

# Water Supply & Sanitation Working Notes

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## ENGAGING LOCAL PRIVATE OPERATORS IN WATER SUPPLY AND SANITATION SERVICES

INITIAL LESSONS FROM EMERGING EXPERIENCE IN CAMBODIA,  
COLOMBIA, PARAGUAY, THE PHILIPPINES, AND UGANDA

VOLUME 1  
OVERVIEW OF EXPERIENCE

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Volume II is available upon request from the World Bank's Water Help Desk  
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## LIST OF ACRONYMS

BO contract	Build-operate contract (or construction-operation contract)
BOI contract	Build-operate-invest contract (or operation with investment contract)
BOO contract	Build-own-operate contract
CAU	contract administration unit
CRA	La Comisión de Regulación de Agua Potable y Saneamiento Básico (Water and Sanitation Regulatory Commission of Colombia)
DBL contract	Design-build-lease contract
DBO contract	Design-build-operate contract
DBP	Development Bank of the Philippines
DWD	Directorate of Water Development, Uganda
GTZ	Deutsche Gesellschaft für Technische Zusammenarbeit (German Technical Cooperation Agency)
IBRD	International Bank for Reconstruction and Development
IDA	International Development Association
LBP	Land Bank of the Philippines
LGU	local government unit
LWUA	Local Water Utilities Administration, the Philippines
MIME	Ministry of Industry, Mines, and Energy, Cambodia
OBA	output-based aid
ODA	Official Development Assistance
O&M	operation and maintenance
OML contract	long-term operation and maintenance contract
OMS contract	short-term operation and maintenance contract
PO	private operator

PSP	private sector participation
ROI	return on investment
SENASA	El Servicio Nacional de Saneamiento Ambiental (National Water and Sewerage Service, Paraguay)
UNICEF	United Nations Children's Fund
WA	water authority
WHO	World Health Organization
WSS	water supply and sanitation
WTC	willingness-to-connect
WUA	water user association



# 1 INTRODUCTION

## 1.1 Background

### 1.1.1 *The Case for Local Private Sector Participation and the Challenges*

Rapid urban growth in developing countries has fueled the rise in number and importance of small and medium-size towns. Towns currently account for 20–40 percent of the urban population and are the fastest growing urban settlements: between 2000 and 2015, it is expected that the town population in Africa, Asia, and Latin America will double, and it is likely to double again by 2030.<sup>1</sup> Although in the past national urban utility reform programs in many countries—and efforts to engage the private sector, in particular—have tended to focus primarily on large cities, more attention is now being paid to the development of effective service models for small and medium-size towns. Because of the tendency to focus on large cities in the past, most transactions to engage private operators (POs) favored the participation of international POs with extensive experience in providing services in large urban areas. However, recent trends point toward a more cautious and selective approach to the water supply and sanitation (WSS) market by international operators. Furthermore, as efforts to decentralize service delivery responsibility gain momentum, responsibility for managing WSS services is shifting from centralized national agencies to small and medium-size communities and towns. Because many of these communities and towns lack the capacity and experience to finance and manage WSS services effectively, there is a growing opportunity for the local private sector to partner with local governments or community associations in developing and operating WSS services.

However, doing so requires that governments adapt existing arrangements for engaging private sector partners to suit smaller, less attractive markets and to encourage and develop local private sector capacity. Developing effective partnerships between government institutions (typically at local level) and local POs of WSS poses a number of challenges with respect to contract design, selection criteria and procedures, financing arrangements, risk mitigation instruments, performance improvement measures to develop technical skills and promote efficiency, and the regulatory and monitoring framework. In addition, targeted action at the national and local levels must be taken to raise awareness, build capacity, and foster joint venture arrangements so that the local private sector can participate effectively in the delivery of these services without taking undue risks. This report assesses how governments in five countries supported by World Bank projects have gone about addressing these challenges. The field work for the case studies that serve as the basis of this report was completed during the period of May to October 2005. Most of the projects were still in their early stages, and it was too early to draw conclusions regarding their outcomes. This report therefore documents experience gained during the first phase of the projects, which focused on developing methods and procedures for engaging the local private sector. It is hoped that the findings presented here will assist sector practitioners who are preparing similar initiatives: the past few years have seen a rapid rise in the portfolio of projects with local private sector components.

### 1.1.2 *Recent World Bank Projects That Support Local Private Sector Participation*

Between 1994 and 2004, the World Bank approved funding for WSS projects that supported local private sector participation (PSP) in the development or operations (or both) of water supply (and, in a few cases, sewerage) services in small and medium-size towns in a number of countries in Africa, Latin America, and East Asia. This study documents the experience to date of such projects in five countries (see Table 1.1): Cambodia, Colombia, Paraguay, the Philippines, and Uganda. Funds provided by

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<sup>1</sup> “The Town Water Challenge,” unpublished report, 2000, World Bank, Washington, DC. There is no universally accepted definition of terms such as “small town” or “medium-size town,” nor is there a clear distinction between the terms “town” and “city.” The majority of the contracts examined in this study targeted settlements with populations of between 5,000 and 30,000. A number of smaller communities and peri-urban areas of less than 5,000 were included, and in Colombia a few large towns with populations of more than 100,000 were also included. In addition, several small or medium-size Colombian towns with populations of less than 50,000 were combined to create regional service areas with a combined population of more than 100,000.

World Bank loans or International Development Association (IDA) credits and associated government counterpart funds typically financed infrastructure, technical assistance for the preparation of draft contracts and procurement documents, and training for sector actors who were involved in preparation and follow-up. A variety of different contracts that blended various features of management, lease, and concession contracts were introduced, ranging from simple three-year management contracts to long-term operational contracts. In most cases, local POs were not expected to provide long-term investment finance. In many cases, the POs were expected to participate in the construction or rehabilitation of the systems and operate them over a period of 10–30 years. They were reimbursed for most or all costs of construction, once certain components were completed or after a prespecified number of connections were installed. With the exception of Uganda, where the contracts have a relatively short duration of three years and several have already been renewed, most contracts are in the early stages of implementation.

**Table 1.1 World Bank Loans and IDA Credits that Supported Local Private Sector Participation in WSS in the Countries Selected for this Study**

<i>Country</i>	<i>Project ID numbers</i>	<i>Dates of approval</i>
Cambodia	PO 73311	04/22/03
Colombia	PO 65937	10/25/01
Paraguay	PO 39983	10/28/97
Philippines	PO 04576; PO 69491	09/09/97; 10/18/01
Uganda	PO 02957	03/17/94

*Source:* World Bank Project Documents.

## 1.2 Study Objectives and Methodology

### 1.2.1 Objectives

These projects are breaking new ground and innovating in areas where prior experience is scant or nonexistent. The experiences and results gained thus far, although in many cases preliminary, may provide valuable lessons for a rapidly growing portfolio of projects that support local private sector participation (PSP) in small and medium-size towns. The current study was undertaken by the World Bank with these express purposes:

- Documenting the experiences of these projects to date
- Extracting early lessons from initial stages or pilot phases
- Identifying topics for further research by the World Bank

As noted above, because the projects are in the early stages of implementation, it is too early to report on actual service results. In addition, because many of the projects involved the construction of new systems or the rehabilitation of systems that had ceased to operate, it is often not possible to provide baseline indicators of service conditions before and after the POs were engaged.

### 1.2.2 Study Methodology

The five countries that were selected for the study provide some measure of regional balance and provide a range of different approaches to engaging the local private sector. Because the study focused on the process of engaging the local private sector, at least some contracts with local POs were already effective in all five countries. Several contracts had been in place for more than two years; others had been signed more recently; and a few were still in the preparation phases. Consultants examined the project documents; visited three or four beneficiary communities and towns in each of the five countries; and interviewed World Bank project staff, national project staff, local officials, users, and local POs. Because more than one contract model was used in three of the five countries, a total of eight case studies were prepared (see Volume II). Because none of the cases



fitted neatly under any of the traditional classifications used for PSP contracts (management, lease, and concession), for ease of comparison these contracts are classified by their core functions, which are broadly to design, build, operate, and maintain water supply systems (see section 3.1.1 below).

In preparing the case studies, the consultants collected and analyzed information on the following topics:

- Basic information, such as the size of the target communities, the overall contract framework, and the key actors and parties to the contracts
- The local context, constraints to be overcome, and objectives of the project
- The policy, legal, and regulatory frameworks
- Preparation activities and the procurement process
- The terms of the contracts with POs
- How risks were allocated among the parties to the contracts
- Financial arrangements
- Results (to the extent possible, given that most of the projects had not been completed at the time of the study)

This report summarizes information on the contracts and the selection process, extracts lessons learned to date from the cases, and recommends follow-up activities to address some key issues and fill gaps that were identified in the course of the study.

## 2 SUMMARY OF THE CASES

The following sections contain brief descriptions of the eight contract types that were studied in the five countries. (The full case studies are presented in Volume II of this report.)

### 2.1 Cambodia: Design-Build-Operate Contracts and Design-Build-Lease Contracts

#### 2.1.1 Country Context

According to figures for 2000 from the World Health Organization (WHO) and the United Nations Children's Fund (UNICEF), the rate of access to potable water supply and to sanitation in Cambodia is low. Access to safe water in urban areas was 53 percent (58 percent for sanitation), and in rural areas—where most small towns are located—the rate of access to safe water was 25 percent (10 percent for sanitation). In some urban and rural communities, households currently obtain water from small-scale piped networks that are solely or largely financed by the informal private sector. Although many operate informally, these local private providers, who numbered more than 300 in 2005, played an important role in setting the stage for the local private sector contracts in Cambodia that are the subject of this study.

Although the Cambodian government encourages the participation of the private sector in improving WSS service provision, sector laws to govern PSP have not yet been enacted. In the absence of a more formal legal framework, the Ministry of Industry, Mines, and Energy (MIME), with the support of the World Bank-financed Provincial and Peri-Urban Water and Sanitation Project, has developed guidelines and procedures by which the government can contract with private firms to improve WSS services at the local level. Depending on the specific socioeconomic circumstances of the local area, MIME has used one of two kinds of contracts to recruit local POs: a design-build-operate contract (DBO) or a design-build-and lease (DBL) contract. Although the DBO model included an output-based aid (OBA) fund to subsidize investments that target poor segments of the beneficiary population, the DBL model was designed to recover investment costs through the tariffs paid by users.<sup>2</sup>

#### 2.1.2 Design-build-operate Contracts

##### Description

Under the terms of the contract, the local PO prepares the final design of the water system, builds the system, and is obliged to operate the system for a period of 15 years. Using funds provided through the OBA component, the operator must first connect a predefined list of customers in the poorest segments of the local populations, upon completion of which an investment subsidy is paid by MIME to the operator. Construction of the water system is partially financed by the investment subsidy (50–60 percent, a grant from IDA) and partially from the local PO (40–50 percent). Customers are expected to pay a uniform tariff that is designed to cover operation and maintenance (O&M) expenses, taxes payable to the government, and a return for the PO. The contracts are for 15 years, renewable for another 15 years.

##### Results

- In mid-2005, four DBO contracts, for a projected 7,875 connections, had been awarded to local POs for the construction of water supply facilities and for their subsequent operation and maintenance in four towns with a combined population of 39,000. Two additional contracts for an additional 5,400 connections were at the selection stage.
- The private sector contributes substantial, up-front, long-term financing for all contracts.

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<sup>2</sup> It should be noted that either contract, DBO or DBL, could be adapted for implementation under an output-based aid approach. This will need to be reflected in specific clauses of the contract.

- The first contracts were signed in July 2004, and the systems are currently under construction. At the time of this study, the construction phase of one contract was being completed, and the contract was expected to enter the operational phase soon.
- All contracts require the operators to provide full coverage in their respective service areas.

### **2.1.3 Design-Build-Lease Contracts**

#### **Description**

Under the terms of the contract, the local PO prepares the final design of the water system, builds it, and then connects customers to the system. Ninety percent of construction of the water system is financed with a credit from IDA, and 10 percent by the local PO. Customers will pay a uniform full cost recovery tariff. Tariff revenue must be sufficient to cover O&M expenses, a lease fee (to reimburse the IDA credit), taxes to the government, and a return for the PO. The contracts are for 15 years, renewable for another 15 years.

#### **Results**

- The target population is located in 12 towns with a population of 67,000 and a projected 13,353 connections.
- As of mid-2005, one package of DBL contracts (six in total) had been awarded to local POs for construction of water supply facilities and for subsequent O&M under a lease agreement. The first six contracts were signed by July 2004, and the systems were in the early stages of construction. The second batch of (six) contracts were under negotiation as of July 2005.
- All contracts require the operators to provide full coverage in the designated service areas.

## **2.2 Colombia: Operation with Investment and Construction-Operation Contracts**

### **2.2.1 Country Context**

A large percentage of the population in the departments (i.e., political jurisdictions) in the north, along the Caribbean coast, is classified as "poor," and the towns in which they live are therefore eligible for subsidies from the government of Colombia. In most of the towns, water and sewerage systems had been built in the past, but many had been poorly managed and were generally dilapidated. Under Colombian law, as a condition for receiving grants from the national government for rehabilitation and new infrastructure, these towns were required to contract "specialized public service companies" (that may be public or private) to operate services over periods of between 15 and 30 years.

Colombia's legal framework encourages private participation in water and sanitation services. Previous successful private participation by foreign companies in two major cities, Barranquilla and Cartagena, had helped to create a positive environment for further PSP, but these experiences needed to be adapted to the conditions of small and medium-size towns and cities with a large percentage of poor households. Before this initiative, very few local, specialized public service companies with experience in providing water and sanitation services existed. The government wished to promote the creation and strengthening of such companies.

Two basic contract models were used, one that required private investment (operation with investment contract) and another that did not (construction-operation contract). For the sake of comparison with other models reviewed in this study, these contracts are classified as build-operate-invest (BOI) and build-operate (BO), respectively.

### **2.2.2 Operation with Investment Contracts**

#### **Description**

This model was used in towns or multitown service areas that were likely to be attractive to private investors. The PO is responsible for planning and executing rehabilitation works, expansions, and new construction and for operating services. The majority of the initial investment program was provided as a grant by the Ministry of Environment, using the proceeds of the World Bank loan or the government

of Colombia's counterpart funds. In addition, the municipalities typically contributed annual earmarked funds received from the government for the purpose of developing water and sanitation services. The operator retains tariff revenues, makes an annual contribution to investments for the life of the contract, and in most cases pays a monthly fee to the owner of the assets to cover the cost of supervision and oversight. These contracts are initially for 15–30 years and are renewable for the same period. To enable comparison with other similar models described in this study, they are classified as "BOI contracts."

### **Results**

- Ten contracts were awarded during 2001–2004 for 17 urban areas with a combined population of 1.2 million. (Two towns had populations of more than 100,000, while a third had more than 400,000.) The case study focuses on a four-town service area in the Cordoba Department, where services are now provided by Uniaguas, a consortium of local companies and a minority foreign partner, under a contract that became effective in July 2004.
- Uniaguas implemented an emergency works program that included rehabilitation of existing infrastructure, to the extent feasible. It undertook installation of new infrastructure and equipment, including a new treatment plant, a laboratory, intermediate pumping stations, distribution mains, several boreholes, chlorination equipment, an electricity optimization system, and a new floating water abstraction station.
- The completion of the new abstraction station in October 2005 increased the supply of water, making it possible to begin connecting new users.

### **2.2.3 Constructor-Operator Contracts**

#### **Description**

In less attractive markets, contractors were hired to rehabilitate, expand, and operate the systems with funding provided by the local, departmental, and national governments. Because there were several variants of this type of contract, this study focused on those referred to as "constructor-operator contracts." Under this model, the operator collects tariffs; pays all administrative and operating costs, taxes, and supervisory and regulatory fees; contributes to a replacement and expansion fund; and incurs whatever profits or losses result. The municipality also transfers funds (provided by the national government for the purpose of subsidizing services to the poor) to the replacement and expansion fund, which is used to support an investment plan drawn up by the operator and approved by the government on an annual basis. Contracts are typically 10–15 years in duration and are renewable for a similar period. For the purpose of this study, constructor-operator contracts are classified as "BO contracts."

#### **Results**

- Between 2001 and 2005, three constructor-operator contracts were awarded for three towns with a combined population of 42,000.
- In all three cases, the construction phase was 50–100 percent complete as of June 2005.
- Coverage has risen quickly to 95–99 percent in two towns where all or most construction has been completed. Service continuity increased from 1 hour (before the project) to 24 hours per day (afterward) in one town, and from 4 hours to 12 hours per day in the other town.

## **2.3 Paraguay: Build-Operate Contracts**

### **2.3.1 Country Context**

In rural communities and urban areas with fewer than 2,000 connections, the government of Paraguay typically provides a subsidy for part of the cost of investment, and the communities must assume the debt for the remainder. However, because community user associations have often failed to service their debt, the de facto public subsidy is much higher than intended and has amounted to \$US300 to \$US400 per connection in recent years, a level that the government cannot sustain. In the late 1990s, only 37 percent of the population in small communities had access to safe water service, and the government was looking for a new strategy to increase coverage at a more sustainable subsidy level.

In unserved communities in and around the larger urban areas of Paraguay, for many years as many as 600 small, private, and typically informal water companies, known as *aguateros*, have played a key role in developing and delivering water supply services. The government has recently legalized private provision of services to make it possible for *aguateros* to operate within a formal context (for an initial period of 10 years). As part of its effort to foster local private sector development, the government is encouraging the *aguateros* to form joint ventures with construction companies to build and operate new water supply services in more marginal communities.

