

Appendix A: Examples

The *Toolkit* includes sixteen examples of arrangement designs in developed and developing countries. The Examples follow a similar format to the text, highlighting design aspects such as allocation of risks and responsibilities and managing the relationship with institutions. The Examples describe the initial arrangement design but do not describe the implementation or assess the impacts of the arrangements.

AMMAN (JORDAN)

Contract overview

Award date	1999
Type	Performance-based management contract
Duration and possible extension	51 months. The contract allowed for an extension upon agreement of both parties for up to 12 months. However, the contract was extended for up to December 2004 to keep the operator, LEMA, in operation until the end of the associated investment program and to allow more time for institutional development.
Contracting authority	Central government (Water Authority of Jordan or WAJ)
Operator	Lyonnaise Des Eaux, Montgomery Watson-Arabtech Jardaneh (LEMA), a joint venture between the French company SUEZ (75 percent) and a Jordanian-United Kingdom equal joint-venture company between Montgomery Watson and Arabtech Jardaneh (25 percent).

Setting upstream policy

Market structure	<p><i>Horizontal structure:</i> The service area covers the Amman Governorate, with approximately 300,000 water connections. It includes several municipalities and encompasses urban, peri-urban, and rural areas, although rural areas are usually not networked. It also includes a water intake system that extends to other governorates.</p> <p><i>Vertical structure:</i> Water and sanitation services are jointly provided.</p> <p><i>Cross-sector structure:</i> Water is provided separately from other utilities.</p>
Competition constraints	<p><i>Competition for the market:</i> Bidders needed to be companies; local companies are required to associate with an international company. Any change in the nationality of owners requires approval from WAJ.</p> <p><i>Competition in the market:</i> LEMA has exclusivity over network services. WAJ also grants licenses to private water tankers, to supply customers who are not connected to the network or who do not receive enough water through the network. This water is taken either from LEMA or from private wells monitored by the Ministry of Health for quality.</p>
Bulk water payment	LEMA pays for some bulk water being supplied to the system from external sources according to terms set out in the contract. Groundwater is abstracted free of charge.
Donor financing	None

Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations	<i>Input or output terms:</i> Obligations are specified in both input and output terms, with detailed performance objectives. Penalties are associated with the failure to achieve obligations.
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	<p><i>Coverage obligations:</i></p> <ul style="list-style-type: none"> • Disconnect some existing stormwater connections <p><i>Quality obligations:</i></p> <ul style="list-style-type: none"> • Meet or improve the quality standards of raw water sources, drinking water, and wastewater effluent • Reduce nonrevenue water and achieve constancy of supply during peak and nonpeak seasons • Repair malfunctioning meters and replace some water meters • Implement a leak detection and repair program and reduce response time for leak repairs • Reduce the overall number of water facility breakdowns • Improve customer bill collection • Develop a comprehensive GIS-based information management system. (GIS = geographic information system.)
Cost recovery	The tariff broadly covers operation and maintenance costs, but it does not cover investment costs or asset depreciation.
Tariff structure	Residential tariffs are based on a rising-block structure, with the first 20 m ³ of water charged at a flat rate. Commercial and industrial customer tariffs are based on a fixed rate, which is higher than any residential rate. Wastewater tariffs are based on a similar structure but are lower than water rates. Poor customers can pay their bills in installments under special circumstances.
Types of subsidy	None
Donor financing	The German bilateral aid agency, Deutsche Gesellschaft für Technische Zusammenarbeit (GTZ), funded the preparatory phases of the contract. The World Bank injected funds into an Operating Investment Fund to finance rehabilitation and renewal investments. And several loans from various donors are financing substantial capital and operational investments as well as technical assistance. The Program Management Unit established to manage the Greater Amman Water Sector Improvement Program, under which the Management Contract Directorate falls, is funded by the European Union through the European Commission delegation to Jordan.

Allocating business responsibilities and risks

Main business responsibilities	<p>Operator:</p> <ul style="list-style-type: none"> • Management • Operation and maintenance of certain facilities • Proposing plans and budget for the use of a capital investment program financed, primarily by donors, through an Operating Investment Fund • Carrying out investment according to WAJ's capital program and Operating Investment Fund.
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Government:

- Asset ownership
- Implementation of capital investment program financed primarily by donors through an Operating Investment Fund.

Allocation of main risks

Risks are allocated mainly through LEMA's remuneration formula, which combines a fixed payment and a variable component. The "performance incentive compensation" (PIC) formula is as follows:

$$PIC = 0.05 [(R_n - R_{n-1}) - (E_n - E_{n-1})], \text{ where:}$$

5 percent (0.05) = Improvements in financial performance to be paid to the contractor by WAJ

R = Eligible cash receipts from operating revenue: actual collections of sales and fees billed, other operating revenues, and all other receipts identified by WAJ. Other receipts that do not directly result from operations, such as interest income and nonoperating revenues, are not included

E = Eligible operating expenses: all expenses incurred in the normal course of operations (salaries, power, spare parts, maintenance, bulk water transfers, and external sewerage disposal costs)

and *n* is the current year of operations whereas *n-1* is the previous year.

The PIC formula is constructed around the principle that better performance is a function of revenue optimization, improved collection efficiency, and cost control. It compares the current year's financial performance with the previous year's. With this formula, the operator shares potential profits with the government (and at the same time some of the risks associated with revenues and costs). In addition, the management contractor is subject to paying penalties for failing to meet its targets.

Provisions for unforeseen events and changes

WAJ can adjust a small part of the PIC if applicable laws change significantly and decreases costs. LEMA can apply for an adjustment if the converse occurs.

Managing the relationship with institutions

Monitoring and enforcing performance

The Management Contract Directorate acts as contract administrator on behalf of WAJ. It is placed under the Program Management Unit established to manage the Greater Amman Water Sector Improvement Program, which falls under the Ministry of Water and Irrigation. The Management Contract Directorate's responsibilities are to:

- Monitor and control the management contractor's technical and financial performance
- Check and approve the management contractor's budget plans
- Verify and authorize the management contractor's invoices and payment requests
- Manage the balance of operational cash flows between WAJ and the management contractor

- Check and approve nonoperational services such as updating the computerized database
- Coordinate with external technical and financial audits of the management contractor's performance and bonus calculations. WAJ may complete audits itself, have another branch of the government complete audits, or retain an independent auditor, at WAJ's own expense, to complete audits.

Role of independent experts	The determination of the remuneration formula is based on statements prepared by the management contractor, which are financially and technically audited by an independent and reputable international accounting firm. Independent experts can also be used for adjudication or arbitration procedures in the event of dispute.
Resolving disputes	According to the contract, the two parties should first seek to resolve a dispute through discussion. If this fails, the dispute is referred to an independent adjudicator agreed to by both parties. If either party is dissatisfied with the adjudicator's decision, the dispute can be settled by arbitration, either through a sole arbitrator or an arbitration panel with three members (two members, one appointed by each party, and a third chairperson appointed by the first two). Since the onset of the contract, disputes have been resolved directly through dialogue between WAJ and LEMA, with the World Bank acting as a mediator in some cases.
Adjusting tariffs	The prime minister sets customer tariffs at his discretion. Operator tariffs, in this case remuneration, are adjusted with the PIC formula (see Allocation of main risks).
Changes in the arrangements	Arrangements have not been significantly modified. A Memorandum of Understanding was adopted to extend the contract and to clarify the service targets in light of delays in the capital investment program.

Designing legal instruments for the arrangement

Legal instruments	The contract and applicable national water laws set out the arrangements. The legal framework included elements of Islamic law, civil law, and common law.
Mechanisms for compliance	<p><i>Operator:</i> The contractor can be penalized for not meeting performance criteria. Penalty amounts are withheld from the fixed management fee or the performance-based amount.</p> <p><i>Customers:</i> Customers can be disconnected if they fail to pay their bills.</p> <p><i>Government:</i> The operator can terminate the contract if the government fails to pay the operator or if the operator cannot fulfill its obligations due to reasons attributable to the government.</p>

Selecting an operator

Operator selection	The operator was selected by competitive tender. Each bidder had to meet a minimum technical score for criteria such as innovation, staffing, methodology, and approach, and this for each of these criteria as well as in aggregate before moving to the financial evaluation. The financial evaluation was based on a combination of the bid's fixed fee
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and the percentage of improvements in financial performance paid to the contractor. A limit on the total fixed fee was also set during the tendering process. LEMA bid a lower fixed fee and a higher performance payment than its only prequalified competitor.

Re-tendering The government has not indicated the strategy it intends to adopt after the contract concludes.

Other comments and references

Other contract information Delays in the implementation of the investment program made it difficult for the contractor to meet its targets. The Project Management Unit acknowledged that it was difficult for LEMA to achieve the stipulated targets before the restructuring and rehabilitation of the entire network had taken place, which led the government to agree to extend the contract.

Sources and references: Al Farawati 2001, Ministry of Water and Irrigation 2004, Platts 1999, Platts 2001, Suleiman 2002, and Waterunc.com 1999.

CARTAGENA (COLOMBIA)

Contract overview

Award date	1995
Type	Affermage-lease contract with joint-ownership arrangements
Duration and possible extension	26 years
Contracting authority	Local government (Municipality of Cartagena)
Operator	Aguas de Cartagena (ACUACAR), a joint venture between the Municipality of Cartagena (50 percent), the Spanish operator Aguas de Barcelona (45.9 percent), and local investors (4.1 percent).

Setting upstream policy

Market structure	<i>Horizontal structure:</i> The service area covers the municipal boundaries of Cartagena, including more than 80,000 connections at the outset of the contract. Originally this included only urban and peri-urban areas, but some rural areas were subsequently incorporated.
Vertical structure:	Water and sanitation services are jointly provided.
Cross-sector structure:	Water is provided separately from other utilities.
Competition constraints	Competition for the market: No constraints
Competition in the market:	There are no formal rules regarding exclusivity. Before recent network expansion in 2001, small informal providers operated in unserved areas, but they have since disappeared.

Bulk water payment	None
Donor financing	None

Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations	<p>Input or output terms: Obligations with respect to bill collection and nonrevenue water are specified in output terms. Additional World Bank loan agreements introduced a wider range of output- and input-based performance targets and obligations.</p> <p><i>Coverage obligations:</i></p> <ul style="list-style-type: none"> • Increase number of connections (World Bank loan agreement) <p><i>Quality obligations:</i></p> <ul style="list-style-type: none"> • Improve bill collection rates • Reduce nonrevenue water • Improve operating efficiency of the network, including service continuity and response time to leakages (as per the contract and World Bank loan agreement) • Improve internal utility management and administration.
Cost recovery	<p>Tariffs cover operation and maintenance costs including the remuneration to ACUACAR, ACUACAR's portion of loan cofinancing, and ACUACAR's portion of loan servicing. The municipality authorized some tariff increases in order to ensure that tariffs would provide ACUACAR's required portion of the loan cofinancing.</p>
Tariff structure	<p>The tariff structure incorporates a system of cross-subsidies based on the 1991 National Constitution. The structure divides customers into six categories, with the top two categories subsidizing the lowest three and the remaining one paying cost-recovery tariffs. In addition, some guidelines allow for explicit subsidies to support social investments.</p>
Types of subsidy	<p>There are no direct subsidies provided by the government; but the tariff structure allows for explicit subsidies to support social investments. ACUACAR has a Community Access Unit whose primary function is to facilitate relations between the company and poor customers. Offices have been set up in several poor districts and a mobile unit established. These give poor customers easy access to the company and also provide more flexible payment arrangements.</p>
Donor financing	<p>No donor funding was provided when the contract was initially signed, but soon after the contract was signed, it emerged that sufficient funds did not exist to cover the investments required to meet the performance targets. As a result, ACUACAR secured loans from the World Bank and the Inter-American Development Bank to implement an investment master plan. This plan included new investments, focused particularly on increasing coverage in poor areas of the city.</p>

Allocating business responsibilities and risks

Main business responsibilities	<p><i>Operator:</i></p> <ul style="list-style-type: none"> • Management of existing services • Operation and maintenance
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- Investment to meet performance targets (financed by loan agreements with the World Bank and the Inter-American Development Bank).

