client-oriented culture within the utility.
- Train staff in effective client relations skills, particularly for serving the poor.
- Develop a supportive framework for interfacing with community-managed services.

Advocates and Civil Society Organizations

- Act as intermediaries between service providers and poor communities.
- Deliver educational and awareness programs aimed at enabling the poor to act on their own behalf.
- Identify and work with dynamic individuals in the community to provide leadership for self-help initiatives.
- Encourage participation in political processes.
- Promote networks among community organizations with common interests.

Table 1: Relevant Case Studies in Accompanying Volume



Case Study	Topic
PROSANEAR Project, Brazil (Case Study 3)	Community participation in project planning
Orangi Pilot Project, Karachi, Pakistan (Case Study 5)	Self-help organizations, self provision of services
Temeke District, Dar es Salaam, Tanzania (Case Study 14)	Federation of water user associations
Tiruchirapalli, Tamil Nadu, India (Case Study 7)	Community-managed toilets
Federation of Water Associations: Giving the Poor a Voice, Manila, Philippines (Case Study 4)	Federation of water associations
Mumbai Slum Sanitation Program, Maharashtra, India (Case Study 2)	Community and local enterprise operation of toilets

Section 3

Take Vested Interests into Account

Regularization of informal service providers often helps utilities to reduce illegal connections and corrupt practices by staff, lower water prices, and improve the reliability of services.

Obstacles

Water vendors, organized crime, corrupt public officials, and dishonest utility staff may have a vested interest in preventing better services for the poor.

When the poor cannot get piped water supply services legally they are forced to provide for themselves in some way—legal or illegal. In cities with a high percentage of unserved populations, such as Dhaka, Manila, and Karachi, the amount of money that passes hands informally in the water sector to provide water to the unserved population is reportedly greater than the revenue of the formal service provider. Vested interests will naturally oppose any changes to the status quo that threaten their source of revenue. Sometimes confrontations can be avoided by giving informal and illegal service providers new roles or incentives that bring them into the formal system. Ultimately, improving transparency reduces opportunities for illicit activities.

Incorporate Informal Service Providers into the Solution

Institutional arrangements and legal reforms that incorporate informal vested interests into the formal solution reduce opposition and improve transparency. Such arrangements benefit both sides: the informal providers gain security and legitimacy, and the utility or alternative service organization can take advantage of the knowledge and skills informal providers have accumulated. Regularization of informal service providers often helps utilities to reduce illegal connections and corrupt practices by staff, lower water prices, and improve the reliability of services—especially if adequate regulatory arrangements are introduced.

Such solutions must be tailored to each situation. There are, however, a number of cases that might provide models that are adaptable to other environments. In some places, formal utilities have hired vendors who lost their markets when piped services were extended and improved. In Paraguay, local private firms that won contracts to build and operate new water supply systems in previously unserved neighborhoods were encouraged to hire small-scale service providers (known as *aguateros*)

Box 4: Water Kiosk Operators Unite in Kenya

In the informal settlement of Kibera in Nairobi, Kenya, more than half-a-million poor people get water from over 650 informal local water kiosks. The kiosk operators lay pipes, as much as 1,500 meters long, to connect their storage tanks to the local utility network. Although the utility recommends that water be sold for Ksh 1[9] per jerrycan (about US$0.10), the prevailing price is usually Ksh 2 (the equivalent of US$1.30 per m^3, or eight times the utility's domestic tariff), primarily because of the costs associated with establishing and running water kiosks: capital investment, bribes paid to utility staff to obtain and retain a connection, and the high tariffs associated with higher consumption blocks. During water shortages, the prices are even higher, soaring to Ksh 5 or even Ksh 10 per jerrycan.

The utility historically had little incentive to address the problems in Kibera. This was because (a) revenue collection in the settlement was negligible; (b) there were many illegal connections; and (c) the water delivered to Kibera was estimated to be less than 10 percent of the city's total consumption. Instead, the utility simply used water rationing to limit its losses. Until recently, the utility considered kiosk operators to be part of the problem and driving them out of business was seen as an effective measure to reduce unaccounted-for-water.

In May 2004, following an intervention by WSP–Africa, kiosk operators decided to form an association, which they called Maji Bora Kibera (MBK), Swahili for 'Better water services for Kibera'. They drafted a constitution, formed an executive committee, and applied for official registration. Soon a joint task force was formed with members from the utility, MBK, and WSP–Africa. At the suggestion of the utility, the MBK wrote a letter stating clearly the problems faced by water vendors and offering to cooperate with the regularization of their connections, pay bills regularly, stop paying bribes, report leakages, and expand service to unserved areas. The utility was asked to provide a regular supply of water, adopt better billing and collection practices, and provide engineering advice for network improvements. The letter was a watershed in vendor-utility relations. The MBK and the utility continue to build their relationship. The MBK is working on a number of initiatives to strengthen self-regulation and address the remaining barriers to good services.

While there remains some concern that the association could be an obstacle to long-term change in Kibera (if the members were to protect their own interests at the expense of consumers), there is also a recognition that both the utility and vendors can gain from further collaboration.

Source: Brocklehurst, Clarissa. June 2005. *Rogues No More? Water Kiosk Operators Achieve Credibility in Kibera.* Water and Sanitation Program Field Note.

to handle day-to-day operations.[10] The case of water kiosk operators who entered into formal service arrangements with the Nairobi Water Company in a slum in Nairobi, Kenya (see Box 4), provides another potentially promising example.

[9] Kenyan shillings.
[10] Triche, Thelma, Sixto Requeno, and Mukami Kariuki. December 2006. *Engaging Local Private Operators in Water Supply and Sanitation Services, Initial Lessons from Emerging Experience in Cambodia, Colombia, Paraguay, the Philippines, and Uganda.* World Bank. Water Supply and Sanitation Working Note 12, p. 16.

Getting Started: Actions and Resources

This section suggests the following actions for sector actors:

Policymakers and Project Planners

- Take the role of informal or illegal actors (and other vested interests), and the contributions they can make, into account in formulating policies and regulations and planning projects.
- Assess the business dynamics of existing informal operators to determine why their activities are so lucrative.
- Determine whether owners of rental dwellings have vested interests.
- Incorporate existing vested interests into solutions, where feasible, as a means of increasing transparency, neutralizing opposition, and reducing costs.
- Use neutral intermediaries who are trusted by both parties (such as respected local or international nongovernmental organizations, or professional mediators) to promote dialog between formal and informal service providers.

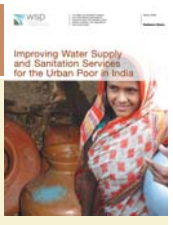
Governance Bodies and Service Providers

- Hire disenfranchised vendors to work in the utility when expansion eliminates their markets.
- Team up with informal service providers to improve service and cost recovery in marginal areas.

Advocates and Civil Society Organizations

- Act as intermediaries between informal or illegal service providers and the formal sector.
- Help informal or illegal service providers to create institutional structures that will promote cooperation among them, and enable them to negotiate with formal structures.

Table 2: Relevant Case Studies in Accompanying Volume



Case Study	Topic
Parivartan Program, Ahmedabad, India (Case Study 1)	Politicians who undermine the scaling up of the program by providing funds outside the program
Nongovernmental Organization-Assisted Water Points: Social Intermediation for Urban Poor, Dhaka, Bangladesh (Case Study 11)	Difficulty with *mastaans*, musclemen or influential persons who control slum areas
Temeke District, Dar es Salaam, Tanzania (Case Study 14)	Resistance of water vendors to water services improvement program

Section 4

Eliminate Administrative and Legal Barriers

Simplifying procedures for connection, billing, and collection services, and maintenance arrangements are part of the institutional process of recognizing the differences between customers in planned and unplanned areas of the city.

Obstacles

- *Land ownership and tenure issues often create a barrier to the provision of service to the poor.*
- *The poor may be unaware of administrative and legal requirements, or find it difficult to understand them and comply.*

Municipal policies often prevent utilities from providing connections to residents who do not have legal tenure. Most legislation on land tenure is outdated, irrelevant to current realities, and cannot be enforced. Complex procedures not only constitute a barrier for the poor, they create opportunities for bribes to be extracted from existing or prospective users, and such bribes represent a heavier burden for the poor than for the nonpoor.

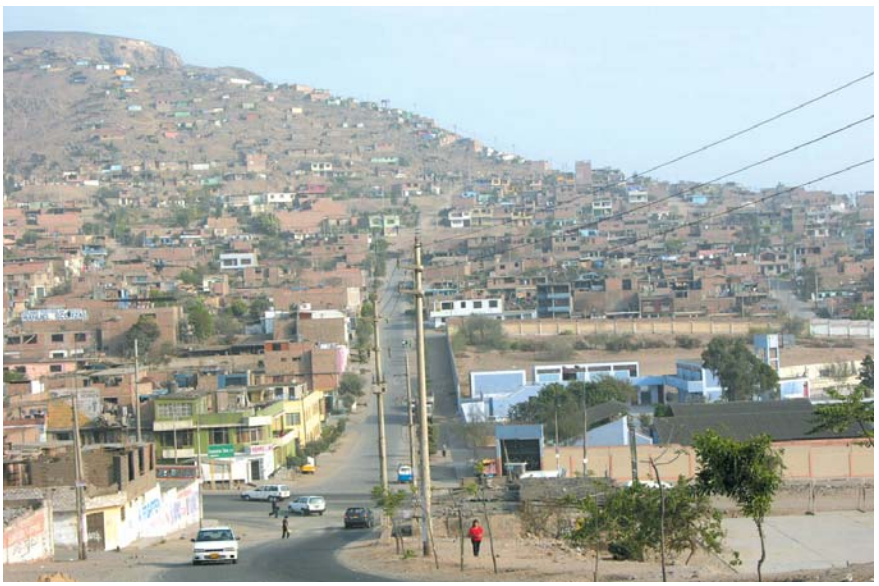
Delink Service Provision from Land Tenure

Legal reform is needed to enable the poor to gain secure tenure, adequate housing, and services. In the meantime, though, innovative strategies to get around land tenure requirements can sometimes be found at the local level. One such approach is to allow alternative documentation. The Bangalore Water Supply and Sewerage Board (BWSSB) had a longstanding requirement that only slum residents presenting both land title documents and recent property tax receipts could qualify for individual water and sanitation connections but, as part of its program to promote connections in slums, agreed to permit residents to present lease documents and other 'proof of occupancy' documents such as ration cards, identity cards, election cards or electricity bills instead. (See Case Study 10, accompanying volume.) The Ahmedabad Municipal Corporation allows connections and other improvements to proceed once residents obtain a 'no objection certificate' from the owner of the land. Nongovernmental organizations working with the Ahmedabad Corporation have helped the communities to obtain these certificates. (See Case Study 1, accompanying volume.)

Another approach to get around the lack of land tenure is to make a single bulk water or sewerage connection at the border of the community and allow communities or small-scale service providers to operate services. Several of the previously cited cases—for example, in the Orangi community in Karachi, Tiruchirapalli city in Tamil Nadu, and Kibera in Nairobi, Kenya—used this model. Box 5 describes another example in Tegucigalpa, Honduras.

Institutionalize Simplified Procedures and Provide Assistance

Formal institutions can be very intimidating for the poor unless special arrangements are made to promote and facilitate access. Connecting a large unserved population is a major long-term undertaking that will require ongoing support and assistance even after poor residents are connected. As part of this long-term effort, utilities and municipal service providers need to adjust their systems to attend to this new, potentially large, customer base. Simplifying procedures for connection, billing, and collection services, and maintenance arrangements are part of the institutional process of recognizing the differences between customers in planned and unplanned areas of the city. In India and throughout South Asia, the percentage of inhabitants living in



WSP–LAC

Box 5: Community-Managed Services in Tegucigalpa, Honduras

About 380,000 people live in poor peri-urban areas of Tegucigalpa. One-third of these peri-urban residents do not have direct access to the water supply network and most do not have access to sewerage. Many of the peri-urban settlements cannot be connected because of the topography (hillsides with steep slopes and unstable terrain), others because of their illegal status, and some because of the lack of adequate resources to extend the network. Residents of these areas obtain water from a number of sources, including tankers, rainwater catchments, and community wells.

