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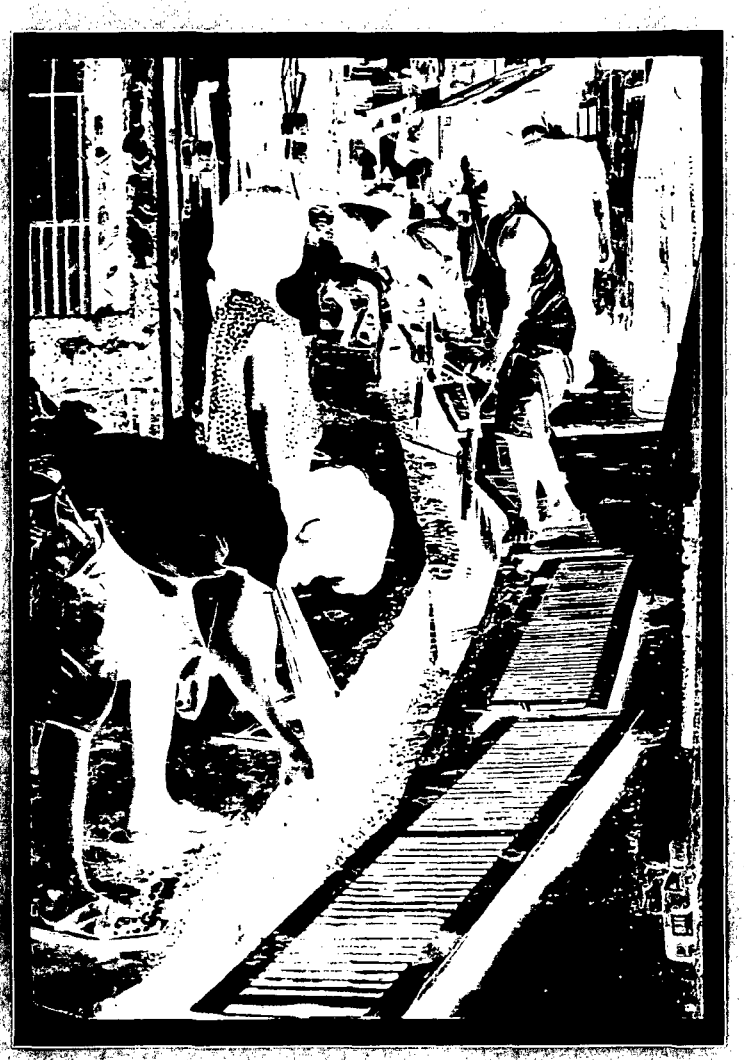

EXTENDING SERVICES TO THE URBAN POOR

Asian Development Bank

ADB

BEYOND BOUNDARIES:
EXTENDING SERVICES TO THE URBAN POOR

Cover Photos: Yuki Asada, Médecins Sans Frontières

Terms and Abbreviation

ADB	Asian Development Bank
BCCI-UNDP	Bank of Credit and Commerce International -United Nations Development Program
DCC	Dhaka City Corporation
DSK	Dustha Shasthya Kendra (Nepal)
DWASA	Dhaka Water and Sewerage Authority
IDEAS	Institute for Development of Educational and Ecological Alternatives (Philippines)
IWK	Indah Water Konsortium (Malaysia)
LINGaP	Lingkuran sa Ikauunlad na Ganap ng Pamilya (Philippines)
m^3	cubic meters
mld	million liters per day
MWSS	Metropolitan Waterworks and Sewerage System (Philippines)
NEAC	National Economic Action Council (Malaysia)
NSCB	National Statistical Coordination Board (Philippines)
NWSC	Nepal Water Supply Corporation
OCWD	Olongapo City Water District (Philippines)
OFWAT	Office of Water Services (United Kingdom)
O&M	operation and maintenance
PMML	Prima Mulia Mandiri Lestari (Indonesia)
PSPC	Private Sector Participation High-Level Committee (Nepal)
PWD	Public Works Department (Bangladesh)
SAEC	San Antonio Environmental Council (Philippines)
SBMA	Subic Bay Metropolitan Authority (Philippines)
UNELCO	Union Electrique du Vanuatu
UNICEF	United Nations Children's Fund
WHO	World Health Organization

NOTE

In this paper, "$" refers to US dollars.

"Poverty is a deprivation of essential assets and opportunities to which every human is entitled.

Poverty is measured in terms of basic education; health care; nutrition; water and sanitation; as well as income, employment and wages. Such measures must also serve as a proxy for other intangibles such as feelings of powerlessness and lack of freedom to participate."

(ADB 1999)

Environmental Health Services for the Poor

Poverty in Asia and Pacific

Of the 1 billion urban dwellers in Asia, an average of 24.7%[1] are poor, living on less than $1 per day. Poverty incidence is over 30% in India and nearly 50% in Bangladesh (ADB 2000). As the rural-to-urban transition takes place, a process that is occurring later in Asia than the rest of the world, these numbers are rising rapidly, with some cities having to struggle with "doubling periods" of just 10 years. The World Health Organization (WHO) and United Nations Children's Fund (UNICEF) estimate that over the next 15 years, 595 million more people will be living in urban areas in Asia,[2] with about 20–50% in informal housing areas, slums, and shanties.

Over 84 million urban dwellers in the developing member countries of the Asian Development Bank (ADB) are without improved water supply and 255 million are without improved sanitation (WHO and UNICEF 2000). About one third of the urban poor thus do not have access to improved water supply and most do not have access to adequate sanitation.

Everybody, rich or poor, must have access to water. For some of the urban poor this can mean drawing water from unprotected, possibly polluted, springs or wells. For others it means a long walk to an irregularly supplied government stand post. Often, women have to queue for hours in the middle of the night until the water arrives at a stand post, then carry home a heavy container of water, or wait for a government tanker to fill a water tank somewhere at the edge of the informal housing area.

The "quality-of-life poor" purchase water from private vendors at prices often 10–20 times higher than those from an official supply or at high cost from neighbors or landlords.

Sanitation for the poor can require an early morning visit to the side of a main road or to a distant and dirty public toilet, an unimproved pit latrine, or even the humiliation of "wrap and throw" where excreta is deposited in a plastic bag or newspaper and disposed of in the nearest garbage dump or drainage channel.

Solid waste management for the poor can mean having a festering, stinking pile of garbage near their homes, perhaps where children want to play, with occasional and irregular waste collection by a municipal agent.

Although adequate for some level of survival, such quality of service is dangerous for public health, is time-consuming and degrading, and does not promote life sustenance, self-esteem, or freedom from servitude (Todaro 1992).

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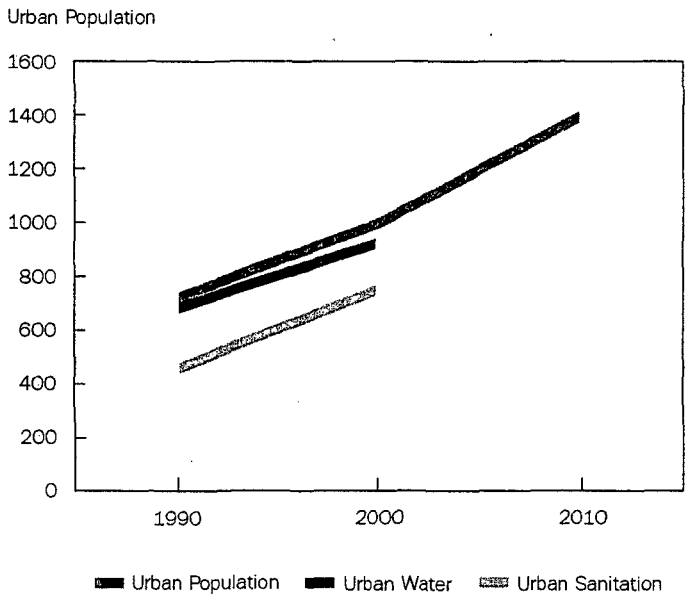
[1] This does not include the People's Republic of China.

[2] The WHO and UNICEF definition of Asia does not coincide with the ADB's developing member countries as it includes Western Asia.



Source: R. Franceys' analysis of WHO/UNICEF, 2000.

Figure 1: Improved urban water and sanitation in Developing Member Countries.

Universal Service Obligation and Reform

Every household should have adequate water, sanitation, and solid waste services. However, public providers of environmental health services usually meet the needs of higher-income groups but generally not those of the poor.

Universal service provision includes a basic supply of potable water of about 20–30 liters per person per day to meet survival and public health needs, ideally with the opportunity to buy more. Households want water at times convenient to them, not as it suits a water provider. Hours of supply in the house and at any stand post or franchised water point need to be convenient, with queuing time minimized.

Adequate sanitation involves the safe disposal of human excreta along with any wastewater used for flushing as well as the "gray" water from bathing, washing, and cooking. "Disposal" is important; households care little about how this is achieved as long as it is done conveniently and with dignity.

Solid waste management requires the hygienic removal of solid waste from the dwelling, with earliest possible segregation and on-selling of recyclables, with possibilities of on-site composting, for example, and regular transfer of any residuals to safe sanitary landfill, and street sweeping.

All these services need to be complemented by an information, education, and communication process that promotes hygiene awareness and practice. Technical experts are often tempted to consider only standard provision of full-pressure water supply, sewerage, and garbage trucks. However, service standards may be differentiated and yet attain the necessary qualities and potential savings that, while insignificant to higher-income planners, can be critical to the poor.

It is difficult for governments to focus specifically on the needs of the poor when the whole sector is in dire need of reform because services are expensive to provide, usually underpriced, and of poor quality. It is especially difficult when the poor are living in rapidly growing, spontaneous, and often illegal settlements that are outside government control and which public providers may be restricted by law from serving.

The overall weakness of public sector provision of services tends to drive the present reform process and persuade governments to consider involving the private sector in a new way after unsuccessful reforms of the existing public providers. It is easy to confuse the two imperatives of overall sector reform and provision to the poor. Many governments focus on reform, hoping that the universal service obligation will automatically include delivery of services to the poor. However, middle- and high-income groups also need to be involved to achieve economies of scale and efficient service provision, create the potential for cross-subsidies, and incorporate the lobbying power of these groups to achieve overall public health benefits.

Public-Private Partnerships in Urban Services

Spectrum of Private Sector Participation and Potential for Serving the Poor

Recognizing the limitations of public providers in providing adequate urban services, and the impossibility that nongovernment organizations (NGOs) will meet the needs of all the urban poor, governments around the world are now experimenting with radical institutional reform involving the private sector. Many of these reform approaches are delivering better-quality services at lower prices. The challenge is to make the reforms benefit the poor. The basic types of private sector involvement are the following:[3]

- Service contracts. Individual aspects of infrastructure provision—meter reading, pumping station operation, solid

[3] Other studies have listed and described in detail the various public-private contract forms. One study is *Developing Best Practices for Promoting Private Sector Investment in Infrastructure—Water Supply (ADB 2000)* and *Toolkits for Private Participation in Water and Sanitation (World Bank 1997)*.

waste transport, for example—are contracted out to a private contractor for periods from a few months to a few years, usually generating 20–30% savings when compared with public provision. Contracting out is a powerful tool to challenge the public provider, particularly labor interests, and generates efficiencies. However, these benefits may not reach the poor.

- Management contracts. For a fee—often performance related or profit sharing—a private management team runs the public operation, wholly or in part. A management contract, which does not greatly challenge the existing system, can be an attractive first step to private sector involvement but may not tackle the problems of entrenched interests and reluctance to charge viable tariffs. Because such contracts are short—typically 5 years—and do not directly link investment to service provision, they usually focus only on improving service to existing customers rather than reaching the urban poor.
- Lease contracts. Usually up to 15 years long, lease contracts typically give the private operator full control over supplying services and recovering tariffs, in exchange for payment for use of the fixed assets, which remain the responsibility of the public agency. Because services in developing countries often need some level of investment to upgrade distribution systems, reduce leakage, and extend services, the "enhanced lease" concept has been developed. Under an enhanced lease, small improvements are the responsibility of the operator, and major investments for treatment and disposal facilities, for example, remain the responsibility of the government. Enhanced leases give national contractors an excellent opportunity to become involved in serving secondary towns.
- Build-operate-transfer (BOT) contracts. BOT and its many variations are primarily used for specific large, one-off investments in water production, wastewater treatment, and sanitary landfills. For up to 30 years, the length depending upon the size of investment that has to be amortized, the operator sells or treats guaranteed amounts of water or waste in exchange for guaranteed prices, although usually including some amount of demand risk. The operator takes the risk to design, build, and operate the facility at specified quality standards in exchange for a guaranteed cash flow. Efficient production, treatment, or disposal are critical to serving all customers, but unless the distribution and/or collection network is also upgraded or extended to poor unserved areas, the efficiency gains of BOTs may be gradually lost and never reach the poor.
- Concessions. Lasting on average for 25 years, these contracts transfer all responsibilities for capital investment and operation and maintenance (O&M) to a private operator. The fixed assets legally remain the property of government, and the operator might pay a fee to use them. Tariffs may be lowered by reducing the capital amounts to amortize, which will benefit the poor if they are connected. Concessions with clear coverage targets toward universal service for all citizens—including the poor—can be an excellent means of using the skills of the private sector to leverage investment, provide high-quality service, relate to customers, and collect a viable tariff. Under this arrangement, the government continues to regulate the tariff level through its regulatory system and monitors the quality of service provision.
- Divestiture. Under the most radical form of private sector involvement, existing operations and assets are sold to the private sector, perhaps with a time-limited license. Like the concession, divestiture has the same potential to use license conditions and regulation to ensure universal service coverage.