Government:

- Provision of finances by transferring a percentage of the national tax income to the local government. In turn, municipalities are obliged to spend at least 80 percent of the transferred amount on basic services, and 20 percent specifically on water and wastewater.
- Cofinancing. The government provides some matching funds for the World Bank loan and ACUACAR.

Allocation of main risks	<p>Risks are mainly allocated through ACUACAR's remuneration formula. ACUACAR's operating fee is based on a percentage of revenues collected from customers. The percentage for each year is adjusted depending on the performance relative to the targets defined in the contract. As a result, operations-related risks are allocated primarily to ACUACAR.</p> <p>Investment-related risks, including exchange rate risks, are effectively shared between ACUACAR and the municipality because they are both responsible for partial loan servicing.</p>
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Provisions for unforeseen events and changes	Rules for renegotiation are established in the contract by shareholder meetings.
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Managing the relationship with institutions

Monitoring and enforcing performance	<p>Performance is evaluated by:</p> <ul style="list-style-type: none"> • National economic regulator. The Comisión de Regulación de Agua Potable y Saneamiento Básico (CRA) was established by law as a special administrative unit attached to the Ministry for Economic Development. Although it is not a separate legal entity, it operates with technical and administrative independence and an independent asset base. It has four key functions: regulation of natural monopolies and economic competition; tariff regulation; regulation of service quality; and regulation of company management. • Compliance monitoring. A public-sector monitoring agency, Superintendencia de Servicios Públicos Domiciliarios, monitors the day-to-day activities of the operators involved in the delivery of public services and takes action in the case of noncompliance with national regulations. The Superintendencia also ensures that poor people receive the subsidies designed by the national government. • Municipal monitoring. The District of Cartagena employs a supervision team to annually audit ACUACAR. When performance targets are not met, the municipality can impose penalties, as stipulated in the contract. • Citizen groups. These groups are the first recourse for customers with complaints.
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Role of independent experts	The municipality uses independent experts for the annual audit of ACUACAR.
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Resolving disputes	<p>Depending on the type of conflict, three different institutions can resolve conflicts:</p> <ul style="list-style-type: none"> • La Superintendencia de Servicios Públicos Domiciliarios (mainly resolving disputes arising between ACUACAR and customers) • Local courts • The Chamber of Commerce.
Adjusting tariffs	<p>Tariffs are adjusted according to three principles, as regulated by the CRA:</p> <ul style="list-style-type: none"> • Financial sufficiency and economic efficiency. Tariff levels should allow self-sufficiency of the service providers, covering operations, administration, maintenance, and infrastructure expansion. The tariffs should also ensure that there is a competitive market structure. • Simplicity and transparency. The tariff regime should be easy to understand, apply, and control. The tariff should be expressed simply and with no hidden charges and all tariffs should be in the public domain. • Equity and solidarity. Lower-income customers should be supported by a homogeneous system of cross-subsidization. <p>Tariffs are calculated at the municipal level according to a formula derived by the CRA.</p>
Changes in the arrangements	<p><i>Initial renegotiations:</i> The contract was renegotiated before operations commenced. The renegotiation focused on redistributing the shares in the joint-venture company to increase the municipality's share and decrease shares of local investors and of Aguas de Barcelona. Because the municipality lacked the financial capital to increase its share, it was agreed that it could pay in kind (by asset transfers to ACUACAR). This significantly increased the political risk for Aguas de Barcelona. To mitigate this risk, the renegotiation also established a "reversion fund." After a grace period, this fund repaid Aguas de Barcelona annually until it had recouped the total value of its initial investment.</p>
Subsequent developments.	<p>The original contract limited ACUACAR's role to operation and maintenance with rehabilitation; but after the loan agreement contracts with international financial institutions, ACUACAR became responsible for implementing wide-ranging sector investments.</p>

Designing legal instruments for the arrangement

Legal instruments	<p>Contracts and regulations set out the arrangements. There are three key contractual instruments:</p> <ul style="list-style-type: none"> • The affermage-lease contract between ACUACAR and the municipality • The agreement establishing the joint-venture company ACUACAR • Loan agreements between ACUACAR and the international donors, the World Bank, and the Inter-American Development Bank. <p>The regulator (Comisión de Regulación de Agua Potable y Saneamiento) and the Ministries of Health, Environment, and Housing and Public Credit establish regulations with which ACUACAR and the municipality must comply.</p>
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Mechanisms for compliance	<p><i>Operator:</i> The municipality can apply penalties for noncompliance with the terms of the contract.</p> <p><i>Government:</i> The government is held to its obligations by the public-sector monitoring agency, the Superintendencia.</p> <p><i>Customers:</i> The company can disconnect customers for nonpayment.</p>
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Selecting an operator

Operator selection	<p>The operator was selected by international competitive bidding. Because the joint-venture model was to be used, the bidding process aimed to find an international partner to join the municipality and local investors. Three companies expressed an interest in the contract. However, only Aguas de Barcelona bid, so it was awarded the contract by default.</p>
Re-tendering	<p>The government has not indicated the strategy it intends to adopt after the contract concludes.</p>

Other comments and references

Other contract information	<p>There has been a long-term commitment from the municipality to increase tariffs. Loans from international financial institution have expanded service primarily to poor customers (those in the bottom two tariff strata obtaining cross-subsidies from tariffs).</p> <p>The arrangement establishing the joint-venture company called for the municipality to maintain a 50 percent share.</p>
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Sources and references: Caplan and Jones 2001b, Comisión de Regulación de Agua Potable Y Saneamiento 2004, Erml 1999, and Nickson 2001.

CHAUMONT (FRANCE)

Contract overview

Award date	1998
Type	Affermage-lease. The characteristics of the Chaumont contract are common to most affermage contracts in France.
Duration and possible extension	12 years. In France, the law strictly limits the duration of water service contracts. Affermage-lease and concession contracts cannot last for more than 20 years or be extended, as the anticipated revenues for the company would change and the general balance of the contract would be distorted.
Contracting authority	Local government (municipality)
Operator	Société Lyonnaise des Eaux, fully owned by SUEZ.

Setting upstream policy

Market structure	<p><i>Horizontal structure:</i> The service area corresponds to the limits of Chaumont municipality, which includes about 27,000 inhabitants. The utility serves approximately 12,000 customers with a connection to the water network. The contract authorizes the provision of water services to customers in neighboring communities based on a bilateral agreement between the local authorities in Chaumont and in the neighboring towns.</p> <p><i>Vertical structure:</i> The same operator provides water and sanitation services on the basis of two different contracts, which were signed simultaneously. In France, municipalities can choose a different modality of management for each service. If they opt for an affermage-lease for both water and sanitation services, they have to negotiate two separate contracts even if they are with the same company, on the basis of the "one service, one specific contract" rule. Billing can be made jointly for practical reasons.</p> <p><i>Cross-sector structure:</i> Water is provided separately from other utilities.</p>
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Competition constraints	<p><i>Competition for the market:</i> No constraints.</p> <p><i>Competition in the market:</i> The operator has exclusive rights over service provision in the municipal area. When sources are located outside the municipality's boundaries, the operator may share the use of those facilities with an operator dealing with another contract. The terms of this agreement are to be negotiated directly between the parties.</p>
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Bulk water payment	The operator does not pay for bulk water.
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Donor financing	None
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Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations	<p>Input or output terms: Obligations are specified input and output terms. The operator must bring technical losses down from 30 percent at the start of the contract, to 27 percent in the third year and maintain these losses at less than 24 percent onwards from the sixth year of the contract. Additionally, the operator must also meet all safety and quality requirements for drinking water distribution.</p> <p><i>Coverage obligations:</i></p> <ul style="list-style-type: none"> • Provide water to any customer who can be connected to the existing network. If the operator defaults in the fulfillment of coverage and investment obligations, financial penalties are imposed by and paid to the municipality. Given that full coverage is already in place, there are no incentives or responsibilities for coverage expansion. <p><i>Quality obligations:</i></p> <ul style="list-style-type: none"> • Uphold the quality criteria specified by law and the contract.
Cost recovery	<p>The tariff paid by the end user covers all costs as follows:</p> <ul style="list-style-type: none"> • The operator's tariff covers operation and maintenance costs. • The municipality's tariff covers a portion of the investment costs and depreciation of assets.

- The river basin agency's tariff covers the other part of investment costs.

Investment costs are borne by these three parties and the exact allocation is decided on a project basis rather than based on a specific allocation formula.

Occasionally, higher levels of government (such as departments) finance up to 20 percent of the investment cost.

Tariff structure	<p>A 1992 law reformed the tariff structure for water service provision. Flat fees are now strictly prohibited. Customers generally pay proportionally to their real consumption. An analysis of an average bill for a consumption of 120 m3 reveals that the tariff is split as follows:</p> <ul style="list-style-type: none"> • Operator remuneration: Tariff portion consists of a two-part structure—an annual fee (which represents 6 percent of the total for an average bill) and a variable charge per cubic meter consumed (50 percent of the total) • Municipality remuneration: Tariff portion consists of a variable charge per cubic meter and represents 15 percent of the total for an average bill • River basin abstraction and discharge fee: Tariff portion consists of a variable charge per cubic meter and represents 29 percent of the total for an average bill.
Types of subsidy	<p>Contributions to investment costs are provided to the municipality by the river basin agency and are financed by a specific part of water tariffs. They consist as described above. The financing consists of no-interest loans and cash contributions ranging from 30 percent to 70 percent of total investment costs.</p>
Donor financing	None

Allocating business responsibilities and risks

Main business responsibilities	<p><i>Operator:</i></p> <ul style="list-style-type: none"> • Management • Operations and maintenance • Some investment as specified in the contract and depending on the nature of the works. <p><i>Government:</i></p> <ul style="list-style-type: none"> • Asset ownership • Major investments, equipment replacement, and most network renewal charges.
Allocation of main risks	<p>The municipality bears most of the investment risks, while the private operator carries operational and commercial risks. According to the contract, the operator tariff can be renegotiated in the following circumstances:</p> <ul style="list-style-type: none"> • Not less than four years after the last tariff adjustment • If the average annual volume of water distributed varies by more than 20 percent from the reference volume in the contract • If the scope of the contract is revised • If taxes paid by the operator increase by more than 30 percent or if

- a new tax is imposed on the operator, that totals more than 1 percent of its revenues under the contract
- If legislation changes.

Risk is allocated according to the adjustment of the operator tariff (OT), which in turn is determined by the price index (PI) formula contained in the contract:

$$OT_n = OT_0 \left[.15 + \left(\frac{PI_n}{PI_0} \right) (.5W + .5E + .1X + .2G) \right], \text{ where:}$$

W = Wages

E = Energy

X = Excavation work

G = Goods and services.