With the assistance of several international development agencies and nongovernmental organizations, the National Autonomous Water and Sewerage Service (SANAA) is introducing alternative water and sanitation systems in these areas. These systems receive bulk water from SANAA or its tankers but are managed internally by the community. Three water supply models are used. The preferred model involves a metered connection to SANAA's network that feeds a community storage tank, to which the secondary network within the community is connected. Where connection to the network is not feasible, the community storage tank is supplied by tankers. The third option is a rainwater catchment and filtering system.

A revolving fund is used to finance construction and the beneficiary community repays the fund at zero interest over 5 to 10 years. Communities that wish to benefit from this program must establish a water administration board with four officers selected by the community. The water boards operate and maintain the system, collect fees from the users to cover their own costs as well as the bulk water charges and the capital cost. They organize committees and engage staff to maintain the system, operate community water taps, collect fees, and prevent theft. Committees are also established to educate the community about water use and hygiene.

Source: Rivera, Kenneth. *Improving Water Supply, Sanitation, and Health Services for Low-Income Urban Communities in Latin America—A Case of Tegucigalpa.* Building Partnerships for Development, draft of May 2006 (part of field research conducted in seven Latin American cities).
(See also Case Study 15, accompanying volume.)

Box 6: Dedicated Units in Water Utilities (Hyderabad and Bengaluru)

Hyderabad Metropolitan Water Supply and Sewerage Board created a Single Window Cell to receive, process, and coordinate water and sewerage connection applications. The Single Window Cell distributes a detailed two-page brochure that clearly explains the application procedures. A dedicated team of staff and contract laborers installs all approved new connections for which payment has been received. These reforms have reduced the time required to process connections from six months to three months and have significantly increased the number of applications processed.

The Bangalore Water Supply and Sewerage Board has a Social Development Unit, which focuses on connecting households in slums to piped water and sewerage. This unit is headed by a proactive senior development specialist who interacts directly and effectively with community groups, nongovernmental organizations, and influential individuals to promote communication, implement connection programs, resolve complaints, and so on. The Social Development Unit also uses NGOs as intermediaries to assist households with the application process and facilitate communications. To promote connections, the unit has introduced a reduced connection fee and simplified connection procedures. It also accepts 'proof of occupancy' in lieu of the requirement for land tenure. Residents of slums are encouraged to connect to the Board's water supply system and are actively discouraged from resorting to illegal means. Connection charges vary on the basis of house size: Rs 550 (US$12)[11] for houses of less than 150 square feet, Rs 800 (US$17) for houses of 150–600 square feet, and the full rate of Rs 1,800 (US$39) for houses over 600 square feet. Slum dwellers are allowed to pay the connection charges in two installments.

Source: Water and Sanitation Program–South Asia. January 2007. *Bangalore Water Service Delivery, Ingenious Model Shows the Way.* Case Study. (See Case Studies 8 and 10, accompanying volume.)

[11] US$1 = INR 46 (as of September 30, 2008). Conversion rates are from www.exchange-rates.org/history/INR/USD/T; all conversions in the text are approximations.

unplanned parts of cities is significant and growing. A permanent body that can help institutionalize effective approaches throughout the utility will make it less likely that changes in management or political leadership will undermine or reverse this initiative for expanding services in a sustainable manner.

The Hyderabad Metropolitan Water Supply and Sewerage Board (in addition to the Customer Care Office described in Box 11) created a Single Window Cell to receive, process, and coordinate water and sewerage connection applications. Another potentially effective model is a dedicated unit within the utility that communicates with poor communities, assists them with formalities, promotes appropriate services, and liaises with other stakeholders. The Social Development Unit in the BWSSB, India, is an example (see Box 6).

Successful programs have involved not only changes in organizational culture and staff attitudes, but also the establishment of client-friendly mechanisms that facilitate communications with customers. The Citizen Report Card, a tool for assessing customer satisfaction that was originally used in Bengaluru, has been introduced in several countries. (See discussion in Section 5.)

Getting Started: Actions and Resources

This section suggests the following actions for sector actors:

Policymakers and Project Planners

- Initiate land tenure reforms.
- Amend municipal laws and regulations that make it difficult or impossible for the poor to get services.
- Authorize alternative documentation requirements for connections.

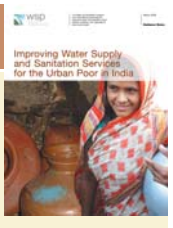
Governance Bodies and Service Providers

- Adopt alternative documentation requirements, such as proof of residence or no-objection from the owner of the land, to allow those who lack land tenure to qualify for service connections.
- Explore alternative service models such as installing bulk water or sewerage connections at the border of poor communities from/to which a community-based organization or small-scale private operator can take responsibility for the operation and maintenance of network services within the community.
- Simplify procedures and forms, and translate forms and instructions into local languages.
- Create dedicated user-friendly units to promote service to the poor.
- Design access mechanisms (for connections, complaints, and so on) that are appropriate for the poor, and appoint qualified professionals or engage nongovernmental organizations to assist the poor with procedures and forms.

Advocates and Civil Society Organizations

- Assist poor residents to obtain documentation required for connections.
- Support communities to negotiate with the utility for the establishment of a bulk connection and to create CBOs or engage small-scale private operators to operate services.
- Develop programs to assist the poor with procedures and forms.

Table 3: Relevant Case Studies in Accompanying Volume



Case Study	Topic
Ahmedabad Municipal Corporation (Case Study 1)	Alternative documentation
Bangalore Water Supply and Sewerage Board (Case Study 10)	Alternative documentation; dedicated unit in utility to promote service to the poor
Hyderabad Metro Water Supply and Sewerage Board (Case Study 8)	Dedicated unit in utility to promote connections
Orangi Project, Karachi, Pakistan (Case Study 5)	Bulk connection at border of community
Tegucigalpa, Honduras (Case Study 15)	Bulk connection at border of community
Tiruchirapalli City (Case Study 7)	Bulk connection at border of community

Section 5

Strengthen Capacity, Autonomy, and Accountability of Service Providers and Provide Incentives to Serve the Poor

The roles and responsibilities of policymakers, service providers, governance bodies, and regulators need to be clearly defined and separated to ensure the autonomy and accountability of service providers.

Obstacles

- *Service providers lack the autonomy as well as financial and human resources, and incentives required, to provide services to the urban poor.*
- *Municipalities and utilities are not held accountable for the provision of water supply and sanitation services.*
- *The services provided by small private service providers are not recognized, encouraged, and regulated.*

The poor performance of water supply and sanitation (WSS) services in India is due in large part to inappropriate institutional frameworks, lack of regulatory mechanisms, inadequate financial resources, absence of appropriate attitudes and skills, and a lack of explicit directives and incentives to serve the poor. In fact, there are no fully autonomous water and sanitation utilities in Indian cities and few, if any, permanent monitoring and regulatory mechanisms. A few metropolitan cities, such as Delhi, Chennai, Hyderabad, and Bengaluru, have WSS boards with limited functional autonomy. In Kolkata and Mumbai, dedicated departments of the municipal corporations manage WSS operations. In the remaining cities, WSS services are either operated by a state-level specialist agency with limited autonomy, or are managed jointly with other services by a municipal department.[12]

Until recently, the emphasis in India has been on creating infrastructure rather than promoting strong institutions, financial viability, efficiency, service quality, customer relations, and specifically targeting the poor. Reflecting this, training programs focus primarily on technical and engineering skills and only rarely address commercial, managerial, and strategic aspects of WSS services, let alone strategies for serving the poor.[13]

In the absence of efficient autonomous service providers, the distinction between the utility and the municipal administration is blurred; managers of the services do not control the resources required to provide the services and cannot be held accountable. There is a lack of clarity regarding the roles of state governments, state government utilities, municipal bodies, community organizations, and private players. In such cases, targets for service quality are typically not established or monitored. Tariffs rarely cover costs and, as a result, financial viability and sustainability are undermined. Therefore, many urban utilities fail to provide satisfactory service to a large part of the population—particularly the poor.

In contrast to the prevailing conditions, the Jawaharlal Nehru National Urban Renewal Mission's mission statement emphasizes the importance of improving the efficiency and accountability of service providers and introducing institutional models that enhance the viability of services.

Small private service providers (SPSPs) are active throughout India—filling in part of the large gap between demand and the formal utilities' ability to provide services. Since, in most places, formal utilities will be unable to satisfy the demand of 100 percent of urban households for the foreseeable future, taking advantage of the services of the SPSPs should be an essential component of strategies to expand and improve services to the urban poor. Working with SPSPs will require innovative approaches to link them with formal utilities, introduce appropriate regulatory mechanisms, and devise strategies for eliminating illegal and abusive activities without driving the SPSPs out of business.

This section will focus primarily on the institutional, regulatory, and capacity issues. Mechanisms to address cost recovery are discussed in more detail in Section 6 because a strategy to improve cost recovery must also address the financial constraints and affordability issues that are specific to providing services to the poor.

Separate and Clarify the Responsibilities of the Actors

The roles and responsibilities of policymakers, service providers, governance bodies, and regulators need to be clearly defined and separated to ensure the autonomy and accountability of service providers.
In small towns with simple systems and limited human resources, it is not always realistic or meaningful to completely separate these roles. In large urban areas, and particularly in large countries with many large urban centers, it becomes even more important. In the latter context, clearly distinguishing among the following actors and their roles is recommended:

[12] *India, Water Supply and Sanitation, Bridging the Gap between Infrastructure and Service*. Op. cit., p. 9.

[13] Ibid. pp. 20-21.

- Policymakers set overall service coverage and quality objectives, social policies, and cost-recovery policies. They should set guidelines, establish programs, and create institutions to promote and regulate the achievement of service objectives, financial viability, and efficiency. The respective roles and responsibilities of policymakers at the state and municipal levels need to be clear and complementary.
- Governance bodies (for instance, the boards of utilities) represent asset owners. They provide strategic direction, mobilize investment finance, approve annual budgets, and appoint the management team in a manner that is consistent with established policies. Governance decisions should be based on long-term strategic and financial criteria rather than short-term political interests.
- Service providers plan and supervise the development of infrastructure, and manage and operate services on the basis of technical and financial criteria to achieve the objectives set by policymakers and their governance bodies. To do this, they need adequate autonomy (for example, control overstaffing, financial resources, and procurement) and protection from political interference. Their financial accounts should be ring-fenced to promote financial viability and accountability.
- Utility regulators (or economic regulators) compensate for the lack of competition in monopoly services by ensuring that tariffs are reasonable, that is, commensurate with the cost and quality of services, and enforcing service standards. A good regulatory system is predictable, credible, and transparent. The roles of state and municipal governments regarding regulation should be clear and any conflicts or overlapping responsibilities should be eliminated.
- Other specialized regulators usually enforce technical, labor, health, and environmental standards. Here, too, the respective roles of state and municipal governments should be clear.
- When two or more service providers carry out complementary functions—for example, when one entity is responsible for asset management and another for operations, or when a large utility provides bulk treated water and SPSPs manage distribution and commercial activities—their respective responsibilities need to be clearly delineated.

Institutional reforms should be tailored to fit the country and local context. There is a great deal of literature and an

accumulated body of experience on institutional reform of water supply and sanitation services, covering topics such as the creation of autonomous public companies, governance, contracting private operators, and creating regulatory frameworks. However, while the basic principles—separation of roles, managerial autonomy and accountability, and financial viability—are universally desirable and applicable, there are no universal blueprints or ideal institutional models to achieve them. Care should be taken to tailor institutional reforms to each country and urban context.

The existence and potential role of SPSPs should be recognized and taken into account. Outsourcing the management of services to private operators or putting public operators under performance contracts have been shown to be effective ways of separating operations from policymaking and regulation, as well as promoting financial and managerial autonomy.