Variations of private sector participation exist along a continuing spectrum and can be applied in different ways to different parts of the environmental health "supply chain": abstraction, treatment, transmission, distribution, collection, treatment, recycling, and disposal (of solid waste and wastewater). Table 1 summarizes the main contract types with relevant additions and a ranking for their potential to serve the poor.

Table 1: Potential of Public-Private Partnership Models to Serve the Poor

Option	Potential to Serve Poor	Asset Ownership	Operation and Maintenance	Capital Investment	Commercial Risk	Duration
Household Management	••	Private Household	Private Household	Private with Public	Private Household	Indefinite
Community Management	•••	Community	Community	Public with Community	Public with Community	Indefinite
Small-Scale Independent Providers	•••	Private Business	Private	Private	Private	Variable
Service Contract	•	Public Private	Public and	Public	Public	1–2 years
Management Contract	••	Public	Private	Public	Public	3–5 years
Lease	•	Public	Private	Public	Shared	8–15 years
Concession	•••	Public	Private	Private	Private	25–30 years
Build-Operate-Transfer (BOT)	•	Private and Public	Private	Private	Private	20–30 years
Divestiture	••	Private or Private	Private	Private	Private	Indefinite (may be limited by license)

Source: Adapted from World Bank (1997).
Notes: ••• most potential
• least potential

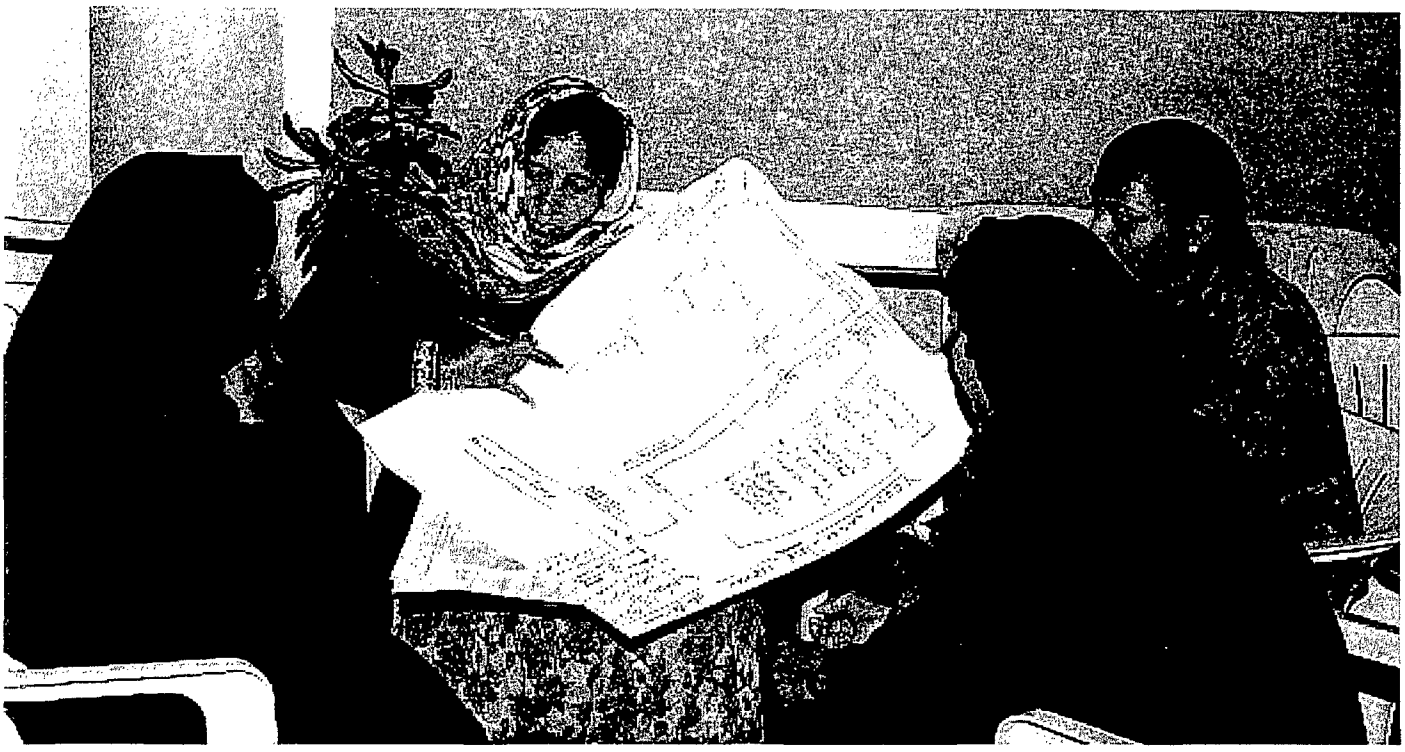
The Stakeholders and Partnerships

Meeting the needs of the poor through successful public-private partnerships requires an understanding of the range of stakeholders and how they can work together between and within organizations.

Deciding and Acting Together

Serving the poor is more complex than serving higher-income customers and requires an understanding of the range of partners and partnerships necessary to provide service access:

- *The public sector.* Traditionally the sole provider of urban services, this sector is taking a "step back" from service provision toward critical indirect functions such as policy guidance and regulation to ensure that urban services benefit all. Key players include ministries, regulators, reformed or residual public utilities, and municipal bodies, along with international public entities such as multilateral and bilateral organizations.
- *The private sector.* The spectrum includes small, medium, and large international operators, all of which strive to provide efficient service to ensure an adequate return on capital. Small-scale independent providers operate on the



same profit rationale as multinational companies and have been highly flexible in using technologies and in pricing to serve poor areas.

- *The community.* This group includes community-based organizations (CBOs) and NGOs, which are innovative, creative, and flexible in achieving their social goals in service provision, or help promote the issues to the government and the public through advocacy groups. Other partners such as the media, civil-society lobby groups, global NGOs, and the academic community should also join these partnerships to maintain the pressure for change and sustainability.

Each stakeholder is necessary but not self-sufficient. If governments only want reform of the existing services, contracting the private sector is sufficient. CBOs and NGOs, in turn, may deliver impressive gains in the slum areas where they work but have difficulty doing the same in other areas. Private companies may easily comply with quality upgrading but struggle to increase coverage levels specified in contracts if they do not cooperate with governments and NGOs.

The involvement of so many disparate interests requires formal agreements between the stakeholders to promote efficiency and effectiveness as well as informal relationships to ensure recognition, representation, and flexibility. The power of these partnerships—contractual, institutional, and relational—is critical to the success of reform and universal service.

Stakeholders participate in a wide variety of ways, from a large utility merely informing households that a new supply pipe is about to be installed, to an NGO enabling a community to decide on the type of sanitation it wants installed and how to manage it. Similarly, a company can have a legalistic, contractual relationship with the government, municipality, or public regulator, or try to develop a trusting, creative, proactive partnering arrangement.

Wilcox (1999) reinterprets Arnstein's ladder of participation (1969) as follows:

- Information: "The least you can do is tell people what is planned."
- Consultation: "Identify the problems, offer a number of options, and listen to the feedback."
- Deciding together: "Encourage others to provide some additional ideas and

options, and join in deciding the best way forward."

- Acting together: "Not only do different interests decide together what is best, but they form a partnership to carry it out."
- Supporting independent community initiatives: "Help others do what they want perhaps within a framework of grants, advice and support provided by the resource holder."

Genuine "partnership" is defined as "deciding together" and "acting together" (Wilcox 1999). At the levels of information and consultation the power remains with the external body whereas in supporting community initiatives the power lies with the community. From the wider development perspective, any approach that includes empowerment, building self-confidence, and job creation through community involvement of the poor takes precedence over others. The greater the degree of empowered participation shared with poor households, the more effective efforts are to reduce poverty.

Organizations involved need to inform and consult each other but can deliver more when they decide and act together, which is what government, private operators, and the community should do to find creative and comprehensive ways to serve the poor.

Public-private partnerships thus need to incorporate the community in services for the poor. Tripartite partnerships are not necessarily easier to implement but the benefits are worth the costs.

The Case Studies

The case studies represent three service sectors—water supply, sanitation, and solid waste management—and show how the urban poor are being served and what roles the various stakeholders play. The countries range from the highly populated subcontinent to the Pacific Islands, and the urban settings range from metropolitan megacities to secondary and small towns. The various public-private-community partnerships are also represented in the case studies. It is a matter of debate whether NGOs should be considered under the heading of community or of the private sector, as the lines of distinction are often blurred. In addition, the private sector ranges from the small-scale independent provider to the small- and medium-sized enterprise contractor to the national-level concessionaire

Table 2: Cities and Case Studies Covered under the Study

Country and City	Sector Case Study	Type of Contract	Group
Asia and the Pacific			
Bangladesh			
Dhaka	Water supply	NGO contract	1
	Solid waste	NGO contract	1
Cambodia			
Phnom Penh and small towns	Water supply	Concessions	2
India			
Hyderabad and Vijayawada	Sanitation	Lease	1
Indonesia			
Jakarta	Water supply	Concession	2
Kota Depok	Solid waste	Concession	2
Malaysia			
Kota Kinabalu	Water supply	Build-operate-transfer	2
Malacca	Sewerage	Concession	2
Nepal			
Kathmandu	Water supply and sanitation	NGO contract	1
	Water supply	Enhanced lease	3
Pakistan			
Karachi	Solid waste	Management contract	2
	Sanitation	NGO contract	1
Philippines			
Metro Manila	Water supply and sanitation	Concession	3
Olongapo	Water supply	Concession	2
Quezon City	Solid waste	NGO contract	1
Silang	Solid waste	Service contract	2
Vanuatu			
Port Vila	Water supply	Concession	2
	Solid waste	Service contract	
Viet Nam			
Phan Rang-Thap Cham	Water supply	Concession	2
Case Studies Outside Asian Region			
Argentina			
Buenos Aires	Water supply and sanitation	Concession	
England and Wales			
All cities	Water supply and sanitation	Divestiture	

Notes: Group 1 - Nonnetworked and Decentralized Services; Group 2 - Reform Public-Private Partnerships; Group 3 - Public-Private-Community Partnership

and the international (foreign) private operator.

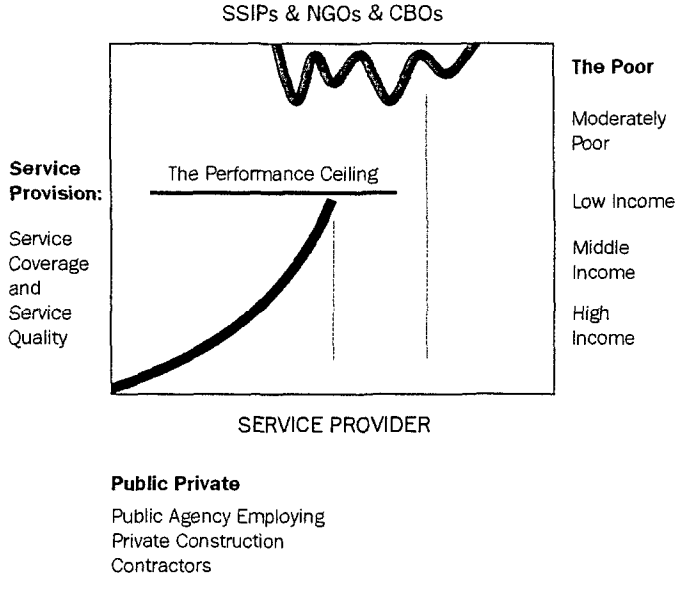
With such a wide variety of options to consider, the 19 cases described here cannot hope to draw definitive conclusions as to ideal institutional patterns of service, especially as some apparent failures are also described. In reality, all the cases are "works in progress," with their individual strengths and weaknesses.

The case studies are grouped into three. The first group recognizes the critical and widespread influence of NGO initiatives in serving the urban poor by "filling the void" left by the failure of public service provision, even where those initiatives might be limited in coverage. The second describes how environmental service provision can be reformed by involving larger-scale private enterprise, without special consideration of the poor. The third looks at public-private-community partnerships, which seek to combine the best qualities of the first two groups: NGO participatory development and the private sector reform approach.