Provisions for unforeseen events and changes	The operator's remuneration can be adjusted if some prescribed conditions are met. Apart from these circumstances, nothing is specified in the contract. The contract relies on the parties reaching common agreement for unforeseen events.
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Managing the relationship with institutions

Monitoring and enforcing performance	<p>Water quality is monitored by the central government's public health administration.</p> <p>The municipality supervises the contract itself. The municipality has its own research department on technical investments. The team involved in monitoring the water and sewerage contracts and planning of investments is included in a larger environmental department. A technician controls and coordinates the operator's daily work on the water distribution network. External parties can assist the municipality in monitoring, for example, with independent or decentralized state experts.</p>
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The operator has several annual financial and technical self-reporting requirements from the municipality and is required to give access to any information the municipality may ask for, apart from information deemed to be commercial and strategic information.

Role of independent experts	The role of experts is not specified in the contract. The municipality has called on external professional support to help with contract supervision, contract renegotiation, and communication with consumers.
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Resolving disputes	According to the contract, a conflict between the two parties is referred to an independent administrative court.
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Adjusting tariffs	<p>The tariff is composed of three main components that are set independently:</p> <ul style="list-style-type: none"> • The operator tariff, as set in the affermage-lease contract and updated annually based on the formula set out below • The contracting authority tariff, to cover investment costs, which is set through an annual vote by the municipal council • Abstraction and discharge charges levied by the river basin agency.
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Changes in the arrangements	Arrangements have not changed significantly since the contract was signed.
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Designing legal instruments for the arrangement

Legal instruments	The contract contains most of the arrangements for service provision, although it is written according to a tightly defined legal framework and a series of model contracts drafted by the associations of French municipalities and consultants.
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Mechanisms for compliance	<i>Operator:</i> The municipality can fine the operator for not meeting its obligations. The Customer Committee, an institution created by a 1992 law to help users control the quality of the service, also monitors the operator's obligations with respect to customer service.
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Government: There are no automatic mechanisms to force the municipality to assume its obligations. But if the administrative court has jurisdiction, it will determine each party's responsibility. The administrative court can be seized by the local state representative and has the power to modify or cancel a delegation contract. In case of disputes, the administrative court is empowered to determine each party's responsibility and to enforce such adjudication. There are also evenly spaced audits by an independent local office to verify that the municipality is meeting its legal obligations, including the ones related to the utilities business.

The municipality also has to publish annual financial and technical reports to inform customers about the quality of service. This rapport du maire contains legally required information about stakeholders' responsibilities, water quality, and tariffs.

Customers: Disconnection for nonpayment is prohibited by law, and a solidarity fund has been established to help customers who cannot afford to pay their bills.

Selecting an operator

Operator selection	The contract was awarded in 1993 through a procedure which involved competitive bidding followed by direct negotiation. Competition for the contract was strong and Société Lyonnaise des Eaux was awarded the contract; it provided the most advantageous financial and local development proposal.
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Re-tendering	The government has not indicated the strategy it intends to adopt after the contract concludes.
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Other comments and references

Other contract information	None
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Sources and references: Florence and Llorente 2003.

COCHABAMBA (BOLIVIA)

Contract overview

Award date	1999 (terminated in 2000)
Type	Concession
Duration and possible extension	40 years
Contracting authority	Central government (Superintendencia Sectorial de Saneamiento Básico, or SSSB). The concession negotiation committee included the mayor of Cochabamba, a superintendent from the SSSB, the vice-minister of investment and privatization, and the general manager of Servicio Municipal de Agua Potable y Alcantarillado (SEMAPA), the municipal water service department of Cochabamba.
Operator	Aguas del Tunari, a consortium of International Water Ltd. (55 percent), Rivestar International (25 percent), and four Bolivian companies, Sociedad Boliviana de Cemento, Compañía Boliviana de Energía S.R.O., Constructora Petricevic S.A., and ICE Agua y Energía S.A (20 percent). At the time of contract signing, Bechtel Enterprise Holdings held 100 percent of International Water until November 1999 when Edison S.p.A. acquired a 50 percent share of International Water.

Setting upstream policy

Market structure	<p><i>Horizontal structure:</i> The service area covers the municipality of Cochabamba. At the time of the contract signing, there were approximately 500,000 potential consumers in the municipality. The contract did not cover rural areas.</p> <p><i>Vertical structure:</i> Water and sanitation services are jointly provided.</p> <p><i>Cross-sector structure:</i> Water is provided separately from other utilities.</p>
Competition constraints	<p><i>Competition for the market:</i> No constraints</p> <p><i>Competition in the market:</i> The operator had exclusivity over water resources in Cochabamba and any additional sources needed to supply consumers in the municipality. Aguas del Tunari also had exclusivity in its service area. The contract required all actual and potential consumers to connect to the system.</p>
Bulk water payment	The operator did not pay for bulk water.
Donor financing	None

Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations	<p>Input or output terms: Obligations were specified mostly in output terms but construction of the Misicuni Multipurpose Project required input terms for investments.</p> <p><i>Coverage obligations:</i> Detailed coverage targets defined in the contract include a share of the population with access to the network, with five-year moving targets until 100 percent water and wastewater net-</p>
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work coverage was reached in 2034. Some targets were subject to water availability from the completion of the Misicuni Multipurpose Project.

Cost recovery	Tariffs covered operating costs and some investment costs.
Tariff structure	The contract stipulated an increasing-block tariff. Water customers were split into nine classifications, with residential customers divided into four categories based on the type and condition of housing units. Differential rates based on consumption existed in each category.
Types of subsidy	No external subsidies

Allocating business responsibilities and risks

Main business responsibilities	<p><i>Operator:</i></p> <ul style="list-style-type: none"> • Management • Operations and maintenance • Investment including the construction of the Misicuni Multipurpose Project, a project intended to utilize the water resources of the Misicuni River for the municipality of Cochabamba's electricity generation, irrigation, and water supply. <p><i>Government:</i></p> <ul style="list-style-type: none"> • No significant business responsibilities
Allocation of main risks	The consumers bore much of the risk; for example, decreases in demand would not affect the concessionaire because the contract guaranteed the concessionaire a rate of return of 15-17 percent. Customers also bore exchange rate risk because the concessionaire's rate of return was indexed to the U.S. dollar.
Provisions for unforeseen events and changes	Renegotiation of certain contractual provisions could occur. The construction of the Misicuni system, for example, was subject to the results of field research, technical feasibility, and financial feasibility studies. Stipulations on tariff, network coverage, and network expansion targets could also be renegotiated.

Managing the relationship with institutions

Monitoring and enforcing performance	The contract was supervised by the Sectoral Superintendencia for Basic Sanitation or Superintendencia Sectorial de Saneamiento Básico (SSSB). The name of the SSSB has changed to the Superintendencia de Saneamiento Básico Aguas as noted in the La Paz–El Alto example. In addition to granting the concession, the SSSB was responsible for enforcing compliance with regulatory rules for water services; granting, revoking, extending, or modifying concessions and licenses; approving tariff structures and price increases; monitoring water services performance; promoting efficiency in delivering water services; and acting as the court of appeal for consumer complaints against the operator. The SSSB is financially and managerially autonomous.
Role of independent experts	None indicated

Resolving disputes	Any dispute-resolution institution recognized by the Bolivian government could be used in contract disputes. The following institutions were recognized in the contract: International Centre for the Settlement of Investment Disputes, the International Chamber of Commerce, and the United Nations Commission on International Trade Law.
Adjusting tariffs	After the initial average tariff increase of 35 percent, tariffs were set to increase by 20 percent in 2002 (with the expected additional resources from the Misicuni system). Tariffs could be adjusted in the interim based through periodic reviews and revision of tariff and expansion targets to guarantee the operator's 15–17 percent rate of return.
Changes in the arrangements	The contract was not changed between the signing of the contract on September 3, 1999, and the operator's cancellation of the contract on April 10, 2000. The initial tariff increase of 35 percent was reduced to 20 percent on February 3, 2000 in response to conflict with customers and noncustomers.

Designing legal instruments for the arrangement

Legal instruments	The contract set out the arrangements. The contract was developed within the legal framework provided by the 1994 Sistema de Regulación Sectorial and the 1999 Water Services Law or Ley de Servicios de Agua Potable y Alcantarillado Sanitario. The Bolivian legal framework is based on civil code similar to the French civil code.
Mechanisms for compliance	<p><i>Operator.</i> The concessionaire would incur penalties for not meeting its obligations (for example, a fine for not reaching coverage targets, or failure to complete the Misicuni system).</p> <p><i>Government.</i> Government noncompliance concerned any part of contractually stated obligations, for example failure to authorize agreed-on tariffs. Contract termination was possible if either the operator or the government was noncompliant.</p>

Selecting an operator

Operator selection	The operator was selected by negotiation. The government initially conducted a competitive bidding process, as required by Bolivian law. Because the government received only one bid, the government passed a Supreme Decree allowing for direct negotiation of the contract with Aguas del Tunari.
Re-tendering	The government did not indicate the strategy it intended to adopt after the contract concluded.

Other comments and references

Other contract information	The contract was terminated due to significant conflict involving consumers in the municipality, residents from outside the municipality, the government, and the operator. See Box 3.1 for additional information on the dispute and cancellation.
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Sources and references: Bechtel 2002, Nickson and Vargas 2002, Woodhouse 2003, and World Bank 2002.

CÔTE D'IVOIRE

Contract overview

Award date	1987. SODECI has been providing services in Abidjan since 1960 and has gradually increased its coverage in the country through successive contracts. All such contracts were consolidated in the 1987 contract, which was modified in 1992.
Type	Affermage-lease with concession features. Although the contract is nominally referred to as a "concession," SODECI manages tariff revenues reserved for investments but, as in an affermage contract, it is not required to invest from its own funds and receives an operator tariff, different from the customer tariff.
Duration and possible extension	20 years. The contract can be automatically extended for 3 years at least 2 years before the end of the contract if both parties agree.
Contracting authority	Central government (the Direction Centrale des Grands Travaux (DCGTX), a central government agency responsible for large infrastructure projects.
Operator	La Société de Distribution d'Eau de la Côte d'Ivoire (SODECI) is listed on the Abidjan Stock Exchange with the following shareholders: Saur International from France (47 percent), small shareholders (45 percent), SODECI employees (5 percent) and the state (3 percent). SODECI shares can be bought on the Ivorian stock market.

Setting upstream policy

Market structure	<p><i>Horizontal structure:</i> The service area covers several hundred urban centers throughout the country, ranging from the capital city Abidjan to villages above 3,000 inhabitants. In 2001, SODECI served approximately 600,000 connections.</p> <p><i>Vertical structure:</i> SODECI provides sanitation services in the capital Abidjan through a separate affermage contract. No sanitation services are provided in the rest of the country.</p> <p><i>Cross-sector structure:</i> Water is provided separately from other utility services. However, the national electricity company, Compagnie Ivoirienne d'Electricité (CIE) is also a Saur International subsidiary and the two companies share some headquarter functions.</p>
Competition constraints	<p><i>Competition for the market:</i> The contract was awarded to the incumbent operator.</p> <p><i>Competition in the market:</i> SODECI has exclusivity over the provision of water services in the entire country (except in rural areas) and over the exploitation of groundwater resources. The water company (SODECI) grants licenses to authorized resellers for domestic connections in Abidjan's low-income areas. Resellers are authorized to build small networks and pay bulk supply tariffs instead of the normal rising-block tariff.</p>
Bulk water payment	SODECI does not pay for bulk water.