### **2.3.2 Build-Operate Contracts**

#### **Description**

The PO builds the water supply system under a construction contract with El Servicio Nacional de Saneamiento Ambiental (SENASA) and operates the services under an operational contract with the local users association. There is also a third contract between SENASA and the users association that outlines the latter's responsibility in supervising the investment subsidy provided by SENASA. Under the terms of the construction contract with the PO, the latter is reimbursed for part of the construction cost (the investment subsidy) by SENASA. The final payment is made after a predetermined number of user connections have been made. The operator is expected to recoup the remainder of the cost of construction through user connection charges and tariff revenues over the life of the contract. The PO assumes full commercial risk for operating and maintaining the system and has complete managerial control over operations during a 10-year contract period. In the first group of contracts, the investment subsidy to be paid by SENASA and the tariff were prespecified, and the winning bidder was selected on the basis of the lowest connection charge. For the second group of contracts, the connection charge and the tariff were prespecified, and the winning bidder selected on the basis of the lowest bid for the investment subsidy. Contracts are for 10 years and are renewable for 5 years.

#### **Results**

- Between 2002 and 2005, a total of six sets of contracts (each set including a construction contract, an operations contract, and the supervisory contract) were awarded, covering 10 peri-urban and rural communities with an estimated combined population of about 28,000.
- The cost of the subsidy has fallen substantially to a more reasonable level of US\$150–US\$200 per connection, and because the user associations assume no debt, the financial risk associated with collecting debt from them has been eliminated. The financial risk has been transferred to the Pos, who must recoup their investment through user charges.
- Experienced operators are providing good-quality services in the phase one communities. These are deemed by the staff of SENASA to be superior to the typical services provided by user associations in other communities studied.
- Poor households earned connection vouchers by working for the operator during construction, and this enabled about 70 percent of the poor to access services in one of the communities.

## **2.4 The Philippines: Design-Build-Lease Contracts and Operation and Maintenance Contracts**

### **2.4.1 Country Context**

In the Philippines, water service provision responsibility is fully decentralized to local government units (LGUs). There are 1,000 small towns in which LGUs are responsible for WSS. In these towns, an estimated 40 percent of the population does not have access to safe water and sanitation. For those who are connected to the public utility, service is unreliable—and is often available less than one hour per day. As a result, residents often invest in wells, arrange for delivery by water tankers or vendors, and even purchase costly bottled water to mitigate the risks of unreliable supply. Unit rates for water supply from alternative sources (excluding bottled water) are as high as 15 times the tariff charged by the public utility.

LGUs receive financing from the central government and collect local taxes that enable them to finance water supply expansion. In addition, LGUs can get loans from the Development Bank of the Philippines (DBP) and the Land Bank of the Philippines (LBP). Current policies and laws favor a role for

the private sector in improving water supply and sanitation service provision at the local government level. In this context, the DBP and LBP are currently channeling financing from the World Bank to LGUs that in turn recruit POs through two types of contract: (a) DBL contracts financed by loans to LGUs from the DBP and (b) O&M contracts financed by loans to LGUs from the LBP.

## **2.4.2 Design-Build-Lease Contracts**

### **Description**

This model was used in LGUs that had a population base able to pay full cost recovery tariffs. Under the terms of the contract, the local PO prepares the final design of the water system, builds it, and then connects customers to the system. Ninety percent of the construction of the water system is financed with a loan from the DBP (funded by the World Bank), and 10 percent is contributed from the LGUs' tax revenues. Customers pay a uniform full cost recovery tariff. Tariff revenue must be sufficient to cover O&M expenses, a lease fee (to reimburse the loan), and a return for the PO. The contracts are awarded for 15 years and are renewable for an additional 15 years.

### **Results**

- Six DBL contracts have been awarded by LGUs to local POs for construction of water supply facilities and subsequent O&M under lease agreements. These contracts are expected to result in 6,566 water connections in the six towns with an estimated combined population of 33,000.
- The pace of awarding DBL contracts through LGUs has been slow. Construction of several systems is at various stages of progress. No system is yet at the operational phase.

## **2.4.3 Long-Term Operation and Maintenance Contracts**

### **Description**

This model was used in LGUs that chose to contract private construction companies to build new water systems and to engage community-based organizations (that is, water user associations [WUAs] and user cooperatives) as the "private" operators of the new systems under long-term O&M contracts that have features in common with lease contracts. WUAs and cooperatives are required to work under commercial rules with full administrative, accounting, and financial autonomy. Ninety percent of the construction of the water system is financed with a loan from the LBP (funded by the World Bank) and 10 percent is contributed from LGU tax revenues. The long-term O&M (OML) contracts are for 15 years and are renewable for an additional 15 years.

### **Results**

- A total of 16 OML contracts for a projected 9,934 water connections have been awarded by LGUs to WUAs and user cooperatives in Palawan Province and Panabo City. These contracts cover 16 small towns (peri-urban semi-rural communities in Panabo City) and serve a combined population of 50,000.
- Customers in Panabo City pay a full cost recovery uniform tariff designed to cover the costs of O&M plus debt service. The WUA must remit the debt service portion to the LGU, which uses it to repay the LBP loan.
- Customers in Palawan District pay a uniform tariff designed to cover the costs of O&M, but not debt service. In this case, the LGU is repaying the loan from other resources.

## **2.5 Uganda: Short-Term O&M "Management" Contracts**

### **2.5.1 Country Context**

Following decentralization of responsibility for provision of water and sanitation services in 1997, the government began to transfer operation to local WUAs. The original plan was that WUAs would operate services in small towns similar to the way that WUAs operate services in rural areas. However, this model was soon found to be inappropriate for addressing the complex financial and technical sustainability of water supply services in small towns. A management model better suited to the more complex water supply systems and less homogeneous social structures evident in small towns was

needed. In 2000, the Directorate of Water Development (DWD) decided to explore options for engaging the local private sector. The preferred model was a three-year management contract.

### **2.5.2 Short-Term O&M Contracts**

#### **Description**

Although these contracts are called “management” contracts, they do not strictly fit that model. The private operator is responsible for O&M, billing, and collection. The operator must cover the cost of operations as well as management services out of its “management fees,” which are linked in part to the volume of water sold and the number of bills issued. Although the PO is responsible for routine maintenance functions, the local water authority (WA) remains responsible for repairs, as well as expansions and improvements. The operator deposits revenue into an account that is jointly controlled by the WA and the operator, from which the operator’s fees are paid. Revenues collected in excess of this fee, if any, may be used (on approval of the local water authority) to finance repairs, expansions, and renewals. Winning bids for the initial contracts were selected depending on the base management fee and unit fees. Bids for later contracts were selected on the basis of a percentage of revenues. The contracts are for three years and may be renewed once. In this study, these contracts are referred to as “OMS contracts” to distinguish them from the long-term O&M contracts used in the Philippines.

#### **Results**

- Between 2001 and 2003, 10 separate contracts were awarded in 10 towns, with a combined population of about 173,000. The approach has received support from several international development agencies, and the original model contract design has since been refined. By June 2005, management contracts for water supply services had been awarded in a total of 59 towns, and several of the original group of 10 had been renewed, using the new contract model.
- About 70 percent of households in the original 10 towns now depend on piped water as their primary source, compared with 5 percent before the new systems were installed. About 27 percent now access water through improved point sources.
- Three percent of the households in the original 10 towns continue to use unimproved point sources, compared with 68 percent before the project.
- In 2003, an independent study showed that residents of the 10 towns perceived the quality of water as good and considered water supply service to be convenient and affordable.
- Service is generally available 24 hours a day.

## 3 FINDINGS

This section starts with an examination of the characteristics of the local POs and the contracting entities and provides an overview of the scope of contracts. It then goes on to explore in more depth the following topics:

- The policy and legal context in which the arrangements were pursued
- The terms of the contracts
- The selection process
- Training, consultation, and promotional activities used to support the PSP process
- Financial arrangements and risk mitigation instruments
- Monitoring and regulatory arrangements

### 3.1 Overview of the Contracts, Local Private Operators, and Contracting Parties

Local private sector partners often participate in large international PSP contracts as a joint venture partner (sometimes a legal requirement), but rarely as the principal or prequalified bidder. Because the focus of this study is on the local private sector as principal bidder, this study focused on contracts between

- a public entity or entities and a locally owned private company or
- a public entity or entities and a consortium in which locally owned private companies controlled all or most of the shares.

The locally owned companies that participated in the contracts described in this study range in size from very small, individually owned, consulting or drilling companies to large construction companies of significant national importance. In a number of cases, consortia with foreign companies were formed to strengthen the financial and technical capacity of local firms when these entities did not meet the qualification or technical bidding requirements or when the private partner was expected to finance a significant part of the investments over a relatively long term.

For example, simple three-year management contracts for systems with 200–400 water connections were awarded to sole proprietor companies in Uganda, while 15-year DBO contracts that required a significant private sector investment were awarded to joint ventures with foreign participation in Cambodia.

In most cases, the primary motive for engaging the local PO was to strengthen local capacity in small towns in a manner that was affordable and would promote the sustainability of the services. Local firms (or firms with a local controlling interest) are uniquely suited to these arrangements because they are more likely to understand the local context, have lower costs than foreign operators, and are willing to undertake small contracts. These contracts nevertheless face a number of challenges that are associated with the local nature of the companies and the small town context in which they are expected to operate. Before exploring the contribution that local companies have made and how the issues have been dealt with, it is useful to examine the characteristics of the parties to the contracts (that is, the local companies, local authorities, and other contracting entities) and the nature of the contracts into which they entered.

#### 3.1.1 *Public/Private Responsibility for Financing and Management Functions*

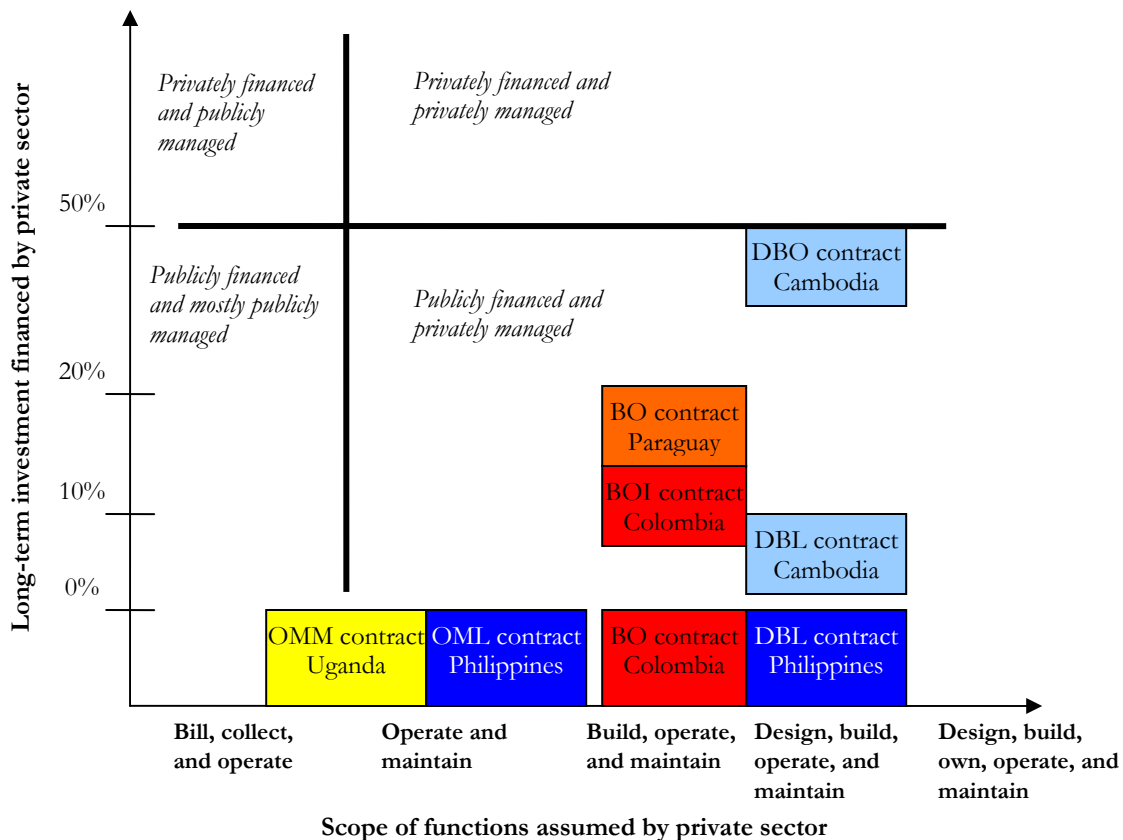
Responsibilities allocated to the government and private parties in the contracts for local private sector providers in water and sanitation can generally be classified as financial or management responsibilities:



- *Financial responsibilities for capital investments.* Investments may be entirely financed by the government or the private party, or partially financed by each. In the vertical axis of figure 3.1, financial contributions of the private sector are presented as a complement to financing from the government (that is, the less the private sector contributes to financing, the larger the government contribution).
- *Management responsibilities in WSS projects.* Management responsibilities include managerial functions exercised by the public or private partner during conception, design and planning, construction, and O&M. These managerial functions are represented in the horizontal axis of figure 3.1 and, for the sake of this study, are classified in order of increasing complexity as (a) bill-collect-operate; (b) operate-maintain; (c) build-operate-maintain; (d) design-build-operate-maintain; and (e) design-build-own-operate-maintain. The level of investment required under each of these options is shown on the Y axis and is therefore not reflected in the X axis classifications.

Figure 3.1 shows the four major options for allocating financing and management responsibilities between the public and private parties; the level of responsibility retained by each party is illustrated in the four quadrants defined by the solid bars.

**Figure 3.1 Allocation of Financing and Management Functions**



*Source:* Adapted from a similar figure presented in Aldo Baietti (2001), "Private Infrastructure in East Asia: Lessons Learned in the Aftermath of the Crisis," Technical Paper 501, World Bank, Washington, DC. See also the individual case studies in Vol. II of this report.

- (a) *Publicly financed and mostly publicly managed.* The public sector provides most of the financing (private sector provides less than 50 percent of the financing for construction or rehabilitation of systems) and retains most of the management responsibility (it transfers to the local PO only limited managerial functions). The O&M contracts in Uganda fall mainly under this classification.
- (b) *Publicly financed and privately managed.* The public sector provides most of the financing, while the private sector performs most of the management functions. Most contracts in the case studies fall under this classification: For example, BO contracts in Colombia transfer construction management and O&M functions to the private sector, while more than 90 percent of investment finance is provided by government subsidies. In BO contracts in Paraguay and BOI contracts in Colombia, an estimated 80 percent of the financing has been provided by government subsidies. DBL contracts in Cambodia transfer design, construction, and O&M functions to the private sector, while 90 percent of the financing is provided by the public sector in the form of loans. Although DBO contracts in Cambodia transfer substantial financial risk to the private sector, they are nevertheless classified as publicly financed and privately managed because more than 50 percent of financing is provided by government subsidies.
- (c) *Privately financed and publicly managed.* The private sector provides most of the financing, and the public sector takes care of most of the management functions. This happens when public utilities raise finance from capital markets based on their good financial credentials while retaining all management functions. None of the contracts with local private sector providers examined through this study falls under this classification.
- (d) *Privately financed and privately managed.* The private sector provides most of the financing and takes care of most management functions. No project in the case studies falls under this classification. However, because up to 50 percent of financing is expected to be provided by the local partner, the DBO projects in Cambodia are the closest to this classification.

In direct relation to financing and management responsibilities, the public and private parties take on related risks (analyzed in section 3.6).

### **3.1.2 Comparison of Contract Features**

As would be expected, the model contracts that were developed for each of the projects were based on existing contract models used for PSP in larger markets with international firms. However, these have been simplified or adapted to reflect the local context (for example, national legal requirements) and the less-demanding legal protections required by small local firms. In a number of cases, they blend the features of several different types of contract, and in most cases, model contracts have been refined during the course of the projects to reflect experience gained as the projects were implemented.

It is interesting to note that a wide range of contract models were used, but variants of a single model tended to be introduced in each of the World Bank's regions (that is, DBL- and DBO-type contracts were used in Asia, BO-type contracts were used in Latin America, and OMS [management] contracts were used only in Africa). To some extent, this was driven by local factors, but it may also have been influenced by other factors, including the perceived relevance or acceptance of a particular model within a given geographical region or the different prior experience and preferences of the Bank's regional leadership, staff, or both.

The key contract features observed in the case studies are presented in table 3.1:

**Table 3.1 Comparative Contract Features**

Country	Type of contract	Private operator investment (% of total)	Duration of contract (years)	Contracting entities
Cambodia	DBO	40–50	15, renewable for 15	- Sector ministry - PO
	DBL	10	15, renewable for 15	- Sector ministry - PO
Colombia	BOI	20 (estimated)	16–30, renewable for same	- Sector ministry - Municipal government or multitown entity - PO
	BO	None	10–15, renewable for same	- Sector ministry - Municipal government or multitown entity - PO
Paraguay	BO	20 (estimated)	10, renewable for 5	- National sector entity - WUA - PO
Philippines	DBO	None	15, renewable for 15	- Local government - PO
	OML <sup>a</sup>	None	15, renewable for 15	- Local government - WUA
Uganda	OMS	None	3, renewable for 3	- Sector ministry department - Local water authority - PO

Source: Individual case studies presented in Vol. II.

a. There are two forms of OML contract in the Philippines, one in which the tariff does not include an allowance for debt service and another in which it includes debt service (which the WUA must remit to the LGU).

Overall, the private sector contribution to long-term financing for investments has been limited. As illustrated in figure 3.1 and table 3.1, most contracts with local private firms required little if any private long-term financing for investment projects in small towns. It is worth noting that in Paraguay, private firms prefinanced construction and were paid a large portion of construction costs only after connections had been made, while in Uganda (OMS contracts) and Colombia (BO contracts), there was no private financing of investments at all. This limited private participation in financing investments often reflected the nature of the towns in which contracts were awarded. In the case of the DBL contracts in the Philippines, it was noted that the level of interest from bidders declined as financing requirements increased.