The examples presented in Boxes 7, 8, and 9, and in the case studies and other listed resources, are intended to promote an understanding of some of the conditions that promote success and to stimulate the exploration of these and other models.

Box 7: Engaging Local Private Operators for Water Supply and Sanitation Services

Contracts with private operators, if well designed and appropriately monitored, can be an effective way to introduce autonomy and accountability. Until recently, tenders for private operators of water supply and sewerage services were aimed at large international firms, but in a number of countries tenders are increasingly aimed at local private operators, particularly in small towns with 10,000 to 50,000 residents. The experiences of Colombia and Paraguay (where, since 2001 and 2002, respectively, local firms have been engaged to operate water supply services in large urban or peri-urban areas with poor populations) may be relevant to large cities in India.

In Colombia, the poor performance of services operated by local governments led to the decision to engage private operators. In Paraguay, it was the high cost of subsidies required for investments and the failure of user associations to set tariffs high enough to repay loans for capital investments that led to the decision. In both countries local private operators have been engaged to construct or rehabilitate the infrastructure and operate the service for 15 to 20 years. In Colombia, most of the operators are companies with experience in providing other urban services, such as solid waste management. In Paraguay, large construction companies have sought the contracts but the government usually engages an experienced small local private operator (*aguatero*) to manage operations once construction is complete. In both countries, it is estimated that private operators are contributing about 20 percent of capital costs. The remainder is financed by grants from the national or local governments, using their own funds or the proceeds of World Bank loans.

In Colombia, the municipal government contracts the private operator. In Paraguay, they are contracted by community-based user associations. In both cases, the national governments provide support to the local entities during the preparation and procurement process but the local entities assume full responsibility for day-to-day supervision of the operators. While competition for the contracts was somewhat limited in Colombia (only one or two bidders), it was strong in Paraguay (four to eight bidders). The contracts include very specific service targets that the operators are required to achieve. In both countries a national regulator specifies formulas and rules for setting tariffs.

The contracts were in their early stages at the time they were reviewed in 2005, but initial results were mostly positive. In both countries, previously unserved neighborhoods were getting connections. In Paraguay, the cost of government investment subsidies had been cut in half. One of the lessons learned in Paraguay was that user associations need intensive training and support initially to ensure proper monitoring and a healthy relationship with the operator. In addition, user associations that receive a small percentage of the operators' tariff revenues are most likely to provide effective overseeing.

Source: Triche, Thelma, Sixto Requena, and Mukami Kariuki. December 2006. *Engaging Local Private Operators in Water Supply and Sanitation Services, Initial Lessons from Experience in Cambodia, Colombia, Paraguay, the Philippines, and Uganda.* World Bank, Water Supply and Sanitation Working Notes, No. 12.

Box 8: Successful Performance and Incentive Contracts in a Public Company: Uganda's National Water and Sewerage Corporation

The National Water and Sewerage Corporation (NWSC) is an autonomous state company that provides water and sewerage services in the larger towns and cities of Uganda. Until 1998, in the absence of an effective accountability framework, the NWSC had made a number of poorly conceived investments. The company was very inefficient and financially unsustainable: its fixed assets were underutilized, 51 percent of water was unaccounted for, it was grossly overstaffed, and it was unable to service its debt. In 1998, a new general manager began to introduce performance incentive programs and a client-oriented culture with a strong emphasis on service quality. Substantial improvements resulted, but by 2000 it was clear that achieving financial sustainability would take several more years of effort. In 2000, the Government of Uganda and the NWSC agreed to a three-year performance contract under which the latter's debt service obligations were suspended in return for continued performance improvements.

The performance contract specified the actions that the NWSC must take and the targets it was expected to meet with regard to a number of key operational and financial indicators. A Performance Contract Review Committee was established to monitor and report on the NWSC's performance. In 2003, the Review Committee found that the NWSC had performed very well with regard to qualitative targets such as updating the asset registers, introducing incentive contracts with its area managers, and outsourcing noncore activities. It had met or come close to meeting quantitative targets for collection efficiency, connections, metering, and staff per 1,000 connections, but had fallen short with regard to financial performance, and remained unable to service debt. Nevertheless, the performance contract and the internal management initiatives that had been introduced had established a solid foundation for further improvements.

The government and the NWSC entered into a second performance contract for 2003–06, which introduced more meaningful financial indicators based on ratios rather than absolute results. In 2003, the NWSC also began to introduce an innovative strategy for improving its area managers' accountability and autonomy. In January 2004, following an internal competitive bidding process in which all area managers were allowed to participate, two-year Internally Delegated Management Contracts were awarded for all NWSC service areas.

By 2004, as a result of consistent improvements in operations and cash management, the NWSC's revenues exceeded operating costs (including depreciation) for the first time and the company was on the road to financial sustainability. Compared to its performance in 1998, coverage in the NWSC's service areas increased from 48 percent in 1998 to 68 percent in 2006. Total connections increased from 50,826 to 125,000. Unaccounted-for-water was down to 31 percent (35 percent in Kampala and 16 percent in other service areas). Annual turnover increased from about US$11 million to US$30 million, and operating profit after depreciation improved from a loss of US$0.4 million to a surplus of US$2.2 million.

The government and the NWSC agreed to a third performance contract for 2006–09, which emphasizes the extension of services to the urban poor with the goal of achieving full coverage by 2015.

Source: Silva Mugisha. April 2006. *Performance Assessment and Monitoring of Water Infrastructure: An Empirical Case Study of Benchmarking in Uganda*; Triche, Thelma, and Steve Ostrover. March 2005. *Assessment of the Long-Term Financial Sustainability of the NWSC*, Report 1 of the Review and Update of the Implementation Strategy for Reform and Divestiture of the NWSC, submitted to the Ministry of Finance, Planning and Economic Development. See also Case Study 9, accompanying volume, and the NWSC's website at www.nwsc.co.ug

Box 9: Regulation by Contract: The Senegal Lease Contract

In 1995, the Government of Senegal launched wide-reaching reforms in the urban water sector. The state-run water company was dissolved; a new asset-holding company, SONES, was created, and a private operator was engaged to run the systems. These reforms resulted in significantly better services and financial health for the sector. The contractual framework included a concession contract and a sector development contract between the government and SONES, and a contract with the private operator. This 10-year *affermage* (usually referred to as a 'lease contract' in English—though it is not really an accurate translation) was innovative in that it provided financial incentives for the private operator to achieve ambitious performance targets for leakage reduction, improvements in billing, and collection efficiency.

The regulatory framework was built into the contract and was coherent (that is, it linked service levels to tariffs), credible, and transparent. SONES's monitoring capacity was strengthened through a practical training workshop early in the contract period, and an objective outside *conciliateur* was engaged when needed to verify performance and resolve conflicts. (Figure 3 illustrates these arrangements.) The operator's remuneration was based on its performance and, although it was independent of the tariff, the government committed to gradually increasing tariffs to the full cost recovery level (including debt service) and had a strong incentive to respect this commitment because it was essential to ensure the financial health of the sector and expand services. Tariffs for water supply were increased about 3 percent (in real terms) per year over 1996–2002.

Several factors contributed to the success of the reform: the use of an appropriate form of contract that was tailored to local conditions; strong political will and good leadership within the government; a well-designed process; and flexibility and innovation when it was needed. Design and preparation included the development of a financial model that could be used to set and revise performance targets, project revenue requirements, and calculate the associated tariff increases. Good relationships among the parties and an effective dispute resolution process meant that the private operator and the state asset-holding company were able to reach an agreement on how the former was reimbursed for lost earnings when the latter experienced a delay in the completion of investments.

The reform has had positive outcomes for the poor, in part due to the nature of the operator's incentives, and in part due to the government's policy of subsidizing connections in low-income neighborhoods. However, in 2004, some issues still remained due to the tariff inequities that result when multiple households use a single connection, and the fact that nonpoor households were benefiting from the subsidized block of the tariff, especially if they consumed no more than 10 cubic meters of water per month.

Source: Brocklehurst, Clarissa, and Jan G. Janssens. January 2004. *Innovative Contracts, Sound Relationships: Urban Water Sector Reform in Senegal.* World Bank. Water Supply and Sanitation Sector Board, Discussion Paper No. 1.

Strengthen Capacity

The content of training programs must be broadened to target a wider range of actors and, in contrast to the historical emphasis on engineering and technical skills, focus attention on improvements in service quality, access, and sustainability. Programs to strengthen the capacity and professional development of sector professionals and service providers should include a variety of complementary components and approaches.

- Broaden the focus to include service quality, efficiency, and service for the poor: The content of training programs for WSS staff and managers needs to be broadened to include training in corporatization, private sector participation, tariff setting, financial and commercial management, benchmarking, customer and community relations, communications, and outreach to the poor.
- Move beyond conventional forms of training: Training programs need to be scaled up and new types of training mechanisms need to be introduced to meet the growing needs of the sector as well as to motivate and enable staff to serve the poor effectively. Intensive

training programs, mentoring, on-the-job training, continuing education courses in formal institutions, short seminars, online courses, and study tours to locations where the poor are getting adequate services are among the many innovative approaches that can be used to meet these needs.

- Create incentives and buy-in: Without incentives and prospects for promotion, training is not likely to bring about any changes in services for the poor. Internal communications and awareness programs and incentives for staff to support the reform and improve services for the poor are essential. The creation of career paths that include specialization in services for the poor is also important to create professional pride and commitment.
- Target nontechnical audiences: In addition, training and awareness programs need to be aimed at policymakers, regulators, consumers and consumer associations, consultants, nongovernmental organizations, and private sector firms that support the WSS sector.
- Take advantage of existing materials: A large body of training materials has been created by the World Bank Institute (WBI) and by WSS training institutes in other countries. The potentially relevant materials need to be identified and adapted to the Indian context.
- Professionalize: A professional association of WSS service providers similar to that created in Indonesia (see Box 10) would help create a professional identity and a sector-specific constituency, provide training and certification programs, and offer valuable opportunities for networking. Promoting the development of local private service providers should be an essential component of the strategy.
- Outsource: It is often practical and cost-effective to increase capacity by contracting outside entities to provide specialized services (such as information technology, vehicle repair, community mobilization). Managers should identify the essential functions that should normally be carried out in-house and the functions that could be contracted out. Decisions about outsourcing must also take into account whether qualified companies or individuals are available to provide the service and whether outsourcing is cost-effective. The contracting of NGOs to liaise with slum communities by the Social Development Unit in Bangalore is an example of effective outsourcing (see Box 6).

Box 10: Professional Association of Indonesian WSS Service Providers

Municipal WSS services in Indonesia are provided by some 300 semi-autonomous municipal water utilities (PDAMs). After the financial crisis that hit the country in 1998, most water utilities struggled financially and the quality of the service provided deteriorated under the combined pressure of population growth, aging infrastructure, inefficiencies, and low revenue. Corporatization of water utilities, improved performance, and increased accountability and provision of timely and accurate information to decisionmakers—are part of the challenges to be met. Water utilities are members of a Professional Organization of Water Enterprises (PERPAMSI), headquartered in Jakarta with 28 provincial centers. The mission of PERPAMSI is to assist its members improve the management of their water supplies, assets and finances, as well as to provide training and certify professional staff. In addition, PERPAMSI provides training in public awareness, negotiations with local governments, and customer outreach. A strong PERPAMSI is considered a strategic element for improving WSS services throughout the country. Through a training arrangement, the World Bank Institute assists PERPAMSI in the three areas of (a) public communications and information services; (b) performance benchmarking; and (c) utility staff training programs. The program includes the training of PERPAMSI's trainers in its provincial centers; the trainers will in turn train staff in the member water utilities. WBI is also supporting PERPAMSI build stronger ties with universities and training institutions, to strengthen PERPAMSI's capacity, and engage it in the delivery of appropriate training services.

Source: World Bank. January 2006. *India Water Supply and Sanitation: Bridging the Gap between Infrastructure and Service.* Background Paper, Urban Water Supply and Sanitation, p. 41.