Donor financing None

Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations	<p><i>Input or output terms:</i> Obligations are specified in terms of both output and inputs (for example, billing and collection).</p> <p><i>Coverage obligations:</i> SODECI must provide a connection to any resident requesting service that is located within 60 meters of the network. Residents must first pay necessary charges.</p> <p><i>Quality obligations:</i></p> <ul style="list-style-type: none"> • Comply with existing drinking water standards (World Health Organization standards) • Comply with specified billing and collection ratios • Ensure continuity of service (24 hour supply) and minimum pressure requirements
Cost recovery	<p>Tariffs cover all costs, including investment costs (the sector does not receive external subsidies).</p> <p>Tariff revenues are broken down into three main elements: the operator fee; a contribution to the Water Development Fund (Fonds de Développement de l'Eau) which finances network extensions (including social connections) and rehabilitation; and a contribution to the National Water Fund (Fonds National de l'Eau), which is managed by the Ministry of the Economy to pay off existing debt for the sector.</p>
Tariff structure	<p>Uniform tariffs apply throughout the national territory, resulting in a high degree of cross-subsidization between regional areas. For domestic consumers, tariffs are set using a steep rising-block tariff structure with four blocks. Administrative customers face a single volumetric tariff. A sanitation charge is applied separately, with a similar increasing-block structure. Different sanitation charges apply to three types of customers: those with a sanitation connection, those who are close to the network, and those who are in unserved areas.</p>
Types of subsidy	<p>The tariff structure allows for cross-subsidies for poor consumers in the form of a social connection and a social tariff block for consumption below 18 m³. The price for the first consumption block is approximately half of that for the second block. Connection charge subsidies are financed from the Fonds de Développement de l'Eau: the cost of a connection is discounted by around 90 percent for eligible customers. Eligibility criteria include using a small-diameter pipe, being within 60 meters of the network, and having a meter.</p>
Donor financing	<p>No donor has financed the development of the sector since the signing of the 1987 contract.</p>

Allocating business risks and responsibilities

Main business responsibilities	<p><i>Operator:</i></p> <ul style="list-style-type: none"> • Management • Operations and maintenance • Planning investments and managing the National Development Fund for installing social connections and extending the network
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- Carrying out investments on behalf of the Water Development Fund below a certain threshold (tenders are required above such threshold)

Government:

- Asset ownership
- Approving investments in network extension, renewals, and rehabilitation

Allocation of main risks	SODECI faces operation risk and commercial risk. SODECI's remuneration (Prix Maximal de Base) is a component of the total volumetric tariff. It has been set to take into account all of SODECI's operating costs (including taxes). This operator tariff (per cubic meter sold) is adjusted every 6 months according to a complex adjustment formula, which takes into account inflation factors, the cost of certain types of labor, the price of gas, oil, and electricity, certain chemicals, import duties and taxes, certain French intermediate goods and services, and exchange rates. The contract also provides for SODECI's remuneration to be renegotiated every 5 years during the life of the contract. In the event that no agreement is reached or the new remuneration is not formally approved, the previous Prix Maximal de Base remains applicable.
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The government faces investment and financial risk. The tariff receipts first need to pay for SODECI's remuneration; the remainder is used to repay the debt and finance new investments.

Provisions for unforeseen events and changes	The contract has no special provisions for unforeseen events and changes.
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Managing the relationship with institutions

Monitoring and enforcing performance	The Water Directorate (Direction de l'Eau) within the Ministry of Economic Infrastructure acts as the owner of the water supply and sanitation networks and is in charge of monitoring compliance with the contract.
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Role of independent experts	Not specified in the contract
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Resolving disputes	Disputes are resolved according to a standard administrative procedure applicable to public work contracts.
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Adjusting tariffs	The Water Directorate leads discussions regarding tariff adjustments to the operator and customer tariff. Customer tariffs must be adopted by a decree approved in the Council of Ministers. Tariffs are scheduled to be revised every five years but the application of tariff determinations has recently been subject to delay.
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Changes in the arrangements	An amendment was adopted in 1992 in order to specify key agreements contained in the contract and simplify the institutional structure for financing the sector.
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Designing legal instruments for the arrangement

Legal instruments The contract contains the arrangements between the parties. Decrees approved by the Council of Ministers are used to implement decisions, as for example decisions on tariffs.

Mechanisms for compliance *Operator:* Monetary sanctions are applied if there is (1) unjustified interruption or partial interruption of supply; (2) failure to reach water quality levels; (3) insufficient pressure levels; or (4) failure to provide accounts. Sanctions are estimated based on a given volume (per sanction) multiplied by the Prix Maximal de Base. In addition, the government can terminate the contract without compensation for any serious failure by SODECI to provide services.

Customers: SODECI can disconnect customers for nonpayment.

Selecting an operator

Operator selection The operator had been in activity for the previous 35 years and was sole-sourced.

Re-tendering The government has not indicated the strategy it intends to adopt after the contract concludes.

Other comments and references

Other contract information None

Sources and references: Trémolet and others 2002.

GABON

Contract overview

Award date 1997

Type Concession

Duration and possible extension 20 years. The contract can be extended for several periods based on an addendum to the contract. The party requesting an extension must advise the other 3 years prior to contract termination.

Contracting authority Central government

Operator Société d'Énergie et d'Eau du Gabon (SEEG), a consortium of French company Veolia Water (51 percent), a company of Veolia Environnement, and local shareholders (49 percent).

The 51 percent share sold through a public offer was the first of its kind in Gabon. Employees were able to buy up to 5 percent of those shares. The state retained a single "Golden Share," which entitles it to two representatives on the board of SEEG with a consultative voice.

Setting upstream policy

Market structure	<p><i>Horizontal structure:</i> The water service area includes all large cities and most population groupings above 1,000 inhabitants, most of them being in rural areas. The concessionaire serves over 80,000 customers.</p> <p><i>Vertical structure:</i> Water and sanitation services are separately provided.</p> <p><i>Cross-sector structure:</i> Water and electricity are jointly provided, but both services are not necessarily provided in all service centers simultaneously. Electricity is provided to over 140,000 customers.</p>
Competition constraints	<p><i>Competition for the market:</i> No constraints</p> <p><i>Competition in the market:</i> SEEG has exclusivity over service provision in its service area. Within and beyond SEEG's exclusive service area, water and electricity resellers are accepted, but there are no formal arrangements between the SEEG or the ministry and the small-scale operators and the operator to cooperate in order to accelerate service expansion.</p>
Bulk water payment	The operator does not pay for bulk water.
Donor financing	None

Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations	<p><i>Input or output terms:</i> Obligations are specified mostly in output terms. Input obligations are stated with a minimum renewal investment, of which a certain percent should go to the water network as opposed to electricity. The concessionaire has informally committed to additional investment over the life of the contract, mainly in increasing network density and extending the network.</p> <p><i>Coverage obligations:</i> Detailed coverage targets are included in the contract. They are defined as a share of the population with access to the network, with five-year increasing targets differentiating (different targets between main cities and rural areas) . In addition, a list of new centers to be served is also included in the contract. If the concessionaire fails to reach its coverage targets, the amount of investment not undertaken is calculated. The concessionaire is then obliged to pay a penalty equal to 25 percent of this estimated investment, in addition to any costs incurred in making the investments needed to effectively meet the contractual targets.</p> <p><i>Quality obligations:</i> Quality obligations are specified with little detail in the contract, which indicated that they should initially meet the WHO standard and thereafter be specified by mutual agreement after the start of contract.</p>
Cost recovery	Tariffs cover all operating costs and most investment costs There are two exceptions: large investments costs in electricity production, which were to be met with subsequent independent power production plans; and possible government subsidies for other large investments.

Tariff structure	<p>There are only two types of volumetric tariffs that apply throughout the perimeter of the concession: a social tariff (for consumption up to 15 m³ a month) and a normal tariff.</p> <p>The operator can modify the tariff structure every year as long as certain tariffs (including social tariffs) do not increase by more than 1 percent a year and the total revenue remains unchanged. Notably, a special contribution is added to the tariff to create the Water Special Fund (Fonds spécial de l'eau).</p>
Types of subsidy	No direct subsidies are provided. The tariff structure implies some cross-subsidization.
Donor financing	None

Allocating business responsibilities and risks

Main business responsibilities	<p>Operator:</p> <ul style="list-style-type: none"> • Management • Operations and maintenance, including expanding the network to previously unconnected areas • Investment <p><i>Government:</i> Although not required by the contract to invest, the government continues to finance major investments in the water network in the capital city (due to the amount of investment needed) and in electricity transmission and distribution networks throughout the country.</p>
Allocation of main risks	The concessionaire bears all operational, investment, and financing risks. Its remuneration entirely comes from tariffs, which are adjusted according to the formula discussed below. There is no concession fee to the government.
Provisions for unforeseen events and changes	<p>The contract contains rules for different types of renegotiation:</p> <ul style="list-style-type: none"> • Mutual agreement as stated in the contract or in the event of substantial changes in external conditions that affect the financial and economic equilibrium of the contract. • Unilateral renegotiation. The government can modify the contract unilaterally but it must provide adequate financial compensation if it does so. The government must also provide appropriate compensation if it chooses to terminate the contract.

Managing the relationship with institutions

Monitoring and enforcing performance	The contract is supervised by the Ministry of Mines, Energy, Oil, and Water Resources (also known as the Conceding Authority). Within the ministry, the Direction Générale de l'Énergie et des Ressources Hydrauliques is directly in charge of controlling the contract. This directorate is not independent and also has responsibilities for defining sector policies and carrying out large investments in both sectors, namely hydroelectric or rural water and electricity schemes.
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Role of independent experts	The contract specifies the use of independent experts to carry out specific studies (for example, for the 5 year revision and coverage study) and participate in the control of the concession, with a portion of the customer tariff to pay for these studies and control.
Resolving disputes	The International Centre for the Settlement of Investment Disputes (ICSID) resolves disputes.
Adjusting tariffs	<p>There are several types of tariff adjustment mechanisms:</p> <ul style="list-style-type: none"> • Automatic adjustments every three months, based on a tariff adjustment formula that incorporates changes in factor prices and cost reductions from efficiency gains. These tariff changes are calculated by the concessionaire and authorized by the conceding authority • Potential annual adjustments, which the concessionaire can propose to rebalance the tariff structure between tariff classes or geographical areas within certain limits (for example, social tariffs and tariffs for isolated centers cannot increase by more than 1 percent in any one year and the total annual revenues must remain unchanged by this rebalancing) • Exceptional adjustments, if any of the factor prices contained in the formula vary by more than 50 percent, if the total index is higher than 20 percent, or if there is a legislative change or a significant change in production capacities • Five-year negotiations, if deemed necessary, whereby the concessionaire and the Conceding Authority can negotiate a change every 5 years in the structure or the level of tariffs or the tariff adjustment formula.
Changes in the arrangements	Because the government quickly entered a concession contract and because uncertainty about the state of the systems at the time of privatization was high, a "transition period" of 2.5 years was defined in the contract. During that period, no penalties could be applied, but the concessionaire had several obligations, such as to define (and implement) an emergency repair plan and to establish the methodological basis and the tools for controlling the enforcement of the contract, such as an inventory of assets and an analytical accounting system.

Designing legal instruments for the arrangement

Legal instruments	The contract sets out the arrangements. This contract was developed within a legal framework that specifies that the state has a monopoly over water and electricity services and that it can delegate the provision of this service to one or more operators through concession contracts.
Mechanisms for compliance	<p><i>Operator:</i> The concessionaire incurs penalties for not meeting its obligations (for example, a fine for not reaching coverage targets).</p> <p><i>Customers:</i> Disconnection of customers for nonpayment is allowed.</p> <p><i>Government:</i> There are no mechanisms to force the government to comply with obligations that fall outside of the contract, such as building roads to facilitate coverage extension.</p>

Selecting an operator

Operator selection	The operator was selected through competitive bidding. The companies first had to pre-qualify on the basis of general criteria, such as experience and financial integrity. A round of negotiation with each bidder followed and the contract terms were determined at that time. The final bidding process was based on tariff reductions alone.
Re-tendering	The government has not indicated the strategy it intends to adopt after the contract concludes.