Of the eight contracts reviewed, Cambodia's DBO contracts, which require the private sector to contribute 40–50 percent of long-term financing up front, have been the most successful in attracting private sector financing (although it should be stated that the joint venture with a larger, regional PO

was instrumental in this regard). In Colombia's BOI contracts and Paraguay's BO contracts, it is estimated that the private sector is contributing about 20 percent of long-term finance; however, this is difficult to confirm<sup>3</sup> because private finance appears to have been generated from the individual investor's own holdings, rather than from commercial lending, and the exact amount of private finance is not specified in the contracts.

Most contracts with the private sector cover a period of 10 or 15 years. The exceptions are BOI contracts in Colombia (which are for up to 30 years) and O&M contracts in Uganda (which run for two- to three-year terms).

### **3.1.3 The Local Private Operators**

At the start of the projects in Colombia, Paraguay, and Uganda, there were very few local private firms that could claim to have formal experience as water supply (and sewerage) operators. In Cambodia and the Philippines, there were probably none. In all cases, there were relatively few firms with any type of experience in delivering urban services and the capacity to comply with the legal and financial requirements of the proposed contracts and World Bank–endorsed procurement procedures. However, despite this common challenge that was shared by all of the countries, the profiles of the local private firms that expressed interest in the contracts varied from country to country and from region to region. To some extent, the variations reflect the different cultures and economic development profiles of the countries, but they also reflect the differences among the contract models that were introduced and the extent to which the contracts and the qualification criteria were tailored to the local private sector (this last topic is discussed in section 3.4.2). Table 3.2 summarizes the profile of local POs in each country, identifying their relevant technical and financial qualifications.

Several countries did, however, have numerous local POs with formal or informal experience, such as the aguateros in Paraguay. However, in some cases, the informal POs did not have the capacity (or desire) to compete for jobs in the formal market, and, whether formal or informal, existing or potential POs had limited capacity to meet the accounting and financial requirements that are typically set for bidders in World Bank–financed projects. In Cambodia, local firms had neither the relevant experience in providing public services nor the financial capacity to provide long-term investment finance. Paraguay and the Philippines had numerous small and medium-size construction firms that were familiar with government procurement processes, but most of them had limited capacity to generate investment finance, and all lacked practical experience providing urban services. Colombia had a wide variety of firms with expertise in construction and civil engineering, but only a few of the larger firms had prior experience in providing urban services and were able to mobilize investment finance.

In Uganda, at least one firm that had previously invested in the development of a small, piped network in a peri-urban location participated in the bids. In addition, internal reforms in the National Water and Sewerage Corporation were beginning to create a more entrepreneurial environment in the sector, and because of staff reductions, qualified professionals were being released into the market. These professionals were eager to start up their own small companies or join existing companies that had experience in sector-related activities, such as drilling or other public sector work. Most of the companies that emerged in response to the project were sole proprietors, and although they had technical expertise, they had very limited financial capacity. However, because the contracts required management rather than financial capacity, they were favorable to sole proprietors.

Given the lack of experience with local PSP, in all cases local project staff organized meetings or consultations with potential bidders to understand their interests and concerns, raise awareness of the nature of proposed contracts, and establish a common basis for designing the contracts.

Bidders were required to submit information about their capacity and experience and demonstrate their ability to meet minimum qualification criteria. When the lead local firms lacked the necessary qualifications and capacity, they either hired staff with the required experience or formed consortia

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<sup>3</sup> It is not possible to determine exactly how much the private sector has invested in Colombia (BOI contracts) and Paraguay because bidding was based on either a minimum subsidy or the connection charge (in which case, the investment subsidy was prespecified). In each case, the PO must finance the difference between the total investment cost and the investment subsidy.

with qualified local or foreign partners. In Cambodia, local firms acquired design-build experience and financial capacity by establishing consortia with Singaporean and Chinese companies. In Colombia and Paraguay, where modest contributions to investments were required, construction companies mobilized finance by forming consortia with other investors. Although these were primarily local investors, bidders for the larger contracts formed joint ventures in which foreign firms participated with a minority contribution.

**Table 3.2—Characteristics of Local Private Firms that Submitted Bids**

Country	Types of companies that submitted bids	Technical experience			Financial capacity
		Design and build	O&M	Billing and collection	
<b>Cambodia</b>	Consortia of local companies with foreign companies.	Local firms, joint venture foreign partners met required experience.	Few local firms demonstrated O&M experience.	Few local firms demonstrated billing and collection experience.	Local firms used foreign partner credentials to satisfy qualification criteria.
<b>Colombia</b>	Nationally active firms/consortia with prior urban service experience (for example, solid waste).	Local firms demonstrated experience with small and medium-size contracts.	Local firms have limited experience. Local firms formed joint ventures to meet qualification criteria, when necessary.	Local firms demonstrated limited experience. Local firms formed joint ventures to meet qualification criteria when necessary.	Local firms satisfied financial qualification criteria on their own merits. Local firms entered into joint ventures with foreign partners for bigger contracts as per qualification criteria.
<b>Paraguay</b>	National construction companies in consortia with other investors.	Local firms demonstrated experience in other similar-size contracts.	Local firms engaged aguatero with operational experience to satisfy qualification criteria.	Local firms engaged aguatero to satisfy qualification criteria.	Local firms satisfied financial qualification criteria on their own merits.
<b>Philippines</b>	Local construction companies.	Local firms demonstrated experience for DBL contracts. No prior experience required for O&M contracts.	Local firms had limited experience.	Local firms have limited operational experience.	Local firms satisfied financial qualification criteria on their own merits.
<b>Uganda</b>	Small, regionally oriented firms created in response to the project, and firms with other water sector experience.	No prior experience needed for management contracts.	Limited O&M experience.	Local POs demonstrated sufficient experience for small systems.	Local firms were not required to demonstrate significant financial capacity.

Source: Individual case studies presented in Vol. II.

Most local private firms were not able to demonstrate O&M experience on their own merits. In light of this, qualification criteria were relaxed to some extent. For example, in Cambodia and the Philippines, experience in other network industries such as energy and telecoms was considered sufficient. Under Colombian law, all bidders had to qualify as “specialized public service providers,” but this did not necessarily require them to have experience in water supply services. They were also required to propose key personnel with experience in managing some type of public service. In Paraguay, bidders who were mainly from the construction and consulting industries were initially encouraged to enter consortium agreements with aguateros who had acquired operational experience by developing and managing small peri-urban piped-water systems. When this proved impractical because of lack of familiarity with, and/or reluctance of the aguateros to enter into, formal bidding processes, the bidders were required to propose (and, if successful, hire) an experienced aguatero to manage the system. In Uganda, prequalification criteria were quite lenient. All relevant qualifications, whether technical, financial, or overall capacity, were considered as a whole. Bidders were required to score 40 out of 100 possible points. Most did not find it necessary to form consortia, but instead hired staff with the necessary technical skills to take up operational positions.

Because of the limited number of eligible bidders, competition for the contracts was not very strong in most cases (the level of competition is discussed in section 3.4.4). All of the countries are taking steps to encourage the emergence of more local operators, and the countries with five or six years of successful experience are beginning to see the results of these efforts.

### **3.1.4 The Contracting Entities**

A variety of public agencies and civil society organizations were involved in arranging for different aspects of contracts with local private firms, including local governments, WUAs, multitown entities, national sector ministries or services, and national financing institutions. In Colombia, Paraguay, and the Philippines, where several stakeholders were responsible for handling different aspects of the work (for example, financing, contracting for construction, contracting for operations, and regulation), two or more contracts among the various parties were required. In several cases (such as Uganda and the Philippines), separate contracts were awarded to different private firms for construction and for O&M. In Paraguay, a single private firm signed two contracts, each with a different entity: one for construction (with the national water and sanitation service [SENASA]) and another for O&M (with the local WUA). In addition, there was an agreement between SENASA and the WUA regarding subsidies and supervision arrangements. These multiparty collaborative efforts require considerable consultation and cooperation during the design stage and coordination among the parties during implementation (for example, during the transition from the construction phase to the operations phase). (The roles that various stakeholders play in each of the countries are summarized in table 3.3.)

In all cases, investment loans or subsidies are financed by the World Bank and the national government. For this reason, national sector ministries or other national entities play an important role in the preparation and award of contracts. In some cases, the ministry or other national entity is a party to one or more of the contracts, particularly for the construction phase.

Overall, national agencies in all countries play a key role in the procurement process. In Paraguay, SENASA procures and awards two contracts with a single consortium, one for the construction phase (signed by SENASA) and a second for the operational phase (signed by the local WUA). In Cambodia, the Department of Water Resource Management and Conservation in the sector ministry plays a dominant role in the project: recruiting local POs and signing their contracts, supervising them through a contract administration unit (CAU), and channeling finance for the construction phase. In Colombia, the Directorate of Drinking Water in the sector ministry drafts the contracts and assists local entities in the selection and contract award process; channels investment subsidies funded by the World Bank project to an investment trust; and participates as a member of the Investment Trust Committee, which is responsible for allocating the investment funds from all sources.

**Table 3.3 Nature of Contracting Entities and Their Main Roles**

<i>Country</i>	<i>Municipal government</i>	<i>WUA/ cooperative</i>	<i>Multitown entity</i>	<i>National sector ministry</i>	<i>National finance institution</i>
<b>Cambodia</b>	n.a.	Local clean water group plays a limited role.	n.a.	- Procures PO. - Signs and supervises contract with PO. - Channels World Bank funds to PO.	n.a.
<b>Colombia</b>	- Recruits PO. - Signs and supervises contract with PO. - Approves investment program. - Channels subsidies from national government.	n.a.	-Procures PO for multitown area. -Signs and supervises contract with PO. -Approves investment program. - Channels subsidies from national government.	- Drafts contracts with PO. - Channels World Bank funds to PO. - Member of Investment Trust Committee.	n.a.
<b>Paraguay</b>	n.a.	- Signs O&M contract with PO. - Signs subsidy contract with government.	n.a.	- Procures PO. - Signs construction contracts with PO.	n.a.
<b>Philippines</b>	- Recruits PO. - Signs and supervises contracts with PO.	- Participates in tariff setting and project preparation for DBL contracts. - Acts as operator in O&M contract signed with LGU.	n.a.	Participates as a member of CAU of DBL contracts.	National development banks play key role in selecting PO and channeling funds.
<b>Uganda</b>	Local government (acting as WA) signs and supervises contract with PO.	n.a.	n.a.	- Policy making to facilitate contracts with PO. - Advisory role in management contracts with PO.	n.a.

Source: Individual case studies presented in Vol. II.

Not applicable: n.a.

In the Philippines, a national agency, the Local Water Utilities Administration (LWUA), has provided input for the design and supervision of some subprojects. However, the DBP and the LBP, which on-lend money (including funds from the World Bank) to the LGUs for construction required under the contract, assist in the procurement and award of contracts, ensuring that the bidding process and award of contracts are conducted according to World Bank procurement rules. Both local banks have a network of offices serving remote local areas and know the local governments' needs and limitations.

The role and involvement of stakeholders at the various levels of the administration reflect the extent of decentralization (including fiscal decentralization) of the country. In the three countries in which decentralization is fairly advanced (the Philippines, Colombia, and Uganda), local governments (or authorities appointed by local governments) are the primary public partners of the local POs—although they received considerable support from national sector entities during the preparatory stages. In the Philippines, the LGU procures, supervises, and regulates the contracts with the local PO and channels loan financing from the national development banks to fund investments. In Colombia, local governments also recruit and supervise the local POs and channel the subsidies that they receive from the central government to an investment trust that finances investments. In Uganda, local governments—through their newly established WAs—sign and supervise contracts with local POs.

User associations play a role in contracts with local POs in several countries, but the nature and importance of their roles vary significantly from one case to the next. The WUA (junta de saneamiento) in Paraguay signs the O&M contract with the local PO and is responsible for monitoring progress in implementation of the contract. In contrast, in Cambodia, the WUAs play only a limited role in tariff setting before and after the contract is signed. For contracts in the Philippines, the WUAs/cooperatives participate as a default local “private” operator in the OML contracts; to do so, WUAs/cooperatives must be registered in the Philippine Securities and Exchange Commission. However, in the case of the DBL contracts, which are signed with private companies, WUAs may represent consumers in the process of setting tariffs that are incorporated into the contracts.

## **3.2 The Political Economy and the Development of the Upstream Policy Framework**

### **3.2.1 Legal and Policy Framework**

The legal and policy frameworks for water and sanitation services and for private sector participation vary significantly among the five countries. Colombia, Paraguay, the Philippines, and Uganda have adopted laws that clarify sector responsibilities, decentralize responsibility for operations, establish rules to promote accountability, and encourage PSP. Although Colombia and Paraguay have established national regulators, the Philippines and Uganda do not have well-defined regulatory frameworks. Cambodia has neither a legal foundation for PSP in water supply and sanitation services nor a well-defined regulatory framework for such services. Table 3.4 presents summary descriptions of four key characteristics of the legal and policy frameworks in each country.

Thus far, the absence of well-developed legal and/or regulatory frameworks does not seem to have hindered the introduction of local PSP contracts in Cambodia and Uganda. However, going forward, it will be important to monitor the evolution of the legal and regulatory frameworks in all of the countries and assess their impact on local PSP arrangements.

As mentioned above, most of the countries covered by this study are moving in the direction of decentralized responsibility for WSS. This trend toward increased decentralization of authority has created new challenges for the sector, one of which is the need to develop professional capacity in small towns and local governments. Contracting out service delivery to local operators offers a potential solution to the limited technical and financial expertise. However, local authorities still need to develop the capacity to supervise services effectively, and this has been a challenge in almost all of the cases that were studied.



**Table 3.4 Legal and Policy Frameworks**

<i>Country</i>	<i>Centralized/ decentralized</i>	<i>Policy or law promoting PSP</i>	<i>Availability of national resources to promote access for the poor</i>	<i>Regulatory framework</i>
<b>Cambodia</b>	Centralized— decentralization planned	No law yet; policy adopted in 2003— relatively untested	Ad hoc	Ad hoc
<b>Colombia</b>	Decentralized	Well-developed in law—several positive experiences	Reliable funding through transfer of earmarked funds to municipalities	National regulators established in 1994
<b>Paraguay</b>	In process of decentralizing	Existed de facto in past; legalized in 2000	Stretched thin; not sustainable because of poor repayment of loans	National regulator established in 2000
<b>Philippines</b>	Decentralized	Legalized in 1993/94; mixed experiences	At the discretion of local governments, which get 20 percent of national budget	Ad hoc
<b>Uganda</b>	In process of decentralizing	Legalized in 1995; reinforced in 2000 by national policy	Ad hoc national budgetary allocations	Ad hoc

*Source:* Individual case studies presented in Vol. II.

Decentralization and local politics also make it more difficult to aggregate services through multitown arrangements to create economies of scale in the production or the administration of services—because negotiating such arrangements at the local level is fraught with political complications. Colombia and Paraguay have successfully introduced arrangements that group small towns into multitown or multicomunity service areas that take advantage of production economies of scale and make contracts more attractive to large companies. In several of the other countries (including Uganda), contracts were bid in lots, and a single operator could gain administrative economies of scale by winning contracts in several towns. (market structure is discussed further in section 3.4.3).<sup>4</sup>

A well-developed legal framework that promotes financial viability, protects the rights of private investors, and ensures access to an impartial judicial process is considered a prerequisite for attracting large foreign operators and investors. The requirements for small, local POs may not be as stringent, because they tend to rely on their understanding of the context and their local relationships. Nevertheless, legal changes are sometimes needed to legitimize informal operators (such as the *aguateros* in Paraguay) and ensure that they can participate—if the objective is to involve them in an official procurement process and formal contracts. In addition, not all local operators are small, and some of the large companies that operate on a national scale may require legal protection for their investors.

Although a well-developed national regulatory framework may not be essential to attract local POs and modest amounts of private investment, an appropriate framework for monitoring performance is still needed to protect the interests of consumers (although a national independent regulator may not be necessary or appropriate). It is easier for local authorities and users (rather than national agencies) to monitor the performance of service providers in small towns, where they are highly visible. However,

<sup>4</sup> There are other cases in which services in small towns are successfully managed by centralized service providers (whether public or private), such as in Côte d'Ivoire, Senegal, and Uganda. Such arrangements allow the operator to take full advantage of economies of scale (in both production and administration) and avoid the problems posed by weak local government capacity. In such arrangements, uniform national tariffs, with their advantages and disadvantages, are possible. These are particularly relevant in countries with more centralized political systems.

small towns often lack the experience and the culture of accountability that is required. The case studies confirm that local authorities often do not have the capacity to monitor performance, and capacity building should begin before, and continue after, contracts are signed until monitoring capacity and processes are firmly established. Because national regulators (where they have been created in Colombia and Paraguay) tend to focus primarily on the largest cities, complementary or alternative arrangements are often required for smaller towns. In Cambodia, the World Bank project is supporting the creation of an ad hoc central monitoring unit that will monitor the performance of the local POs. The challenge for the Cambodian government will be to ensure that the unit's focus is not limited to monitoring a few POs engaged during the project, but that its activities continue beyond the life of the project and that it begins to build and/or strengthen local regulatory capacity.

Subsidies, particularly those that target the poor, have been an essential element in all of the case studies. All five countries have adopted official policies favoring the access of the poor to services, and all recognize (at least officially) that providing services to the poor should not undermine the financial viability of operations. Because the primary objective of most of these projects is to improve the access of the poor to services, all governments must address the need for transparent subsidies when engaging local POs. With the exception of Colombia, the governments are not able to target to poor households directly. Instead, investment subsidies targeting small towns and peri-urban communities with a high percentage of poor households are used as an indirect means of reaching the lower-income populations. In Cambodia and Paraguay, where OBA is being used to target subsidies, the release of investment funds is conditioned on the completion of an agreed-upon number of connections.