Recognize and Work with Alternative Providers

In addition, alternative service providers, such as SPSPs and community groups, can complement the capacity of the conventional utility by providing services in areas where large utilities are unable to operate. An Asian Development Bank survey showed that SPSPs were providing water to about 6 percent of the population in Delhi, 10 percent in Dhaka, 5 percent in Kathmandu, 36 percent in Cebu, 19 percent in Ho Chi Minh City, 44 percent in Jakarta, and 14 percent in Ulaanbaatar.[14] Several innovative projects have incorporated SPSPs into service delivery models for serving the poor and a number of recent publications have examined the characteristics of SPSPs and innovative ways of engaging them to better serve the poor.[15]

Introduce Accountability and Performance Monitoring Systems

There are a number of regulatory instruments and institutional models that can be used to promote accountability. Experience shows that the choice of a regulatory model should be appropriate for the local context and the size of the market, and it should be consistent with the legal framework and institutional arrangements for the provision of WSS services.

Independent regulators (with a high level of discretion) are often presented as the 'best practice' but they are not suitable to all environments. They require broad-based confidence (of the policymakers, the public, and the utilities) in their objectivity and fairness, and are best suited for regulating fully autonomous utilities with very large markets. In other contexts, alternatives such as a performance contract monitored by an overseeing agency, or a community-based monitoring system, may work better.

Regardless of the regulatory model, it should incorporate pro-poor regulatory principles and mechanisms, and pro-poor regulation:

- Provide a framework for competition so that a wide range of services are available.
- Create incentives (or obligations) for the dominant operators to extend services to poor neighborhoods.
- Allow a flexible approach to service quality so that service providers can experiment with alternative technologies and delivery models while respecting basic service quality requirements.
- Establish tariffs that encourage higher access to services without jeopardizing financial viability.
- Establish a framework to deal with the different circumstances and needs of all customers.

In India, the question of which level of government is responsible for economic regulation needs to be resolved. Larger cities, such as those targeted by the JNNURM, should be capable of engaging and enforcing contracts with service providers, but the current capacity and motivation of municipal officers to monitor and enforce contracts is a constraint. For example, in Delhi, many privately-run—and highly profitable—public toilet complexes fell into disuse largely because the municipality did not enforce contract provisions. Both politicians and municipal staff need

[14] Asian Development Bank. 2004. *The Role of Small-Scale Private Water Providers in Serving the Urban Poor.* Case Study No. 11 in Bringing Water to the Poor, Selected ADB Case Studies.

[15] See, for example: McGranahan, Gordon, Cyrus Njiru, Mike Albu, Mike Smith, and Dana Mitlin. 2006. *How Small Water Enterprises can Contribute to the Millennium Development Goals, Evidence from Dar es Salaam, Nairobi, Khartoum, and Accra.* Water, Engineering and Development Center, Loughborough University. See also the list of resources at the end of this report.

training in concepts and skills, particularly with regard to distinguishing the *governance* of a public service provider by the public owner, the *enforcement of contracts* with service providers, and *economic regulation* of either a public or private service provider. If the economic regulation of services is considered a function of the state government, it will be easier to distinguish it from ownership governance or contract enforcement by urban local bodies. If such institutions share regulatory responsibility with state governments, their respective roles need to be clearly distinguished and complementary.

Regulation by Contract

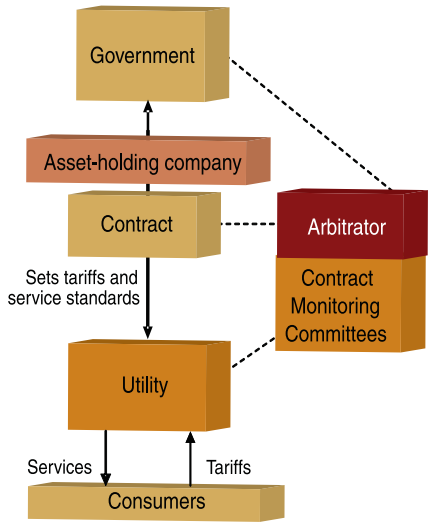
A well-designed and credibly enforced contract, whether a performance contract with a public operator or a contract with a private operator, can provide an excellent regulatory framework without an independent regulator. The specificity of their provisions provides security and predictability for all actors in places that lack a regulatory track record or broad public support for independent regulation. Such contracts should specify (a) the responsibilities and obligations of the operator, the contracting party, and consumers; (b) general service conditions; (c) fees and tariffs to be charged by the operator; (d) payments, if any, to be made to the contracting party or to the operator; and (e) standards (or targets) for improving service quality, coverage (including specific targets for poor communities), technical efficiency, timeframes for outputs and, especially in the case of a public service provider, commercial and financial performance. The operator should also be required to establish a system for responding to

customer complaints and mechanisms for facilitating the access of the poor. Incentives for meeting targets, such as linking payment to performance, should be incorporated. The operator should report his performance in formats that are understandable to local government and consumers. A good performance contract (combined with a dynamic utility manager) made a big difference in turning around the performance of Uganda's National Water and Sewerage Corporation (see Box 8).

Regulation by contract requires a competent overseeing entity that can monitor performance, enforce the contract, and follow-up on unresolved complaints. However, an independent regulator (with a high level of discretion) is not desirable when regulation by contract is used. The experience with the concession contracts in Manila demonstrates why: the discretion of the regulator contradicted the specificity of the contractual provisions, creating uncertainty and confusion.[16] A good

[16] Ehrhardt, David, Eric Groom, Johathan Halpern, and Seini O'Connor. 2007. *Economic Regulation of Urban Water and Sanitation Services: Some Practical Lessons*. World Bank.

Figure 3: Regulatory Organizations Supporting the Contract in Senegal



Source: Ehrhardt, David, Eric Groom, Jonathan Halpern, and Seini O'Connor. 2007. *Economic Regulation of Urban Water and Sanitation Services: Some Practical Lessons.* World Bank.

example of regulation by contract with a private operator is the lease contract in Senegal, which is described in Box 9 and illustrated in Figure 3.

It is not normally appropriate for a contracting or regulating authority to verify every report or make frequent inspections, but some method of verifying the operator's reports, such as an annual independent performance audit, is desirable. In Thailand, for example, the performance agreement in place between the Ministry of Finance and the Metropolitan Waterworks Authority that provides water supply services to Bangkok is audited annually by a private firm, the Thai Rating and Information Service. Finally, procedures need to be established for dealing with poor performance by the operator and the resolution of disputes.

Other Regulatory Mechanisms

There are several relatively simple and inexpensive regulatory mechanisms, such as regular feedback from users and publication of performance indicators, which are also very effective for monitoring performance and stimulating improvements. Hyderabad introduced the Citizen's Charter and Grievance Resolution System (see Box 11). The Citizen's Report Card, first used in Bengaluru in 1994, is another good example. Citizen's Report Card surveys systematically gather and disseminate public feedback on public services that are not subject to competition and thus may lack incentives to be responsive to customers' needs. These Report Cards can be used as a combined advocacy and benchmarking tool. Through this medium, citizens can collectively exert pressure for change. Successful application requires (a) an

Box 11: Hyderabad Metropolitan Water Supply and Sewerage Board's Public Meetings, Citizen's Charter, and Grievance Resolution System

In 1998, the managing director of Hyderabad Metropolitan Water launched the Customer Meets Campaign, a two-week initiative intended to improve employees' commitment to customer care. During the campaign, senior managers held meetings with customers to learn about their service needs and concerns. The diversity and number of citizens who turned up, the directness of their grievances, and the gratitude they expressed for the opportunity to voice their concerns made an impression on management. As a follow-up to these meetings, the Metro Customer Care (MCC) office was created in February 1999 to receive and coordinate responses to complaints lodged by customers using a dedicated telephone number. The MCC standardized and simplified procedures for lodging grievances. An online computer-based program monitors staff performance in responding to complaints. The Citizen's Charter, launched by the Chief Minister in January 2000, outlines measurable service delivery norms for services provided by the Water Board. Its publication was a landmark, as it publicly acknowledged the Water Board's commitment to improving service delivery. Evaluation of results show that the MCC's contribution has improved response to complaints for all income groups and a majority (96 percent) of MCC customers surveyed found procedures easy to follow. However, the MCC is not specifically aimed at the poor and the number of complaints from poor customers is not commensurate with their numbers, perhaps because they lack access to telephones or because they are less exacting than more affluent customers. Nineteen percent of slum residents reported that the complaint mechanism was more accessible than in the past and 44 percent found it more polite and respectful.

Source: Case Study 8, accompanying volume.

understanding of the sociopolitical context; (b) technical competence to execute and analyze a survey; (c) a campaign to publicize the results and bring about change; and (d) follow-up steps to institutionalize the mechanism and link it to public decisionmaking. The second Bengaluru Citizen's Report Card in 1999 resulted in several positive responses, such as the creation of the Bangalore Agenda Task Force by the state government to monitor feedback; the initiation of training programs on customer responsiveness by the Water Board; and the introduction of regular consumer satisfaction surveys by the Karnataka Electricity Board.[17]

Getting Started: Actions and Resources

This section suggests the following actions for sector actors:

Policymakers and Project Planners

- Clearly distinguish and define the roles of key sector actors (policymakers, governance bodies, service providers, and regulators), separate or combine functions as appropriate to promote transparency and efficiency.
- Give service providers adequate autonomy to make management (input) decisions, combine service development and promotion activities with operations, and hold service providers accountable for results through transparent mechanisms.
- Examine the potential benefits and challenges of private participation (including that of local small private service providers) in urban WSS services, and adapt strategies and contractual forms developed elsewhere to India's context.
- Examine the potential benefits and challenges of performance contracting with public operators, and adapt strategies and contracts developed elsewhere to India's context.
- Carry out comprehensive capacity needs assessments for key actors, and develop and implement strategies to broaden and scale up training and capacity-building programs with a new focus on ensuring effective access to service, improving service quality, and promoting financial sustainability.

[17] Waglé, Swarnim, Janmejay Singh, and Parmesh Shah. February 2004. *Citizen Report Card Surveys—A Note on the Concept and Methodology.* Social Development Notes, Participation and Civic Engagement, Note No. 91. World Bank.

- Take advantage of training materials developed by WBI and by service providers and institutions in other countries and adapt them to India's context.
- Design regulatory and accountability frameworks that fit into the existing legal framework and have the broad support of policymakers, the public, and the utilities, including SPSPs.
- Promote and support the start-up of a professional association of water supply and sanitation services providers.

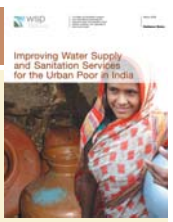
Governance Bodies and Service Providers

- Develop effective internal communication, performance monitoring, and improvement systems.
- Evaluate capacity needs and develop human resources, training, and outsourcing strategies to acquire the necessary skills and capacity.
- Create incentives for managers and staff to improve performance and ensure that all staff support the reforms.
- Change the organizational culture to focus on service quality and customer relations.
- Have performance audited annually and publish audited results.
- Strengthen skills for negotiating with policymakers and overseeing bodies.
- Develop models for engaging with SPSPs to provide services in areas where the utility cannot provide services or where the former can do so more effectively.

Advocates and Civil Society Organizations

- Monitor and disseminate information on the service providers' performance in poor communities.
- Work with the regulator or the service provider to develop licensing and performance monitoring mechanisms that are appropriate for slums and poor communities and give an accurate picture of the quality of service in those areas.

Table 4: Relevant Case Studies in Accompanying Volume



Case Study	Topic
Uganda's National Water and Sewerage Corporation (Case Study 9)	Performance contract with public operator
Hyderabad Metro Water Supply and Sewerage Board, India (Case Study 8)	Customer care office and grievance resolution system

Section 6

Adopt Appropriate Investment Finance, Cost Recovery, and Subsidy Policies

Targets for cost recovery that are realistic and charging methods that take the constraints faced by the poor into account are more likely to lead to financial viability as well as improved access for them.