Filling the Void: Nonnetworked and Decentralized Services

The widespread failure of governments to provide adequate urban services has resulted in an increasing number of unserved urban poor. The service void is filled by various forms of self-provision, by small-scale independent providers (SSIPs) as well as by NGOs, which offer discrete, nonnetworked services as shown in the following figure. The small providers may deliver poor-quality and expensive service, yet consumers are prepared to pay for it.

Community-oriented NGOs are creative, innovative, and flexible, often enabling and empowering the poor to control service provision. However, NGOs may demand too high an involvement from the poor beyond service implementation. Poor households find it difficult to stay committed to involvement in O&M over the long term.



Kathmandu, Nepal: Tailored NGO Water and Sanitation Program

Lumanti, an NGO managed by a board of seven entrepreneurs, five of whom are women, started a toilet program and sewerage project in Lonhla in 1986. By 2001 the NGO had replicated its success in about 70 communities of Kathmandu Valley (population 1.4 million, 1999).

Although Lumanti has mainly focused upon credit programs for the poor, it has also done the following:

- helped poor communities get metered community taps by negotiating with the municipal wards to provide guarantee and ownership of the taps serving the squatter settlements, resulting in 13 community connections by Nepal Water Supply Corporation, directly benefiting 168 households in 5 communities;
- facilitated provision of alternative sources such as rowing pumps, shallow wells with hand-pumps, and spring source improvements;

- raised community awareness on effective water use and right of access to water, and assisted with management skills and technical support;
- promoted use of public, communal, and private toilet facilities through subsidy; and
- partnered with local communities and the municipalities to lay communal sewer lines, drainage facilities, and connections of private latrines to main sewers.

Dhaka, Bangladesh: NGO-Assisted Water Points

A similar approach is illustrated in Dhaka (population 11.6 million, 2001), one of the world's fastest growing megacities. Around 55% of the urban population in Dhaka lives below the poverty line, half in slums and squatter settlements. Access to water supply, sanitation, solid waste management, and other services are extremely limited.

Dhaka Water and Sewerage Authority (DWASA) is not permitted to provide water to households that do not own land, which include most of the urban poor living in slums. The NGO Dustha Shasthya Kendra (DSK), which has been working in the slums of Dhaka since 1988 primarily on health care, found that one of the reasons for ill health was the lack of safe drinking water.

Since 1991 DSK has

- served as an intermediary between the slum communities and DWASA;
- took responsibility for the water connections and mediating with Dhaka City Corporation (DCC), mainly to obtain permission for road cutting and siting of water points on DCC land;
- mobilized, organized, and prepared slum communities to operate and manage water points, bear the capital cost, and regularly pay DWASA water bills; and
- devised innovative means of serving the poor, and incorporated technical developments (storage tanks to guarantee supply, with hand pumps to limit use), social developments (initiating women's water management committees with male advisory committees), and institutional developments (municipal acceptance of land use and utility acceptance of a community connection).

Before a water point is built, an agreement is signed between the community water management committee (eight members, all women) and DSK. An advisory committee with five male members is formed to help the water committee and to deal with social intimidation. Both committees have 1-year terms.

The water point caretaker, ideally a woman member of the committee, with an average salary of $11 per month, collects the water charges from users with NGO support and deposits the money in the bank account held jointly by the committee and NGO. The rates are set by the community with guidelines agreed upon by DSK, to cover DWASA bills, installments on capital costs, and the caretaker's salary. The average monthly rate is $0.93 for a four-member household (plus $0.18 per month for each additional member) or $0.46 per m^3, while the official DWASA rate is $0.08 per m^3 and conventional vendors charge $1.40 per m^3.

By February 2001, with the support of external donors, 93 water points had been installed, providing water to an estimated 8,000 squatter households. This has allowed the poor to get legal and safe water at a low cost and generated revenue for DWASA.

DSK has handed over two water points to communities after they paid the capital costs, with bank accounts transferred to the water committee's name. DSK expects to continue to monitor and support the committees for 3–4 years after transfer.

Karachi, Pakistan: Sanitation Failure

The case of Karachi shows how uncoordinated efforts by the Government, the NGOs and the communities can worsen the situation in poor settlements. In Karachi over 60% of the population lives in unplanned settlements where public service provision consistently lags behind their growth.

A major problem for the residents is the accumulation of sewage that makes life intolerable. The residents dig earthen channels and route the sewage to the nearest natural depression—a *nullah*—that acts as a storm water drain. Open drains become silted over the years. Garbage is dumped into the drains, raising their bed level. During the rainy season Karachi floods, and the water level recedes after 1–2 days as silt and garbage are flushed into the sea.

Over the years numerous NGOs have encouraged communities to lay sewerage systems to connect their house toilets to street laterals that convey the sewage through secondary sewer pipes to the *nullah* and natural storm water drains and, ultimately, to the sea. In fact, a survey done by the Orangi Pilot Project in 136 informal settlements shows that 82% of the lanes have built sewer lines at their own cost and over 90% of the homes have linked themselves illegally to government systems.

To overcome the sewage problems the Government is currently implementing the Greater Karachi Sewage Plan, which will super-impose a new sewage system on the existing one. The plan is being heavily criticized because it does not take into account or attempts to connect the numerous community build sewage systems that have been installed by NGOs in the past.

Karachi's experience demonstrates that none of the stakeholders can successfully operate in isolation: communities, NGOs, Government, and private sector have to work togethere. It also shows that sanitation problems cannot be solved as long as community efforts in providing low-cost sanitation are not integrated into an overall sanitation plan for the city.

Dhaka, Bangladesh: NGO-Led Solid Waste Composting

The more than 6 million inhabitants of Dhaka generate over 3,000 tons of municipal solid waste daily, yet the Dhaka City Corporation manages to collect only 42% of it (Enayetullah 1995). The rest remains on roadsides, in open drains, and in low-lying areas, worsening the city's physical environment. The rapidly growing city would need an additional 110 hectares of landfill per year for all the solid waste.

In Dhaka 15% of the recyclables, mainly inorganic materials, are collected by some 87,000 people from the informal sector, including waste pickers or *tokai* (Sinha 1993).

Waste Concern, an NGO, started a community-based decentralized composting project in Dhaka in 1995 to explore the technical and commercial feasibility of labor-intensive, decentralized composting, and to promote the "4Rs" (reduce, reuse, recycle, and recover waste) in urban areas. Activities include house-to-house waste collection, decentralized composting of the collected waste, and marketing of compost and recyclables.

The Public Works Department (PWD) and Waste Concern have a formal partnership agreement to implement the project.

- Waste Concern mediates with DCC and other government agencies to provide land and logistical support to implement the program as well as with the private sector to market the recyclables and compost.
- PWD has given Waste Concern permission to use PWD land and has provided other logistical support such as water and electricity connections to establish community-based composting plants.
- Waste Concern provides capacity building and technical assistance by forming waste management committees called "green force" establishing small-scale composting units (1–5 ton per day capacity) and training communities to manage, operate, and maintain the services.

After Waste Concern mobilizes the community and forms community groups, the NGO organizes training programs. Selected community members—mostly women—undergo hands-on training in waste separation, collection, composting, and marketing of recyclable material and compost.

A good market for compost exists in Bangladesh. Waste Concern helps the communities sell their compost to a number of outlets such as fertilizer-marketing companies and nurseries. Waste Concern has been selling its compost for $0.05–$0.09 per kg and recently signed a partnership agreement with the private company Map Agro Ltd. to sell compost to Agro at $0.05 per kg. Recently, Map Agro requested Waste Concern to install more community-based compost plants to meet the growing demand for enriched compost.

Waste Concern's model relies on community mobilization and capacity building to manage waste and ensure sustainability of the project. After a year of community mobilization and training, Waste Concern hands over the project to the community but continues to monitor it for 3 years.

The community-based decentralized composting program, integrated with door-to-door collection of solid waste, can yield appreciable savings for municipal authorities. Waste Concern's model shows that only 15% of total waste has to be transported to the landfill site.

The program has significantly cleaned up communities, created jobs for the urban poor, reduced DCC's waste management costs, and created business opportunities for entrepreneurs. The project has become a model, which several city governments and NGOs are trying to replicate. Other cities have also shown an interest in it.

Quezon City, Philippines: Solid Waste Management through NGOs

The experience in Quezon City, the largest city of Metropolitan Manila (population 2.16 million, 2000) shows that low-cost solid waste collection using community participation can be effective. In 1996 the NGO Sagip Pasig Movement organized the San Antonio Environmental Council (SAEC) to improve waste management in Barangay[4] San Antonio (population 23,500 in 2000) in Quezon City, Metro Manila. Before SAEC, waste management was greatly inadequate. Around 60% of the households are outside the regular house-to-house route of the city government's solid waste collection services.

In the 1,250-household area of Barangay San Antonio, solid waste management has improved by undertaking the following.

- Primary waste collection is handled, by a fleet of seven pushcarts, four of which were given by the NGO and three bought by SAEC from operational proceeds. These pushcarts are manned by "sanitary inspectors" (waste collectors) who go house to house in pairs (one male and one female) to collect the waste and recyclable-filled bags starting at 4 a.m. daily.
- Households segregate the waste, making retrieval of recyclables easy.
- Once filled with nonrecyclables, the pushcarts are brought to privately owned trucks contracted by the city government to haul collected waste to the dumpsite managed by the city.
- Bags containing recyclables are then sorted, grouped, and bundled or packed, before being stored at the 32-m^2 buy-back center, which was built by the NGO with external support for $12,000.
- Two junkshop owners pick up the stored recyclables once a month or when the buy-back center is full.

SAEC earns at least $160 a month from selling recyclables and collecting service fees and charging $0.20 per household per week. The sanitary inspectors collect service fees from member households every Sunday. The collection rate is reported to be very satisfactory, with rare cases of irregular payment.

The total revenue of about $1,160 per month funds the salaries of the sanitary inspectors and the maintenance of the buy-back center. Sanitary inspectors earn $60 per month for working 6 days a week.

Member households enjoy house-to-house collection service thrice weekly, which is far better than that provided by the city government. The community now has garbage-free drains, rivers, streets, and alleys, and has become less vulnerable to flooding, lung diseases, dengue, and cholera.

The SAEC experience demonstrates that public-private-community partnerships in solid waste management can be sustainable, appropriate, efficient, replicable, and enhance the environment. Sustainability of

[4] The *barangay* is the smallest political unit in the Philippines.

the initiative requires full support from the local government, community leaders who are committed and resourceful, a community willing to participate and to pay for improved services, and continued technical and financial assistance. In the long run, new and environment-friendly disposal facilities must be developed, along with a more effective network of junkshops and recyclers and a system of direct buying of recyclables from households. A market for compost products must also be expanded and organic farming supported.

Hyderabad and Vijayawada, India: Scaling Up Sanitation

Few NGO initiatives in Asia have managed to scale up their activities beyond individual neighborhoods or cities. Sulabh International operates nationwide sanitation services and has grown into a formal private operator while retaining its NGO character. Any surplus realized is invested in community initiatives. Key factors in Sulabh International's success include the commitment of the top leadership; development of appropriate technology, design, and management; and a social-marketing approach to service delivery.

Founded in 1970, Sulabh International offers three types of services: construction of twin-pit pour-flush toilets for individual households, construction and maintenance of pay community toilets, and construction and maintenance of community toilets in slums and squatter settlements with support from local government block grants. Sulabh International has built 1 million twin-pit pour-flush toilets and over 4,000 multiple-seat pay toilets.

State governments have encouraged municipalities to provide land, utilities, and capital finance, and to collaborate with the private sector to provide community toilets.

The Municipal Corporation of Hyderabad (population 5.2 million, 2001) entered into a 30-year lease arrangement with Sulabh International in 1986 for pay toilets, and Vijayawada's Municipal Corporation (population 1 million, 2001) into a 1-year maintenance agreement for subsidized toilets in slums. Some of the features of the arrangement are

- In Hyderabad, the municipal government provides the land, power, and water, and also pays for construction of the toilets in slums. Sulabh International charges 20% over and above the construction cost for establishment.
- Sulabh International appoints caretakers for round-the-clock maintenance of the community toilets, which have a storage room and caretaker's living quarters. The caretaker is responsible for the overall management of operations, including collection of user charges, operation of water pumps, maintenance and upkeep of the building, procurement of chemicals and equipment, and cleanliness.
- Sulabh International staff visit the complexes regularly to ensure proper cleanliness and supervise the collection of user charges. Cleanliness and 24-hour service are highly valued by customers and are at the top of the company's agenda. Customer satisfaction is further enhanced through a personal and caring approach.
- Sulabh International's activities are monitored by officials of the municipal corporation.