### 3.2.2 Objectives of Local PSP

Table 3.5 shows that the countries' objectives in promoting PSP were remarkably similar.

In all five countries, the governments sought public-private partnerships as a tool for promoting efficiency and increasing access to services, particularly for the poor. All countries, except Cambodia, also sought to strengthen the role of local governments in service delivery. Even in Cambodia, which does not yet have locally elected governments, it is hoped that successful private operations of services in small towns will facilitate the country's medium-term plans to decentralize government responsibility for services. Although the objective of mobilizing private financing was a factor in several of the cases, this was not a central motivation for involving the private sector. Instead, it was hoped that positive results with modest initial private investments would build credibility and a capacity to attract more private finance in the future.

Given this background, it is not surprising that the amount of long-term financing attracted from local partners was generally modest, in comparison with the total cost of investments. In fact, where investment financing was a criterion for participation, local companies sought joint ventures with foreign partners to fulfill this objective. For example, in Cambodia, one of the local operators mobilized investment finance through its Singaporean partner. Similarly, Colombian operators leveraged financing through partnerships with Spanish and Israeli firms.

**Table 3.5 Objective of Local PSP**

<i>Country</i>	<i>Mobilize private investment finance</i>	<i>Increase access to service</i>	<i>Improve operational efficiency and/or sustainability</i>	<i>Strengthen decentralization and local accountability</i>
Cambodia	✓	✓	✓	
Colombia	✓	✓	✓	✓
Paraguay	✓	✓	✓	✓
Philippines		✓	✓	✓
Uganda		✓	✓	✓

*Sources:* World Bank project documents; also individual case studies presented in Vol. II.

Despite some common features, the underlying constraints that each country faced were the result of country-specific features such as the structure of the sector, investment finance and subsidy policies, and the need to implement recent changes in law or policy. In each case, it was necessary to adapt the PSP model(s) to fit the local context and respond to these conditions. The country-specific constraints and the solutions used to overcome them are summarized in table 3.6.

### 3.3 Contract Form and Content

None of the model contracts that were examined conform to typical PSP contract forms generally mentioned in the literature (management, lease, and concession). Most of the model contracts blend features of one or more of these typical contract forms to meet local conditions. However, although the contracts vary in form from country to country, they share some basic content features. The most common feature is that O&M costs are expected to be recovered from tariff revenues. In many cases, some or all the investment or replacement costs are also being recovered through the tariff. Many contracts that include a construction phase adopt the principle of paying part or all of the operator's remuneration for construction on the basis of the number of connections made. Finally, all of the contracts include indicators of service quality and specify targets to be met by the operator.

**Table 3.6 Country-Specific Constraints and Solutions**

<b>Cambodia</b>	Very low capacity of local governments, which are at a very early stage of development; limited access to water and sanitation services, particularly in small towns; high cost and poor quality of unregulated private services in some urban areas; and inadequate national resources to finance and/or subsidize investments for the large number of towns that lack services. PSP was designed to create more accountability in the delivery of services and to leverage World Bank and other donor finance.
<b>Colombia</b>	Poor performance of services previously operated by local governments resulted in financially bankrupt services, dilapidated infrastructure, and a large percentage of poor households without access to services. PSP was designed to ensure the effectiveness of government subsidies for the poor, promote service reliability, and generate adequate revenue to supplement the government's budgetary transfers.
<b>Paraguay</b>	Government policy to provide loans and partial investment subsidies (based on need) to small towns and communities for the development of services, plus the failure of users' associations to set tariffs high enough to repay loans, led to a higher-than-intended level of subsidy and threatened the sustainability of the program. The local PSP contracts were designed to reduce subsidies to acceptable levels and transfer the financial risk associated with the remainder of the investment cost to the private sector.
<b>Philippines</b>	Services operated by local government were inefficient, unreliable, and financially unsustainable; 40 percent of the residents without access were forced to pay a higher unit cost for water. LGUs had poor track records as service providers and were unable to mobilize investment funds from the private sector. Loans from Philippine financial intermediaries (conditional on contract with local partner) were designed to secure investment financing, impose more discipline, introduce better performance, and (in the case of DBL contracts) gradually build the creditworthiness of the LGUs.
<b>Uganda</b>	Decentralization of responsibility for operating services and adoption of cost recovery policies, requiring service providers to cover operating and maintenance costs; many WUAs in small towns unable to create financially viable and sustainable services. Local authorities engaged POs to operate and maintain services as a condition of investment finance to improve accountability, efficiency, and coverage.

*Sources:* World Bank project documents; also case studies presented in Vol. II.

### **3.3.1 Factors Driving the Form of the Model Contracts**

As implied above, the design of model contracts in each country was driven primarily by local factors. Regional preferences within the World Bank may also have played a role in determining the form of contracts used. For example, in Africa, short-term O&M contracts were prepared as a follow-up to construction or rehabilitation work (carried out under contract with a different entity); in Latin America, longer-term single contracts were awarded for both construction/rehabilitation and O&M work. Although these contracts can broadly be assigned to one of the standard categories used to classify PSP contracts in the literature, such as “management contracts” or “lease contracts,” because each of the contracts represented innovations on the familiar contract types, this section describes their core features, rather than assigning them to a particular category or type.

By the end of the 1990s, district and local WAs were established in small towns all over Uganda to assume responsibility for urban water service operations previously managed by the DWD. After experimenting unsuccessfully with operation by WUAs in small towns, DWD required WAs to engage local POs under OMS contracts as a condition of investment finance. The OMS contract model was chosen in Uganda because sector authorities wanted to promote the financial viability and operational efficiency of service delivery in a context where the capacity of the private sector to take on financial and construction risks is extremely limited. The contracts transfer responsibility for administrative, operational, maintenance, and commercial functions to the PO. Unlike conventional management contracts, the PO is responsible for hiring and paying staff and buying inputs. It must also create and maintain information and accounting systems and develop business plans on behalf of the WA.

BO and BOI contracts in Colombia and BO contracts in Paraguay were designed to reduce the amount of the government’s investment subsidy, halt frequent cost and schedule overruns, and promote the technical and financial sustainability of water supply systems. Technical sustainability was enhanced because instead of providing a traditional one-year construction-contractor guarantee, the contractor who constructs the water supply system is required to operate and maintain it over a 10–15 year contract period. Financial viability was achieved by requiring the operators to fund O&M, as well as the PO’s remuneration, regulatory fees, and relevant taxes, out of tariff revenues. In Colombia, the PO must also contribute part of tariff revenues to a replacement and expansion fund. (This is similar to the lease fee that contractors pay to asset owners out of tariff revenues in lease contract arrangements, except that in Colombia, the PO usually plays an important role in planning and executing investments and expansions before and after the initial construction phase.) In the case of Paraguay, 5 percent of the tariff revenue is used to fund the regulatory and supervisory activities of the WUA.

DBO and DBL contracts were chosen in Cambodia and the Philippines because sector authorities wanted to enhance technical and financial sustainability, in part by shifting from a supply-driven to a demand-driven approach in the design and planning of systems. The fact that there was a strong construction sector with extensive experience in BO schemes was an important factor in the initial design of contracts. As a means of introducing more demand responsiveness, the governments of Cambodia and the Philippines required the local POs to prepare final designs in consultation with users, taking into account their willingness and ability to pay. Technical sustainability is being enhanced by requiring that the contractor that designs and constructs the water system must operate and maintain it over a 15-year period. Financial sustainability is achieved by requiring the PO to cover all O&M expenses, debt service payments, and its own remuneration through tariff revenues.

It was not possible to capture the benefits of combining construction and operations in all Philippine locations. In some very small wards and barangays, construction was separated from operation because the projects were very small (compared with the DBL contracts) and it was considered unlikely that local private operators would be interested in mobilizing, under a single contract, the technical expertise to design, build, operate, and maintain such small systems. Instead, once construction was completed, 15-year OML contracts were awarded to local WUAs on a noncompetitive basis. Before signing the contract with the LGU, each WUA had to be incorporated under commercial law and registered in the Philippine Securities and Exchange Commission. To promote the objective of financial viability, WUAs are expected to operate on a commercial basis and recover all O&M costs. In addition, some must recover debt service as well.

All of the contracts aimed to improve the governance of water services. In most contracts, the allocation of responsibilities among the various institutional participants (local POs, contracting entities,

regulators, and customers) is reasonably well defined, although monitoring and regulatory functions are sometimes neglected. Because it is still too early in the implementation time frame of most contracts to judge the performance of the various parties or the effectiveness of the governance arrangements, it will be important to revisit them again in the future to assess whether the contracts are adequate and how well the various institutional participants are performing. It undoubtedly will continue to be necessary to provide capacity-building support for governance and regulation, particularly at the local levels, for some time.

### **3.3.2 Service Levels, Standards, and Performance Targets**

All of the governments attempted to use a demand-driven approach to establish what households were willing and able to pay, but results were mixed. In Cambodia, Colombia, and the Philippines, consultations with users about technology choice revealed that a household connection was the preferred level of service. Nevertheless, the design and/or timing of the PO's expansion program are flexible and based on willingness and ability to pay. Despite these precautions, demand estimates for some of the service areas in the Philippines have proven to be off target because it was erroneously assumed that households requesting household taps would install high-volume water-using appliances. Lower-than-estimated effective demand has had a negative impact on financial performance. In Paraguay and Uganda, although users were consulted, the responsible national entities have tended to choose standard designs and uniform service levels for all locations.

Although the approach to determining the service levels that drove investments differed, there is a degree of consistency in the list of performance indicators for regulated standards and service targets that were specified in the contracts (see table 3.7). All contracts refer to national drinking water standards where these exist or, in their absence, to international standards, such as those of the World Health Organization. In addition, all of the contracts included targets for coverage, continuity, and time required to respond to complaints. It is noteworthy that these and most of the other performance indicators included in the contracts reflect the quality of service *as perceived by users*. This reflects an emphasis on customer-oriented services.

Another type of performance indicator that is included in some of the contracts refers to the operator's efficiency and satisfaction of specific technical requirements, such as the installation of meters or completion of a maintenance schedule. These are factors that are not immediately noticed by users, but generally affect the financial and technical sustainability of the services. All of the contracts have a general requirement that the operators maintain the infrastructure properly, but only a few include relevant technical performance indicators. It may seem surprising that so few include targets for unaccounted-for water; however, this is probably the result of the fact that a large number of systems to be built under these contracts were new and unaccounted-for water was not a preexisting problem. In addition, it is assumed that POs have a financial incentive to control losses to maximize sales.

Initial targets were based on estimated prior performance when the new operator took over an existing system and/or was linked to a rehabilitation or construction schedule for new infrastructure. In most cases, the operator was expected to meet annual targets until the desired standard was reached and to maintain the standard thereafter.

In the case of existing water systems in Colombia, the targets were based on a baseline assessment, a program of capital improvements was negotiated with the local PO, and the program of improvements was translated into performance targets that the local PO is expected to achieve during the life of the contract. Such schedules for achieving performance targets can subsequently become the basis for managing the water system according to a business-plan approach. In the case of existing water systems in Uganda, standards of services, targets for access, and financial sustainability indicators are gradually being incorporated into business plans prepared by the local POs and approved by the national DWD.

**Table 3.7 List of Contractual or Regulated Performance Indicators**

<i>Indicators of service quality as perceived by users:</i>	<i>Cambodia</i>	<i>Colombia</i>	<i>Paraguay</i>	<i>Philippines</i>	<i>Uganda</i>
Coverage	✓	✓	✓	✓	✓
Drinking water quality	✓	✓	✓	✓	✓
Wastewater quality		✓			
Continuity of service (hours per day)	✓	✓	✓	✓	✓
Pressure	✓	✓		✓	✓
Storage capacity	✓	✓	✓	✓	
Time required to connect	✓	✓	✓	✓	
Time required to repair leaks	✓	✓		✓	
Time to respond to complaints	✓	✓	✓	✓	✓
<i>Indicators of operator's technical and financial performance:</i>	<i>Cambodia</i>	<i>Colombia</i>	<i>Paraguay</i>	<i>Philippines</i>	<i>Uganda</i>
Micrometering	✓	✓		✓	
Annual maintenance of pipes	✓	✓		✓	
Unaccounted-for water	✓			✓	
Collection efficiency	✓			✓	

Source: Individual case studies presented in Vol. II.

### 3.3.3 Cost Recovery

Because of the need to ensure operators' remuneration, as well as concerns over long-term financial sustainability, cost recovery (but not always *full* cost recovery) was a key feature of all the contracts. To balance the objective of cost recovery with that of ensuring the access of the poor, investment subsidies were provided through OBA schemes in Paraguay and Cambodia. Subsidy schemes with similar objectives were employed in other countries. Full O&M costs are being recovered through user tariffs in all eight cases. Recovery of capital costs varies, depending on the level of investment subsidies: in three cases (Cambodia DBO, the Philippines DBL, and the Philippines OML in Panabo City), tariffs recoup debt service at market rates for 50 percent or more of initial capital costs; in two (Colombia BOI and BO), there is no debt service, but tariffs are expected to recover the full cost of future replacements and expansions; in one case (Cambodia DBL), tariffs recover 10 percent of capital costs at market rates and 90 percent on very soft (IDA) terms; in one case (Paraguay BO), tariffs recover the estimated 20 percent of initial capital costs that are funded by the PO; and in one case (Uganda) and another in Palawan Province (the Philippines), tariffs cover only O&M and perhaps a small contribution to expansions. Table 3.8 presents cost recovery characteristics of each of the cases (see also table 3.14 for information on the terms of investment finance).

In general, subsidies are targeted to the poor, well funded, and focused on investment (rather than O&M). In Cambodia's DBO and DBL contracts, proceeds of an IDA credit are provided either as an OBA grant (DBO contracts) or on very soft terms (DBL contracts) to subsidize investment costs for poor households; in Paraguay, partial investment subsidies provided by the government are extended to all households in the project areas, whether poor or with moderate incomes; and in Uganda, the construction of infrastructure in small towns where almost all households are poor was completed under separate contracts before engaging the POs and was fully subsidized by the government. Minimal investment subsidies (10 percent) are built into DBL contracts in the Philippines. Colombia was the only country in which subsidies for both investment and O&M benefit poor households: the central government provided a grant for investments based on the proceeds of the World Bank-supported project. In addition, regular fiscal transfers to local administrations (Law 715) are used to subsidize investment costs; however, tariffs are structured such that the wealthy do not benefit from these

subsidies. Average tariffs cover the full cost of replacement, and wealthier users pay more than the average tariff. The cross-subsidies built into the tariff structure ensure that subsidies benefit only poor households. Finally, in Uganda, although O&M subsidies are sometimes funded by conditional grants from the central government in exceptional cases (for example, extremely difficult environments and refugee areas), none of the 10 cases covered in this study were eligible for such grants.

**Table 3.8 Cost Recovery through Tariffs**

	Type of contract	How tariffs are set	Costs covered by average tariff	Sources of subsidies	Subsidy recipients
Cambodia	DBO	- Based on financial modeling before bidding. - Rules for adjustment set in contract.	- O&M. - About 50% of capital cost. - Taxes.	- 50% of capital cost subsidized by a government grant based on IDA/OBA grant.	Poor customers are connected first, but all are eligible for connections.
	DBL	- Based on financial modeling before bidding. - Rules for adjustment set in contract. - For the first six contracts, the best bid set the tariff.	- O&M. - 100% of capital cost: 10% on market terms; 90% on soft terms. - Taxes.	- 90% of capital cost is on IDA credit terms.	All customers in service area.
Colombia	BOI and BO	- Tariff and inflation adjustment formulas approved by economic regulator (CRA). - Formulas may be revised every five years by CRA, in line with established tariff policy.	- O&M. - Full capital replacement cost. - Taxes and fees.	- About 80% of initial capital cost subsidized by government. - Targeted tariff subsidies financed by national budget (Law 715) and cross-subsidies.	Tariff subsidies benefit the poor.
Paraguay	BO	- Based on willingness-to-pay and tariffs in neighboring areas. - Adjustment rules set by economic regulator.	- O&M. - About 20% of capital cost. - Taxes and WUA fee.	- About 80% of capital cost subsidized by government.	All customers.
Philippines	DBL	- Based on financial modeling before bidding. - Adjustment rules set in contract.	- O&M. - 90% of capital cost. - Taxes and fees.	- 10% of capital cost subsidized by LGU.	All customers.
	OML (1)	-Based on financial modeling before bidding. - Rules for adjustment set in contract.	- O&M. - Taxes and fees.	- LBP loan for 90% of capital cost is paid back by LGU. - 10% capital subsidy provided by LGU's own resources.	Small towns in Palawan District.
	OML (2)	- Based on financial modeling before bidding. - Rules for adjustment set in contract.	- O&M. - 90% of capital costs. - Taxes and fees.	- 10% capital subsidy provided by LGU's own resources.	Poor peri-urban neighborhoods in Panabo City.
Uganda	OMS	- WA proposes, and minister approves tariffs. - Formerly uniform tariffs are gradually being differentiated on basis of costs.	- O&M, PO fee. - Allowances for WA members. - Gradually will cover small replacements and expansions. - Taxes.	- 100% of capital cost subsidized by government grant, based on IDA credit.	All customers.

Source: Individual case studies presented in Vol. II.