Obstacles

- *Tariffs do not cover the full cost of efficient services and there is a perception that the poor are unable and unwilling to pay for service.*
- *Poor households find it difficult to pay upfront connection fees.*
- *Poor households find it difficult to pay monthly bills.*
- *Increasing block tariffs penalize households that share a single connection.*
- *Small-scale service providers lack adequate finance to extend networks into peri-urban informal settlements.*

Services that are not financially viable cannot be managed and operated efficiently, and will not be sustainable. Financial autonomy is an essential component of managerial autonomy and accountability. Managers who do not have adequate resources or have little control over financial resources cannot make optimal decisions. Dependence on public subsidies makes the services vulnerable to political intervention and changes in political priorities. A vicious circle develops: when tariffs are too low and a utility cannot pay its debt, the government must help out and, as a result, tends to get involved in day-to-day management. The Jawaharlal Nehru National Urban Renewal Mission recognizes this and encourages levying reasonable user charges so that within seven years revenues will cover at least the cost of operation and maintenance. Achieving this will require a multifaceted strategy that might include improvements in financial management, improvements in operational performance, redesign of tariff structures and connection charges, gradual tariff increases, and a campaign to increase connections. Targets for cost recovery that are realistic and charging methods that take the constraints faced by the poor into account are more likely to lead to financial viability as well as improved access for them. A few relevant strategic approaches are proposed below.

Adopt Realistic Cost Recovery Policies and Targeted Subsidies

Cost recovery can be improved by (a) reducing costs through efficiency improvements; (b) charging an average tariff that reflects costs; (c) structuring tariffs to balance efficiency considerations with targeted subsidies that promote affordability; and (d) introducing strategies to improve the collection of tariffs, including billing and collection strategies that are tailored to conditions in poor neighborhoods. Development of a realistic strategy to improve cost recovery and maintain financial viability while expanding service to the poor requires considering a number of factors.

Regulators are understandably reluctant to increase tariffs and must be convinced that a tariff increase is justified before giving approval. If politicians are playing the role of tariff regulator, the task is even more complex. Utility managers should learn how to prepare tariff proposals that justify proposed increases within the context of a medium-term plan, identify the risks associated with failing to recover costs, and provide evidence that consumers are willing and able to pay the proposed tariffs. They must also demonstrate that they are taking other steps to reduce costs and improve cost recovery.

It may be possible to improve financial performance without increasing tariffs in real terms by improving the efficiency of technical and commercial operations and increasing connections. This will put the utility in a better position to attract additional finance for expansion. It will also provide resources to expand and improve services to the poor.

If a large tariff increase (in real terms) is required, even after taking into account the effects of efficiency improvements and increased connections, the increase should be phased over time and accompanied by perceivable improvements in service. Real increases should, of course, be in addition to automatic increases to reflect inflation. Phasing a tariff increase over a few years is feasible only if a reliable operating subsidy is available (or debt service can be suspended) during the interim. If this type of financial assistance is not available, a larger increase may be acceptable if customers support the reasons for the increase. A well-planned public awareness and educational campaign that precedes the increase is essential to build support.

The tariff structure may create economic distortions or undermine the financial performance of the utility, particularly if the lowest tariff does not cover the full cost of operation and maintenance and/or if the tariff paid by

the largest consumers is so much higher than the full cost of providing the service that large consumers have an incentive to reduce their consumption. Cross subsidies must be designed carefully to minimize these effects. In localities where there are not a sufficient number of higher income residents to subsidize the poorest residents through a reasonable surcharge, cross subsidies are generally not a viable option.

Colombia and Chile have developed two different but viable approaches to subsidies on the basis of household income. The need for cross subsidies is minimized because the poor are subsidized primarily by transfers from the central governments.[18]

Expanding service to the poor may result in a higher average cost because of physical conditions, higher collection costs, and lower average consumption from connections in poor households. It should not be assumed that individual household connections will result in higher levels of consumption—such assumptions have proven unfounded, especially when cheap alternative sources are available. This creates a dilemma that needs to be acknowledged and dealt with realistically. Practices that would reduce the cost of serving poor neighborhoods should be introduced. Community management of billing and collection, and outsourcing the installation of connections, have reduced costs in some locations. (Examples of these are mentioned below.) Service levels also affect financial viability. Individual household connections for water and sewerage are often the preferred options, but when many households are served through a single water connection, water consumption per connection may be higher than the utility's average and make up for some of the higher costs. Similarly, block toilets increase economies of scale. Financial projections and the design of cross subsidies should reflect these factors. Tariff rules should seek to balance the need to ensure financial viability with the broader benefits of delivering services to the poor, and provide for offsetting any negative financial effects on the utility.

General operating subsidies and blanket investment subsidies usually benefit the rich more than the poor, unless tariffs are structured to ensure that only the poor benefit from the subsidies. In general, subsidies should be targeted at the poor and should be limited and temporary. Subsidizing investments and/or connections in poor neighborhoods is preferable to subsidizing monthly consumption because the former is both targeted and limited in scope, and is generally sufficient to ensure that the poor will be connected and stay connected. Many studies show that the poor are willing and able to pay tariffs that cover the full cost of operation and maintenance for water supply services.[19] Charging such tariffs not only promotes the financial viability of the services; it helps the poor become legitimate customers and gives them a stronger voice. If subsidies for consumption are to be maintained over an indefinite period of time, the source of funding should be reliable and should not undermine the financial viability of the utility.

[18] Information on Chile and Colombia's subsidy programs may be obtained from the respective water supply and sanitation regulators, the Comisión de Regulación de Agua Potable y Saneamiento Básico in Colombia, and the Superintendência de Servicios Sanitarios in Chile.

[19] See for example: Guha, Shion. May 2008. 'Valuation of Clean Water Supply by Willingness to Pay Method in a Developing Nation: A Case Study in Calcutta, India', *The Journal of Young Investigators,* Vol. 18, Issue 5.

Develop a Cost Recovery Strategy

A cost recovery strategy includes efforts to reduce costs, ensure commercial performance, and the adoption of tariffs that cover the cost of an efficient service. Some of the key steps in developing a cost recovery strategy and a tariff proposal are:

- Evaluate demand of various categories of customers (including poor households) through willingness-to-pay studies, taking into account seasonal variability and the availability of alternative sources of water and sanitation that are free, or lower in cost, than the proposed service.
- Build a financial model that will be used to project costs (including depreciation or debt service) and revenues. Calculate the required average tariff to achieve the cost recovery objective for both water supply and sanitation, and appropriate tariffs for each tariff block, if relevant.
- Evaluate operational and commercial performance to determine whether costs can be reduced or revenues increased without a tariff increase, or to mitigate the required tariff increase. Propose a realistic improvement program to improve operational and commercial efficiency, and project its impact on financial performance.
- Evaluate tariff structure to determine whether it promotes efficiency, maximizes revenues, or unfairly penalizes any group of consumers, such as poor households who share a single water connection, or suppresses the demand of large customers below levels required to maintain financial viability. If relevant, propose a more efficient or fair tariff structure and project its impact on demand and revenues.
- Justify any proposed investments on the basis of expansion and improvement priorities, technical and financial feasibility, including realistic estimates of demand and cost effectiveness, and the availability of investment finance.
- Evaluate the ability of poor households to pay upfront capital contributions or connection charges and to accumulate adequate funds to pay monthly bills, and propose mechanisms to address these constraints.
- Identify and secure sources of any subsidies that will be offered to promote expansions and connections in poor neighborhoods.
- Taking into account all of the above, calculate the required average tariffs for both water supply and sanitation and develop a strategy for increasing the average tariff to achieve the cost recovery objective, including the identification of sources of any temporary operating or capital subsidies.

This type of model building and analysis requires the services of a team that has expertise in financial analysis, economics, operational efficiency, engineering, investment planning, and sociology. The Government of Senegal used a process similar to that described above to develop its cost recovery strategy. (See Box 9.)

Subsidize Investments

A full or partial subsidy for investments may be justified in poor urban communities as long as poor customers can pay tariffs that cover the costs of operation and maintenance. There are a number of studies that demonstrate that the poor are willing and able to pay at least part of the cost of investments in water supply. Investment subsidies, thus, need not cover the entire capital cost, nor should it be assumed that they are needed in all cases. There are real benefits associated with requiring users to contribute something, even if nominal, to the cost of investments, because it motivates them to get more actively engaged in the planning process. Higher levels of subsidies may be required for sanitation but can usually be justified because of the public health and environmental benefits. It cannot be emphasized enough that if investments are subsidized, they should nevertheless be demand-driven, the result of meaningful participation of the community in the planning process.

One way to structure investment subsidies is to provide them as output-based aid (OBA). The OBA approach has been tested in a number of countries in Latin America, Africa, and Asia. The operator must prefinance the investment and receives the subsidy after the desired outputs are achieved. It is most often used to promote and reward investments that serve the poor. The subsidy is usually specified as an amount per connection and is paid on the basis of the number of poor households that are actually connected.[20]

A number of countries have introduced transparent, targeted subsidies for investments that expand services to the poor. Examples of targeted subsidies are presented in Box 12.

Box 12: Targeting Investment Subsidies for the Poor in Cambodia, Colombia, Paraguay, the Philippines, and Uganda

The governments of Colombia, Cambodia, Paraguay, the Philippines, and Uganda used the proceeds of World Bank loans or International Development Association (IDA) credits to expand and improve water services for the poor while promoting the engagement of private operators. In most cases in Colombia, Cambodia, the Philippines, and Paraguay, private operators were selected via a competitive process in which they specified the investment subsidy they required. In some of these, the subsidy was specified as lump sum investment, in others as an output-based aid subsidy per connection. In either case, the subsidy is paid after the investments are completed or customers are connected. These operators are required to operate the systems under contracts that resemble concessions or lease contracts for 10 to 25 years, and are responsible for all maintenance and replacements during that period. The subsidy is not intended to cover the full cost of construction; the unsubsidized portion is recouped from users through connection fees and tariffs over the life of the contract.

In Colombia, tariff rules require that the average tariff includes the full cost of replacement of assets even if the initial investments are subsidized and there is no debt service. However, the tariff structure is such that low-income households do not pay any charges for capital investments. Nonpoor consumers pay tariffs that cover the full replacement cost of infrastructure and those in the two highest income brackets pay, in addition, a surcharge to subsidize consumers in the two lowest income brackets. In this way, the higher income consumers do not benefit from the investment subsidies.

In Uganda, the government planned and bid-out the construction and operation of water supply systems for small towns separately from contracts with private managers. The investments were largely funded by government grants using donor credits or grants and tariffs are expected to cover only operation and maintenance costs. Since almost all residents of small towns are considered poor, all benefited more or less equally from the investment subsidy. However, the towns were required to mobilize a portion of the construction cost and the relatively more affluent residents were generally required to contribute more than less affluent residents. Tariffs cover the cost of operation and maintenance. Uganda is now planning a pilot project under which private firms would both construct and operate the systems and would receive an output-based aid subsidy per connection.

Source: Triche, Thelma, Sixto Requena, and Mukami Kariuki. December 2006. *Engaging Local Private Operators in Water Supply and Sanitation Services, Initial Lessons from Experience in Cambodia, Colombia, Paraguay, the Philippines, and Uganda.* World Bank. Water Supply and Sanitation Working Notes, No. 12.

[20] It is worth noting that OBA investment subsidies are sometimes referred to as connection subsidies because they are paid on the basis of the number of connections installed. This is a misnomer because the subsidy is usually intended to cover the cost of the major system components, not individual connections *per se*. In many OBA projects, the users must still pay a connection charge.

Restructure Charges and Payment Practices to Accommodate the Poor

Reduce Connection Charges for Poor Households

Connection charges that create barriers for poor people may be reduced by improving efficiency (that is, lowering the cost of installing connections), subsidizing connection charges, and eliminating bribes. Upfront connection charges, and the bribes users must pay to middlemen who facilitate applications, can present barriers for the poor because accumulating the required sum is difficult for people who live from day to day. Plans that allow poor users to pay the connection charge in installments over a year or two are sometimes proposed but these may not be the optimal solution because they may include high interest charges and can increase monthly bills by as much as 100 percent. High bills increase the risk of disconnection due to delinquency in payments and undermine the objective of keeping the poor connected.