Sulabh International has adopted innovative construction management practices and materials to reduce long-term maintenance costs and increase building quality. Adequate ventilation and air circulation through open-sky areas for lobbies and verandahs and the extensive use of tiling motivate users to keep the toilets clean. As a result, use of the complexes is estimated at 70% compared to 30–40% of those not maintained by Sulabh International.

Since 1986 Sulabh International has constructed and/or maintained 58 community toilet complexes in Hyderabad, and 50 free-of-charge complexes in 29 slums, the latter with support from a municipal grant for construction and $325 per month for maintenance (excluding power and water costs, which are paid by the municipality). Maintenance costs are borne by charging $0.02 per use of the toilet and bath facilities except urinals, which may be used free of charge. Poor people, the physically handicapped, the elderly, and street children are allowed to use the services for free. Forty of the community complexes generate an average of $12.75 per day (indicating over 600

users per day). The 10 complexes that do not yield any revenues are cross-subsidized by the high-revenue units.

A recent survey (Chary, Narender, and Rao 2001) found that nearly half of the users are illiterate and half earn less than the minimum wage of $1.20 per day as petty hawkers, daily wage manual workers, domestic helpers, rickshaw pullers, rag pickers, and beggars. Users expressed general satisfaction with access and cleanliness (75%) and access to water and soap powder, with a lower satisfaction rate for the grant-supported toilets where Sulabh International appears to be less attentive. Users particularly appreciated complexes with bathing and locker facilities, and most (75%) could pay the $0.02 charge.

The community toilet complexes built and maintained by Sulabh International have significantly improved the surrounding environment. Before Sulabh International's contract, the toilets used to be dirty and ill-maintained, smelly and rarely used. They also used to be breeding places for mosquitoes and flies. The situation has considerably improved thanks to the company's commitment, particularly in public places such as markets, bus stations, and railway stations.

Summary of Nonnetworked and Decentralized Service Provision

The first group of case studies shows that the poor will pay for a reasonable, fairly priced service, and that committed, socially oriented, innovative service providers such as NGOs can find ways to meet the needs of the poor.

The case studies also show how nonnetworked and decentralized services can create jobs and require community involvement, and how an NGO can grow into a small- or medium-sized—albeit nonprofit—enterprise to scale up its activities. Small-scale public-private-community partnerships can deliver services and benefits to the poor.

The challenge of the community-oriented, NGO approach is to achieve long-term sustainability and expansion. Communities can work together effectively to improve their immediate environment but, not surprisingly, the imperatives of survival make it hard to maintain efficient service provision over the long term.

Decentralized services have their limitations. Water supply and some elements of sanitation require a level of networked service to make them efficient in urban areas, usually with a formal organization for water production and an organized collection system (akin to a network) for wastewater and solid waste, having maximized on-plot and/or on-site recycling. Network service providers should be reformed to "break through their performance ceiling" of limited coverage and low quality, so they can learn from and act as partners to NGOs to extend services to all the urban poor.

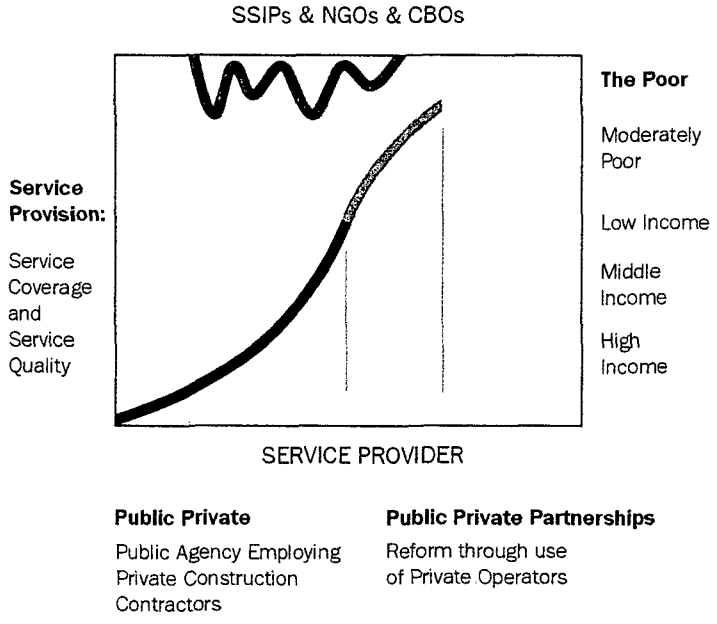
Breaking through the Performance Ceiling: Reform Public-Private Partnerships

The second group of case studies describes larger-scale public-private partnerships designed to reform services and achieve better quality at lower prices. These are the "classic" public-private partnerships that do not necessarily pay specific attention to the poor but nevertheless benefit them. NGOs or communities were not among the stakeholders, except when they acted as private sector substitutes, when these partnerships were designed.

The range of case studies in the second group is substantial, from simple service contracts to major concessions. Most private operators in this group reached service coverage boundaries at some point, beyond which they could not extend services without cooperation of either the public sector or civil society. Their performance may be illustrated in the following figure.

Port Vila, Vanuatu: Private Solid Waste Service

Port Vila (population 32,000 in 2001) operates a sanitary landfill as well as skip and curbside refuse collection services. The landfill—sited, designed, and built under the supervision of foreign consultants supported by foreign aid—has removed the poorly managed rubbish dumps from the urban area. Since solid waste services are the municipality's second-largest generator of revenue the landfill site was not leased to a private operator. About $22,000 a year is earned from the gate fees of $5.80 per trip, which is



expected to increase in the coming years. The municipality recently bought two-way radios for the collection vehicles so that drivers on their rounds can check with the main office for new collection sites.

The municipal council does not serve all residential areas. While some individuals throw their household waste directly into the Bouffa landfill, several recognized private operators in the greater Port Vila area offer disposal services. For example, Ifira General Services expanded its service area recently and is willing to serve any economically viable area.

The private operators' experience shows that well-structured and organized communities such as villages that provide access to the area and agree to the terms of services are the easiest to serve. One peri-urban village, Mele, signed an agreement with Ifira to provide garbage collection twice a week at $58 for a 6-month trial period. Here is how the private company and the government initiated work together.

The village health management committee is responsible for obtaining donations from village households to pay the monthly bill, establish collection sites, and inform Ifira of these sites. If the Mele arrangement is successful, the private company will discuss with the Government how to replicate it in other informal settlements.

This is a creative private sector approach that has potential to serve the poor, and shows that public-private partnerships for the poor do not preclude the use of targeted subsidies to efficient operators.

Silang, Philippines: Solid Waste NGO Goes Private

In Silang (population 160,000 in 2000), 44 kilometers (km) south of Metro Manila, the Institute for the Development of Educational and Ecological Alternatives (IDEAS) acts like a private sector contractor for the municipal government.

IDEAS, as contractor:

- collects waste and manage the dumpsite for about 30,000 people;
- collects waste for composting and recycling twice a week, and residuals once a week, enforcing the "waste segregation at source" approach of the local government through a "no segregation, no collection" policy; and
- mobilizes communities to use their own resources. Volunteer waste management teams in low-income communities make servicing the poor possible.

The contract commenced in 1997 for 5 years at $3,600 per month for collection service (two open dump trucks with crews of four and three people) and $1,000 per month for dumpsite management. IDEAS also receives $50 per trip of a truckload of waste collected outside the contracted coverage upon written request from the government. In practice, however, payment for dumpsite management is irregular as it depends on the internal revenue transfer to the local government, which can be several months delayed.

Households currently do not pay service fees although they were supposed to be imposed in 1999. There is a plan to impose charges of $0.60 per month per household but there is uncertainty as to how to collect them, one possibility being to include the charge in the water bill.

Since IDEAS took charge, waste brought to the dumpsite was reduced by 30%, prolonging the life of the site considerably. Annual income from the sale of recyclables

is at least $200 from carton, hard plastic, aluminum, paper, and plastic bottles. The market for other recyclables is quite limited, and IDEAS is encountering storage problems. About 50–80 bags of compost per month—well below the target production of 150 bags per month—are sold at $2.80 per 50-kg bag.

The commitment of the NGO in voluntarily going beyond the contract by conducting campaigns, organizing barangay and waste management teams in poor communities, and establishing materials-recovery facilities and the composting plant are critical to the success of the program. IDEAS's "NGO-ness" has greatly benefited the municipality, which still has no specialist staff responsible for solid waste management.

Karachi, Pakistan: Solid Waste Management Contract Cancelled

Of the estimated 7,000–8000 tons of waste generated each day, in Karachi (population 14 million) only 33% reaches the three municipality-run landfill sites; the rest is dumped into the city's natural drains or picked and sorted by the informal sector.

Karachi has made several unsuccessful attempts since the mid-1990s to engage the private sector in its formal waste collection, landfill site management, or incinerator management.

In 1997, the eastern district administration entered into a five-year management contract with a private operator costing $11 million for an assumed collection of 295,650 tons of garbage, 73,913 tons of debris, and 16,000 tons of desilted material from open drains.

- The municipal corporation leased its assets to the private operator, and government employees were temporarily transferred to the enterprise, which paid their salaries, overtime, and bonuses. Around 200 more staff members were employed, and employees generally received more overtime than under the previous public management.
- The private operator was paid for every ton of garbage collected, ensuring that the operator would make additional efforts to lift garbage from previously unserved areas, such as low-income neighborhoods.
- To ensure community participation, educated citizens with a track record of public service were asked to join a citizens supervisory committee along with a nominated councilor representing each of the 56 wards. Locally operating NGOs were to be invited to join the cleanliness effort and commence a dialogue with poor communities, especially the women and young people, to raise awareness of their right to a healthy life.

With the introduction of the management contract the following major improvements were observed:

- Budgetary expenditure was reduced by 20%.
- The frequency of lifting was quadrupled.
- The quantity of waste lifted and transported to the landfill doubled.
- Illegal dumping and lifting of garbage in rich areas and dumping them in poor areas was stopped.
- Workers' income doubled due to overtime and bonuses.
- Waste pickers' income increased due to the large quantities of waste available at a single point.
- Community's interest in a clean and healthy environment was renewed.

However, labor union leaders and workers benefiting from stealing and selling diesel resisted the public-private partnership, as did high-level local government officials who received a share from these illegal sales. As a result, the new public-private partnership contract was canceled after just 3 weeks.

The presence of powerful "restraining" forces in favor of the status quo in service provision should be factored into the planning of any public-private-community partnership to serve the poor.

The case also showed that without recognizing the crucial role of waste pickers and the recycling industry, solid waste cannot be dealt with in a comprehensive manner. By rationalizing and regulating the waste pickers' activities and integrating them thus into the initiative, neighborhood resistance could have been lessened, the middlemen's illegal income could have been eliminated,

and more waste could have been properly disposed of and/or recycled.

Depok City, Indonesia: Solid Waste Concession in a New City

Depok City (population 921,464 in 1999), formerly part of Bogor Regency[5] south of Jakarta, was officially founded in March 1999. As a major residential, educational, and trading and services area, Depok City is one of Jakarta's "supporting" cities.

In 1999 solid waste management in Depok City covered about 27% of the total solid waste generated. A number of private operators were engaged in solid waste and sanitation services, particularly in the new residential compounds. However, these operators would throw the waste in any open space, creating public health problems. Future demand for solid waste management is projected to be 80% within 10 years.

Except in Jakarta, large-scale private sector participation in urban services is a very recent phenomenon in Indonesia. The first competitively awarded water concession was signed in early 2001, and the 2001 solid waste concession in Depok City is also a first for the country.

Effective in September 2001, the winning bidder of the 10-year solid waste concession in Depok City, Pt. Prima Mulia Mandiri Lestari (PMML), agreed to undertake most of the operational functions of waste management previously performed by the local government. The company was asked to clean and collect solid waste from public roads, residential and commercial areas, public parks, and other public facilities to the temporary or final disposal site; transport all solid waste collected from the temporary to the final disposal site; and recycle and compost to the extent possible to prolong the lifespan of the final disposal site.

PMML has proposed the "3R" program—reuse, reduce, recycle—that will involve the urban poor in recycling and composting. PMML wants to engage a number of key players in a more formalized manner than under the public management:

- *Pemulung (scavengers).* As the frontliners of the program, they play a key role in reducing the solid waste to be disposed. Numbering about 170, scavengers are mostly poor people from villages close to the final and temporary disposal sites.
- *Lapak (purchasers).* They buy the collected waste from the scavengers and sell it to the middlemen. The purchasers are usually also the coordinators of the scavengers. In the long term, when lapak have scaled up their business, they can deal directly with industries without the help of middlemen.
- *Makelar (middlemen).* They act as bridging partners for the scavengers in marketing the collected waste. They play an important role when industries need a significant amount of recycled waste that cannot be accommodated by the lapak.
- *Industries.* As the users of recycled waste, industries bear a crucial function in the cycle. Being able to tap them assures a sustainable solid waste recycling program.
- *Poor people.* PMML also intends to employ poor people from the surrounding villages for composting once the most appropriate composting technique has been established.