### 3.3.4 Basis of the Operators' Remuneration

In all cases but one, the PO's remuneration is determined entirely by performance and efficiency. An operator incurs profit or loss after it has paid all of the costs of O&M and, where required, debt service or the operator's contribution to future investments. The exception to this is the case of three-year management contracts in Uganda. In the original contracts, remuneration was based on a combination of a fixed management fee and unit fees linked to the number of connections, the length of the piped network, and the volume of water for which bills are collected; however, the link between remuneration and performance was fairly weak. In more recent contracts, the operator's remuneration has been set as a percentage of revenues. This option, which provides greater incentives for efficiency, was adopted for the last of the 10 contracts awarded under the World Bank-funded project and is now being used for all new contracts and for the renewal of the nine original contracts. Table 3.9 summarizes the remuneration arrangements of all cases:

## 3.4 The Selection Process

Because of the innovative nature of the arrangements, a great deal of effort was put into planning and managing the selection of local POs. A number of factors had to be considered. Decisions about bidder qualifications and other requirements had to balance the objective of attracting a reasonable number of bidders and enhancing competition (which might depend on less stringent requirements) with the objective of ensuring that the firms were adequately qualified and committed to fulfilling the contracts (which is enhanced by more stringency). The draft contracts and the selection criteria needed to reflect a reasonable allocation of risks among stakeholders; preestablished tariffs and other values that would affect bids needed to be backed up by solid financial analysis; and possibilities for creating economies of scale (in the preparation process and in the delivery of services) needed to be taken into account.

Table 3.9 Comparison of Local PO Remuneration Arrangements by Type of Contract

	Cambodia		Colombia		Paraguay	Philippines		Uganda	
	DBO	DBL	BOI	BO	BO	DBL	OML	OMS (1)	OMS (2)
<i>Fixed fee</i>	No	No	No	No	No	No	No	Yes	No
<i>Unit rates</i>	No	No	No	No	No	No	No	Yes	No
<i>Performance-based</i>	Tariff revenue minus: -O&M -debt service -regulatory fee, taxes -cost of performance bond	Tariff revenue minus: -O&M -debt service -lease fee -regulatory fee, taxes -cost of performance bond	Tariff revenue minus: -O&M -investment fund -regulatory fee, taxes -cost of performance bond	Tariff revenue minus: -O&M -investment fund -regulatory fee, taxes -cost of performance bond	Tariff revenue minus: -O&M -debt service -regulatory fee, taxes -fee paid to WUA	Tariff revenue minus: -O&M -debt service -regulatory fee, taxes -lease fee -regulatory fee, taxes -cost of performance bond	n.a. <sup>a</sup>	Partially linked to total revenue collected	Percentage of total revenue collected

Source: Individual case studies presented in Vol. II.

a. Not applicable. The WUA operates services at cost. There is, in theory, no surplus after all costs are paid and the lease fee is remitted to the LGU.



### **3.4.1 Management of the Selection Process**

Because in most countries local governments are responsible for services, but rely on central governments for investment finance and technical support, various levels of government—national, local, and (in some cases) regional—were involved in most cases. As is typical in World Bank projects, national agencies have played the lead role in promoting the project and managing the procurement process. In all cases except in the Philippines, the lead role is played by a national water and sanitation sector entity. In the Philippines, two national development banks have played the lead role in project design and procurement oversight because they are responsible for channeling finance to the LGUs. With the support of specialist consultants, the lead entities have developed contract models and procurement documents and, after discussion with, and approval by, other relevant institutional players, managed the procurement process. Local actors are involved to an extent that varies from country to country, depending on their capacity and the degree of decentralization. The existence of relatively strong local governments in Colombia and the Philippines means that they have played a proactive role in procurement. In contrast, in Paraguay, where the user groups are being established during the project, and in Uganda, where the water authorities were created only recently, the local actors who sign the contracts with POs have needed a great deal more assistance with procurement. In Cambodia, procurement is managed entirely at the national level.

### **3.4.2 Selection of the Private Operators**

In setting out to engage the local private sector, it was important that expectations and requirements were matched to the capacity of the potential bidders. This section presents information on the nature of procurement rules and on prequalification, qualification, and selection criteria (see table 3.10), and it examines the extent to which such rules and criteria have been tailored to the local context, as well as their impact on competition.<sup>5</sup> Given that contracting local POs was innovative and that therefore the local private sector lacked experience in implementing this type of contract, it was a challenge to specify rules and criteria that would balance the rigorous screening of bidders (to ensure that they were qualified) with attracting enough bidders (to ensure a competitive process).

Procurement arrangements vary across countries. In Cambodia and the Philippines, contracts are awarded through international or national competitive bidding procedures, using World Bank procurement rules adapted to the DBL and DBO contracts. However, in the other countries, procurement is based on national competitive bidding procedures to encourage local participation.

To ensure that potential bidders were technically and financially qualified to fulfill the contract, a prequalification process has been used in all countries except Colombia, where, instead of prequalification, bidders have been required to submit proof of eligibility along with their proposals. In the case of Cambodia, the prequalification criteria have been announced well in advance of the bid date to allow bidders adequate time to create strong consortia and enhance the quality of bid proposals. This strategy seems to have been effective because a number of strong consortia have formed to participate in the bidding—all with both local and foreign partners—and, as a result, the level of competition has been high. In Uganda, more flexible and less stringent prequalification criteria have been used: initially, potential bidders needed to score a total of 40 out of 100 possible points against a broad range of criteria. This approach seems to have favored the emergence of small local firms, and the less stringent qualification requirements have proven adequate, given the smaller size of the target communities and the limited scope of the management contracts used in Uganda.

In addition to technical and financial criteria, bid bonds were required in all cases, except for OML contracts in the Philippines, which were awarded to WUAs and therefore not subject to competition. The value of bid bonds varied substantially among the countries and contract types. In Cambodia, it represented 5 percent of the value of the construction phase, and in Paraguay, 1–5 percent of the value of the construction contract. In contrast, in Uganda, where construction was not included, the bid bond for management contracts was about US\$120. In addition to paying bid bonds, bidders in Colombia were required to purchase the bidding documents. As an example, the charge for the Córdoba multitown contract documents was US\$1,000.

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<sup>5</sup> For more detail about criteria, please see individual cases presented in Volume II, “Case Studies.”

**Table 3.10 Prequalification, Selection Criteria, and Other Conditions**

Countries	Cambodia		Colombia		Paraguay	Philippines		Uganda
Contracts	DBO	DBL	BOI	BO	BO	DBL	OML	OMS
Pre- or proposal qualification criteria	Technical expertise	Technical expertise	- Technical expertise		Technical expertise	Technical expertise	None	Technical expertise
	Financial capacity	Financial capacity	- Financial capacity		Financial capacity	Financial capacity	None	Bank account statements
	O&M experience	O&M experience	- Public services experience		O&M experience	O&M experience	None	O&M experience
Other requirement to qualify	Bid bond 5% of total contract	Bid bond 5% of total contract	- Buy bid documents. - Bid bond		Bid bond 1% to 5% of total contract	Bid bond	WUA registry in Securities & Exchange Commission	Bid bond
Selection criteria	Lowest investment subsidy	- Lowest tariff - Lowest construction cost, for 2 <sup>nd</sup> group	Lowest investment subsidy	Lowest investment subsidy	- Lowest connection charge - Lowest investment subsidy per connection.	Lowest construction cost	Not applicable	- Lowest combined management fee and variable fees - Lowest percentage of revenues
Main contract signature conditions	-Construction performance bond, 10% - O&M bond	-Construction performance bond, 10% - O&M bond	Create public services company	- Construction performance bond - Create public services company	Construction performance bond	Construction performance bond	None	Bid bond
Number of prequalified firms	7 for 1st, 2 for 2nd	8 for 1st, 8 for 2 <sup>nd</sup>	Not applicable	Not applicable	5-10	1-2	Not applicable	10
Average number of bids per contract	2 for 1st, 1 for 2nd	4 for 1st, 7 for 2nd	1-2	1-2	4-8	0-2	Not applicable	2-3

Source: Individual case studies presented in Vol. II and relevant bid documents.

One of the following sets of criteria has typically been used to rank bidders: (a) the lowest subsidy required by the bidder, based on a preestablished average tariff, the bidder's estimate of the total investment cost, and the length of the contract, or (b) the lowest average tariff proposed by the bidder, based on a fixed subsidy amount, the bidder's estimate of the total investment cost, and the length of the contract. The first option allows customers to control tariffs while forcing the government to assume the bid price risk; the second option gives government control over subsidy obligations and forces consumers to assume the bid price risk. However, both approaches can benefit both government and consumers if the underlying financial projections are rigorous and the process is well managed. The selection criteria used in each of the cases were as follows:

- *Cambodia*. For DBO contracts, selection was based on the minimum investment subsidy to be paid by the government against a fixed average tariff per cubic meter of water and the

predetermined length of the contract. In the case of DBL contracts, the first package of contracts used the tariff to be charged to customers as a bidding variable—bidders based their proposed tariffs on a predetermined investment cost and the length of the contract. In the second package of contracts, the bidding variable was changed to the construction cost, based on average tariff and the length of contract. This was also true for DBLs in the Philippines.

- *Colombia*. All contracts were awarded based on the lowest initial investment subsidy from the government, given a preestablished tariff and the length of contract. In addition, in the case of the BOI contracts, the amount to be contributed by the municipality annually over the life of the contract was also specified in advance.
- *Paraguay*. In the first package of contracts, the connection charge was the bidding variable, given a fixed subsidy amount per connection, the average tariff, and the length of the contract. In the second and subsequent packages, the bidding variable was the initial investment subsidy per connection, based on a preestablished average tariff, fixed connection charges, and the length of the contracts.
- *The Philippines*. For DBLs, the bidding variable is the construction cost, given the average tariff and the length of the contract (the same as for the second package of DBLs in Colombia).
- *Uganda*. Initially, the bidding variable was the sum of the proposed base management fee and the products of each proposed unit fee multiplied by a given value for each of the variables that were subject to unit fees, based on a preestablished initial tariff and the length of contract. In the first set of contracts, the WA retained the surplus, if any, after paying the PO's fees. However, under subsequent contracts, the PO bid a percentage of revenues and thus assumed more risk; the WA has more security because it gets a fixed percentage of the revenues, and both parties have a direct stake in promoting good financial performance.

Finally, in addition to meeting qualification and selection criteria, bidders for contracts with up-front construction components were required to submit a performance bond. In Cambodia, Paraguay, and the Philippines, the performance bond was 10 percent of the contract value. There was no need for such a performance bond in Uganda because construction was not included in the contract.

### **3.4.3 Market Structure**

With few exceptions, the target communities were small towns or peri-urban settlements with populations under 30,000, and (in most cases) a key objective of the contract was to improve the access of low-income populations to service (see table 3.11). The exceptions with regard to size were in Colombia, where a few medium-size cities (populations of more than 100,000) with a significant proportion of low-income residents were also included. In Paraguay, a deliberate decision was made to target moderate-income communities (rather than low-income communities) in the first two phases to ensure financial viability and attract bidders; once the model proved successful in less risky environments, the third phase targeted lower-income communities.

Because of the small size of these markets, towns and communities in several cases have been grouped to improve the economies of scale and attract more interest. Both Colombia and Paraguay (in phase two) have created multitown or multicomunity service areas that share production facilities. Under this arrangement, each town or community is represented in a multitown authority or users' association, which in turn contracts a single PO. Multitown or community contracts tend to attract larger, technically competent bidders that have adequate financial backing to finance part of the infrastructure.

**Table 3.11 Size of Contracts and Characteristics of Markets**

<i>Market</i>	<i>Population of towns or communities (approximate)</i>	<i>Number of towns or communities per contract</i>	<i>Projected or actual number of connections within 2 years (range)</i>	<i>Socioeconomic characteristics</i>
Cambodia DBL	10,000–25,000	1	350–3,900	Towns with moderate-income and very poor households.
Cambodia DBO	5,000–15,000	1	1,200–4,200	Towns with primarily low-income households.
Colombia BOI	10,000–425,000	1–4	1,800–62,000	Towns with a high proportion of low-income households.
Colombia BO	2,000–30,000	1–2	500–5,000	Towns with a high proportion of low-income households.
Paraguay BO	2,000–10,000	1–4	200–2,000	Moderate-income peri-urban areas and isolated low-income communities.
Philippines DBL	2,000–10,000	1	400–2,000	Towns with primarily low-income households.
Philippines OML	1,000–5,000	1	Average: 620	Low-income communities.
Uganda OMS	5,000–40,000	1	255–724	Towns with primarily low-income households.

*Source:* Individual case studies presented in Vol. II.

In contrast, in Cambodia, Uganda, and the first phase of Paraguay contracts, an alternative approach was used to allow for economies of scale. Procurement of POs was organized in lots of several towns or communities. Separate contracts were to be awarded for each town or community, but firms were allowed to bid for more than one contract. Bidders were required to submit a separate proposal for each contract, each of which was awarded separately to the most competitive bidder. In Uganda, the political difficulties associated with forming joint WAs, the lack of opportunities for joint production and treatment facilities, and the poor quality of roads and communications among the towns were among the factors considered in choosing this option, rather than attempting to create multitown service areas. Operators that won several contracts in this manner indicated that the resulting administrative economies of scale were substantial and that, without them, the contracts would have been less attractive. A major risk of this approach is that operators have no guarantee that all towns in their administrative cluster will renew their contracts. However, on the positive side, this uncertainty may provide an added incentive to the operators to develop good relationships with the communities and provide high-quality services.

### **3.4.4 Competition**

Despite the limited number of local private entities that had experience in operating and maintaining a small town water supply, in almost all cases a reasonable number of companies either expressed an interest or prequalified for the contracts (see table 3.12). However, only one or two bids were typically received for the contracts in Colombia, only two or three for those in Uganda, and in the Philippines no bids were received in several cases. In contrast, competition for DBL contracts and the first group of DBO contracts in Cambodia and for BO contracts in Paraguay was quite strong. This mixed response is not altogether surprising: these projects were innovative and may therefore have been perceived as fairly risky; also, the bidding procedures were unfamiliar to many local bidders. In addition, as discussed earlier, the number of local companies with prior experience in providing any type of municipal service under formal contracts was also very limited.

**Table 3.12 Competition**

<i>Market</i>	<i>Typical number of companies expressing interest</i>	<i>Typical number of prequalified companies</i>	<i>Typical number of bidders for each contract</i>	<i>Number of contracts awarded during World Bank project (as of 9/05)</i>
Cambodia DBL	10	8	4-7	12
Cambodia DBO	—	2-7	1-2	4
Colombia BOI	4-8	n.a.	1-2	11
Colombia BO	4-8	n.a.	1-2	5
Paraguay BO	—	5-8	4-8	6
Philippines DBL	6	1-2	0-2	6
Philippines OML	n.a.	n.a.	n.a.	n.a.
Uganda O&M	—	5-8	2-3	10

*Source:* Individual case studies presented in Vol. II.

Not applicable: n.a.

Differences between countries with respect to the level of competition do not appear to correlate strongly (either positively or negatively) with the general capacity of the formal private sector, the stringency of qualification criteria, or the country's level of development, but enabling informal operators to participate does seem to be important. In Colombia, where there is substantial formal private sector capacity in general (although not necessarily in water and sanitation) and qualification criteria were stringent, competition was weak; whereas in Paraguay, where an effort was made to promote the participation of informal private operators, competition was fairly intense, even though qualification criteria were stringent. Cambodia, which is one of the least-developed countries in the group, attracted strong competition; in Uganda, also one of the least-developed, competition was strong or at least satisfactory.

Other factors appear to have played a role. The intense competition for DBL contracts (four bids for the first package and seven for the second) and for the first package of DBO contracts in Cambodia (three bids) may be explained by the location of the towns and their closeness to main paved roads and business centers. Conversely, less intense competition for the second package of DBO contracts (for which only one bid was submitted) may be explained by the more remote location of the towns and their distance from main roads.

Sizable bid bonds may also have discouraged competition. For example, bid bonds for contracts were as high as US\$500,000 for the Córdoba multitown contract (one of the larger contracts in Colombia) and US\$236,000 for La Union (in the Philippines).

### **3.5 Training, Consultation, and Promotional Activities**

Although the existence of a clear legal and regulatory framework, careful drafting of contracts, and a transparent selection process are essential to the success of local contracting, experience from these case studies clearly shows that training, consultation, and promotional activities are also necessary to ensure success in the preparation process and the longer-term implementation of contracts. Even when policy and regulatory environments are well established and tested and there is prior PSP experience (often in larger towns or cities), local officials may be skeptical and resist the introduction of arrangements that reduce their control over resources. In addition, as mentioned above, the number of local POs with prior experience was limited. Given these factors, all projects allowed for substantial training, consultation, and promotional activities during the preparation phase; however, less emphasis was placed on continuing to provide this support over the long term. In several instances, difficulties emerged after contracts were signed as a result of a lack of commitment or capacity on the part of local officials or a lack of professionalism on the part of POs. Better support during the postcontract stage may have helped to ease the transition and forestall the problems that

developed after contract signing. (Section 3.7 discusses the need for capacity building for regulatory roles that are tested only after the contract is in place.)

**3.5.1 Stakeholder Consultation, Training, and Promotional Activities**

A variety of communication and educational methods were used to raise awareness about the proposed local PSP contracts and to consult with and inform stakeholders, particularly the local communities and WUAs, during the design phase. Subsequently, targeted training programs were developed and implemented to build the capacity of the various sector actors, including users, local officials, national policy makers, and private firms (potential bidders), to carry out their respective roles. (Some of the mechanisms used to target the various audiences are listed in table 3.13.) The following paragraphs discuss activities that targeted three key audiences: local government or authorities, users, and the potential private bidders.