Other comments and references

Other contract information	Many activities that should have taken place during the transition period, such as the negotiation of quality targets for water service, were not carried out in the prescribed period due to intense negotiation between the company and the contracting authority.
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Sources and references: Environmental Resources Management 2002.

GDANSK (POLAND)

Contract overview

Award date	1992
Type	Affermage-lease
Duration and possible extension	30 years
Contracting authority	Local government (City of Gdansk)
Operator	Saur Neptun Gdansk (SNG), a joint venture between the French company Saur International (51 percent) and the City of Gdansk (49 percent). Saur International has overall control of the company.

Setting upstream policy

Market structure	<p><i>Horizontal structure:</i> The service area covers urban inhabitants of the City of Gdansk and Sopot, a neighboring town (approximately 30,000 total water connections).</p> <p><i>Vertical structure:</i> Water and sanitation are jointly provided.</p> <p><i>Cross-sector structure:</i> Water is provided separately from other utilities.</p>
Competition constraints	<p><i>Competition for the market:</i> No constraints</p> <p><i>Competition in the market:</i> For those assets owned by the City of Gdansk, SNG has exclusive rights for the provision of services. However, there is a different operator in one area of the city, which delivers similar services through its own network.</p>

Bulk water payment	There is no payment for bulk water, but SNG pays an environmental tax for abstracted raw water to the National Environment Protection Fund.
Donor financing	None

Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations	<p><i>Input or output terms:</i> Obligations are specified in both input and output terms.</p> <p><i>Coverage obligations:</i> There are no coverage obligations on the company. The city carries out investments in coverage extensions.</p> <p><i>Quality obligations:</i></p> <ul style="list-style-type: none"> • Maintain continuity of service and quality of water and sewage according to Polish law • Reduce operating costs and water losses • Modernize management systems • Improve customer service quality as specified in the service regulations approved by the city • Achieve EU water quality standards (as specified in the European Water Framework Directive) within specified deadlines.
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Cost recovery	Tariffs are based on full cost-recovery principles, including provision for investments in capital works.
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Tariff structure	A national ordinance was adopted in 2002 and applied to set tariffs from 2003. The ordinance defines the principles and procedure for setting tariffs in a unified manner across customer classes and requires the elimination of cross-subsidies between customer classes over the course of five years. Before this measure, industrial consumers provided a significant cross-subsidy to domestic consumers. The tariff is a single volumetric charge that varies between customer classes.
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Types of subsidy	<p>Subsidies include:</p> <ul style="list-style-type: none"> • The local government can set lower tariffs for certain consumer groups and compensate the loss of income through direct operating subsidies to SNG. • The city provides investment subsidies by funding some of the required investments with its own budgets and loans.
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Donor financing	None.
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Allocating business responsibilities and risks

Main business responsibilities	<p><i>Operator:</i></p> <ul style="list-style-type: none"> • Management • Operations and maintenance • Proposing investment programs and advising on investments. <p><i>Local government:</i></p> <ul style="list-style-type: none"> • Asset ownership • Approving and proposing investments (with advice from SNG); financing investments (mainly from city budgets, tariffs, or structural EU funds and credits) • Regulation and setting of tariffs based on SNG proposals.
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Allocation of main risks	<p>SNG revenue and tariff proceeds cover its operating costs with any surplus going to the city to finance investment. In the event of nonpayment by customers, the commercial risk is spread between SNG and the city.</p> <p>Financial aspects of the contract can be reconsidered on the basis of the following events:</p> <ul style="list-style-type: none"> • Material change in conditions (this provision is only applicable 5 years after contract signature) • Yearly variation of 10 percent in the revenue base • Significant changes in buildings and equipment or technical processes • Significant changes in sewage quality standards • Serious economic crises where revenues cease to cover service provision costs.
Provisions for unforeseen events and changes	<p>The contract can be changed in the event of significant variations between the contract and changes in Polish law. Each change in the contract must be agreed in writing and signed by both parties. If an agreement is not reached, Polish law takes precedence but without prejudice to the SNG's right to go to arbitration. Financial aspects of the agreement can also be reconsidered in light of certain defined events.</p>

Managing the relationship with institutions

Monitoring and enforcing performance	<p>The shareholders' agreement between the city and SNG regulates the company's performance. Enforcement of performance is also done through the city's members on the Supervisory Board of SNG.</p>
Role of independent experts	<p>Independent experts are used in the arbitration of disputes.</p>
Resolving disputes	<p>Disputes are settled through arbitration in Gdansk. If this fails, disputes are referred to the Arbitration Chamber in Gdynia, a neighboring town. The Arbitration Board consists of three arbiters and functions according to the rules of the International Chamber of Commerce.</p>
Adjusting tariffs	<p>Tariffs are set and approved by the city of Gdansk based on SNG proposals. Tariffs can be reset every 12 months based on general principles (there are no specific formulas). Tariff adjustments must consider improved efficiencies (through negotiation with SNG) and considerations for particular consumer groups.</p>
Changes in the arrangements	<p>The contract was amended in 1995, 1999, and 2001 for legal and other reasons. The amendments altered procedures for the timing of annual tariff negotiations, sharing and control of information, and operator tariff formula for the private operator (defined on the basis of a fixed return on capital).</p>

Designing legal instruments for the arrangement

Legal instruments	<p>The contract sets out the arrangements. In addition, general legislation takes precedence over the contract, such as the Act on Collective</p>
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Water Supply and Sewage Treatment, especially in the event of a contradiction between this legislation and the contract.

Mechanisms for compliance *Operator.* Mechanisms are included in the contract as well as in Polish law. Penalties are also stipulated.

Consumers. Consumers can be disconnected for nonpayment if they have not paid their dues for more than two invoicing periods.

Selecting an operator

Operator selection The operator was selected through a direct negotiation process. Saur International initiated negotiations with the city in 1990 and signed the contract in 1992.

Re-tendering The government has not indicated the strategy it intends to adopt after the contract concludes.

Other comments and references

Other contract information A sharp drop in demand affected the activities of the company, mainly due to the introduction of metering, changes in consumption practices, and the closure of many heavy industries. The company diversified its services, expanded geographically, and requested additional tariff increases. The city approved most tariff increases.

Sources and references: International Water Association 2001, Marek Swinarski 1999, Pricewaterhouse Coopers 2001b, Public Services International Research Unit 1997, and Ringskog 2000.

LA PAZ AND EL ALTO (BOLIVIA)

Contract overview

Award date	1997
Type	Concession
Duration and possible extension	30 years
Contracting authority	Central government
Operator	Aguas del Illimani, a joint venture including the French company Lyonnaise des Eaux, fully owned by SUEZ (35 percent), Bolivian partners Bolivian Investment Corporation, or BICSA (20 percent), the Argentinean Sociedad Comercial del Plata (18 percent), Arousa, an affiliate of the Argentinean bank Banco de Galicia (10 percent), and engineering corporation CONNAL (5 percent).

Setting upstream policy

Market structure *Horizontal structure:* The service area covers the capital city La Paz and the poorer neighboring city El Alto, with a combined population of approximately 1.3 million. When Aguas de Illimani took over the concession, over 80 percent of the population of La Paz and over 70 percent of the population of El Alto had a water connection, and

over 60 percent of La Paz residents and 30 percent of El Alto residents had a sewerage connection.

Vertical structure: Water and sanitation services are jointly provided.

Cross-sector structure: Water is provided separately from other utilities.

Competition	<p><i>Competition for the market:</i> There are no specified constraints.</p> <p><i>Competition in the market:</i> Nationwide regulations effectively protect the concessionaire from competition, given that:</p> <ul style="list-style-type: none"> • The sale of water by connected households is prohibited • The concessionaire can charge a fee for private groundwater extraction in its service area • Legislation states that if two companies want concessions in the same area, the regulator must award one through competitive bidding.
Bulk water payment	The operator does not pay for bulk water.
Donor financing	None

Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations	<p>Input or output terms: Obligations are specified mostly in output terms, with corresponding penalties for defaulting to meet those obligations. Input obligations concern design standards and service quality, although some flexibility was provided in poorer areas, such as El Alto.</p> <p><i>Coverage obligations:</i></p> <ul style="list-style-type: none"> • All new connections must be in-house • Maintain 100 percent water service coverage in La Paz and in El Alto and achieve contractually stated coverage targets. There were distinctions made for coverage targets between El Alto and La Paz. <p><i>Service obligations:</i></p> <ul style="list-style-type: none"> • Improve water quality to standards above the Bolivian national standards • Achieve targets for water pressures and flow • Achieve customer service targets.
Cost recovery	All costs are recovered through tariffs, including investment costs.
Tariff structure	Industrial, commercial, and government users pay higher tariffs than domestic customers. The tariff differentiates between low- and high-volume users, with a rising-block tariff. Poor customers are charged a reduced rate for the first 30 m ³ consumed each month. There is only a volumetric tariff, and no fixed charge is payable. The contract requires that tariffs for water and sanitation be differentiated after 5 years.
Types of subsidies	None
Donor financing	Before the concession contract was awarded in 1997, the Water and Sanitation Program—Andean Region, in partnership with the Swedish International Development Cooperation Agency, launched the El Alto

Pilot Project to experiment with options for providing sanitation in peri-urban areas and provided very limited financial support.

Allocating business responsibilities and risks

Main business responsibilities	<p><i>Operator:</i></p> <ul style="list-style-type: none"> • Management • Operations and maintenance • Investment, including repaying the debt of the previous municipal company. <p><i>Government:</i> No business responsibilities</p>
Allocation of main risks	<p>The operator takes on all main risks, with some exceptions stipulated in the concession contract:</p> <ul style="list-style-type: none"> • Environmental liabilities. Aguas de Illimani is not responsible for environmental liabilities incurred before the concession. • Currency risk. This risk has been hedged as the tariff is contractually specified in U.S. dollars, the currency in which all loans have also been taken.
Provisions for unforeseen events and changes	<p>The contract cannot be adapted to unforeseen changes, but it does include rules for its renegotiation.</p>

Managing the relationship with institutions

Monitoring and enforcing performance	<p>An independent regulatory agency in charge of economic regulation, the Superintendencia de Saneamiento Básico (SISAB), was established in 1997 by a central government regulation specific to concessions in the water sector. SISAB is responsible for making sure that all regulated companies in the sector (municipal, private, or cooperatives) meet their obligations. The name of the SISAB has changed since 1997 to the Superintendencia Sectorial de Saneamiento Básico (see the Cochabamba example).</p>
Role of independent experts	<p>Aguas de Illimani must employ an independent expert to carry out the capital expenditure and tariff studies on which the five-year contract revision is based. The studies are financed by the operator and presented to the regulator.</p>
Resolving disputes	<p>The overall system of economic regulation for network services comprises of five sector regulators (including SISAB), and a sixth, the Superintendencia General, which serves as an appeal body for disputes relating to those sectors. This is the first recourse before a judicial review is initiated. The contract also includes provisions for international arbitration.</p>
Adjusting tariffs	<p>According to the contract, tariffs are revised every five years in order to cover the costs of operation and maintenance, repaying capital for existing investments, and expansion to meet targets set out in the contract. The contract defines the procedure for estimating tariffs in four steps to be applied by an external consultant. The first step consists of estimating a formula to cover the following five-year period, including the costs of operation and maintenance, taxes,</p>

depreciation, the costs of repaying capital for existing investments, and a return on new investments. The second step consists of projecting revenues based on current customer tariffs. In the third step, the change in revenues required to cover the projected costs is estimated in real terms, using a set discount rate of 12 percent. The last step involves deriving projected tariff change in order to reach the corresponding change in revenue requirement based on a tariff-basket formula.