Sometimes, connection charges have nothing to do with the actual cost of installing a connection *per se*. High connection charges may need to be evaluated to determine whether they are justified and to bring them in line with the actual cost of making a connection. Collection charges may be exorbitantly high due to the inefficiency of the utility. In that case, the appropriate strategy is to reduce costs by improving efficiency. In Bengaluru, the Social Development Unit was able to reduce its average cost of connections and introduce reduced connection charges for smaller houses by hiring a private plumber to install the connections.

However, when the charges reflect actual costs and efficiency is good, but the charge is still a barrier to connection for poor households, there is a growing recognition that reducing the connection charge by subsidizing connections is a viable and appropriate component of a strategy. A number of ways have been used to structure and fund connection subsidies. Utilities often find that the additional revenues generated by new connections and the reduction of the costs of operating standposts more than compensate for internally subsidizing connection charges. Allowing the charges to be paid in installments that are free of interest is another solution. In Andhra Pradesh, a grant from the state was used to reduce the charge (see Box 13). Faced with the problem of extending services into poorer neighborhoods and towns, the large urban water supply utilities in two African countries, Côte d'Ivoire and Uganda, reduced connection charges by adding a surcharge to the tariffs paid by all users. In some donor-financed projects, part or all of the cost of connections may be financed by the project. In Buenos Aires, poor households were charged lower connection fees in return for providing labor during the construction and installation process. Similarly, poor households in the peri-urban areas of Ciudad del Este in Paraguay earned connection vouchers when they worked on the construction of the water supply system.[21]

Removing bureaucratic barriers and improving the efficiency of the

Box 13: Subsidized Connections in Andhra Pradesh

In the late 1990s, the residents of Vijayawada (population 1 million) in Andhra Pradesh, India, got their water from about 900 private hand-bored wells and a municipal system serving 36,000 house connections and 6,500 public standposts. Most of the standposts had lost their taps and ran continuously. At that time, the municipality's charge for a house connection was Rs 4,000 (US$87), and the monthly consumption fee was Rs 40 (US$0.86). The state government of Andhra Pradesh released funds under the National Slum Development Project to provide a 50 percent subsidy toward the connection costs. When the Vijayawada Municipal Corporation announced this program, there was an overwhelming response from slum dwellers, and more than 5,000 came forward offering to pay the Rs 2,000 (US$43) deposit. Using the cash inflow, the municipality was able to extend its distribution pipelines to several unserved areas.

Source: Arvind Kumar (Indian Administrative Service, Municipal Commissioner, Vijayawada Municipal Corporation). April 9, 1999.

[21] Triche, Thelma, Sixto Requena, and Mukami Kariuki. December 2006. *Engaging Local Private Operators in Water Supply and Sanitation Services, Initial Lessons from Experience in Cambodia, Colombia, Paraguay, the Philippines, and Uganda*. World Bank. Water Supply and Sanitation Working Notes, No. 12. (Vol. II, Unpublished Case Studies, is available from The World Bank Energy and Water Department.)

connection application process may also reduce the cost to users, especially to those who have been paying bribes to utility staff or middlemen to speed up the process. The creation of a dedicated unit within the utility (such as the Social Development Unit in Bangalore Water Supply and Sewerage Board) and engaging nongovernmental organizations to assist the poor with the application process have produced good results.

Introduce Frequent Collection of Water Charges

If the very poor have difficulty accumulating monthly fees, it may be possible to increase the frequency of collection at the community level. Keeping tariffs below the full cost of operation and maintenance is not desirable or effective. In fact, it may reduce the utility's incentive to collect charges. More frequent collection of charges may be a viable solution. For example, in the Manggahan Floodway area of Manila, community representatives collect water fees from connected residents on a daily or weekly basis and pay the monthly bills to the utility on behalf of the residents. A 15 percent surcharge is added to the tariff to cover the cost of community administration. (See Case Study 4, accompanying volume.)

Eliminate Distorted Tariffs for Poor Households

There are several situations in which the poor pay relatively high tariffs for basic consumption. Administrative or regulatory actions may be required to eliminate these distortions. Block tariffs are generally designed to provide a low lifeline tariff for a basic essential household consumption and to discourage excessive use by those who consume more than a basic volume of water. However, such tariffs may penalize the poor when several households use one connection. A system of verifying the number of poor persons or households using each connection and adjusting the applicable tariff accordingly can be introduced to solve this problem. Assuming the basic essential consumption for a family of five is 10 cubic meters of water per month, if five families share a single connection, the lifeline tariff would be applied to a total consumption of 50 cubic meters from that connection. Such a system is best administered at the community level, perhaps by a community association, and the number of persons should be verified periodically to prevent abuse.

Water charges may also be distorted when poor people pay their water bills as part of their rent. Greater transparency can be achieved by requiring landlords to inform tenants of the amount of the water bill and to justify the amount included in rent.

Resale of water by vendors who have private connections (with or without lifeline rates) can result in excessive prices if there is little or no competition. Legitimizing the resale of water and/or allowing communities to appoint several authorized vendors would increase competition and drive prices down. If effective competition cannot be created, the regulator or the community may set a maximum tariff to be charged by vendors—taking into account the vendor's reasonable costs. In such cases, regulation and enforcement at the lowest level feasible is preferable.

Posting the allowed on-sale tariff as well as the tariff paid by the vendor for bulk water will help to prevent excessive prices and make the margin charged by the vendors transparent. Allowing authorized vendors to be eligible for the same tariff as individual households may also help to reduce the on-sale tariff.

Promote, Legitimize, and Finance Small Private Service Providers

Legitimizing and providing finance to small private service providers (SPSPs) can be an effective way to promote the expansion of acceptable services to unserved neighborhoods. There are relatively few SPSPs for water in India. Private operators of toilet complexes are more common. Projects to promote SPSPs often use the OBA approach. A recent report reviews the early experience of several World Bank-supported projects that promoted the contracting of local private operators—many of which are SPSPs.[22] Similar initiatives are being funded by the Global Partnership on Output-Based Aid and other donors.

[22] Triche, Thelma, Sixto Requena, and Mukami Kariuki. *Op. cit.*

Getting Started: Actions and Resources

The following actions are recommended:

Policymakers and Project Planners

- Make cost recovery and long-term financial sustainability a high priority.
- Issue cost recovery and subsidy guidelines to clarify concepts and promote standardization of methods in each state (if not throughout India). Standardization of methods will make it possible to compare performance and establish benchmarks across utilities facing similar conditions and will promote exchange of ideas.
- Establish efficiency and cost recovery targets as a condition of investment lending and grants.
- Approve tariff increases and changes in tariff structure that are aimed at improving cost recovery and long-term sustainability.
- Use output-based aid schemes to promote connections in poor communities, but scrutinize such proposals to ensure that the connections are sustainable, that is, that poor households are willing and able to pay monthly charges.
- Legitimize and support SPSPs to fill gaps in service to the poor communities.

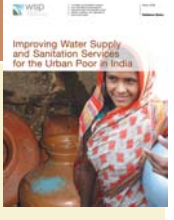
Governance Bodies and Service Providers

- Develop realistic financial models to project costs and revenues, and calculate the required average tariff to achieve full cost recovery over time.
- Identify inefficiencies in operations and commercial functions and focus on improving those, which will result in greatest cost savings.
- Adopt lifeline rates that cover operation and maintenance costs.
- Simplify and redesign tariff blocks to eliminate subsidies for customers who are not poor and also extend the lifeline rate to those households who share connections.
- Determine whether the connection charge is a barrier to household connections for poor households. Evaluate the feasibility and impact of subsidizing connection charges without undermining the financial viability of the utility. Alternatively, adopt methods for collecting connection charges that eliminate the barrier without increasing monthly bills excessively.
- Work with poor communities to improve collection of bills through practices such as daily or weekly community collection.

Advocates and Civil Society Organizations

- Carry out willingness and ability-to-pay studies to determine the conditions under which poor households want and can pay for household connections.
- Support communities to organize connection campaigns, frequent collection of bills, and other activities that make household connections a feasible solution.
- Assist households that share a single connection to qualify for the lifeline rate.
- Organize communities without access to piped services to appoint and negotiate with vendors to ensure fair prices.

Table 5: Relevant Case Studies in Accompanying Volume



Case Study	Topic
Manila, Manggahan Floodway (Case Study 4)	Network of user associations that bill and collect water tariffs within the community
Uganda's National Water and Sewerage Corporation (Case Study 9)	Subsidized connection charges
Bangalore Water Supply and Sewerage Board (Case Study 10)	Reduction of the cost of installing connections through outsourcing

Section 7

Overcome Physical and Technical Barriers

India has adopted the Dublin Principles regarding the need for integrated water resources management to protect the environment, and the economic pricing of water, to ensure efficient use of water resources.

Obstacles

- *The overexploitation and degradation of water resources affects the poor disproportionately.*
- *Physical and technical challenges make it difficult to extend formal piped water supply and sewerage networks into informal and unplanned settlements.*

Inadequate attention to managing water resources is leading to the overexploitation and degradation of water resources in India and exacerbates the already difficult service and environmental conditions in poor urban neighborhoods. One observer described the situation as follows:

> "In India the exploitation of groundwater has been encouraged, but little has been done to recharge it. As a result, groundwater tables nationwide are falling. In years when rains are low, this problem becomes an emergency. The poor who depend on dug wells (which dry first) are the first to suffer."[23]

In water scarce areas or during the dry season, the poor are vulnerable to exploitation by vendors charging excessive prices. In Chennai, more than 13,000 tankers are mining the surrounding farmlands for water. With agriculture in crisis and groundwater levels insufficient for farming, farmers find it easier to live off the money they earn from the private water operators.

In Ahmedabad, overharvesting of groundwater has caused the city's water table to drop an average of seven feet per year in the past 20 years. About 75 percent of the Ahmedabad Municipal Corporation's electricity consumption is used for pumping water, mainly because the city's water pumping system is antiquated and inefficient but also because Ahmedabad is located close to a dry region and much of its water must be pumped from underground wells, an extremely energy-intensive process.

India has adopted the Dublin Principles regarding the need for integrated water resources management to protect the environment, and the economic pricing of water, to ensure efficient use of water resources, but further action is needed to implement these principles in their true spirit. In particular, far more attention needs to be directed toward sanitation and the safe disposal of wastewater.

In addition to the broad problem of water resources, there are often specific physical and technical challenges associated with providing services in poor neighborhoods. Conventional water distribution networks and sewerage often cannot be used. This may be due to geography or geology, or to the lack of roadways under which pipes can be laid. Innovative alternative technologies are needed to overcome these barriers.

Protect Water Resources

Government and utilities should encourage the use of water-saving technologies and simple but safe sanitation. Overexploitation of water resources, which is already a serious problem in many places, increases the cost of water supply services, making the expansion of services to the poor even more difficult than it is when resources are plentiful. Recently, in Chennai, the government made it compulsory to construct rainwater harvesting structures in every building after the city faced an unprecedented water shortage. Two years later, the groundwater levels in Chennai have risen substantially.

Rather than reacting to near-disasters, public authorities and utilities should adopt comprehensive strategies for reducing water losses. They should also encourage the adoption of water saving technologies and low-cost sanitation at the household and community level.

Adopt Appropriate Technologies and Delivery Systems

Some appropriate technologies are already widely used in India. Others that have been successfully introduced elsewhere might be adaptable to local conditions. These include:

- Connect flush latrines with septic tanks: On-site sanitation options are already widely used in urban areas of India where it is impractical to lay sewers and where residential plots are large enough to absorb effluents.
- Condominial sewerage systems: The unit to which service is provided is a group of houses, rather than individual houses. Small bore connection branches that run from the main sewer through household lots with a direct connection to each house are constructed with smaller pipes and installed at shallower

[23] Pushpendra Agarwal, 2001.