PMML intends to sign partnership agreements that preserve its overall mandate and authority while giving small-scale contractors the right to continue operating in areas previously secured by them. The same type of partnership agreements will be applied to NGOs and CBOs that are interested in joining.

Phan Rang-Thap Cham, Viet Nam: First Local Water Concession

Until recently, only 40–50% of the urban population of Ninh Thuan Province, central Viet-Nam, had access to piped water. Almost none of the smaller wards of Phan Rang-Thap Cham town have piped water, relying instead on untreated water collected from shallow dug wells and distributed directly to consumers by private water trucks at high cost.

The first successful local private water supply project is the Dong My Hai Water Sup-

[5] A regency is one level of government below the provincial level.

ply Enterprise. Established in 1993 with 100% private investment, the enterprise serves 30,000 inhabitants in Dong Hai and My Hai wards, with a production capacity of 1 million liters per day (mld). The company invested $230,000 from its own sources and from a high-interest loan from state and private sources.

To decrease the owner's high-interest borrowing needs, the enterprise collected advance payment from households that would use the water supply system, significantly reducing the cost of water supply. After 3 months of operation, the advance payments were returned to the households.

After operating for 3 years, Dong My Hai Enterprise has become profitable. It contributes to the government budget, pays regulated salaries, implements a reward system, and provides social security and health insurance for its staff and employees. Except for company income tax, the enterprise pays all taxes just as any other private enterprise, including real estate, patent, and value-added tax (5%). Capital is reinvested to improve the water treatment plant and expand the water supply network to decrease the service cost.

Dong My Hai Enterprise has significantly improved service efficiency and responsiveness.

Customers had to buy water meters themselves while the company helped install them. However, because many meters were of low quality, they were often out of order, causing the enterprise technicians to spend much time on repair. As a result, the company changed its policy and is now responsible for installing pipelines and purchasing and installing water meters.

Unaccounted-for-water is now only 20% compared with 40% for the public water supply company, and it takes only 5 days to install a new water connection, compared to 15 days for the public company.

At first the People's Committee was responsible for water delivery to individual families and collection of the monthly dues. However, because water consumption remained low and water losses high, the water distribution system was returned to the private enterprise to supply water directly to the customers, who paid directly to the private enterprise.

By April 2001, Dong My Hai was supplying water to around 6,000 families through a network of 12 km and 500 water meters. Up to 12 families use one water meter to avoid water loss. Customer groups say that during the last 7 years the company has fully satisfied the demand for potable water, and diseases have declined significantly. However, the cost of water at $0.46 per m^3 was considered high compared to household incomes of $35–$50 per month. This case demonstrates that conventional private enterprises can serve the poor even in small towns and without external support.

However, a number of factors—high-interest rates, no legal framework, lack of government support—make these operations quite risky and will, therefore, only be undertaken by a few committed entrepreneurs.

Phnom Penh and Small Towns, Cambodia: Unregulated Water Concessions

Cambodia is remarkable because of the number of private initiatives that have sprung up in urban and rural areas, encouraged by the weakness of public utilities and the absence of stringent regulations. Outside Phnom Penh and Sihanoukville, almost all new water supply network investments have been made by local private investors, ranging from $900,000 for Banteay Meanchey (population 100,000 in 2000) to a few thousand dollars for villages of a few hundred families.

In 1997 and 1998, four private companies were granted concession rights for water supply in Banteay Meanchey, Kampong Speu, Kandal, and Takeo. Except in Kandal, where the private sector operates in peri-urban areas and the public utility supplies the town core area, the private sector is the sole manager of the water supply networks.

Concession rights were usually granted without an appropriate bidding procedure, resulting in different privatization processes in different towns. The license renewal procedure is not clearly defined but is directly linked to private companies abiding by the main clauses in their contract on water quality and tariffs. The Government sees no need to add specific provisions to encourage service access

for all because it assumes that the private sector automatically wants to sell water to the greatest number of people. So far, private investors have understandably established their networks in the most densely populated urban and commercial neighborhoods, where the investment required is lowest and consumption is highest.

Various studies indicate that the main obstacle to connection is the high fee. In Battambang, where private investors have been granted a 10-year concession for low-consumption peri-urban areas, the company allows payment of the connection fee by installments over a period of up to 24 months. However, the basic cost of connection remains high at $40–$50—compared to $55 charged by the downtown public network utilities—when the technical quality is more like that of small-scale piped systems in rural areas which charge $10–$15 for connections.

In provincial town networks, where the coverage remains low and connection fees high, some consumers, usually shopkeepers, sell water to neighborhood families who cannot afford the connection fees or live too far away from the networks.

At the same time, the informal private sector in peri-urban areas, small towns, and rural villages has developed technical approaches (low-cost connection, jar filling) and commercial ones (easy terms for connection cost, pushcart renting) suited to these communities.

As Cambodia rebuilds itself, the local private sector focuses on projects with quick cost recovery by serving the high-income households first. The Government should ensure that service coverage is equitable by regulating national contractors in small cities and foreign operators in metropolitan cities.

Kota Kinabalu, Malaysia: Water Concession

Kota Kinabalu (population 354,000 in 2000), which has little urban poverty (3.4% in 1999), privatized its water supply in 1993 to make public services efficient and productive and to generate revenue from state assets.

The concessionaire, Jetama Sdn. Berhad (Ondeo Services), took over the State Water Department's functions of operating water production and transmission facilities for Kota Kinabalu and three adjoining municipalities, and employed 120 water department staff members.

- The 20–year concession agreement requires the Government to pay for construction through a monthly fixed fee. The other component, the variable fee, is charged according to the volume of treated water supplied.
- Jetama and its partner, Corporate Dynamics, have refurbished five treatment plants and built a dam. Refurbishment works included basic health and safety procedures and working practices.
- Raising water quality to WHO standards, the concessionaires also take water samples for periodic quality testing by the privatized companies as well as the Department of Environment.

Increased water production has increased water pressure, allowing water to be piped directly to houses in squatter areas and making collection from water points unnecessary. Although most of the squatter in-house connections are illegal, the State Water Department has "turned a blind eye" and is slow to cut them as the Government's policy is to ensure a rising standard of living for the whole population.

The result is that private sector involvement has improved service for everyone, including the poor.

Malacca, Malaysia: Sewerage Concession Difficulties

The Indah Water Konsortium (IWK) was awarded the private concession to overhaul Malaysia's aging sewerage system and to operate it for 28 years at a cost of $2.4 billion. The concession covered the planning, design, construction, and O&M of the sewerage system in 43 cities and major towns, taking over the sewerage functions from 144 local authorities to modernize, extend, or build facilities. A large part of investment funding was to come from revenue. The two original contractors were North West Water International (United Kingdom [UK]) and the locally based Berjaya Corporation Berhad.

In 1996 local services were transferred completely to IWK, which took over 5,500 sewerage treatment plants connected by more than 7,500 km of pipelines through-

out Malaysia. The company has also spent $71 million to build new sewerage infrastructure nationwide. The overall plan is to develop an improved, multipoint system nationwide rather than an integrated system to serve 11 million users.

The sewerage system is buckling under the pressure of rapid development, which has surpassed the National Sewerage Master Plan's 1979 projections. To keep the sewerage system running, IWK needs money and human resources. However, over the last 4 years, IWK has found itself the subject of countless public complaints against its charges and unsatisfactory service as well as of lawsuits for polluting waterways.

IWK's plan to upgrade sewerage treatment plants inherited from local authorities has stalled. Government is now demanding that IWK review its charges a second time to further reduce them. IWK is likely to reduce its commercial charges by 30–40% while its 28-year concession period to upgrade the sewerage system nationwide may be extended for at least another 10 years. IWK's new management team faces the insurmountable task of balancing escalating costs of upgrading while earning less revenue. The Government has extended a $118 million long-term loan to IWK.

The National Economic Action Council (NEAC) has recommended that local authorities give rebates on sewerage costs from assessment rates once IWK takes over. NEAC also said that IWK should offer reasonable rates to encourage customers to use its services.

Some problems that IWK faces are the following:

- lack of communication with the local councils when taking over, with customers unsure where to address their problems;
- failure to desludge individual septic tanks annually as promised (of the 37,000 tanks in one state, only 23,000 had been emptied since 1994);
- failure to submit to the Government a detailed schedule of rates for households to clear up public confusion;
- continuous dumping of sludge into ponds, having failed to build permanent treatment facilities;
- failure to submit applications to the Government to apply for land on which to build infrastructure such as central treatment plants; and
- being charged in Sessions Court for discharging effluents above the prescribed level and without a license.

IWK's main problem was monetary. The company had invested in refurbishment and new works, along with new technology and an extensive management team, to be paid for by revenue. However, customers felt that they were already paying for this service through household assessments by the local council and did not feel that they should pay more to a concessionaire that should be receiving its revenue from a portion of the assessment. These users were around 1.2 million householders who claim that they had no contract with IWK and, therefore, were not obliged to comply.

In February 2001 the Government finalized plans to take full control of the ailing IWK to tackle its $184 million debt. Under state control, the chances of IWK receiving external loans are boosted. The finance minister said that IWK would be placed under the Ministry of Finance. The Government reportedly paid $53 million to take over IWK, which marked the first about-face in the Government's privatization program.

Reform through private sector involvement does not guarantee success, even in middle-income countries. Reform has to be continuously supported after privatization as private operators have to be able to make some level of profit. The Government cannot expect improved quality of universal service if the required massive investments cannot be financed by a transparent revenue stream, especially for expensive sewerage and wastewater treatment, the deluxe version of sanitation.

Port Vila, Vanuatu: Water Concession with Pro-Poor Elements

In Port Vila the most vulnerable of the urban poor reside in overcrowded, informal, impermanent housing on the city periphery, where conflicts over landownership beyond the municipal boundary constrain the introduction of services. Water supply in many areas comprises hand-dug wells and shallow bores. Sanitation worsens as the population grows.

In 1994 Union Electrique du Vanuatu (UNELCO, a subsidiary of Ondeo Services) signed a 40-year concession contract to supply water and electricity to Port Vila.

- An investment of $11.6 million was anticipated over the life of the contract, with $580,000 per year for the first 5 years.
- The concession is to provide a self-regulatory system in which the Government monitors the concessionaire's activities and facilitates access to new areas.
- A structured fixed-tariff system was established to enable affordable rates for all types of consumers.
- For low-income areas, the $0.20 per m^3 paid by existing consumers is transferred into a special fund to finance free-of-charge connections. Residents, however, will still have to pay the quarterly consumption bill.
- The company provides annual financial reports and investment plans for 5–year periods to the Government for approval.
- UNELCO has improved the water supply network and extended uninterrupted, affordable water services to many residential areas and nearby villages.

The project is successful because of the concessionaire's pro-poor approach, which involves network expansion, multiple service levels, cross-subsidized connection fees, government commitment, strong community leadership, and the recipient communities' active participation and awareness through consultation.

However, replicating the success stories in other vulnerable communities will require more efforts by the parties and, perhaps, customary landowning groups and NGOs serving as intermediaries between the Government and operator.

Before the contract, water supply was often interrupted. Now water is available 24 hours a day, with unaccounted-for water reduced from 50% to 23%. The water tariff for the first 50 m^3 per month was reduced to $0.58 per m^3 from $0.75 per m^3. Annual losses of up to $440,000 in 1991 have been turned into a reported surplus of $12,000 in 2000.

The concessionaire would like the Government to make the service environment more transparent and accountable. New developments can be accelerated by third parties such as development agencies while promoting an integrated approach to serving the poor. Communities must be more proactive and socially organized to access essential services as an absence of community cohesiveness deters investment in the area.

Private sector involvement is working well in this small urban center: water (groundwater not requiring treatment) is inexpensive, tariffs are higher than in other Asian cities, and the existing wide service coverage makes free connections for the poor affordable.

Olongapo, Philippines: Small-Town Water Concession

Olongapo (population 195,000 in 2000) is a good, if rare, example of a new public-private partnership in a small town. Private involvement in secondary towns is not common yet, but Olongapo is financially viable because of its link with the adjoining Subic Bay Freeport, a former US naval base.

Subic Water and Sewerage Company Inc. (Subicwater) was granted the first major contract in the area in 1997.

- The 25-year build-rehabilitate-lease-operate-and-transfer franchise agreement is essentially a concession and covers water and sanitation services for the Freeport and Olongapo.
- Subicwater is a joint venture of Biwater International (UK, with equity participation of 30%), the local construction firm DM Consunji (40%), Subic Bay Metropolitan Area (SBMA) (20%), and Olongapo City Water District (OCWD) (10%). The international and local private partners contributed cash while the public partners contributed assets as their equity.
- SBMA initially served as the regulator to conduct annual tariff reviews and to monitor Subicwater's performance, even though it has a direct stake in Subicwater.