Fostering understanding and ownership of this concept among local officials has proven to be one of the most challenging components of the projects, particularly in the very small towns, because local governments typically lacked relevant experience and, in some cases, resisted the intrusive role of the central government in initiating these reforms. Access to investment finance, especially on grant or concessional terms, is a strong incentive for the towns to participate, but it is equally important for them to recognize the other benefits of PSP, reinvent themselves as active partners (rather than passive recipients), and appreciate the oversight role that they would have to assume to ensure the long-term success of the arrangements. A vigorous educational and promotional program that is tailored to local conditions and that allows users and local officials to participate in the preparation and procurement process is therefore essential.

**Table 3.13 Consultation, Education, and Promotional Mechanisms**

<i>Target group</i>	<i>Mechanisms used</i>
Users	Willingness- and ability-to-pay studies were carried out in target towns and communities. Staff/consultants helped communities to form WUAs (including clean water groups in Cambodia). Consultants assisted local officials in conducting community consultations (on a variety of topics, including tariff setting). Fifty-one percent of users were required to sign willingness-to-connect agreements as a condition of the capital investment grant or loan.
Local officials	Investment financing on grant or concessional terms were made available to towns willing to reform. Project teams and/or regional officials visited target towns to talk to officials and promote the program. Workshops on the technical and contractual options, cost recovery policies, procurement procedures, and oversight requirements were held. Explanatory and promotional videos and brochures were disseminated.
National policy makers	Seminars were arranged for political actors.
Private companies	Interested private sector entities were invited to consultative or educative workshops on contractual terms and procurement processes. Existing professional associations and training and research centers developed and conducted continuing educational courses. A private operators' association was formed to promote professionalism and provide training. Information about opportunities and procedures was posted on the ministry's Web site.

Source: Individual case studies presented in Vol. II.

In Colombia and the Philippines (where local governments were expected to sign the contracts) and in Uganda (where local WAs would assume that responsibility), project staff visited target communities and met with their representatives or held regional workshops to introduce the project and present the proposals to involve the local private sector in developing and managing water supply services. In Colombia and Uganda, promotional videos and brochures, respectively, targeting local officials were developed; in the Philippines, the local development banks (DBP and LBP) organized information campaigns to present the various financing and management options (including those funded by the World Bank) to LGUs.

In Paraguay, where local governments were not involved, the national agency (SENASA) hired consultants to assist target communities to establish WUAs and introduce them to the role that they would play in supervising the POs. In Cambodia, where there are no locally elected governments, consultations with provincial governors and district chiefs proved to be an important element of the decision-making process. In almost all cases, this awareness-raising and capacity-building process was more complicated than originally foreseen and therefore took more time to implement.

Special activities targeted the users and promoted demand-driven approaches. Participatory forums, willingness-to-pay studies, and willingness-to-connect (WTC) campaigns were typically employed to involve users and assess their needs. In Cambodia, the sector ministry and project team introduced demand-driven approaches to system design and planning. Clean water user groups (referred to as WUAs in this report) were created in the target communities and charged with promoting the project. A key role of the WUAs was to obtain WTC agreements from 51 percent of the target households as a basis for project approval. In Colombia, willingness-to-pay studies were carried out in 10 towns and medium-size cities with a high percentage of low-income population; in the Philippines, LGUs were required to undertake community consultations and participatory planning, during which technical and management options, financial implications, and cost recovery arrangements were presented to beneficiaries. In Uganda, target communities were surveyed early in the project to determine demand for services and willingness or ability to pay. Once a decision was taken at the central level to require these towns to engage local POs, an information-dissemination and consensus-building program was developed and implemented.

Just as the prospect of access to capital finance appealed to local authorities, it was also a motivator for the private sector to participate, particularly when the targeted small towns and communities were judged unattractive markets. However, because the terms under which this finance would be available were often unfamiliar to the local private sector, it was as essential to consult with potential bidders to understand their concerns as it was to inform them of the proposed arrangements.

The manner in which countries approached potential bidders varied. In Cambodia, expressions of interest were solicited through the Development Business Web site and other similar forums; following which, officials of the Procurement and Award Committee organized a series of information meetings with interested companies. In Colombia, three national workshops were organized during 1998–2001 to present contracting models and concepts and review experiences with public and private operators (both local and foreign). In Paraguay, meetings were held to consult with potential local private sector entities (including aguateros) on key aspects of the proposal and explain the selection process; once they were prequalified, firms were briefed on factors that would be taken into account in the final bidding documents and contracts.

These activities did not always prove adequate. In the first phase, misunderstandings regarding the contracts led to initial tensions in the relationship between local officials and operators. In most cases, these differences were resolved through mediation and negotiation between the parties. In Colombia, it was observed that when problems arose, local operators with prior experience providing municipal services seemed to appreciate the importance of good client relationships and were prepared to invest more time and effort in building partnerships with local authorities. The cases in which the PO lacked experience in municipal services proved more problematic. Until a strong corps of POs exists and local authorities gain experience in playing their new roles, there will continue to be a need for training and capacity-building activities (see section 3.5.2).

### **Box 3.1 Creation of a Private Operators' Association in Uganda**

In December 2003, eight private water operators responsible for water supply in 50 urban centers in Uganda established the Ugandan Association of Private Water Operators with the objectives of improving the standard of services provided by the operators and generating respect, recognition, and support from the public, the government, and the country's development partners. The Association was officially launched in August 2004 with support from the DWD; Deutsche Gesellschaft für Technische Zusammenarbeit (German Technical Cooperation Agency, or GTZ), and the National Water and Sewerage Corporation, a public enterprise that provides services in large urban areas. The Association aims to create opportunities for, and deliver capacity-building support to, emerging local POs; facilitate the exchange of experiences among operators; and pursue other common interests. In November 2004, it published its first newsletter, *The Operator*; by February 2005, it had organized three training workshops and submitted grant applications to two European funding agencies for further activities. On the public relations side, the Association intends to play an advocacy role to reassure the public that local POs are skilled and reliable professionals that can help local governments improve the quality and sustainability of water and sanitation services.

*Source:* Interviews with private operators and early issues of *The Operator*.

### **3.5.2 Follow-Up Training and Support**

Because it is impossible to foresee all issues that may arise during contract implementation, and because local authorities change over time, resources may be required to strengthen oversight capacity, resolve contractual issues, and build the capacity of the local POs, particularly in countries where local authorities are weak and private operations are relatively new. Customer education is also needed during implementation, because users may have to adapt to a new water use and payment culture. This longer-term support does not necessarily have to be provided by a central agency. Municipal and professional associations in several countries can assume responsibility for technical support to members, particularly if encouragement and funding are provided to help them get started, and more experienced POs can take over consumer education functions under the oversight of the local authorities. Box 3.1 describes how a professional association of water operators was created to promote the continuing professional development of operators in Uganda. Box 3.2 describes a very effective public outreach program organized by one of the more experienced companies in Colombia.

### **Box 3.2 Public Relations and Community Outreach in a Multitown Service Area in Colombia**

Uniaguas is a private company that serves a four-town service area in the Córdoba region of Colombia under a 20-year operation and investment contract. When Uniaguas took over in July 2004, the piped network was severely dilapidated, few of the pumps were in working condition, and the treatment plant had been closed down. Under the circumstances, it was impossible to increase piped water supply coverage quickly. Instead, during the first 15 months, the operator focused on implementing an emergency works program, mapping the system, completing a census of potential users, and building good community relations. It also provided free potable water in tanker trucks to all communities that were not getting potable water through the network.

Given the dismal state of service in the years before Uniaguas's contract, few customers had been paying their bills and the culture of paying for service did not exist. In addition, the perverse consumption habits that resulted from an insecure supply did not promote efficient operations. Uniaguas's community relations activities were designed to create a positive image for the company and to inform and educate users about its water services to change attitudes and habits. A multifaceted program that reached users through a variety of community outreach activities and media programs was initiated. Community picnics were organized to provide a forum for educational programs in a relaxed environment, and public playgrounds and soccer fields were built. The company logo was soon associated with responsible community involvement.

The company created customer service offices in each of the towns. Users were kept informed through televised programs in the waiting areas and through printed material explaining improvement plans, the implementation schedule, and service connection and payment rules. Customer opinions and concerns were identified through surveys, and commercial staff and public relations specialists made a point of spending time in the communities getting to know leaders, shopkeepers, and local people. A door-to-door census identified existing and potential customers. Once the network was mapped and existing customers registered, the company gradually introduced and enforced disconnection rules for nonpayment. Because the initial emphasis was on improving service and winning the confidence of users, by October 2005, 22,000 customer accounts were active (out of a potential customer base of 33,000), the collection ratio was 58 percent, and both figures were showing steady improvement.

*Sources:* Interviews with Uniaguas managers; also "Uniaguas Annual Report 2004."



## **3.6 Financial Arrangements and Risk Mitigation Instruments**

### **3.6.1 Accessing and Structuring Investment Finance**

A variety of arrangements were used to channel finance to the local PO. In Cambodia and Paraguay, funds provided by the IDA credit or World Bank loan are channeled directly to local POs, in accord with their contracts. However in Colombia, the proceeds of the World Bank loan are placed in an investment trust fund; the national government's contributions to initial investments are transferred to the local governments, which in turn deposit the funds into the investment trust fund. Disbursements from the investment trust are controlled by a committee that includes representatives of the national and local governments and the PO. Decentralization and mainstreaming of financing arrangements are most advanced in the Philippines. The proceeds of the World Bank loan are administered by two national development banks, DBP and LBP. The banks on-lend the proceeds of the loan to LGUs, which in turn contract local POs.

Most of the investment financing required for the rehabilitation or construction of the services included in this study is provided by government. With a few exceptions, up-front financing for investments is provided exclusively by the governments, using their own resources and the proceeds of World Bank loans and IDA credits, which governments on-lend or transfer on varying terms. The exceptions are in Cambodia and Paraguay, where local POs are required to obtain some financing from commercial banks or other private sources. In each case, the contract specifies the extent of private sector financial contributions, if any, and provides for government supervision of construction, regardless of the source of financing. (The sources and terms of investment finance are shown in table 3.14.)

Local POs in Colombia are required to establish separate limited liability companies to enter into contracts with the government; however, their participation in financing investment is limited, and the newly created companies are not required to show any financing (through equity or loans) for needed investments on their balance sheets. Financing for investments (generated through tariffs) also do not appear on the balance sheet of the private company; rather, these funds appear on the balance sheet of the investment trust mentioned above. In accord with the Infrastructure Investment Law (Law 715), the trust must have a separate account.

### **3.6.2 Financing Terms and Impact on Tariffs**

Except in the Philippines, all or most investment finance (for the initial capital investments) is provided to the services on highly concessional terms or as a grant. As a result, the debt service that must be reflected in tariffs is minimal. In cases in which some debt service must be paid out of tariff revenues, such as in Cambodia and the Philippines, the local POs must remit a prespecified amount to a national or local entity on a regular basis.

In Cambodia, the government channels the proceeds of an IDA/OBA grant to fund investments for the systems under DBO contracts on a grant basis and channels the proceeds of an IDA credit to fund investments for those under DBL contracts on very soft terms denominated in local currency. For DBO contracts, the government provides a grant to cover more than 50 percent of the investment costs to ensure that the poor are connected first. For DBL contracts, proceeds of the IDA credit fund 90 percent of the cost of investments at terms of 30 years and a rate of interest of zero. The local PO pays a lease fee to the Ministry of Finance to cover this debt. (Note that using a discount rate of 12 percent, the present value of such a loan is equal to about 2 percent of the total cost of the investments, and the grant element is about 88 percent of the total cost.) Financing acquired by the local POs from private financiers to cover the balance of investment costs (that is, 50 percent in the case of DBO and 10 percent in the case of DBL) bears a rate of interest of 12 percent and a repayment term of 15 years.

In the Philippines, which relies on World Bank loans, the on-lending terms are close to market rates. The terms of financing charged by the local intermediary banks that on-lend the proceeds of the World Bank loans are similar to those charged by private financiers in Cambodia (that is, interest rates of 12 percent and a repayment period of 15 years). Loans are denominated in local currency so that if there is a devaluation, the cost of financing will not be affected by exchange rate variations. One reason for the high interest rate is that the Ministry of Finance charges a 6 percent commission to cover itself against exchange rate risk because the financial obligations of the Ministry of Finance to the World Bank are in foreign exchange. High financial costs were blamed for the breach of one of the

**Table 3.14 Sources and Terms of Investment Finance Imposed on Services**

Countries		Cambodia		Colombia		Paraguay	Philippines		Uganda
Contracts		DBO	DBL	BOI	BO	BO	DBL	OML (with debt service) <sup>a</sup>	OMS
PO	Up-front	~ 50%	10%	None	None	~ 20%	0%	0%	None <sup>b</sup>
	During O&M	None	None	Tariff revenue	Tariff revenue	None	None	None	None
Proceeds of official development assistance (ODA)		IDA/OBA grant ~50%	IDA credit 90%	World Bank loan Percentage varies	World Bank loan Percentage varies	World Bank loan ~64%	DBP (World Bank) loan ~90%	LBP (World Bank) loan ~90%	IDA credit ~95%
Central or regional government		None	None	Counterpart funds	Counterpart funds	Budgetary transfer ~16%	None	None	Counterpart funds ~5%
Local government		None	None	Law 715 transfers (percentage varies)	Law 715 transfers (percentage varies)	None	10%	10%	None
Terms of private finance	Years	15 years	15 years	n.a.	n.a.	Unknown	n.a.	n.a.	n.a.
	ROI	12%	12%	n.a.	n.a.	Unknown	n.a.	n.a.	n.a.
Terms of ODA <sup>c</sup> proceeds	Years	Grant	30 years	Grant	Grant	Grant	15 years	15 years	Grant
	ROI		0%				12%	12%	
Terms of govt. contribution		n.a.	n.a.	Grant	Grant	Grant	Grant	Grant	Grant

Sources: World Bank documents; also, the case studies presented in Vol. II

Not applicable: n.a.

a. The case reflected here is the case in which debt service is included in the tariff. In one case in the Philippines, the LGU is repaying the loan to LBP and is thus subsidizing 100 percent of the investment cost.

b. An IDA credit financed construction of the systems under separate construction contracts; POs were not involved.

c. Note that the terms shown here are the on-lending terms borne by the PO and/or users (and reflected in the tariffs) and are not necessarily the terms imposed by the World Bank or IDA on the borrower government.

first contracts with a local PO in the Philippines. In that case, an overestimation of demand resulted in an oversized system that was not financially sustainable. The local PO (who was to take up O&M responsibility for a system that had been designed and installed under a separate contract) argued that the cost of operating and maintaining an oversized system would require higher tariffs (see box 3.3). This experience led to a change in the design of subsequent contracts so that responsibility for designing, building and operating would be incorporated into a single contract with a local PO.

The investment trust fund that is used in the case of the Colombia BOI contracts achieves full cost recovery in a situation in which there is no debt service associated with the initial investments. Local POs do not assume a financial obligation to pay debt service; however, they are obliged to contribute to an investment trust fund or an expansion and replacement fund out of tariff revenues. Because Colombian regulations require that average tariffs are gradually adjusted to achieve full cost recovery, eventually contributions to the investment trust fund should be comparable to paying the full financing costs of up-front investments. However, full cost recovery and operational efficiency targets have not yet been achieved in all locations.

### Box 3.3 Breach of Lease Contract in the Magdalena Local Government Unit, the Philippines

Under the World Bank LGU-APL 1 project, the Magdalena Municipal Government received a 15-year US\$458,207 loan from DBP to finance a public-private partnership through three contracts: (a) design, (b) construction, and (c) lease for O&M of the system. Construction started in October 1999 and was completed in June 2001. During construction, the old water system was supplying water to Magdalena residents at US\$0.15 per cubic meter, with strict rationing. Having the new system ready, the mayor issued an order for customers to switch from the old to the new system, which was designed to supply water 24 hours a day, seven days a week. As the new water supply system entered into operation, the tariff was increased to US\$0.39 per cubic meter to cover costs, before turning the system over to the lease contractor.

Three companies presented expressions of interest in the lease contract, all three qualified, and two presented bids. The lease contract was won by Bayan Water Services, Inc., a subsidiary of Benpres, the private operator in the Manila West Concession. Bayan Water presented a 99.98 percent bid rate, having a referential rate of US\$0.39 per cubic meter. Financial projections were made, assuming sustained population growth, 15 cubic meters consumption of water per month per connection, and strict metered billing (no minimum consumption).

The winning bidder took up its lease contract at the same time that its parent company was experiencing enormous financing difficulties in its Manila West Concession. Immediately after assuming control (August 2001), Bayan Water tried to increase revenues to cover its cost, but was unable to do so as a result of a number of factors: (a) the rate of connection was lower than expected; (b) consumption per connection was lower than the expected 15 cubic meters per month, and in reality, it came to be 8 cubic meters per month, which rendered the water system infrastructure into a "white elephant"; and (c) grass roots leaders organized protests against increased tariffs and increased bills, and two members of the State Council accused the mayor of signing the contract with Bayan Water against the interest of the population. Because Bayan Water was operating at a loss, seven months later (February 2002), it decided to terminate the lease contract by sending a letter to the mayor indicating that the water supply system was not fully completed. The Magdalena LGU accepted a "friendly" breach of contract by the PO and allowed the PO to get its performance bond back.

The Magdalena LGU began operating the water system starting in July 2002. In September 2003, it invited new bids to recruit a new PO and received three expressions of interest, all of which qualified. However, none of these actually presented a bid; under these circumstances, the Magdalena LGU committed itself to meeting financial targets of full cost recovery and paying back the loan to the DBP. As of July 2005, after three years of operation, its Water Department reports the following situation:

- Number of connections increased from a reference point of 1,700 in 2000 to 2,190 in July of 2005 (to 98 percent coverage).
- Average consumption per household is 10 cubic meters per month, with a minimum of 5 cubic meters per month per household.
- Revenues from tariff collections are approaching US\$7,564 per month, just below debt service of US\$7,734 per month.
- O&M expenses are being paid from the municipal treasury.