The concession contract also provides for extraordinary revisions after the first two years if the concessionaire's costs rise above a certain percent.

Changes in the arrangements	The contract has not been renegotiated. The regulator refused Aguas de Illimani's request for an extraordinary tariff renegotiation during the first five-year period. Aguas de Illimani had requested such renegotiation due to a much lower than forecast demand for new connections and lower demographic growth than expected, which both had the effect of depressing demand and revenues.
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Designing legal instruments for the arrangement

Legal instruments	The concession contract is the main instrument and builds on a series of earlier regulations passed at the national level. These include the 1992 National Regulations for Water and Sanitation Service in Urban Areas, which define in-house water and sewerage connections as the only acceptable long-term water and sanitation solution for urban areas.
Mechanisms for compliance	<p><i>Operator.</i> Penalties are used to ensure coverage connections are met. For example, the number of required connections for a given year will increase by one for every five failed connections. If Aguas de Illimani is more than 15 percent short, they pay US\$500 for every connection they have failed to install and if they are more than 25 percent short, SISAB can cancel the contract, and execute a US\$5 million guarantee.</p> <p><i>Consumers.</i> According to the contract, the operator can disconnect customers if they have not paid their bills for two consecutive months.</p>

Selecting an operator

Operator selection	The operator was selected by international competitive bidding, but there was only one bidder. The bidding criteria were the number of household water connections to be established in El Alto by 2001, as well as a commitment to specified levels of sewerage coverage.
Re-tendering	The government will re-award the contract according to the minimum net asset value bid, as set out in the concession contract.

Other comments and references

Other contract information	Given that demand was lower than expected and the inflexibility of service standard obligations, the concessionaire worked in partnership with the Ministry of Basic Services and the Water and Sanitation Program to introduce a condominium technique for water and sewerage. The short-term objective of the project was to provide water and sanitation connections to 10,000 low-income households.
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Key strengths of the initial pilot were improved institutional and organizational structures, and strong community relationships.

Sources and references: Caplan and Jones 2001a, Foster 2001, Inter-American Development Bank 1998, Komives 1998, and Trémolet and Browning 2002.

LONDON AND THAMES VALLEY (UNITED KINGDOM)

Contract overview

Award date	1989
Type	The Secretary of State for the Environment granted a license and simultaneous sale of shares in the license-holder capital. At the time of privatization, the water and sewerage management elements of the former ten regional water authorities were converted into public limited companies, wholly owned by holding companies, and licensed to operate water and sewerage services in their defined service areas. Shares in the holding companies were sold on the London Stock Exchange via initial public offerings. A similar process was undergone for smaller water-only companies.
Duration and possible extension	The license is effectively a perpetual appointment, but for a minimum of 25 years after the date of transfer of assets in 1989. The license conditions originally allowed for possible termination after the first 25 years on the Secretary of State giving 10 years notice; this was amended in 2002 to 25 years notice.
Contracting authority	<i>Central government.</i> The license is granted by the Secretary of State for the Environment.
Operator	Thames Water Plc, a subsidiary of RWE Group as of 2001.

Setting upstream policy

Market structure	<p><i>Horizontal structure:</i> Thames Water is one of ten water and sewerage supply companies in England and Wales. Service areas are defined primarily on the basis of river basin boundaries. Thames Water serves approximately 13 million primarily urban customers in London and the Thames Valley. The service area includes over 3 million connections.</p> <p><i>Vertical structure:</i> Water and sanitation services are jointly provided, except in certain cases described in competition constraints and where former statutory water companies continue to operate independently as water supply companies.</p> <p><i>Cross-sector structure:</i> Water and sanitation are provided separately from other utilities, although a subsidiary of RWE provides electricity to other regions in the United Kingdom outside of the Thames Water service area.</p>
Competition constraints	<p><i>Competition for the market:</i> No constraints</p> <p><i>Competition in the market:</i> When the initial license was signed, the operator had exclusive right to the area of service for water and sewerage supply. Since then, the regulators have authorized both</p>

inset appointments (external water and sewerage suppliers can supply services for specific clients within the operator's service area), and common-carriage permits (a service provider shares the infrastructure assets of another provider). The introduction of the Competition Act of 1998 allowed for this increased competition in the service areas, namely by enabling common carriage. The Water Act 2003 was expected to allow licensing of new water production and retail companies and for competition in the market for supply to large industrial users.

Bulk water payment	Bulk supplies are managed largely by the company with oversight from the economic regulator (Ofwat), the Environment Agency, and ultimately the ministers. The Environment Agency licenses and levies charges over the abstraction of raw water from the environment.
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Service standards, subsidies, and tariffs

Operator obligations	<p>Input or output terms: Obligations are specified in both input and output terms. The system of regulation is primarily output-driven; the operators propose target service levels, operating costs, and capital investments anticipated to be incurred for each five-year tariff period and Ofwat modifies and monitors operator obligations.</p> <p><i>Coverage obligations:</i> Universal coverage</p> <p><i>Quality obligations:</i> Ensure environmental, quality, and customer service standards. Quality improvement obligations derive from the transposition of European Union directives, mainly the European Water Framework Directive, into national legislation. Improvements are driven by European Union directives and other incentives, for example, with the application of comparative competition by the economic regulator for the determination of prices. The performance of companies on the basis of a number of indicators is compared: the company achieving high performance relative to the other companies can charge comparatively higher customer tariffs.</p>
Cost recovery	Tariffs are designed to cover the majority of costs.
Tariff structure	Tariffs are the same throughout the service area, thereby creating implicit cross-subsidies between regions. Maximum connection charges are levied and regularly reevaluated by Ofwat. Under a law enacted in 1999, the operator is required to establish policies for vulnerable consumer groups whereby low-income groups supplied by meters are eligible for tariffs that were equal to or lower than the operator's average bill.
Types of subsidies	<p>Subsidies include:</p> <ul style="list-style-type: none"> • No direct government subsidies are provided to consumers other than social security and other general welfare provisions. • Subsidy for the operator. The government provided an implicit subsidy by offsetting the companies' existing debts at the time of privatization and granting companies a "green dowry" in order to encourage immediate investment. In addition, the asset base, on the basis of which tariffs are estimated, was set at a lower level than the historical value of assets, on the grounds that companies should not earn a return on sunk investments made by the public sector.

Donor financing None

Allocating business responsibilities and risks

Main business responsibilities

Operator:

- Management and meeting regulatory requirements for infrastructure investment, environmental protection, customer satisfaction standards, and water and effluent quality standards
- Operations and maintenance
- Investment and finance

Government: No business responsibilities

Allocation of main risks

Main risks are allocated through the tariff adjustment formula: $RPI + K$, where

RPI is the Retail Price Index or annual percentage change in the RPI , and

K is the Adjustment Factor or the annual rate by which each licensed water company can annually increase charges annually on top of inflation.

Ofwat sets K factors, companies can defer K factors, and both Ofwat and companies can seek interim adjustments of K factors. Setting the K factor occurs during periodic reviews and is based on the review of operator's performance of the previous five-year period and an analysis of anticipated costs and efficiency savings for future periods.

Under this formula, customers assume the majority of risks. Between tariff adjustment periods (scheduled every five years with the possibility of interim determinations), customers bear most risks, for example inflation risk. Operators bear risk at the time of tariff adjustment as regulator decisions alter K values, thereby affecting the operator's levied tariffs and eventually, the gross operating revenue. Operators also bear increasing investment cost risks between adjustment periods, although operators can request that unexpected increasing costs be accounted for in future tariff reviews. The government bears minimal risk.

Provisions for unforeseen events and changes

Renegotiation and arrangement changes can be addressed in periodic reviews, interim determinations, and acts of parliament.

Managing the relationship with institutions

Monitoring and enforcing performance

The operator's performance is monitored by three independent regulators:

- The Office of Water Services (Ofwat), the economic regulator, is in charge of establishing price limits, encouraging efficiency by comparing the performance of all water companies in England and Wales, and protecting standards of service as set forth in the company's license and the Water Industry Act 1991. Ofwat provides public information on operator performance, demand for water services, and other indicators. Customer service committees, part of the Ofwat national consumer council, are appointed by the

- director general of Ofwat and act as informants to Ofwat on the companies' performance in meeting customer service standards.
- The Drinking Water Inspectorate monitors water quality and takes corresponding enforcement actions when the company's water quality standards are violated.
 - The Environment Agency is responsible for protecting and improving the environment by regulating water quality and water abstraction licenses.

Role of independent experts	Independent experts play a role in tariff determinations, regular review processes, and company performance reviews.
Resolving disputes	Disputes relating to the license not resolved under the operator's or regulators' capacity are referred to the Competition Commission.
Adjusting tariffs	<p>Tariffs are adjusted over time by the principles set forth in the company's license and according to the director general's calculation. Occurring at five-year intervals, the periodic review determines whether the company's adjustment factor, or <i>K</i> value, should be changed.</p> <p>Calculations of tariff adjustments in the periodic review are based on the overall level of tariff but also the relationship between different types of tariffs. In addition, tariff adjustments can also occur through interim decisions. As stipulated in the company's license, interim decisions are determined by Ofwat's director general after receiving requests submitted by either the companies or Ofwat.</p>
Changes in the arrangements	Modifications to the license include: interim price determinations, ring-fencing of financial and accounting affairs between core and noncore company activities (1993 License Amendment), mandatory Periodic Reviews for every five-year interval (1995, 2000 License Amendment), and mandatory maintenance of investment-grade ratings (2001 License Amendment).

Designing legal instruments for the arrangement

Legal instruments	The legal arrangements are set out in the 1989 License and subsequent revisions, in addition to national legislation with respect to water services and water resources.
Mechanisms for compliance	<p><i>Operator.</i> Incentives for performance improvement are included in the operator's license and tariff adjustment formula. The operator is required to deliver specified service levels. Failure to meet the standards results in the operator directly compensating customers. Major breaches of license obligations can result in termination of the license.</p> <p><i>Government.</i> The government's responsibilities are carried out by the independent regulators as stipulated in legislation.</p> <p><i>Customers.</i> There are no specific incentives since customers cannot, by law, be disconnected for unpaid bills.</p>

Selecting an operator

Operator selection	Licenses were granted to Thames Water and nine other existing water and sewerage companies, previously existing as publicly owned regional water authorities. Company shares were sold on the stock exchange.
Re-tendering	The government has not indicated the strategy it intends to adopt after the contract concludes.

Other comments and references

Other contract information	The full divestiture of assets to private companies is rarely encountered elsewhere in the world: one case is in Chile (see example of private participation in Santiago). Such sales require a sophisticated and comprehensive regulatory regime.
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Sources and references: Buckland and Fraser 2001, Competition Commission 2000a, Competition Commission 2000b, Department of the Environment 1999, Green 2003, Ofwat 1998, 2001, 2003a, 2003b, 2003c, and www.ofwat.gov.uk.

METRO MANILA (PHILIPPINES)

Contract overview

Award date	1997
Type	Concession (two separate agreements)
Duration and possible extension	25 years. There is no possible extension.
Contracting authority	National government (Ministry and Metropolitan Water Works and Sewerage System, MWSS).
Operators	The city divided into two service areas to promote diversity and comparative competition. For the West Service Area: Maynilad Water Services Inc., a consortium between the Philippine company Benpres (60 percent) and the French company Lyonnaise des Eaux, fully owned by SUEZ (40 percent). For the East Service Area: Manila Water Company Inc., a consortium between the Philippine company Ayala (60 percent) and the U.K./U.S. company International Water (40 percent). This case study mostly focuses on Maynilad's contract in the West Service Area although the institutional arrangements are applicable to both.