As of February 2001 connections in the city had increased by over 10%, water production by over 44%, and 96% of those connected received 24-hour supply against 40% before privatization. The quality of drinking water, which was a major concern of house-

holds before the take-over, has improved from below to above standard. Water pressure, which had been virtually zero in many parts of the city, is now 5–40 m, making booster pumps obsolete. Household tariffs increased from $0.12 per m³ in 1997 to $0.20 per m³, after a delayed price rise, in July 2000. In the Freeport, tariffs have increased by much more—after some opposition—to $0.58 per m³ following a more accurate assessment of costs. Because SBMA focused on the Freeport, serving the poor in Olongapo was not high on its agenda.

As with a number of concession contracts in Southeast Asia, the full benefits of private sector participation have not yet been realized because of inadequate regulation. Subicwater's protracted battles over tariff increases curtailed investment and finally prompted the creation of the Subic Bay Water Regulatory Board in October 2000. The board is drafting its own rules of operation, with priority given to ensuring independence. Subicwater is hopeful that the new regulatory office will minimize political interference as SBMA did.

Although never a performance target, service to the poor improved. In small cities like Olongapo, the poor live among the better-off households, often buying water at inflated cost from neighbors. However, most disadvantaged households are located along riverbanks and on hillsides surrounding the city. These households source their water from springs or shallow wells and have practically no sanitation facilities.

Subicwater operates in 6 of the 12 identified disadvantaged areas, which have about 1,400 households, either providing water directly through individual household connections or indirectly through households selling piped water to their neighbors. Before privatization some free delivery points at the gate of the Freeport partly served the water needs of households in Olongapo. After privatization, this service was replaced by household connections except for one public faucet.

In Kalaklan Point, a UNICEF project had earlier provided hand-pumped springs to serve about 100 households, although they had requested connections and indicated a high willingness to pay even before Subicwater started operating. Some families are already enjoying household connections while others continue to use the UNICEF hand-pumped springs. In Gordon Heights, another site with poor families, water pressure was said to be low and available only at night due to the topography. However, water was always available from local springs and so few households were willing to connect before privatization. A recent survey by the city indicates that residents of some areas in Gordon Heights are still dependent on deep wells and springs. However, interest in connections appears to be rising as evidenced by the February 1999 petition of residents to Subicwater to extend the piped service to their area. Subicwater has proposed an expansion program to lay secondary water pipelines in elevated areas.

Unlike Metro Manila providers, Subicwater has not extended concessions to poor families, such as relaxed or waived application requirements or flexible payment terms for connection fees. The local government claims that disadvantaged families can negotiate the connection fee with Subicwater. However, the city recognizes the need to raise this issue to the regulatory body through the city representative.

Disadvantaged groups such as the Kalaklan River squatters now have reliable and good-quality water thanks to the installation of piped connections in lower Kalaklan. Barangay officials facilitated the connection upon the request of their constituents. However, a number of relatively poor households such as those along a riverbank in Upper Kalaklan are still interested in connection but have not heard anything about the application they submitted several months ago. They seem to have given up hope of getting a connection, and some have started to spend the money they had reserved for the connection fee.

The case of Subicwater shows that international water companies can be interested in serving small cities, in particular those adjacent to economic or industrial and/or commercial zones. Subicwater is able to deliver water to some households (generally those that can afford the connection fee) in poor communities through its regular connection program, either directly through a household connection or indirectly through reselling from the connected households.

Subicwater appears to be trying to provide connections to those living on higher land or hillsides. However, a number of

those who had indicated an interest in connection backed out after pipes were laid, making the investment more difficult to recover or less profitable for the private operator. One community leader, who represents about 25 households, said they applied for a connection but that they were asked to pay $150 for the extra pipes. The assistance of barangay officials is necessary to connect these households, either by contributing part of the connection expense or by sourcing funds for the additional connection cost. Development funds of the district congressman or even the mayor can be tapped to make the connection affordable.

Progress is being made in serving the poor, almost by default, in a city with relatively high coverage. For other secondary cities, especially where coverage is still low, contracts should pay attention to serving the poor and establishing a regulator to ensure coverage.

Jakarta, Indonesia: Water Concessions

Jakarta had a population of over 11 million in 2000. In 1996 water service coverage in Jakarta was only 41%, nonrevenue water stood at 57%, and groundwater was used excessively. PAM Jaya, the public agency responsible for water supply provision, was heavily subsidized by the Government. In 1997 PAM Jaya entered into concession agreements with two service providers: PT Palyja (Ondeo Services) for the western part, and PT Thames Pam Jaya (Thames RWE) for the eastern part of the metropolis. The service providers have the exclusive right to provide water and are obligated to provide, improve, and expand water supply. The contracts specify service coverage targets at 75% in year 10 and universal service coverage of 98% in year 20.

Due to the Asian financial crisis, the Government has restricted tariff increases to protect consumers. However, the concessionaires are paid an unrelated charge that can be increased based on inflation indexes, leading to an ever increasing deficit for PAM Jaya, which was $3.5 million by the end of 2000.

The concession agreements do not include specific provisions to serve the urban poor as universal coverage and service standards are applicable to all consumers. However, cross-subsidies that benefit the poor were introduced at various stages of the concession period. For example, tariffs for low-income customers in group 1 (religious facilities, charities, and public hydrants) are a flat rate of $0.04 per m^3. Tariffs for group 2 (hospitals, very modest houses, water trucks, water terminals, and very modest apartments) are subsidized and set at $0.04 per m^3 for the first two blocks of consumption, and $0.08 per m^3 for consumption over 20 m^3.

Low tariffs and connection charges should be affordable for the urban poor. However, in the absence of a distribution network, even at these rates the poor cannot connect, especially since they must shoulder the costs for extending pipes. The poor thus get water from shallow wells, public stand posts, or water tankers. Because Jakarta is densely populated, wells are often located close to septic tanks, which makes the water unsafe for domestic consumption. Industrial wastes containing heavy metals also worsen the groundwater quality.

The two concessionaires have started efforts to serve the poor. Connecting them is expensive because of the relatively high technical standards specified in the concession agreements to ensure that the quality of water delivered to any consumer reaches potability by the end of year 10.

Attempts have been made to install public stand posts in advance of distribution pipes. One stand post usually serves around 250 people. Public stand posts are charged $0.04 per m^3 but most poor consumers pay at least $0.25 per m^3 for water bought directly from stand posts and $2.50 per m^3 for water delivered to homes. Water terminals are also used in areas without a network. Water is sold at $0.04 per m^3 to the tanker drivers, who on-sell at $1.50 per m^3 directly to consumers. Vendors carry 20-liter containers of water by handcart to consumers and charge $5 per m^3. The poor, therefore, pay 6–125 times more per m^3 than regular and connected consumers.

In West Jakarta, Palyja extended the distribution network to low-income areas, charging a connection fee that can be paid in 12 installments of $0.71. With a consumption of 20 m^3 per month, the average bill, including connection fee installment and other fixed charges, is around $1.50 a month. The number of poor people served

in West Jakarta has increased by 143%, from 72,816 in February 1998 to 177,164 in December 2000. In East Jakarta, Thames Pam Jaya received a $100,000 grant from Thames Water in 1998 to supply water to Marunda, a poor community. In cooperation with the Government, which provided technical assistance, the program laid over 5 km of pipe. Thames Pam Jaya reported that, after the pipe extension, 490 new consumers were connected free of charge; they only needed to deposit $2.50 as a guarantee. Consumption increased 12–15 times while the monthly bill has been reduced to about one third of what consumers paid previously to water vendors.

However, generally network expansion occurs only in a few isolated cases, with little effort to expand these pilots beyond a few neighborhoods. Progress in serving the poor was limited by the less-than-transparent awarding of these private contracts; the ongoing anxieties of some staff and trade unions; and the lack of a regulatory framework and any link between tariffs, revenue collected, and charges levied by the private contractors.

Summary of Reform through Public-Private Partnerships

The second set of case studies shows that while reform can lead to better services for the urban poor, improvement is not guaranteed and depends greatly on the private operator's willingness to take universal service coverage seriously. However, some concessionaires, such as in Port Vila, Olongapo, and, to a certain extent, Jakarta, have demonstrated a progressive pro-poor approach developed by learning on the job, which should be supported by governments. Governments need to recognize that service coverage extension requires specific attention early on in contractual arrangements, and that the private sector is not willing or able to solve the problems of unserved areas on its own.

Efficiency and Participatory Development: Public-Private-Community Partnerships

The final set of case studies shows how the approaches of the previous two sets can be combined into genuine public-private-community partnerships, with active interaction and cooperation of all partners. Combining "mechanistic" and "organic" elements, these partnerships are still quite rare, with only one notable example so far: Metro Manila, Philippines. These pilot cases may show other cities how to move beyond the service boundaries and incorporate poor neighborhoods into mainstream urban services.

Metro Manila, Philippines: Water Concessions

A recent survey (NSCB 2000) reports that of the estimated 9.9 million people in Metro Manila, around 275,000 families are poor; who often squat on vacant private or public lots that are isolated, dangerous, or unhealthy; and lack access to basic infrastructure and formal service provision. Criminal gangs and profiteers sell low-quality water bought from water vendors who source it legally or illegally from the water mains or from private wells. The water is several times more expensive than the publicly provided water and can cost poor households up to 12% of their total income (David and Inocencio 1996).

The Metropolitan Waterworks and Sewerage System (MWSS) was privatized in August 1997 to solve the following problems: a slow procurement system adversely affecting operations and performance; downsizing difficulties caused by political appointees, leading to inefficient operations; uncompetitive salaries, making it difficult to attract good people; and financing difficulties, severely limiting improvement of services (Lazaro 1997).

To promote competition, two 25-year concession agreements were signed with two concessionaires to handle the east and west zones of Metro Manila. The bidding process resulted in Ayala and International Water (Manila Water Company) winning the concession for the east zone with a bid of $0.046 per m^3, and Benpres and Ondeo (Maynilad Water Services) with a bid of $0.10 per m^3 winning the concession for the west zone. These bid prices were low compared to the earlier price of $0.13 per m^3, which was raised to $0.17 per m^3 a few months before the bidding.

A residual MWSS and its board remain to carry out limited management and facilitation roles, and a separate regulatory

office—albeit supervised by the same board—was established to monitor and enforce compliance by the concessionaires and implement rate adjustments.

The concessionaires are required to expand water service coverage to 77% in the east zone and 87% in the west zone by 2001, and to 95% and 98% by 2021. They are also required to provide 24-hour water supply to all connections by mid-2000 and to guarantee pressure for all connections by 2007.

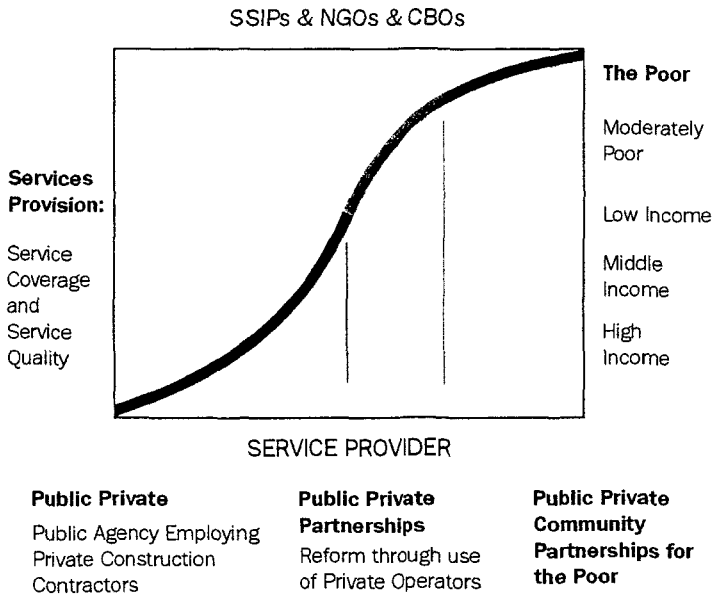
The concessions have significantly improved water supply. Maynilad has installed 105,000 new connections, for a total of 571,364 connections by December 2000 (Maynilad 2001). Manila Water has made 37,391 new service connections or an equivalent of 51,436 household connections, bringing total connections to 339,491 or 408,894 household connections for the same period. The concessionaires have not reached their target of 24-hour supply for all connections by mid-2000, citing delays in the MWSS water supply projects as the major constraint.

The ratio of staff per 1,000 connections declined from 9.8 in 1995 to 4.3 for Maynilad and 4.5 for Manila Water as of the last quarter of 2000. Nonrevenue water in 1996 was at 61%, due mainly to leaks, illegal connections, metering inaccuracies, and nonpaying connections. Manila Water's nonrevenue water was down to 45% in the last quarter of 2000. However, Maynilad's increased to 65% in 1997 and was hovering at about 64–67% as of 2000.