Overall, it is not obvious that prospects for achieving financial self-sufficiency at the Municipal Water Department are favorable, because it can not cover O&M plus debt service. The mayor, the planning officer, and the treasurer have indicated that they would like the utility to be converted to a public enterprise, but this might not solve the issue of insufficient revenue base, because consumption per connection is not increasing. Lessons from this experience were built into subsequent phases of the Philippines local PSP activity. A key lesson learned was that combining the design, build, and operation phases in one contract reduces transaction costs and improves the success rate of such projects.

*Sources:* Interview with municipal authorities and DBP officials; also, various World Bank reports.

Data presented in table 3.15 show that there appears to be little cross-country correlation between cost recovery of investment costs at market terms and average tariffs. For example, tariffs in Cambodia DBO service areas and in Uganda are the same (US\$0.50 per cubic meter), despite the fact that in the former, 50 percent of investment costs are recovered at market rates, and in the latter, there is no cost recovery for investments. In fact, even within Cambodia, tariffs in the service areas with DBO contracts are about the same as those in service areas with DBL contracts, despite the difference in cost recovery at market rates. This indicates that other factors are responsible for the differences or similarities in tariffs both across countries and within countries.

**Table 3.15 Average Tariffs and Cost Recovery at Market Rates of Financing for Investments**

	Cambodia		Paraguay	Philippines	Uganda
	DBO contract	DBL contract	BO contract	Lease contract (Magdalena) <sup>a</sup>	OMS contract
Average tariff (US\$/m <sup>3</sup> )	0.50	0.47	0.20	0.39	0.50
Percentage of investment costs recovered at close to market rates	50	~12b	~20	90	0
Minimum monthly consumption	0	0	12 m <sup>3</sup>	5 m <sup>3</sup>	0

Sources: World Bank documents; also the case studies presented in Vol. II.

m<sup>3</sup> = cubic meters.

a. The Magdalena contract was not one of the cases included in this study, but is presented as representative of the Philippines cases to which it is similar.

b. Ten percent of the total cost was financed at market rates. To this is added the present value of the remaining 90 percent that was lent on soft terms, which is equal to about 2 percent of the total cost.

It is worth noting that the apparently lower average tariff in Paraguay is misleading. The minimum monthly consumption of 12 cubic meters results in a higher effective tariff because many households consume less than the minimum. If average consumption were as low as 5 cubic meters per month, the effective tariff would be US\$0.48, similar to that in Cambodia and Uganda.

### 3.6.3 Allocation of Risks

Table 3.16 presents a summary of the distribution of risks taken by the private sector in contracts with local POs. The key risks are listed in the first column, while risks taken by the private sector are presented in subsequent columns by country and by type of contract. Risks not taken by the private sector are assumed to be taken by the government or customers. (The analysis of the detailed distribution of risks can be found in Volume II, "Case Studies.")

**Table 3.16 Allocation of Risks to the Private Sector (Risk Borne by Private Sector)**

(Legend: ● Total    ◐ Partial    ○ Limited    N None)

	Cambodia		Colombia		Paraguay	Philippines		Uganda
	DBO	DBL	BOI	BO	BO	DBL	OML	OMS
Demand	◐	◐	●	●	●	◐	N	N
System design and planning	●	●	●	●	◐	●	N	N
Financing	◐	○	○	○	◐	N	N	N
Construction	●	●	●	●	●	●	N	N
Regulatory	●	●	●	●	●	●	●	◐
Commercial	●	●	●	●	●	●	●	◐
Resolution of disputes	◐	◐	◐	◐	◐	◐	◐	◐

Source: Case studies presented in Vol. II.

Local POs assumed most of the risks in the Cambodia DBO and DBL contracts. In the case of DBO contracts, demand, financing, and resolution of dispute risks were shared almost equally by both the government and the local PO, and the rest of the risks were taken by the local PO. In the case of DBL contracts, demand and dispute resolution risks were shared almost equally by the local PO and the government, while financing risks were taken by the government; all other risks were taken by the private sector. The fact that more risks are taken in DBO contracts compared with DBL contracts can be explained by the higher financial rewards expected by the local POs in DBO contracts, because the internal rate of return is more than 20 percent after all financial costs are paid.

With respect to both the BOI and BO contracts in Colombia, risks related to the resolution of disputes are shared between the government and the local PO. All other risks are borne primarily by the local PO. As would be expected, the lowest risk is borne by private sector operators in Uganda. Table 3.17 presents a summary of the main risk mitigation instruments used in contracts with local POs. For each risk listed in the first column, risk mitigation instruments used to attract private sector interest are presented in subsequent columns by country and type of contract.

### **3.7 Monitoring and Regulatory Arrangements**

Arrangements for monitoring and regulating the operators reflect the existing legal and regulatory framework for water supply and sanitation services in each country (see table 3.18). As used in this discussion, the term “regulatory framework” refers to the institutional powers and legal instruments that provide a basis for setting tariffs, specifying and enforcing service quality standards, and determining market structure. Two of the countries, Colombia and Paraguay, have independent national regulators that establish tariff rules and minimum service standards for all urban service providers. In Cambodia, the regulatory framework for water supply and sanitation services is not clearly defined; in the Philippines, the authority of the national government to regulate local services is contested; in these two countries, the contracts serve as a key regulatory instrument. In Uganda, which also does not have a well-defined national regulatory framework, the contracts specify service quality targets and standards and the PO’s fees, but do not deal with the setting and adjustment of tariffs because these are outside the scope of the contracts.

In all cases, except the OML contracts in the Philippines, a national entity is involved in oversight, but usually only to approve (or to participate in the approval of) tariff revisions. As in other developing countries without well-developed regulatory frameworks, national entities may have some responsibilities for ensuring service quality, including drinking water quality, but they do not always exercise this authority consistently, and even where national regulators exist, they are usually not expected to provide routine supervision of services, especially in small towns. As a result, except in Cambodia, it is expected that day-to-day monitoring and enforcement of service quality and performance targets will be performed by the local entities in their capacity as the contracting parties. In many cases, routine oversight practices and capability need to be strengthened, especially in the smaller towns. In addition, the interface between, and the complementarity of, local and national agencies would benefit from further clarification in almost all of the countries.

#### **3.7.1 Tariffs: Rules and Responsibilities**

Overall, the cases highlight a positive trend toward adopting regulatory rules that promote cost recovery and allow regular adjustments to reflect inflation. Table 3.8 provides information on the costs recovered by tariffs and how tariffs are revised and adjusted. In Colombia and Paraguay, rules for setting tariffs to achieve full cost recovery and regular tariff adjustments to reflect inflation have been established by the national regulators. Nevertheless, the initial tariffs in the Paraguay cases were not set on the basis of a regulated methodology, but on the basis of prevailing tariffs in nearby communities and with the approval of the target community, although subsequent tariff adjustments are subject to national regulations.

**Table 3.17 Risk Mitigation Instruments**

Risk	Cambodia		Colombia		Paraguay	Philippines		Uganda
	DBO	DBL	BOI	BO	BO	DBL	OML	OMS
<i>Demand</i>	Full financing of connection costs for poor households.	WTC agreement signed by customers.	Operator controls investment planning.	Operator controls investment planning.	Minimum charge set at 12 m <sup>3</sup> per month.	WTC agreement signed by customers.	n.a.	Management fee not affected by demand.
<i>System design and planning</i>	- Final design concluded after contract is awarded. - Contractor phases in investment as demand grows.	- Final design after contract is awarded. - Contractor phases in investment as demand grows.	Operator controls design.	Operator controls design.	-Systems designed by experienced professionals. -POs propose design changes.	- Final design concluded after contract is awarded. - Contractor phases in investment as demand grows.	n.a.	n.a.
<i>Financing</i>	- Recovery period is 15 years. - 12% rate of interest, plus profits at 15% IRR at year 10 and 25% IRR at year 15.	- Increasing block lease fee. -IDA financing to be recovered over a period of 30 years.	Most initial investments financed by IBRD or government grants.	Most initial investments financed by IBRD or government grants.	-Half or more of capital cost covered by subsidy. - Part of the balance by connection charge.	None	n.a.	n.a.
<i>Construction</i>	- Right-of-way access provided by MIME in bid document. - Well-defined dispute resolution mechanisms.	- Right-of-way access provided by MIME in bid document. - Well-defined dispute resolution mechanisms.	Operator controls all aspects of construction.	Operator controls all aspects of construction.	PO controls all aspects of construction.	- Right-of-way access provided by LGU in bid document. - Well-defined dispute resolution mechanisms.	n.a.	n.a.
<i>Regulatory</i>	- Well-defined tariff adjustment formula, including extraordinary adjustments.	-Well-defined tariff adjustment formula, including extraordinary adjustments.	- Operator may request interim tariff reviews. - Operator can propose tariff formula.	- Operator may request interim tariff reviews. - Operator can propose tariff formula.	PO recoups investment cost through subsidy and up-front connection fee.	Well-defined tariff adjustment formula, including extraordinary adjustments.	Well-defined tariff adjustment formula, including extraordinary adjustments.	None
<i>Commercial</i>	- Metered volumetric charges. - Disconnection and reconnection policies. - Penalties on past dues.	- Metered volumetric charges. - Disconnection and reconnection policies. - Penalties on past dues.	Operator controls billing and collection, and deposits all revenues into its account.	Operator controls billing and collection, and deposits all revenues into its account.	-PO controls billing and collection. - Users who do not pay may be disconnected.	- Metered volumetric charges. - Disconnection and reconnection policies. - Penalties on past dues.	n.a.	- Variable production fees are linked to revenue collection, not volume produced.
<i>Resolution of disputes</i>	- Dispute Review Board, with members named by PO and MIME. - Well-defined arbitration procedures.	- Dispute Review Board, with members named by PO and MIME. - Well-defined arbitration procedures.	None	None	- Collaborative relationship among all parties should help to prevent major disputes.	- Dispute Review Board, with members named by PO and LGU. - Well-defined arbitration procedures.	n.a.	- Arbitrator appointed by agreement of PO and WA or, failing that, by Director of DWA.

Source: Case studies presented in Vol. II.

**Table 3.18 Institutional Arrangements for Monitoring and Regulation**

	<i>Autonomous regulator(s)</i>	<i>Minister or ministerial department</i>	<i>Local government, water board, or users' association</i>	<i>National development bank</i>
<b>Cambodia</b>		✓		
<b>Colombia</b>	✓		✓	
<b>Paraguay</b>	✓		✓	
<b>Philippines DBL</b>		✓ <sup>a</sup>	✓ <sup>a</sup>	✓ <sup>a</sup>
<b>Philippines O&amp;M</b>			✓	
<b>Uganda</b>		✓	✓	

Source: Case studies presented in Vol. II.

a. A tripartite regulatory board includes representatives of LBP, the ministry, and the mayor.

In Cambodia and the Philippines, tariffs (or referential tariffs, for the purpose of bidding) have been set on the basis of willingness to pay and financial modeling of revenue requirements, and the rules for adjustments are specified in the contracts. In both countries, ad hoc entities have been created to provide oversight and approve tariff revisions. In Cambodia, it is foreseen that a specialized contract administration unit (CAU) will be created within the sector ministry to oversee implementation of the contracts and approve tariff adjustments. For DBL contracts in the Philippines, a tripartite board that includes representatives of the sector ministry, the LBP, and the LGU is expected to provide oversight and approve tariff adjustments. The OML contracts in the Philippines are the only cases in which no national entity is involved in approving tariff adjustments, although there is a proposal to transfer this responsibility (currently exercised by the LGU) to the National Water Resources Board. In Uganda, national rules for setting and adjusting tariffs are being developed. In the meantime, initial tariffs are set by the minister, and adjustments may be proposed by the WAs for the approval of the minister.

To date, the national regulatory agencies (in Colombia and Paraguay) have not had an opportunity to approve a tariff increase. Likewise, in the other countries, there have been very few tariff adjustments on the basis of contractually specified rules, so it is not possible to comment on the effectiveness of tariff adjustment rules at this point. It is possible to say that, in general, the initial tariffs appear to have been set at appropriate levels in the cases that were examined.

### **3.7.2 Monitoring Service Quality and the Operator's Performance**

In general, in cases where national standards exist, the contracts specify targets that will gradually bring the services into compliance with national standards. Where national standards do not exist, the targets specified in contracts are based on generally accepted norms and reflect local conditions. (Section 3.3.2 discusses service quality and performance targets in some detail, and table 3.7 lists the indicators that were typically included in the contracts.) In general, it was observed that service quality and performance targets were clearly specified. The remainder of this section deals with oversight responsibility and mechanisms.

With the exception of Cambodia (where contracts are signed with the national government), local authorities are responsible for day-to-day oversight of the PO's performance and compliance with the contract. This is true regardless of whether there is a national regulator, because national regulators cannot provide routine oversight for services in large numbers of small towns and, in theory, local oversight of service quality and the PO's performance can be more efficient. However, interviews with local authorities and WUAs during the course of this study revealed that local officials in very small towns typically have limited capacity to monitor the performance of the PO and, in some cases, have not established effective procedures for doing so. Technical assistance for monitoring contracts and resolving problems during contract implementation is clearly needed. In all cases, the national ministry (or development bank) has provided substantial supervisory support during the construction phase and has occasionally intervened to help resolve problems that have arisen during the operations phase, but has not followed up with adequate training and support for day-to-day monitoring during the operations phase. Uganda is the exception: perhaps because of the short contract term (two to

three years) and the WAs' reliance on central government for future investment support, DWD continues to work with the WAs to promote better business planning and develop oversight capacity.

All operators are required to submit regular reports on their performance to the contracting party or CAU, but the information to be reported and the frequency of reports vary from country to country and do not appear to be related to the type of contract (see table 3.19). Although the reporting requirements for some of the POs (particularly those in Cambodia, Colombia, and Uganda) are well defined, others do not appear to be very well formulated. Although periodic independent audits of performance have been suggested as a practical method for verifying performance in countries that do not have established regulators, Cambodia is the only country without a regulator where comprehensive performance audits are required under the contracts. All of the operators are subject to financial penalties if they fail to meet performance targets; however, penalties are effective only if reporting and monitoring are rigorous, and it is not clear that this will happen.

In conclusion, although service quality and performance targets were generally well chosen and clearly specified, in some cases the absence of adequate monitoring and enforcement renders them somewhat irrelevant. In retrospect, it might have been more effective to specify fewer targets that could be monitored more effectively or to foresee a gradual phasing in of performance targets over time to allow for the development of the oversight capacity.

**Table 3.19 Mechanisms to Monitor and Regulate Performance by Type of Contract**

	<i>DBL</i>		<i>DBO</i>	<i>BOI</i>	<i>BO</i>		<i>OML or OMS</i>	
	Cambodia	Philippines	Cambodia	Colombia	Colombia	Paraguay	Philippines	Uganda
Reports on all performance indicators	✓		✓	✓	✓	*		✓
Independent audit of performance indicators	✓	**	✓				**	
Penalties	✓	✓	✓	✓	✓	✓	✓	✓

Source: Case studies presented in Vol. II.

\* Reports do not cover all performance indicators.

\*\* Audits of financial performance and asset conditions only.



## 4 LESSONS LEARNED

This study was conducted during an early stage in the life cycle of these projects to capture initial lessons of experience and to inform those currently contemplating or engaged in a rapidly growing portfolio of projects with town WSS or local PSP components. In all of the cases selected for the study, several contracts had already been signed and were under implementation. In the earliest case examined (Uganda), the first three-year contracts were signed in 2000, so most have been completed and (in some cases) were renewed for a second three-year term. In the other cases, the contracts are for longer terms, and many have only recently been signed. Lessons learned through this study are therefore geared toward understanding the issues and challenges faced in designing local PSP and learning how these were addressed. Although some of the lessons simply reaffirm the principles or practices that generally apply to sector reform and to PSP in water services, this study highlights a number of important lessons that are specific to the context of small towns and the local private sector.

Another point is also relevant to understanding the findings presented here: most projects supported 6 to 12 contracts, but the projects were implemented in two or more phases, starting with an initial group of 2–4 contracts; in several cases, the working assumptions made in the first phase were adjusted in subsequent phases in light of the lessons learned during the initial phase. For all projects, the approach taken was one of adaptive learning; in a few cases, this was reflected in a clearly defined pilot phase designed to test one or more approaches. An overarching lesson from this study is that innovation and adaptation are essential to the successful introduction of local PSP. Designing interventions that include a process of innovation, adaptation, and refinement is the first step in ensuring that contracts are tailored to local characteristics and conditions.

### 4.1 The Political Economy and the Development of the Upstream Policy Framework

#### 4.1.1 Legal Framework

A well-developed legal framework for PSP in the WSS sector and a favorable investment climate are often considered key to creating market confidence among international investors. An important lesson from this study is that these considerations may not be as important for the local private sector. There are a number of reasons for this: First, most local private sector operators are familiar with the prevailing legal context and are more accepting of the difficulties and risks that come with doing business. Second, most of the contracts studied do not require substantial investment, and because the private financing arrangements were in local currency, foreign exchange risk is a less important issue. Third, a number of potential local POs may already be working in an even more constrained environment (for example, as informal private service providers, such as in Cambodia, Paraguay, and Uganda). Under these circumstances, the rigor with which the contracting process is conducted and the terms of the contract may provide sufficient confidence.

It is instructive that Cambodia, which has the least-developed legal framework, has been successful in engaging the local private sector in contracts for which a significant contribution to capital investment is required. Although the success of these cases remains to be proven (the contracts are at a very early stage of implementation), lessons from Cambodia confirm that a weak legal framework may not be perceived as a critical risk by most local POs—the local political economy, rather than the national legal framework, may determine success. Where policy and legal reforms are not in place before the introduction of local PSP, they often emerge as a result of it and can therefore benefit from, and take into account, experience and lessons learned.