Box 14: Condominial Sewerage in Brasilia

Between 1993 and 2001, Brasilia's water and sewerage utility CAESB applied the condominial model on a massive scale in both low-income peri-urban neighborhoods and in more affluent areas of the capital. An estimated 188,000 condominial connections benefiting 680,000 people were installed. Sewerage treatment capacity was also increased using adapted technologies.

Substantial cost savings resulted from several alternative technical practices. For example, in Santa Maria, a large neighborhood that typifies the system as a whole, the average public network length is about 2.8 meters per connection, compared with about 5.6 meters per connection for conventional systems. In addition, whereas conventional network design usually calls for a minimum pipe diameter of 150 millimeters, pipes of 100 millimeters were used for 56 percent of the system. The pipes were also laid at a minimum depth of 0.5 meters, compared to the conventional 1.0 to 1.3 meters, and simple inspection chambers were installed instead of high-cost manholes for 84 percent of the inspection points.

Throughout the metropolis, the condominial branches conformed strictly to standards of pipe location, hydraulic capacity material specifications, and building regulations, but a few exceptions were made to accommodate highly localized physical conditions. Residents at the level of each condominium were allowed to choose among three location options for the branch routes: through the backyard, the front yard or under the sidewalk. Routing through the yard has the advantage of being less expensive to install, but the household is responsible for maintenance. With the more expensive option of routing under the sidewalk comes the advantage that the utility assumes responsibility for maintenance.

As the cost of condominial branches (US$2.8 million) was borne by the beneficiaries, CAESB's costs (US$1.7 million) were much lower than for conventional sewerage. However, it was estimated that consumers paid no more for the condominial branches than they would have paid for conventional connections. About 1.5 percent of households opted to install the branches themselves and consequently paid no connection charge, but were expected to pay for materials. Finally, the regular sewerage charges for households that opted for routing through the yard were discounted by 40 percent.

Prior to undertaking investments, CAESB undertook a process of social intermediation. During a series of meetings, the approach was explained and each community chose an option and signed the required agreements. This process did not result in any delays in the execution of the works. In lower-income communities, especially, the mobilization efforts led to greater contact among neighbors and built social capital.

The alternative technical practices have resulted in neither a higher incidence of obstructions nor a higher cost of maintenance relative to the pre-existing conventional system.

Source: Melo, Jose Carlos. August 2005. *The Experience of Condominial Sewerage Systems in Brazil, Case Studies from Brasilia, Salvador, and Parauapebas.* World Bank.

grades than conventional sewers, resulting in cost-savings. (See Box 14.)

- Bulk sewerage: A sewerage connection is provided at the boundary of the community into which the community-managed internal sewerage system is discharged.
- Interceptors and shallow sewers: These could be an option for neighborhoods with septic tanks.
- Low-cost sewage treatment technology adapted to local conditions, using low-cost materials and construction techniques.
- Rainwater collection system: Roof channels divert rainwater to a filter and then to a ground level storage tank from which it is pumped by hand to an elevated tank.
- Community storage tanks: When service is unreliable or intermittent, large storage tanks can be installed in poor communities to increase the hours of availability.

- Bulk water supply: Water is supplied to a community tank to which the community connects its internal distribution system. Consumption is invoiced on the basis of a macro-meter at the tank, which registers the consumption of the entire community.
- Relaxed standards: In Manila, private operators and community associations have installed water pipes and connections above ground.
- Street or block metering for water supply: Meters are installed at the end of each street or block. Billing of each individual connection is based on average consumption.

Urban land-use ordinances or technical and environmental regulations may prevent or discourage the use of alternative technologies. For example, in Recife, Brazil, in the mid-1990s, an environmental policy that favored tertiary treatment of sewage threatened to block the construction of simple condominial sewerage systems with primary treatment in urban slums. Similarly, the requirement that wastewater treatment plants be located a minimum of 100 meters from residences made it difficult to build small-scale treatment plants in densely inhabited slums. Project designers successfully argued that primary treatment was better than no collection or treatment at all but the distance rule remained a barrier.[24] Since the objective of the distance rule is to protect health and avoid eyesores in residential neighborhoods, it might be just as effective to substitute stringent safety measures and aesthetic designs for a rule regarding distance. Regulation should be flexible enough to allow improvements. The best should not be the enemy of the good.

Getting Started: Actions and Resources

The following actions are recommended:

Policymakers and Project Planners

- Adopt flexible standards that permit the use of alternative technologies and levels of service in poor neighborhoods.
- Enforce land-use, technical and environmental standards in a manner that allows gradual and phased improvements.

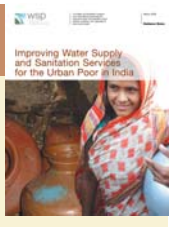
Governance Bodies and Service Providers

- Adopt aggressive programs to reduce water losses.
- Encourage the use of water-saving technologies and low-cost sanitation by customers.
- Consider alternative technologies when faced with physical conditions that prevent the use of conventional technologies.

Advocates and Civil Society Organizations

- Assist communities to examine alternatives to conventional infrastructure and adopt appropriate solutions.

Table 6: Relevant Case Studies in Accompanying Volume



Case Study	Topic
Lima, Peru (Case Study 16)	Condominial sewerage
Tegucigalpa, Honduras Study (Case Study 15)	Bulk water supply
Orangi Pilot Project, Karachi, Pakistan (Case Study 5)	Bulk sewerage connection
Manggahan Floodway Communities, Manila (Case Study 4)	Street or block metering

[24] *Establishment of a Regulatory Framework for Water and Sewerage Services in the Municipality of Recife, Initial Diagnosis.* Report submitted by Deloitte Touche Tohmatsu to the Secretary of Infrastructure and Public Services, Municipality of Recife, January 1997, Part VIII. A. Environmental Standards.

Section 8

Summary of Policy Issues

Improvements in the planning and delivery of services are essential to promote more efficient use of water resources, but must be complemented by an effective framework for overall water resources management.

Policy Framework

When India's Prime Minister Manmohan Singh launched the Jawaharlal Nehru National Urban Renewal Mission (JNNURM), on December 3, 2005, he referred to the fact that in the early part of this century 50 percent of the population of India will be living in cities. Rapid urbanization has already outpaced infrastructure development and has been accompanied by a proliferation of slums, increased homelessness, growth in urban poverty and crime, and an increase in pollution and ecological change. To date, efforts to address urban problems have focused on the planning and implementation of development projects but too little attention has been paid to the people themselves.

The JNNURM seeks to redress this by improving the quality of life of urban residents through security of tenure, improved housing, and essential services.

The JNNURM recognizes that this will require reforms in policies, laws, statutes, and procedures, particularly those that inhibit the functioning of land and housing markets, to align them with the contemporary needs of India's cities and towns. To achieve its objectives, in addition, the JNNURM recognizes the importance of institutional reform and the need to improve the performance of municipal government and service providers. It will encourage and assist city governments to (a) improve property tax collection; (b) apply user charges that cover at least operation and maintenance costs; (c) introduce improved accounting and transparency in local budgets; and (d) institutionalize a higher degree of community participation in the decisionmaking processes. These are sweeping changes and the success of the mission will depend on its ability to enlist the support of a large number of partners and stakeholders.

These guidelines recommend practical tactical strategies for overcoming obstacles to improving water supply and sanitation services for the urban poor but, in many cases, overcoming the obstacles will require more than tactical strategies. It will require changes in policies or legislation, or their implementation. Even where policy reform is not essential, the proposed strategies might benefit from a more supportive policy or legal environment.

A diagnosis of national, state, and municipal policy and frameworks, and how they are implemented, may be needed to determine where the gaps, overlaps, and inconsistencies exist. Some policy changes and legal amendments will undoubtedly be warranted. However, in many cases, while current policies themselves may be adequate, their implementation is weak, or they may not be understood and appreciated by the key actors. In those cases, strategies to improve the implementation of policies may be needed.[25]

[25] This might seem like a daunting task in the Indian context but, if properly focused, it is quite feasible. A useful approach would be to establish an evaluation methodology that could be applied in all the states for the purpose of reviewing their legal frameworks and proposing revisions. Initially the approach could be piloted in one or two states and a representative number of municipalities. Once the methodology is refined it could be used by other states. Such an exercise was carried out in Mexico in 2003-04: the legal frameworks of all 31 states, the Federal District, and several major cities were reviewed.

List of Policy Issues Associated with the Proposed Strategies

Some of the key policy issues that need to be addressed in the context of the proposed strategies have been identified in each of the previous sections of these Guidance Notes. These are consolidated below.

Give the Poor a Voice

The relevant policy reforms that would enhance the voice of the poor in planning and delivering service improvements include:

- Establishing requirements for greater transparency in all aspects of service planning and delivery, and more public access to information.
- Formulating local policies to print materials in local languages.
- Setting down requirements or incentives for utilities to create the institutional mechanisms to promote better client relations and special units to assist the poor.
- Removing barriers that prevent the poor from participating in elections and running for office.

Take Vested Interests into Account

Policy reforms that would reduce opportunities for illegal activities that inhibit reform include:

- Legalizing and regulating small service providers.

- Initiating policies that would promote more competition among small service providers.
- Creating policies and procedures to promote transparency and public access to information.

Eliminate Administrative and Legal Barriers

Lack of land tenure is one of the major barriers to access to services by poor households. Removing this obstacle requires:

- Initiating land tenure reform.
- Linking service provision to long-term occupancy, not land ownership.
- Streamlining or simplifying procedures for poor residents.

Strengthen Capacity, Autonomy, and Accountability of Service Providers

Legislation or de facto practices regarding the respective roles of key actors and their institutional formats may not clearly distinguish roles or promote accountability. This may result in gaps or overlapping responsibilities. Regulations or their enforcement may not allow for adequate flexibility in technical solutions. Reforms may be needed to ensure:

- Adopting management models that promote the autonomy and accountability of service providers.
- Establishing effective tariff regulation, mechanisms for monitoring service quality, and

incentives for service providers to operate efficiently and provide reliable services.

- Clarifying the responsibilities of states and municipalities and the elimination of any overlaps, inconsistencies, and gaps in their roles.
- Adopting minimum standards that can be adapted to local conditions and needs.

Adopt Appropriate Investment Finance, Cost Recovery, and Subsidy Policies

All the recommended actions require a supportive and rational financial framework. Existing laws should be evaluated to determine whether they allow and provide for:

- The principle of full cost recovery for services.
- Targeted subsidies for investments and connections (but not tariff subsidies) for poor households, where warranted.
- Tariffs that recover all operation and maintenance costs at the minimum.
- Reliable sources of subsidies so that the financial viability of service providers is not compromised.

Overcome Physical and Technical Barriers

Improvements in the planning and delivery of services are essential to promote more efficient use of water resources, but must be complemented by an effective framework for overall water resources management. This requires national, regional, and local solutions. In poor communities this often has to do with the specific local topography or geology and requires local adaptations and solutions. Existing legislation should be evaluated to determine whether it promotes:

- Coherent national, regional, and local approaches to effective water resources management.
- The reduction of water losses by utilities and the adoption of water-saving technologies by customers.
- Flexibility for environmental and technical standards and management models to be adapted to local needs and conditions.

RESOURCES

Give the Poor a Voice

Baindur, Vinay. September 5, 2005. 'For the People, by Diktat.' *India Together* op-ed. http://www.indiatogether.org/2005/sep/gov-nurm.htm

d'Cruz, Celine, and David Satterthwaite. 2006. *The Role of Urban Grassroots Organizations and their National Federations in Reducing Poverty and Achieving the Millennium Development Goals.* Global Urban Development, Vol. 2, Issue 1.

Water and Sanitation Program. January 2007. *Slum Sanitation Program in Mumbai: Stakeholder Participation Paves Way for Sustainability.* Case Study.