The trends in financial performance of both concessionaires appear consistent with the general perception that Manila Water was initially financially in trouble because its bid was too low. Manila Water has since recovered while Maynilad, responsible for 90% of the outstanding MWSS debt amortization, has run into significant financial problems due to the devaluation of the currency. Maynilad declared a suspension of payment of its concession fees in early March 2001 and successfully negotiated an amendment to the concession agreement, allowing the concession to increase basic water rates by $0.08 per m^3 to cover foreign exchange losses amounting to $53 million. Manila Water has filed a corresponding petition and was allowed to increase its basic rate by $0.02 per m^3 (Business World 2001).

This is the context in which water provision to poor communities was initiated. Many poor areas have high levels of nonrevenue water, mainly due to illegal connections. To introduce services to these areas, design and engineering standards had to be relaxed.

- The concession agreement provides for the establishment of one public stand post for every 475 people in depressed areas, with no installation charge for households that cannot afford individual connection fees or where the cost of connection relative to expected revenue is too high. The public stand posts are managed and operated by an individual, barangay officials, or community associations. However, Maynilad is now veering away from this type of service as the assigned associations or barangay officials often fail to pay for it, charge users exorbitant fees, and operate the service irregularly.
- Aside from public faucets for poor communities, Manila Water has introduced group taps for 2–5 households where users form groups, register connections, and share the cost of using the taps. Generally, Manila Water staff had to assist or guide group formation and decision making. The group is given one mother meter and encouraged to install submeters to avoid cost-sharing problems. However, some household groups composed of relatives or close friends opt not to install submeters to avoid paying installation costs. Each group chooses a leader to collect charges and pay Manila Water.
- Manila Water also introduced community-managed water connections with a metered master connection. A community association distributes the water through a local distribution network of individual or shared connections. However, some community organizations such as the one in Durian, which has about 228 member households, are registered as one regular residential connection and thus cannot take advantage of the cheaper bulk water rates for nonresidential connections. Members of the Durian community association are still paying more than twice what an individually connected house-



hold pays, plus the association charges for the cost of billing and collection, and maintenance and repairs. Nevertheless, the benefits to residents are reduced water expenses—one household used to spend $15–$18 per month and now pays only $1–$3 per month—and access to more reliable and safe water.

- Private companies are also allowed to distribute water, with the bulk water coming from Manila Water, particularly in illegal squatter areas, which the concessionaires do not want to enter. In Barangay Addition Hills, a private contractor set up a distribution system similar to the public faucets operated in depressed areas, including a 100,000-gallon water tank, water pipes, meters, faucets, and hoses. Repairs and maintenance of the distribution system are also shouldered by the contractor. While households are still paying at least 12 times the Manila Water price to the private subcontractor, before the arrangement they were getting water from sources of doubtful quality such as deep wells at a price 25% higher.
- In 1999 Maynilad began its Bayan Tubig (Water for the Community) program to provide individual connections in depressed areas. This program waives the land-title requirement and allows payment of connection fees by installment over 6–12 months, sometimes 24 months. These installments are lumped into the regular monthly water bills so that payment begins only upon receipt of the first bill and not up front. Individual connections have brought water bills down significantly. Households that used to pay $1.00–$1.20 per week now pay less than $0.80 per month for 10 m^3 and enjoy the convenience of having their own taps.
- Technically, an underground line is built up to where it is possible. Where roads are too narrow to bury pipes, the network extends aboveground or on the ground, or partially covered and attached to a wall. The line goes up to a battery of meters from where each homeowner makes his own plastic connection, aboveground. This scheme can be modified depending on the characteristics of the area.
- An important aspect of this project is the role of NGOs in providing water and sanitation service. In Malabon, the Swiss chapter of Médecins San Frontierès mediated between the community and Maynilad with help from a local NGO, Lingkuran sa Ikauunlad na Ganap ng Pamilya (LINGaP)[6] Foundation, and the local government. In this partnership, community involvement aimed to promote ownership of the project and to ensure its acceptability and sustainability. The municipality gives permits to dig and fill and, in some cases, grants general permits requiring the concessionaire to inform the municipality of the project. NGOs primarily launched information, education, and communication campaigns; mobilized the community; and provided microfinance to individuals.

After the installation of individual water connections, the area changed greatly. Where houses used to be made of temporary materials, now most are made of hollow blocks and cement. Containers or

[6] LINGaP means "to care," while this acronym stands for "to support for a holistic family development."

drums for storing water were once a common sight outside the houses but are now hardly seen. Many households use the flattened metal drums to cover open canals while others have converted the drums into garbage bins. Mothers have more time to care for their children. Some residents have more leisure time while others now engage in income-earning activities.

Bayan Tubig's success is due to effective coordination with government officials and NGOs; information dissemination to and consultation with the beneficiaries; residents' cooperation; and provision of water as promised (Maynilad 2001).

Although hiring local workers to lay pipe created only temporary jobs, billing and collection contracts with community-based associations are more sustainable and benefit not only a few but the whole community, which can launch projects with the income earned.

Self-esteem rose and encouraged many to further raise their standard of living by improving their houses and cleaning up their environment.

At the same time, Maynilad has enhanced its image as a service provider and a partner for local governments in the delivery of water services, particularly to the poor. In Bayan Tubig areas, Maynilad has also succeeded in reducing nonrevenue water by legalizing illegal connections; ending the proliferation of "spaghetti" connections; and banning water sellers, who often sold pilfered water. Public faucets were decommissioned, in particular those with bills in arrears, and the billed volume increased. Payment collection rose considerably as people do not wish to be disconnected.

The creative partnership between government, the private sector, NGOs, and the community benefits the poor. The next question is whether this approach can be used to extend conventional sewerage, which is much more expensive than water provision due to wastewater treatment costs, to the poor.

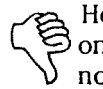
Metro Manila, Philippines: Sewerage Concessions

The concessionaires are also responsible for sanitation. Before privatization, MWSS covered less than 7% of the households in its service area, with sewerage facilities confined only to some areas in the city of Manila and parts of Makati. While most households use individual or common septic tanks—64% have water-sealed toilets—those in slums are without public sewers and drains and rely primarily on rudimentary latrines with no proper drainage system.

Privatization included the setting of coverage targets for sewerage and sanitation services: the first sewer connection target was to be achieved in 2001 (3% in the east zone, 16% in the west), gradually increasing by 2021 (55% and 66%). The desludging of septic tanks every 5–7 years is scheduled to decrease from about 38% in 2001 to 19% by 2021.

In the west zone, Maynilad found that 35% of the population in its service area lives in crowded shantytowns. Maynilad thus believes that "it is necessary to readjust service offerings through the development of low-cost, simplified technologies that are both technically and economically viable." Two pilot projects are planned. The first one will focus only on sanitation, take a commercial approach, and primarily market the service. The second one will coordinate the installation of storm water drainage, collection of household refuse, and supply of electrical power. This project will also educate the community in hygiene, train technical personnel, teach small water vendors how to recycle wastes, and make microfinancing available to consumers.

The results of these pilots—sewerage only versus integrated services—will help the concessionaire assess the value of (and need for) "soft" factors of a sanitation project, and determine the forms and levels of sanitation services to be offered in poor areas. The detailed plan of Maynilad requires working closely with the community even at the planning stage and working with the local government through the barangay.



However, implementation depends on availability of funds, which have not yet been secured, mostly because of Maynilad's current financial difficulties. Sanitation in poor areas is clearly lagging behind providing water in Manila, another case showing that sanitation is much more difficult to tackle mostly because of its costs.

Kathmandu, Nepal: Water Enhanced Lease

The final case study describes the challenge of a proposed public-private-community partnership that seeks to ensure that service to the poor is considered from the beginning. Water supply and sanitation services in 15 squatter and slum communities in Kathmandu are so inadequate that more than 86% of the population resorts to secondary sources of water such as springs, *hitis* (traditional spouts located at public places), rivers, water vendors, tube wells and rowing pumps, and dug wells. Water sold by vendors is very costly: private tanker supply costs about $1.33 per m^3, about 10 times more than the Nepal Water Supply Corporation (NWSC) supply. The poor must resort to other cheaper alternatives.

The Government wants to improve the management and distribution of water and sanitation services. The $464 million Melamchi water supply project is expected to deliver about 510 mld of water through an interbasin transfer comprising a 26-km tunnel, a water treatment plant, and a 57-km bulk distribution system, and to rehabilitate and augment the distribution system in Kathmandu Valley. However, investment in water production and distribution is only part of the solution. The Private Sector Participation High-Level Committee (PSPC) was constituted in 1997 to attract the private sector to manage NWSC services in Kathmandu Valley.

The contract is being developed by PSPC with World Bank support as a management lease contract for an initial period of 10 years.

The main objectives of the management lease contract are to reduce unaccounted-for water, improve billing and collection, reduce operating costs, and improve the standard of service delivery and quality. The contract will give the operator incentives to reach target performance ratios. The operator is also to take part in investment works for rehabilitation as an implementing agency. Laws are being drafted, such as the Regulatory Body Act to set up a regulator, and the Drinking Water Supply Act to provide an enabling environment for the private operator.

To ensure that the poor will not be marginalized as a result of the institutional changes, two urban poor studies, one targeted at enumeration of the poor and the other at defining the special provisions required to be made as well as the institutional interface to serve the poor, are being undertaken before finalizing the draft request for proposal (RFP). One study was undertaken in 14 communities, of which 6 were squatter settlements, 4 were traditional slums, and 4 were middle-class water-stressed communities. The study found that the water and sanitation problems of low-income communities are, in physical terms, solvable: the poor are valid customers who are able and willing to pay for the services. Consumption of NWSC water in low-income communities is restricted more by supply than demand. Access to services is a major problem due to high connection charges, and networks are far from poor settlements. Only 10% of the population, in particular those renting their homes, may find it difficult to pay regular tariffs.

The RFP, inviting applications from shortlisted private operators, does not contain specific provisions for serving the poor.

The absence of these provisions has been recognized and several pro-poor provisions are being considered for inclusion in the forthcoming contract. These are the following:

- Coverage indicators defining the extension of tap connections will contain provisions for extensions specifically to the poor.
- Poor areas will be identified with the private operator to define strategies to serve them.
- Community metered taps will be continued, with a higher water use allowed in the lifeline block or a different tariff structure applied to shared taps.
- The regulatory body will address the concerns of the poor, although the extent to which it can exercise its autonomy is uncertain.
- The distribution network will be expanded and private taps promoted by making connection charges easier to pay.
- A direct subsidy will be provided for the income poor. A cross-subsidy from richer to poorer households will be considered.

- NGOs may intermediate between the utility and the poor.
- A systematic program for effective maintenance and improvement of the quality of water from local springs and hitis will be launched in collaboration with NGOs.

The withdrawal of an expected bidder has further delayed the letting of the proposed contract. As investment in new water production (510 mld Melamchi) is dependent upon the signing of the management contract, the private operator will have insufficient water to sell for most of its 10-year contract, thus limiting its financial viability. The case study illustrates the complexity of public-private partnerships, which are trying to surmount governance challenges as well as deliver water to all.

Requirements and Techniques for Serving the Poor

Networked Services

The case studies show that there are only a few genuine public-private-community partnerships serving the poor in Asia through networked services.

Ultimately water supply services will need to be networked to achieve consistent quality and to reduce costs through economies of scale. Nonnetworked private services can deliver solid waste management and sanitation but the challenge is to scale up the provision to achieve universal service coverage of reasonable quality.

Most of the cases of networked services discussed earlier did not have a pro-poor focus from the beginning but developed it along the way. A number of concepts and ideas are emerging that could have been

considered at the start of these projects and will be useful for all future public-private-community partnerships.

Drawing upon experiences from around the world as well as over Asia, a summary of the basic requirements and techniques for the poor are listed below for each stakeholder group involved in the partnerships: the government, the community, and the private sector and includes the specialist roles of regulators as well as those of external support agencies.

Government

To ensure early universal coverage, governments need to:

- consider linking profits to improving service to the poor;
- consider ways of sharing the risk of serving the poor with the private operators;
- mandate and/or allow service to people without land titles;
- investigate the need to subsidize services to the poor; and
- allow service provision diversity.

Regulator

The economic regulator should achieve pro-poor universal service by undertaking the following:

- regulate quality standards to improve access to services;
- set affordable tariffs for which there is an expressed willingness to pay;
- allow the private operator to set differentiated tariffs for differentiated services;
- ensure that increasing block tariffs will not become regressive in areas with group connections;
- set connection fees to ensure commitment from customers;
- ensure that subsidies are received exclusively by the poor;
- legitimize and regularize alternative service providers to meet interim universal service targets; and
- publish levels of service and financial information at regular intervals.