#### 4.1.2 Tailoring Reforms to the Local Context

Given the vulnerable position (remote and poor) of some of the more marginal communities and towns, plus the limited experience of local private sector operators, it is important to gain a good understanding of the local context up front, tailor reforms accordingly, and prepare the contracting

parties adequately. Failure to adequately assess local conditions appears to have led to difficulties in more than one case. For example, demand estimates failed to take into account users' reluctance to change existing consumption patterns and the seasonal availability of alternative sources. Local authorities' lack of familiarity with contractual discipline and POs' failure to appreciate the importance of good public relations proved to be a problem in a few cases. Foreseeing such difficulties and averting them to the extent possible is desirable, but experience shows that it is impossible to identify all potential problems, so it is equally important to provide support to the parties after contracts have been signed for resolving problems that may not have been foreseen, in spite of good intentions and efforts.

Although it would appear at first glance that the situation in towns supported by the projects was very similar: poor financial performance; difficulty in mobilizing investment finance; low service coverage for a large portion of the population, especially the poor; and lack of accountability, the underlying constraints in each country were diverse, as was the political economy. Identifying solutions to overcome these country-specific constraints was an important first step. For example, in Paraguay a key constraint was the failure of local user associations to set tariffs at a level that would enable them to repay investment loans to the government. Rather than focusing solely on making local authorities more accountable, the program was designed to reduce reliance on public sector loans by transferring the financial risk to a PO and transforming the role of the local user association from service provider to contracting party.

All five countries have adopted official policies to improve access to water supply and sanitation services for the poor—without undermining the financial viability of the services. Colombia is the only country that has an institutionalized system for channeling direct subsidies to the poor. All other countries use investment subsidies to reach lower-income populations. In Cambodia and Paraguay, these investment subsidies were paid only after the POs made the required number of connections (targeted to poor households). In a number of contracts that are in their operational phase, this strategy of subsidizing investments and requiring users to pay tariffs that cover O&M seems to be working. Longer-term outcomes and sustainability remain to be demonstrated. Further analysis of the effectiveness of subsidies and their impact on the financial viability of local PSP will be useful once more experience is gained.

### **4.1.3 Decentralization Policies**

Even though the level of decentralization varied from one country to the next, all contracts were designed to respond to actual or planned decentralization objectives. It is expected that the participation of the local private sector will support and enhance the autonomy of local authorities by providing viable locally managed solutions. In several cases, the decision to work with the local private sector (rather than the foreign private sector) was driven by the increased autonomy of local authorities or towns that had resulted from decentralization: in a decentralized context, where markets are smaller and an ability to work with local decision makers is crucial, the local private sector is a more likely suitor than international counterparts.

The small size of markets remains a challenge. Although decentralization has its merits, in the WSS sector it may also cause fragmentation: the creation of very small water and sanitation service areas that do not have economies of scale (whether productive or administrative). Even when small local authorities lack adequate resources and the capacity to develop and manage independent systems on a sustainable basis, it is not easy to convince them to aggregate their demand (for example, through the creation of formal multitown or multicomunity associations) because this requires that they cede some of their authority. In Colombia and Paraguay, the governments used the carrot of investment finance to successfully encourage towns and communities to join with their neighbors to form larger service areas. (This issue is discussed further in section 4.2.4.)

## **4.2 Design of the Contractual Arrangements and the Selection Process**

### **4.2.1 Experience with the Adoption of Internationally Proven Models**

Although most of the eight contract models blended and adapted features of mainstream PSP contracts, none of the models fits the classic definition of a management, lease, or concession contract provided in the literature. To further understand the local PSP experience, the eight models

are therefore characterized as DBL, DBO, BO, long-term O&M contracts (OML), and short-term O&M “management” contracts (OMS). These terms reflect prominent features of each model and are not meant to suggest comparability with design-build-operate (DBO) or other models described in the literature (although features of these models are built into a number of the contracts).

When examined more closely, it is clear that in practice all of the cases combine features of two or more of the traditional models—the main objectives being to address the need for new construction (design and build) alongside the need for long-term sustainability (operate and maintain). Because of this approach, in some cases the models were not sufficiently adapted to small-scale PSP and local conditions, and this may have deterred the local private sector from participating in some bids. Lessons from these case studies point to the need to: (a) simplify contract terms to ensure that contracting parties understand and can implement or monitor the contracts; (b) train and build the capacity of local private sector entities to ensure that potential bidders are fully aware of the implied risks; and (c) establish the correct balance between providing public subsidies and attracting private finance.

#### **4.2.2 Definition and Improvement of Service Quality**

All of the contracts included binding standards or targets for improvements in service quality as perceived by the users (that is, the extent of service coverage, the reliability of service, and the operator’s responsiveness to customers). It is instructive that despite the variety of circumstances and range of locations covered by the cases, the nature of standards and targets is quite similar. This reflects recognition of the need to create transparency and accountability in places where services were previously either extremely limited or performing very badly. It also demonstrates that lessons learned from global experiences with PSP are being heeded and having an effect in a wide variety of country contexts.

#### **4.2.3 The Effect of Qualification Criteria on Competition**

Finding an appropriate balance between the need to ensure that bidders are sufficiently qualified for, and committed to, providing good services and the need to attract enough bidders to ensure a competitive process is a difficult act. Because the local private sector is often in its nascent stages, prequalification criteria and procedures that are too rigid or demanding can exclude or discourage potential bidders. The innovative nature and perceived risk of the proposed contracts; the scarcity of local firms with experience in developing and/or operating local services; and their lack of familiarity with the contracting approach are among the typical barriers to strong competition. High bid bonds (such as in the La Union Province contract in the Philippines) may also discourage potential bidders.

Fostering the interest and growth of the local private sector may require a strategic approach. In Uganda, lenient prequalification criteria (for example, not requiring prior experience in providing urban services and minimal financial requirements) enabled more firms to take part. The risks posed by this approach were mitigated by ongoing supervision throughout the contracts by the central government’s water supply department (DWD) and the creation of a professional operators’ association. The initially lenient criteria will be replaced by more stringent criteria once the POs have gained some experience. In Colombia, a multifaceted training program (see below) was aimed at potential bidders.

In other cases, encouraging the participation of qualified individuals or the formation of joint ventures to bring together different types of expertise proved valuable (for example, in Paraguay, construction firms were required to include in their bids an experienced small private operator—a previously informal *aguatero*—to meet the operational experience criteria). Allowing adequate time was also important: in Cambodia, potential bidders were encouraged, and given ample time, to form partnerships with firms from nearby countries to meet the financial criteria for prequalification.

#### **4.2.4 Using the Contracting Process to Create Economies of Scale**

As noted in section 4.1, lack of economies of scale is often a problem for decentralized communities and small towns. In the five countries studied, two different approaches have emerged to address this problem: one takes advantage of economies of scale in both production and administration when

several towns or communities share common production facilities; the other introduces administrative economies of scale when there are no common production facilities.

The former approach has been used in several cases in Colombia and for the second-phase contracts in Paraguay. Each town or community is represented in a multitown authority or users' association, which in turn contracts a single PO. It is often difficult to entice local authorities to form multicommunity or multitown associations in which they lose some of their autonomy. Strong financial incentives, provided by the project, and the need to create common facilities helped to overcome the barriers in these cases.

In Cambodia and Uganda, and during the first phase in Paraguay, the alternative approach was used. Procurement was carried out simultaneously (in lots) for contracts in several nearby towns or communities. Separate contracts were to be awarded for each town or community, and firms were allowed to submit bids for more than one contract. Even though there were no common production facilities, operators who won several contracts in neighboring areas in this manner indicated that the resulting administrative economies of scale were substantial and that without them the contracts would have been less attractive. A major risk of this approach is that operators have no guarantee that all towns in their administrative cluster will renew their contracts. However, on the positive side, this uncertainty may provide an added incentive to the operators to develop good relationships with the communities and provide high-quality services.

### **4.3 Training, Consultation, and Promotional Activities**

When introducing reforms that fundamentally change the nature of service delivery, it is important to ensure that appropriate training, consultation, and advocacy support is provided at all levels and to all stakeholders. In most of the cases studied, transitional difficulties often arose when stakeholders did not understand, or were not committed to, proposed changes (for example, increased tariffs and loss of local government control over revenues) that arose from the reforms. A key stakeholder in this process is the local private sector, and stimulating private sector interest, particularly when there are few or no qualified POs in the country, requires a concerted effort to inform, train, consult, and build capacity for a range of actions, including the establishment of joint ventures. The cases included in this study demonstrate the importance of consultation, education, and promotional campaigns for consumers, local officials, and potential local private bidders.

#### **4.3.1 The Importance of Community Involvement in Design and Selection**

In all cases, governments organized an array of consultative, educational, and promotional activities in the beneficiary communities, such as training courses and workshops, to explain the contracts and the procurement process. A range of different media, including videos, simple visual aids, and brochures, were used to reach this audience, but the challenge of educating and enabling beneficiaries is significant, and these activities did not always prove to be adequate. In Colombia, despite a well-organized promotional campaign, misunderstandings between local officials and operators complicated relationships in the early stages of contracts in a few towns. In Paraguay, WUAs for the first-phase contracts were somewhat passive, resulting in part from a lack of funds. This early experience led to the redesign of the preparation process to get the WUAs more involved in preparation and a provision in second-phase contracts that 5 percent of tariff revenues would be allocated to fund the WUAs. As a result, in the second phase, the WUAs took on a more active role in both the preparation and oversight of contracts.

#### **4.3.2 Capacity Development at the Local Level during Implementation**

Local communities or authorities, as contracting parties, are responsible for day-to-day oversight of operators, particularly after construction is completed and operations begin, but in almost all cases, their capacity to provide effective oversight is severely limited. To strengthen their capacity to carry out this function, centralized training and support for local authorities may need to continue after the contracts are signed and during operations— particularly in the first year when difficulties (for example, inadequate revenue collection) are likely to arise. In Uganda, the central government has continued to support local authorities throughout contract implementation (for example, by providing support for preparing business plans). To promote user involvement and community attitudes that

support efficient and financially viable service, ongoing outreach activities for the communities also need to be developed.

### **4.3.3 The Role of Professional Associations**

In most of the countries studied, there were few, if any, experienced local POs before the projects were launched. As a result, all of the projects recognized the need to support the emergence of qualified local operators. In Colombia and Uganda, among other promotional activities, the participation of professional associations of water and sanitation operators was encouraged. These organizations provide opportunities for networking, conduct training courses for operators, and promote growth and professionalism. Where such organizations do not already exist, their creation can be encouraged and supported. In Uganda, the creation of the Association of Private Water Operators was initially sponsored by the DWD, GTZ, and the National Water and Sewerage Corporation.

## **4.4 Financial Arrangements and Risk Mitigation Instruments**

### **4.4.1 The Role of Investment Finance Subsidies**

Many of the cases studied involve towns that are small, poor, located in remote areas, and lacking economies of scale, where the likelihood of financial sustainability was uncertain. For these reasons, except in the Philippines, a substantial part (50–100 percent) of the investment finance for initial capital investments was provided to the services as a grant or on highly concessional terms. In the Philippines, 90 percent of the cost of the investments was financed by local development banks at market rates. Only in Paraguay and Cambodia did the POs mobilize part (10–50 percent) of the initial investment finance (see table 3.14). A key lesson from these eight case studies is that subsidies and soft financing are important ingredients for making contracts with local POs possible.

### **4.4.2 Room for Implementing Cost Recovery Policies**

In all cases, cost recovery has been a key objective of the projects, and, at a minimum, the cost of O&M is being recovered through tariffs. In most cases, because of the soft terms of investment finance, the debt service that must be reflected in tariffs is nil or modest. The most stringent cases are those in the Philippines, where 90 percent of the cost of the investments was financed at market rates. The least stringent cases are in Uganda, where investments were fully subsidized and where little or none of the replacement and expansion costs is recovered through tariffs. Where debt service must be paid out of tariff revenues, such as in Cambodia and most cases in the Philippines, the local PO remits the corresponding amount to a national or local entity on a regular basis. Another approach has been used in Colombia: although the initial investment was fully subsidized by the central, departmental, and local governments, the official cost recovery policy is that average tariffs should gradually reach a level where they will recover the full cost of replacements. In each area served by a PO, an investment trust fund has been established to finance future replacements and expansions, the PO must deposit a prespecified amount from tariff revenues into the investment trust, and both the local governments and the central government make contributions. In Paraguay, the PO recovers the portion that it financed (that is, the difference between the full cost of the initial investment and the investment subsidy provided by the government) from tariff revenues and connection charges.

### **4.4.3 Matching Risks with Rewards**

A key lesson from the case studies is that local POs are prepared to take calculated risks, provided that the right incentives are in place. As noted earlier, in several of the cases, the local private sector was willing to take up contracts even when the extent of legal and regulatory risk was unclear. Several risk mitigation instruments appear to have been effective. For example, in the case of DBO contracts in Cambodia, where the local POs take the most risks, financial returns for the operator are higher than those from DBL contracts. As a result, local POs in DBO contracts were willing to assume the higher financial risks associated with mobilizing 50 percent of the investment finance.

## **4.5 Regulatory Framework, Capacity, and Mechanisms**

### **4.5.1 Regulatory Framework**

Of the five countries studied, only Colombia and Paraguay have independent national regulators for water supply and sanitation services, but the existence or nonexistence of an independent regulator does not seem to have either promoted or impeded the introduction of local PSP. The existence of a national regulator and of national rules for setting and adjusting tariffs is generally considered helpful because it promotes predictability and consistency, primarily with regard to tariffs. However, the cases in Cambodia, the Philippines, and Uganda have demonstrated that the existence of a national regulator is not a prerequisite for local PSP, in part because local POs seem to be less concerned than foreign companies about the existence of a well-established legal and regulatory framework and tend to rely on their familiarity with the local context. In addition, these cases have demonstrated, at least tentatively, that a satisfactory framework for tariffs can be created within the contractual framework if the government has adopted appropriate cost recovery policies; initial tariffs—set on the basis of willingness-to-pay, solid financial analysis, and/or competitive bidding—are specified in the contract; and rules for reviewing and adjusting tariffs are also specified in the contract.

Nor does the existence of a national regulator guarantee the effectiveness of regulation of service quality and the performance of POs, particularly in small towns. National regulators typically focus on large cities and are unable to cope with the growing demand for their services in numerous small towns scattered over wide distances. At best, they should get involved periodically (for example, in the review of tariffs, in audits of service quality, or in handling disputes that cannot be resolved by mutual agreement).

Although, in countries without well-developed regulatory frameworks, national standards may exist and a variety of national entities may have some responsibilities for monitoring and enforcing service quality standards (including drinking water quality), they rarely seem to exercise this authority proactively, especially in the poorer countries. In fact, targets for service quality and performance are specified in all of the contracts (with references to national standards, where relevant), and it is expected (except in Cambodia) that day-to-day monitoring and enforcement of service quality and performance targets will be performed by the local entities in their capacity as the contracting parties. This appears to be a realistic approach.

### **4.5.2 Building the Capacity of Local Actors**

Day-to-day oversight by the local contracting party may not only be a practical necessity but in theory may also introduce more accountability than oversight by central entities: local authorities and others close to the service providers, customers, and their representatives (WUAs) are best placed to carry out routine monitoring and resolve minor problems. However, effective oversight requires that POs report regularly on their performance; that facilities exist for customers to report unresolved complaints to the oversight entity; and that the oversight entity has the capacity to evaluate performance data, process customer complaints, and respond appropriately. Because this capacity is often weak at the local level, oversight arrangements need to be designed realistically. For example, specifying more performance targets than local authorities can effectively monitor may undermine their authority and lead to disregard for the contract. This means that in some cases only the most essential performance indicators should be monitored routinely (for example, drinking water quality, number of active connections, and the average hours of service per day). Others, such as maintenance records, could be monitored less frequently—perhaps annually—and with specialized technical assistance or auditors provided by a national entity. In addition, local actors need training in procedures and methods and support for resolving problems, both before the contract is signed and during implementation, including the operations phase. Finally, a reliable source of funding for the supervisory and monitoring roles of the local contracting party (for example, from tariff revenues) is essential.

### **4.5.3 Reporting and Auditing**

Although the specification of service quality targets appeared to be appropriate in most of the contracts, the monitoring and regulatory processes and procedures are still fairly weak. It is a well-established regulatory precept that requiring the service provider to report on its performance

regularly and periodic verification of these reports are the most cost-effective methods of monitoring service providers. In light of this, it is noteworthy that while the reporting requirements for some of the POs (particularly those in Cambodia and Colombia) are well defined, others do not appear to be very well formulated. In addition, periodic, independent audits of performance are a practical method for verifying performance in countries that do not have established regulators, but this method was not introduced in most contracts, perhaps because of the cost. Cambodia was the only country without a regulator that required such audits throughout the life of the contracts.

#### **4.5.4 Penalties**

Because imposing and collecting penalties are costly and administratively burdensome, their use is only credible when the cost of administration can be justified and the institutional capacity to administer them exists. In addition, they may create an unnecessarily adversarial relationship in the small town context. Under normal circumstances, it should be sufficient for the public authorities to be informed about any failures, to meet with the operator to determine the cause of any such failures, and to agree on steps to be taken to rectify them. Repeated failures should warrant more severe steps, including penalties. Given the weak institutional contexts within which some of the contracts were implemented and the limited regulatory capacity of local governments, it is surprising that all contracts included detailed provisions for financial penalties for failure to meet service targets. A stronger emphasis on reporting, auditing, consultation, and positive incentives would probably be more suitable.

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