Take Vested Interests into Account

Brocklehurst, Clarissa, Shagun Malhotra, and Alain Morel. June 2005. *Rogues No More? Water Kiosk Operators Achieve Credibility in Kibera.* Water and Sanitation Program Field Note. www.wsp.org

Kariuki, R. Mukami, and Jordan Schwartz. October 2005. *Small-Scale Private Service Providers of Water Supply and Electricity: A Review of Incidence, Structure, Pricing, and Operating Characteristics.* World Bank Policy Research Working Paper 3727. Available online at http://econ.worldbank.org

Triche, Thelma, Sixto Requeno, and R. Mukami Kariuki. December 2006. *Engaging Local Private Operators in Water Supply and Sanitation Services: Initial Lessons from Emerging Experience in Cambodia, Colombia, Paraguay, the Philippines, and Uganda.* Water Supply and Sanitation Working Note 12, World Bank, p. 16.

Valfrey-Visser, Bruno, David Schaub-Jones, Bernard Collignon, and Emmanuel Chaponnière. November 2006. *Access through Innovation: Expanding Water Service Delivery through Independent Network Providers—Considerations for Practitioners and Policymakers.* Building Partnerships for Development. www.bpdws.org

Wampler, Brian. October 2000. *A Guide to Participatory Budgeting.* http://www.internationalbudget.org/resources/library/GPB.pdf

Water and Sanitation Program, and Ministry of Housing (Peru). June 2007. *Evaluation of Small-Scale Providers of Water Supply and Sanitation Services in Peru*. WSP and Ministerio de Vivienda, Construcción y Saneamiento, Lima.

World Bank. November 2006. *Identifying Appropriate Policy and Regulatory Frameworks for SPSPs in the Water Sector: The Role of SPSP Associations?* Synthesis Report. Water and Energy Department.

Eliminate Administrative and Legal Barriers

Alfaro, Raquel. November 1997. *Linkages between Municipalities and Utilities: An Experience in Overcoming Urban Poverty.* Working Paper. Water and Sanitation Program.

Brocklehurst, Clarissa, Shagun Malhotra, and Alain Morel. June 2005. *Rogues No More? Water Kiosk Operators Achieve Credibility in Kibera.* Water and Sanitation Program Field Note. www.wsp.org

Caseley, Jonathan. December 2003. *Blocked Drains and Open Minds: Multiple Accountability Relationships and Improved Service Delivery Performance in an Indian City.* IDS Working Paper 211.

CEPT (Center for Environmental Planning and Technology). n.d. *Wealth Creation and Well Being: Impact of Slum Upgradation and Improved Service Delivery to the Poor—A Case Study of Slum Networking Project, Ahmedabad.* School of Planning, CEPT. Ahmedabad. n.d.

Connors, Genevieve. 2007. *Watering the Slums: How a Utility and its Street-Level Bureaucrats Connected the Poor in Bangalore.* Ph.D. Dissertation. Massachusetts Institute of Technology.

Davis, Jennifer, and Sunil Tanka. *The Hyderabad Metropolitan Water Supply and Sewerage Board.* Massachusetts Institute of Technology. Paper written for Henry Lee, Lecturer in Public Policy at the Kennedy School of Government. Available online at http://ocw.mit.edu/NR/rdonlyres/Urban-Studies-and-Planning/11-479Spring-2005/3AFFDD6C-7096-4CC8-85ED-89839F8BAC15/0/pm2background.pdf

Dickson, Eric. November 2006. *Management Models of Water and Sanitation: Approaches to Decentralization in Honduras.* International Development Research Center (Canada), Urban Poverty and Environment Program.

Gramalaya and WaterAid India. February 2007. *Tiruchirapalli Shows the Way: Community-Municipality-NGO Partnership for Citywide Pro-Poor Slums Infrastructure Improvement.* Policy paper.

Shukla, Shikha. 2005. *Ensuring Access of Urban Poor Communities to Basic Services.* Water and Sanitation Program–South Asia. New Delhi.

Shukla, Shikha. October 2006. *Draft Case Note on HMWSSB's Metro Customer Care.* Prepared for Guidance Notes on Grievance Redressal Mechanisms, for WSP–SA (Performance Improvement Program).

WAC (Water for Asian Cities). *Best Practices—Orangi Pilot Project.* WAC Program.

Water and Sanitation Program. February 2006. *Connecting the Slums: A Utility's Pro-Poor Approach in Bangalore.* Field Note.

Water and Sanitation Program. January 2007. *Bangalore Water Service Delivery: Indigenous Model Shows the Way.* Case Study.

Strengthen Capacity, Autonomy, and Accountability of Service Providers and Provide Incentives to Serve Poor Users

ADB (Asian Development Bank). 2004. *The Role of Small-Scale Private Water Providers in Serving the Urban Poor,* Case Study No. 11 in *Bringing Water to the Poor,* Selected ADB Case Studies.

Barnes, Nancy, and Abdelkarim Asa'd. 2003. *A Challenging Experience in Organization Development: A Guidebook.* This report is based on the experience of the Jerusalem Water Undertaking. For more information, see www.jwu.org or www.gtz.de

Brocklehurst, Clarissa, and Jan G. Janssens. January 2004. *Innovative Contracts, Sound Relationships: Urban Water Sector Reform in Senegal.* Water Supply and Sanitation Sector Board Discussion Paper No. 1. World Bank.

Brocklehurst, Clarissa, C.B. Evans, and R. Mukami Kariuki. 2003. *New Designs for Water and Sanitation Transactions: Making Private Sector Participation Work for the Poor.* Water and Sanitation Program and PPIAF.

Connors, Genevieve. 2007. *Watering the Slums: How a Utility and its Street-Level Bureaucrats Connected the Poor in Bangalore.* Ph.D. Dissertation. Massachusetts Institute of Technology.

Ehrhardt, David, Eric Groom, Jonathan Halpern, and Seini O'Connor. 2007. *Economic Regulation of Urban Water and Sanitation Services: Some Practical Lessons.* World Bank. (Discusses the basic principles and the design of regulation to fit the local context; a short practitioners' note is also being prepared.)

Mugisha, Silver. April 2006. *Performance Assessment and Monitoring of Water Infrastructure: An Empirical Case Study of Benchmarking in Uganda.*

Pilgrim, Nick, Bob Roche, John Kalbermatten, Cathy Revels, and R. Mukami Kariuki. 2007. *Town Water Supply and Sanitation Initiative: Principles of Town Water Supply and Sanitation* (Vol. I), and *Guidance Manual and Training Modules* (Vol. II). World Bank–Bank of Netherlands Water Partnership.

Public Affairs Foundation. n.d. *Citizen Report Cards: A Resource Kit.* Bengaluru.

Tremolet, Sophie. May 2006. *Adapting Regulation to the Needs of the Poor: Experience in Four East African Countries.* Building Partnerships for Development Research Series.

Tremolet, Sophie, and Jonathan Halpern. June 2006. *Regulation of Water and Sanitation Services: Getting Better Services to Poor People.* OBA Working Paper Series, No. 8, Global Partnership on Output-Based Aid.

Tremolet, Sophie, and Catherine Hune. August 2006. *Taking Account of the Poor in Water Sector Regulation.* Water and Sanitation Working Paper Series No. 11, World Bank.

Wagle, Swarnim, Janmejay Singh, and Parmesh Shah. February 2004. *Citizen Report Card Surveys—A Note on the Concept and Methodology.* Social Development Notes, Participation and Civic Engagement, Note No. 91. World Bank.

World Bank. January 2006. *India Water Supply and Sanitation: Bridging the Gap between Infrastructure and Service.* Background Paper, Urban Water Supply and Sanitation.

Adopt Appropriate Investment Finance, Cost Recovery, and Subsidy Policies

Brocklehurst, Clarissa, and Jan G. Janssens. January 2004. *Innovative Contracts, Sound Relationships: Urban Water Sector Reform in Senegal.* Water Supply and Sanitation Sector Board Discussion Paper No. 1. World Bank. (Tariffs were increased gradually over several years while subsidies were gradually decreased until full cost recovery was attained.)

Ehrhardt, David, Eric Groom, Jonathan Halpern, and Seini O'Connor. 2007. *Economic Regulation of Urban Water and Sanitation Services: Some Practical Lessons.* World Bank, forthcoming. (Discusses the basic principles and the design of regulation to fit the local context; a practitioners' note is also being prepared.)

Kingdom, Bill, Roland Liemberger, and Philippe Marin. December 2006. *The Challenge of Reducing Nonrevenue Water in Developing Countries: How the Private Sector can Help: A Look at Performance-Based Service Contracting.* Water Supply and Sanitation Board Discussion Paper Series, Paper No. 8. World Bank.

Makino, Midori. 2002–03. *Water Tariffs and Subsidies in South Asia.* Papers 1 through 5. Water and Sanitation Program–South Asia.

World Bank. January 2006. *India Water Supply and Sanitation: Bridging the Gap between Infrastructure and Service.* Background Paper. Urban Water Supply and Sanitation.

Overcome Physical and Technical Barriers

ADB (Asian Development Bank). 2004. *Water for Slums: Private Sector Participation in Manila.* Case No. 11 in *Bringing Water to the Poor: Selected ADB Case Studies.* (Flexible technical standards allowed the installation of connections to plastic pipes above ground.)

Centre for Science and Environment. 2000. *A Water Harvesting Manual for Urban Areas: Case Studies from Delhi.* New Delhi.

Centre for Science and Environment. 2007. *A Wastewater Recycling Manual for Urban Areas with Case Studies.* New Delhi.

Dickson, Eric. November 2006. *Management Models of Water and Sanitation: Approaches to Decentralization in Honduras.* International Development Research Center (Canada), Urban Poverty and Environment Program. (Describes the rainwater collection systems in Laguna del Pedregal, among other innovations.)

Foster, Vivien. n.d. *Condominial Water and Sewerage Systems: Costs of Implementation of the Model, El Alto—Bolivia/Pilot Project.* Economic and Financial Evaluation, Water and Sanitation Program.

Godfrey, Amaka, ed. 2005. *Low-Cost Toilet Options: A Catalogue.* WEDC.

Melo, Jose Carlos. August 2005. *The Experience of Condominial Sewerage Systems in Brazil: Case Studies from Brasilia, Salvador, and Parauapebas.* World Bank.

National Institute of Urban Affairs. June 2005. *Status of Water Supply, Sanitation, and Solid Waste Management in Urban Areas.* Sponsored by Central Public Health and Environmental Engineering Organization (CPHEEO), Ministry of Urban Development, Government of India.

Pickford, John. 1995. *Low-Cost Sanitation: A Survey of Practical Experience.* WEDC.

World Bank. January 2006. *India Water Supply and Sanitation: Bridging the Gap between Infrastructure and Service.* Background Paper, Urban Water Supply and Sanitation, pp. 18-19.

Organizations and Institutions

American Water Works Association Research Foundation (www.awwarf.org)

Centre for Science and Environment, New Delhi (www.cseindia.org)

Global Partnership on Output-Based Aid (www.gpoba.org)

Gramalaya, a nongovernmental organization that promotes health and hygiene education, promotion of self-help groups among women, construction of low-cost housing and toilets; active in the slums of Tiruchirapalli (www.gramalaya.org)

National Water and Sewerage Corporation of Uganda (www.nwsc.co.ug)

Self-Employed Women's Association (SEWA), a nonprofit organization that advocates for the rights of women working in the informal sector, conducts research on the contributions and working conditions of women, and develops strategies for working with women who work in the informal sector (www.sewa.org)

Thai Rating and Information Service (www.tris.co.th/index.html)

The Administrative Staff College of India (ASCI) has promoted the creation of professional associations (www.asci.org.in)

The Orangi Pilot Project Research and Training Institute (www.oppinstitutions.org)

WaterAid, United Kingdom-based nongovernmental organization that promotes access to safe water, sanitation, and hygiene education (www.wateraid.org)

Water, Engineering, and Development Center, Loughborough University, United Kingdom (www.wedc.lboro.ac.uk)

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To help the poor gain sustained access to water and sanitation services.

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