Private Sector

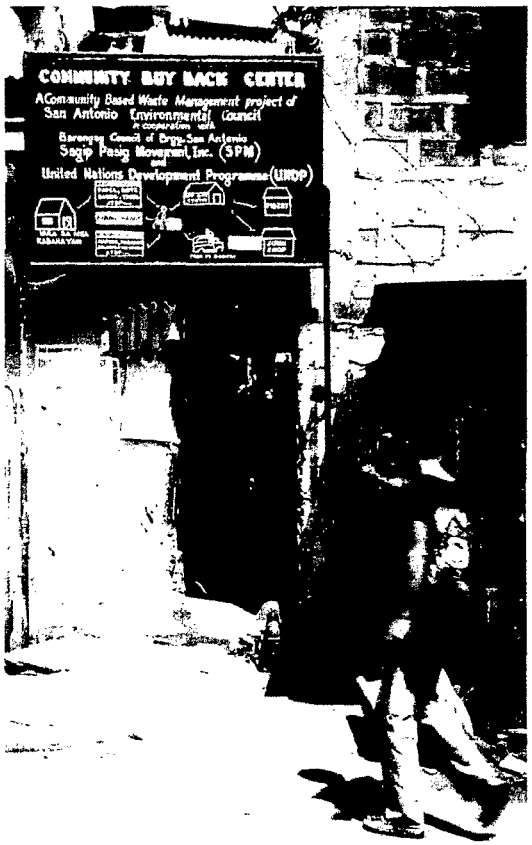
The private sector, in addition to the private operators' competencies, will focus on pro-poor and development issues. The suggestions below are not contractual requirements but rather outlines of what may be expected from world class operators:

- provide the management and governance capacity to achieve the overarching objective—universal service;
- be innovative and creative and flexible, integrating the needs for quality service provision, institutional and tariff reform, as well as serving the poor; and
- be committed to capacity building over long term;

External Support Agencies

External support agencies having encouraged public-private-community partnerships will continue with the task of promoting universal service coverage with a focus on the poor. For external support agencies there should be benefits in having a more direct link between concessionary fund grants or loans and improvements in environmental health for the poor. These agencies should consider doing the following:

- act as wholesalers of finance through financial intermediaries for NGOs and small and medium enterprises to access for non-networked services;
- promote concessions for networked services and finance capital expenditure for universal service (limiting BOTs re the poor);
- provide concessional funds for connections to the network by the poor (including provision of the tertiary net);
- assist governments and their regulators to become "intelligent, pro-poor, clients";
- provide funding to extend service coverage and individual connections to financially nonviable areas of the poor;
- allow private operators to bid for concessionary funds;
- use grant funds to pay an additional return on the cost of capital for private funds;
- focus support on sanitation;
- provide training materials and outline contractual agreements;
- support small finance initiatives; and
- support the ongoing process of regulation.



Nonnetworked Services

There are many examples of public-private-community partnerships from around the world describing how the poor are served through discrete, i.e., nonnetworked services. Examples given in this study for solid waste demonstrate how NGOs, working under the oversight of public authorities, enable communities to take responsibility for solid waste collection, sorting, and composting. Private service contractors can efficiently remove residual solid waste to transfer points in large metropolitan areas or directly to sanitary landfills. Private companies can also be important in selling recyclables or compost, as in Dhaka.

Households can provide their own excreta disposal facilities by building on-plot latrines, normally when an NGO executes public health and hygiene programs while ensuring that latrine components such as slabs, water seals, and pit lining are available.

Government

To achieve this level of service, the government has the responsibility to ensure the following:

- Nonnetworked developments are allowed and even encouraged by law.
- Services to unplanned, illegal areas are not unnecessarily restricted.
- On-site composting or on-plot sanitation is not prohibited.
- Small-scale enterprises are allowed to be active in environmental health and can access formal service providers, whether in bulk water supply, sludge disposal, or solid waste residuals disposal.
- Environmental regulators do not unnecessarily restrict suitable local activities.
- A market for the sale of recycled products and compost exists, and where necessary, educational and marketing campaigns for farmers and consumers on the benefits of using compost are provided.
- Capacity-building programs are provided to ensure that future sanitary engineers have a better overview of the costs and benefits of the techniques available.
- Land is provided for on-site recycling and sludge disposal from latrines and septic tanks.

External Support Agencies

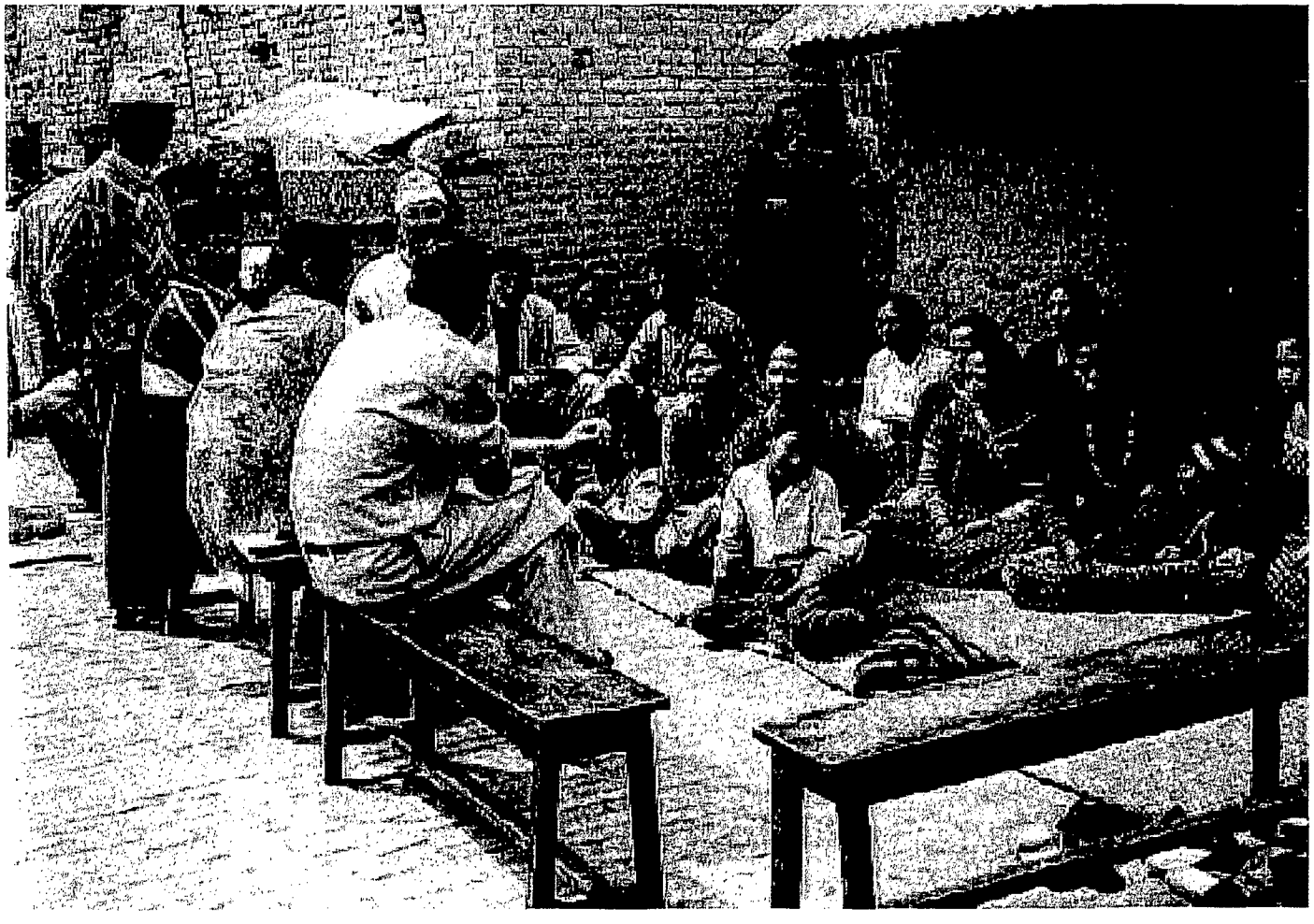
External support agencies should help the following:

- NGOs, to transfer knowledge on suitable techniques;
- small supplier associations, to share knowledge; and
- small finance initiatives, to meet the needs of NGOs as they transform themselves into private businesses, and of small-scale providers. The level of finance required is above microfinance, which serves the individual poor so effectively. Established microfinance institutions may be best positioned for NGOs' small finance initiatives. The funds could be for a yard to build pit latrines or to buy land for a composting area or a desludging machine.

Serving the Poor: Conclusions

The environmental health sector is in need of reform. The public health needs of urban areas are being served by a mixture of public agencies, resourced to provide only the bare minimum of water supply, sanitation, and solid waste services, and small-scale private enterprises. High-income households rely upon a mixture of self-provision through "coping strategies" and public supply. Low-income households cope by queuing for a long time for inadequate water, by overpaying small private enterprises, and by disposing of wastes in an unhygienic manner. Efficient NGOs working with communities make a difference, but usually only for a limited time in a restricted area.

Public health provision is a government responsibility because of the scale of the task and because of the benefits to the



whole of society. However, in many countries the public sector has largely failed to deliver, and it has not proved possible to reform government agencies sufficiently to undertake the role of direct providers of public health services.

The introduction of international private sector management is making a difference where the private companies are given a broad enough mandate to take control of the entire system, from the capital and operating expenditure of the supply and disposal to the billing and collection of revenue at reasonable tariffs. This degree of change has been sufficient to overcome the restraining forces of the failed system. This degree of responsibility has been sufficient to find innovative ways to serve the poor, even in untenured housing areas, particularly in partnership with NGOs.

WHO and UNICEF estimate that 93% of water and sanitation remain, officially at least, in public hands. The massive task ahead is to involve the private sector in challenging the established patterns of small-scale provision. Another enormous task is capacity building to ensure that private companies can be innovative and creative in serving the poor in partnership with small-scale providers and NGOs.

Funding service expansion to the poor, particularly water and sanitation, remains another big challenge. WHO and UNICEF (2000) estimate that the urban water supply sector in Asia receives around $2 billion of national investment per year, supported by around $1 billion of external investment. For sanitation and sewerage the figures are much lower: $901 million of national investment and just $120 million of external investment. These figures represent $3 per person per year for water and $1 per person for sanitation.

To put these figures into perspective, regulators from high-income countries such as the United Kingdom (England and Wales) report "modern equivalent asset values" of $1,890 per person for water and $3,530 per person for sewerage and complete wastewater treatment. The privatized industry is continuing to invest an average of about $100 per person per year (Ofwat 2001).

This is not to suggest that anything like these costs have to be found for developing countries when considerations of purchasing power parity and lower construction costs are taken into account. However, it is a reminder that water and sewerage make up an extremely capital-intensive business.

To expand the system at the average costs reported by WHO and UNICEF of $92 per person for household water and $154 for sewerage[7] will require considerable vigilance to keep costs as low as possible and limit the technical desires of the designers and other experts. It will require an emphasis on on-plot and on-site sanitation at $26–$50 per person rather than expensive sewerage.

Private sector involvement is critical, not so much to provide private money to make up the funding gap but rather to unfreeze and change the existing service provider, thus leveraging investment from those who otherwise have given up on the ability of the sector to repay loans. Repaying loans requires viable tariffs, which require operators and regulators that can challenge the established patterns. External support agencies have a role in this area if long-term progress is to move beyond "foreignization".

For the external support agencies the overriding premise continues to be that in this reform process, the poor should benefit more than the rich from the agencies' funds, and loans and grants should, therefore, provide fixed assets and services for the poor.

Governments should ensure that contracts to private service providers are transparent, recognizing that it is impossible to specify everything years in advance, particularly in areas demanding innovation, such as serving the poor. There has to be an element of trust and partnering, which has to be reciprocated by the contractor in its profitability levels. To monitor and inform this process, government has to establish a good regulatory system, which ultimately enables national private operators to take full responsibility for the complex task of public health service for all.

Public-private-community partnerships are not a "one-off" reform but the start of an ongoing process for change and service delivery. Partnerships with all the stakehold-

[7] It is unclear how much wastewater treatment is included.

ers are a critical part of the reform process, particularly as it focuses upon serving the poor. Over time these relationships should be bureaucratized to achieve the necessary coverage and longevity of service provision. Social development skills and customer relationship skills are long-term requirements to manage these partnerships and have to be integrated into the operations of the direct service provider, private or public. NGOs face the challenge of becoming that social resource, either in-house or as subcontractors, or, of equal importance, remaining advocates for change on behalf of the poor.

For the poor, the overarching need remains: the effective, equitable, sustainable, and efficient provision of water, sanitation, and solid waste services.

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Asian Development Bank

6 ADB Avenue, Mandaluyong City
0401 Metro Manila, Philippines

Postal Address: Asian Development Bank
P. O. Box 789
0980 Manila, Philippines

Telephone: (63-2) 632-4444

Facsimile: (63-2) 636-2444

E-mail Address: information@adb.org

ADB Web site: http://www.adb.org