Setting upstream policy

Market structure	<i>Horizontal structure:</i> The service area covers the area previously supplied by the publicly owned MWSS—32 cities and municipalities with a total of over 11 million people. In both areas, there were over 800,000 water connections and 90,000 sewerage connections. The West Service Area covered by Maynilad Water Services had a larger population than the East Service Area. The operators also serve a small number of communities by giving them a wholesale service with internal distribution to be provided by a homeowners association.
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Vertical structure: Water and sanitation are jointly provided within each service area. The government was to build a major new water source. Delay in doing so has been cited as one problem with the concession.

Cross-sector structure: Water is provided separately from other utilities.

Competition constraints

Competition for the market: The Philippine Constitution specifically mandates that all public utilities must be owned and controlled by Filipino citizens. As a result, the concessionaire needs to be at least 60 percent owned by citizens of the Philippines (or by corporations that are at least 60 percent domestically owned) in addition to having Filipino technical managers. Rules of minimum nationality govern the ownership of outstanding capital stock (these rules have been revised slightly at periodic reviews).

Competition in the market: The two concessionaires were granted exclusive rights to provide services in their respective service area on the basis of several conditions:

- Existing private water providers were allowed to remain if already legal at the date of the concession awards (that is, licensed by the National Water Resources Board and with the consent of the MWSS).
- The contract includes provisions for granting licenses to new private operators (third parties) in the concessionaires' service areas if the concessionaire declines to provide the services as proposed by the third party or if they fail to provide the proposed services at substantially similar terms. These new third-party licenses cannot exceed 10 years and can be terminated with 60 days notice if the concessionaires notify the MWSS and the National Water Resources Board that they can provide the service covered by the third party. Many third parties (such as housing associations, community groups, or private companies) provide services, especially in poor areas.

Bulk water payment

Provisions for bulk water charges apply when the concessionaires transfer water to each other's service areas. Otherwise, there are no raw water charges.

Donor financing

The World Bank and the Asian Development Bank played a leading role in financing the development of the country's water supply and sanitation sector in general, as well as during the privatization transaction. The International Finance Corporation was hired to act as transaction advisors and the World Bank approved a loan financing the rehabilitation of sewerage networks and treatment plants and the first phase of sewerage management expansion. Maynilad and Manila Water both raised substantial debt packages to meet their investment needs. The packages were financed by various mechanisms, including limited-recourse Official Development Assistance financing.

Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations

Input or output terms: Although estimates of capital investment requirements were provided before the bidding process (without a minimum requirement) and although both bidders informally committed to significant investments over the contract life, the investment obligations remain output-based in principle. The

operators are dependent on MWSS for investments in some major bulk-water projects.

Coverage obligations:

- Achieve annually increasing coverage targets, with interannual targets defined by zone. Coverage targets were in respect to time, population served, and type of service.

Quality obligations:

- Achieve targets for percentage of water treated (water and wastewater).
- Achieve continuity of supply (24 hour supply by 2000), pressure, meet national drinking water quality and environmental standards, and improve customer service quality. Detailed reporting requirements are specified in the contract.
- Achieve targets for asset management obligations.

Cost recovery	Tariffs cover operating costs, capital maintenance and investment expenditures, a rate of return to finance such expenditures (referred to as the Appropriate Discount Rate), the concessionaire cost of borrowing for loans, financial costs on the performance bond, foreign exchange losses or gains, MWSS's operating budget, and concession fee payments.
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Tariff structure	Customers are divided into four categories: residential, semi-business, business I, and business II. Tariffs are lowest for households and highest for large industrial or commercial users of water (business II). Both operators have special programs for poor communities. In some cases operators have arranged for a group of homeowners in these communities to pool their water usage and bill payments, thereby keeping down their connection costs.
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Types of subsidy	<p>Subsidies include:</p> <ul style="list-style-type: none"> • <i>Consumer:</i> There are no subsidies, other than direct government subsidies for construction of shallow wells by certain poor communities. • <i>Operator:</i> No explicit subsidies are granted but the concessionaires are granted preferential treatment, including a six-year income tax break, preferential tariffs on the import of capital equipment, tax credits on locally produced equipment, and exceptions from local government and franchise taxes.
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Donor financing	None
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Allocating business responsibilities and risks

Main business responsibilities	<p>Operator:</p> <ul style="list-style-type: none"> • Management • Operation and maintenance • Investment. <p><i>Government:</i></p> <ul style="list-style-type: none"> • Compliance with notification procedure for payment of fees • Monitoring of service provided and approval of tariffs • Operation and allocation of some bulk water • Functions associated with existing MWSS projects and loans that were not transferred to the concessionaires.
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Allocation of main risks	<p>Risks are allocated through tariff adjustment rules shown below. Due to the tariff formula's price cap, the operator bears risk in the short term. The general principles used by the Regulatory Office in tariff adjustments are:</p> <ul style="list-style-type: none"> • A reasonable rate of return, as provided for under tariff adjustments • Affordability to customers • Justifiable economic efficiency gains (for example, seasonal-differential rates, marginal cost pricing) • Acceptable cross-subsidization.
Provisions for unforeseen events and changes	<p>In addition to amendments allowed through written approval of all parties and acknowledged by the secretary of finance, changes are usually dealt with through the extraordinary price adjustments.</p>

Managing the relationship with institutions

Monitoring and enforcing performance	<p>Monitoring occurs through the Regulatory Office and periodic independent audits. The Regulatory Office has independent financing but it must cooperate with the MWSS board of directors. The MWSS administrator reports to the board and the Regulatory Office reports to the administrator. The Regulatory Office has two main functions:</p> <ul style="list-style-type: none"> • Responsibility for a range of monitoring activities including the operators' service performance, legal obligations, financial performance, asset management obligations, and rate adjustments • Making a range of determinations on both a periodic and an occasional basis.
Role of independent experts	<p>The regulator utilizes independent experts to assist in rate rebasing, auditing, and monitoring, as necessary.</p>
Resolving disputes	<p>An appeals panel is set up for minor disputes, with the regulatory office, the concessionaire, and the appeal chairman each appointing one member designated by both parties. In the event of major dispute (for example, rebasing determination, determination of extraordinary price adjustments, and early termination), the chairman is appointed by the president of the International Chamber of Commerce. Procedures and timetable are strictly regulated in the concession agreement. The concession agreement does not establish arrangements for resolving disputes between the two concessionaires themselves.</p>
Adjusting tariffs	<p>Initial tariffs were determined by the concessionaires' bids. Thereafter, they can be adjusted annually in accordance with:</p> <ul style="list-style-type: none"> • The annual rate of consumer price inflation • Extraordinary price adjustments on the basis of a number of specified factors • Rate rebasing, carried out every five years to adapt the financial aspects of the contract to changes in circumstances beyond the control of the concessionaires. <p>The process and rules governing an equal rate adjustment (across all rates and categories of customers) is simple. But the process and rules</p>

governing unequal rate adjustments are more complicated because equity, efficiency, and cross-subsidization also need to be addressed.

Changes in the arrangements Concessionaires obtained a special price adjustment that involved renegotiation as a consequence of the wide exchange-rate fluctuations that followed the Asian financial crisis. Negotiations between Maynilad and the concessionaires resulted in an amendment to the concession agreement, establishing a new mechanism called Foreign Currency Differential Adjustment (FCDA), which completely and immediately passes foreign exchange costs to consumers in addition to other extraordinary elements. Current tariffs incorporate this FCDA and an AEPA (accelerated extraordinary price adjustment).

Designing legal instruments for the arrangement

Legal instruments In addition to obligations under the concession contract itself, the concessionaires must comply with all Philippine laws, regulations, orders, and directives that may affect the concession.

Mechanisms for compliance *Operator:* Mechanisms to ensure operator compliance are:

- Penalties in the event of failure to meet service obligations
- A performance bond in favor of the MWSS to cover performance failures with respect to the concessionaires' obligation (ranging from setting up the joint venture, through to rate rebasing, remedial works, costs of appeals, and the like).

Consumers: The concessionaires require warrants from the courts to enter properties or to act against illegal connections.

Selecting an operator

Operator selection The operator was selected by competitive bidding that occurred in two stages, with a technical bid and a financial bid for all bidders that submitted qualified technical bids. Four consortia were prequalified. Each consortium was required to bid for both zones but could be awarded only one zone. The bidding criterion was a percentage to be applied to the existing tariff, not to exceed 100 percent, which would set the starting tariff. The bids were evaluated on the basis of a composite for both zones and the best combination led to contract award.

Re-tendering The government has not specifically set out how it will re-tender the contract upon termination. The MWSS has the right to rebid or undertake any other action it deems appropriate with respect to the concessions. Negotiations between the government and Maynilad Water were underway regarding Maynilad's intention to terminate its contract.

Other comments and references

Other contract information The MWSS service area was split into two zones to establish independent benchmarking, level the balance of power between the concessionaires and the regulator, and ensure competition in the bidding process. Because it was not possible to completely separate the two zones, the concessionaires have to transfer bulk water across the zones. The determination of the price for this transferred water was left to agreement between the two concessionaires. This generated controversy. In addition, one of the major political discussions

concerns the disparity in rates between the two service areas.

At the time of bidding, no single bidder was permitted the award of a concession for both areas simultaneously. There is, however, a limited degree of horizontal integration as the two concessionaires share some of MWSS facilities (and to some extent certain key data with MWSS, such as central records and the telemetry system that monitors the pressure and flow.

Sources and references: David 2000, Dumol 2000, Esguerra 2003, Masons 2003, National Economic Research Associates 1997, PPIAF and Water and Sanitation Program 2002d.

SAN PEDRO SULA (HONDURAS)

Contract overview

Award date	2000
Type	Concession
Duration and possible extension	30 years. The contract can be renewed in the last three years of the contract by mutual agreement of the parties for further 10-year periods.
Contracting authority	Local government (Municipality of San Pedro Sula)
Operator	Aguas de San Pedro Sula, a consortium led by the Italian company Acea S.p.A. (31 percent of shares) and comprising four other Italian companies (65 percent of shares in total) and one local engineering firm (4 percent).

Setting upstream policy

Market structure	<p><i>Horizontal structure:</i> The service area covers the municipality of San Pedro Sula with a population of over 500,000.</p> <p><i>Vertical structure:</i> Water and sanitation services are jointly provided.</p> <p><i>Cross-sector structure:</i> Water is provided separately from other utilities.</p>
Competition constraints	<p><i>Competition for the market:</i> No constraints</p> <p><i>Competition in the market:</i> The contract allows the Juntas Administradoras de Agua (providing services in rural areas) and private water systems to operate in parallel. Aguas de San Pedro Sula is required to establish a team to provide technical assistance to the Juntas (under the contract, areas operated by the Juntas and other small private operators can be potentially incorporated into Aguas de San Pedro Sula).</p>
Bulk water payment	The operator does not pay for bulk water.
Donor financing	The Inter-American Development Bank was involved in the reform process, specifically for preparing the municipality for private participation in its water services.

Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations	<p><i>Input or output terms:</i> Obligations are specified in output terms.</p> <p><i>Coverage obligations:</i></p> <ul style="list-style-type: none"> • Achieve annually increasing coverage targets with eventual 100 percent coverage. Water and sanitation coverage targets were set to different time scales for completion. <p><i>Quality obligations:</i></p> <ul style="list-style-type: none"> • Achieve annually increasing performance targets including percentage of wastewater treated, installation of meters, and continuity of service.
Cost recovery	Tariffs are designed to cover all operating and investment costs.
Tariff structure	The tariff is based on a five-block structure integrating user type (domestic, jointly owned building, commercial, industrial, high consumption industry, and public sector) and consumption levels.
Types of subsidy	No specific subsidies
Donor financing	None

Allocating business responsibilities and risks

Main business responsibilities	<p><i>Operator:</i></p> <ul style="list-style-type: none"> • Management • Operations, rehabilitation, and maintenance • Limited investment. <p><i>Government:</i> No business responsibilities.</p>
Allocation of main risks	<p>The operator bears most operations-related risks, including operating cost, billing and collection, supply, demand, construction cost, financing, and currency risks. These risks are allocated through the operator tariff formula established by the concession contract.</p> <p>The operator's remuneration is made up of customer tariff proceeds minus a concession payment to the municipality. The concession fee consists of a fixed fee (set in the contract and updated for inflation) and a variable fee equal to five percent of the total turnover in the previous year. The variable concession payment allows sharing of the operating risk between the municipality and the operator. The contract requires the municipality to remunerate the operator in the event that they or the state adopt any measures that adversely affect the economic and financial equilibrium of the company (as agreed on by the municipality and company).</p>
Provisions for unforeseen events and changes	No information available.

Managing the relationship with institutions

Monitoring and enforcing performance A supervision unit in the municipality is responsible for supervision and control of the contract. The concession contract anticipated that a dedicated fund would be to set up secure financing independent of the municipality for the supervision unit.

Role of independent experts An independent expert is used to adjust the tariff review process, occurring every three years.

Resolving disputes For any controversy between the municipality and the contractor relating to the interpretation, execution, scope, performance, or termination of the contract, the issue should be addressed by direct consultation between the two parties. If the parties disagree, they can turn to an arbitrator.

Adjusting tariffs Tariffs are adjusted every six months or when inflation increases by more than 8 percent, according to the following formula:

$$T_n = T_{(n-1)} (1 + D_i)(1 + F_a), \text{ where}$$

T_n = Tariff to be applied in the new period

$T_{(n-1)}$ = Tariff applied during the previous period

D_i = Variation of the inflation from the last adjustment, expressed in decimals

F_a = Adjustment factor determined by an independent consultant appointed by the municipality from a list of three candidates chosen by the operator. The adjustment factor is applied every three years.

Individual tariff bands are calculated on the basis of different multiple factors of T_n .

In addition, tariffs are to be revised every three years by an independent expert. An extraordinary increase of 20 percent was planned for the beginning of the third year of concession to allow for tariff reductions at the start of the concession. This was to be followed by other tariff increases after achieving significant quality improvements.

There are no national or regional principles governing tariff setting. But in this contract the tariff increases are governed by the size of the adjustment factor (F_a), which includes investment and financial results.

Changes in the arrangements No significant changes

Designing legal instruments for the arrangement

Legal instruments The contract is the primary instrument used to set out the arrangements.

Mechanisms for compliance	<p><i>Operator:</i> The concessionaire is self-monitored but has to provide the municipality with information and statistics to show it is achieving targets.</p> <p><i>Consumers:</i> Consumers can be disconnected for nonpayment.</p>
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Selecting an operator

Operator selection	<p>The operator was selected by competitive bidding. The contract was let in two phases—prequalification and financial offer.</p> <ul style="list-style-type: none"> • Prequalification. Bidders needed to demonstrate minimum net assets and a minimum of three years operating in a city with a stipulated number of people, and provide references. • Financial offer. This second phase was carried out in two parts. In the first part, a draft contract was presented to bidders and a series of meetings with each of the consortia was used to gather opinions that were used to design the final contract. The consortia were also asked to present a financial offer. The contract was awarded based on the lowest tariff for the restructured tariff system.
Re-tendering	The government has not indicated the strategy it intends to adopt after the contract concludes.

Other comments and references

Other contract information	None
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Sources and reference: Diaz 2003.

SANTIAGO (CHILE)

Contract overview

Award date	In 1990, a long-term concession was granted to EMOS, an autonomous corporatized public entity or "open public corporation" jointly owned by the Ministry of Treasury and a public body, the Corporación de Fomento de la Producción (CORFO). In 1999, government stakes in EMOS were sold in an international bidding process and EMOS was renamed Aguas Andinas.
Type	Divestiture
Duration and possible extension	The operating agreement is granted in perpetuity.
Contracting authority	Central government
Operator	Aguas Andinas, fully owned by a consortium between French company SUEZ and Agbar (Inversiones Aguas Metropolitanas, over 50 percent), plus the Chilean government's economic development agency (CORFO, 35 percent), as well as pension funds, company employees, and other shareholders.

Setting upstream policy

Market structure	<p><i>Horizontal structure:</i> The service area covers 18 mostly urban municipalities, with approximately 1.3 million connections.</p> <p><i>Vertical structure:</i> Water and sanitation are jointly provided, although the law permits the separation of services.</p> <p><i>Cross-sector structure:</i> It is forbidden to provide water and sanitation services jointly with other utility services.</p>
Competition constraints	<p><i>Competition for the market:</i> No constraints</p> <p><i>Competition in the market:</i> Exclusive concession areas were established in 1990. In Santiago 95 percent of the municipal area formed EMOS's concession, while the remaining 5 percent was divided between preexisting, private water-delivery providers. However, the concession areas defined in 1990 did not cover newly served districts, for which concessionaires have to compete on the open market. Aguas Andinas has not won the concession for all new areas. Small-scale informal providers do exist within the Aguas Andinas concession area.</p>
Bulk water payment	Aguas Andinas does not purchase any bulk water, but it does have tradable raw water abstraction rights. These are treated as an asset and as such appear in the balance sheet.
Donor financing	None

Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations	<p><i>Input or output terms:</i> Obligations are specified in both input and output terms.</p> <p><i>Coverage obligations:</i> Coverage obligations are incorporated in the five-year investment plans with interim target dates.</p> <p><i>Quality obligations:</i> Quality obligations are incorporated in national regulations and the five-year investment plans with interim target dates.</p> <p>Investment plans for a period of 15 years are prepared by Aguas Andinas and approved by the regulator, after which they become public documents. Aguas Andinas provides water and sanitation services to nearly 100 percent of the population in its service area.</p>
Cost recovery	All costs are recovered through tariffs.
Tariff structure	Both a fixed charge and a variable charge apply. Tariffs vary with geographical location, seasonal factors, and levels of consumption. A separate volumetric charge is applied for wastewater disposal. A trade effluent charge is applied to industrial consumers, which varies with the level of effluent pollution.
Types of subsidy	Direct subsidies are provided to those identified as poor customers. The subsidies cover a maximum of 100 percent for the first 20 m ³ of monthly consumption for low-income households and range between 25 and 85 percent of the total water and sewerage bill. The municipalities identify low-income families on the basis of social registers. Companies make a discount to eligible customers; the company is

then reimbursed by the respective municipalities. The subsidy is based on willingness to pay amongst poor households, and is targeted only to cover any shortfall between actual charges and willingness to pay. The subsidy, which is funded from the central government budget, uses 5 percent of household monthly income as a proxy for willingness to pay.

Donor financing Although donor financing was not provided at the time of the transaction, World Bank and other loans had been used to finance investment plans before 1999, ensuring that EMOS became an attractive investment opportunity for the private sector.

Allocating business responsibilities and risks

Main business responsibilities *Operator:*

- Management
- Operations and maintenance (including rehabilitation)
- Investment.

Government: Few responsibilities associated with being a minority shareholder.

Allocation of main risks The company bears all risks. However, through its share ownership, a portion of all risk is effectively still borne by the government. Tariffs are set to ensure that the company is able to generate sufficient income to cover the cost of operation, maintenance, new investment, and return to shareholders.

Provisions for unforeseen events and changes There are only provisions for dealing with tariff changes between periodic reviews in exceptional circumstances, such as tax changes. In addition, the government can revoke the concession in the case of serious fault, although the exact procedures for doing so are unclear.

Managing the relationship with institutions

Monitoring and enforcing performance Performance is monitored by an independent regulator operating at the national level, SISS, the Superintendencia de Servicios Sanitarios. It is a decentralized body with independent staff, subject to supervision by the country's president through the Ministry of Public Works. The president appoints the director for an undetermined period of time. The budget is provided from the national budget; it is based on an agreed formula and justification and approved by the Treasury.

Role of independent experts Independent experts are used in the case of tariff disputes. In addition, the regulator contracts out a range of functions to independent experts.

Resolving disputes A panel of experts is used in the case of tariff disputes. In the case of a dispute the panel must choose either the solution proposed by SISS or that proposed by the company—there is no possibility of compromise.

Courts. In the event that Aguas Andinas does not agree with the regulator's interpretation of the law, it is obliged to appeal to the national courts.

Adjusting tariffs	<p>A two-step procedure is used, based on 15-year projections. First, tariffs are calculated based on marginal cost or efficient tariffs. The figures used are based on a model company and are calculated by aggregating the real information provided by all service providers. Second, these are adjusted upwards or downwards so that the financial self-sufficiency of the operator is guaranteed. The principles of self-sufficiency, equal treatment of all customers, and consideration for seasonal variations, if they exist, are also used in the tariff adjustment process.</p> <p>Tariffs are set for 5-year periods and concessionaires have the right to appeal on tariff decisions at the time of these decisions. In addition, the regulator can make interim adjustments to the tariffs in response to exceptional and unexpected circumstances.</p>
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Changes in the arrangements	No significant changes have occurred.
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Designing legal instruments for the arrangement

Legal instruments	Laws establish the general framework for regulation of the sector and for private participation. A statute grants rights to the company to operate in perpetuity, and is akin to a license. Finally, the shareholder agreement of Aguas Andinas organizes the relationship between the government as residual shareholder and the private sector, stipulating that the private sector will act as the operator, and granting the public sector certain controls and veto rights.
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Mechanisms for compliance	<p><i>Operator.</i> Aguas Andinas must provide SISS with open access to all information. In addition, annual reports are prepared and routine audits carried out. In the case that SISS deems Aguas Andinas to be noncompliant with standards and other obligations, fines are imposed.</p> <p><i>Consumers.</i> Consumers can be disconnected for nonpayment.</p>
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Selecting an operator

Operator selection	The operator was selected by a sale of shares by limited public tender. Prequalification was based on specifying minimum technical ability, service coverage, and financial requirements. The contract award was based on price per share offered. No information is available on the technical criteria that were used.
Re-tendering	The government has not indicated the strategy it intends to adopt after the contract concludes.

Other comments and references

Other contract information	In 2000 Aguas Andinas acquired 100 percent of Aguas Cordillera and Aguas Manquehue, two operators within its service area.
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Sources and references: Alfaro 1997, Gómez-Ibáñez 1996, Masons 2003, Pickering 1998a, Pickering 1998b, and Superintendencia de Servicios Sanitarios 2004.

SENEGAL

Contract overview

Award date	1996
Type	Affermage-lease
Duration and possible extension	10 years. The contract is renewable every five years.
Contracting authority	Central government
Operator	Sénégalaise des Eaux (SdE), a consortium of the French company Saur International (over 55 percent), local investors (over 30 percent), employees, and the government of Senegal.

Setting upstream policy

Market structure	<p>Horizontal structure: The service area covers only urban areas, although a few villages next to the main water-transmission pipe are included. SdE is responsible for operating and maintaining water services in over 50 urban centers throughout the country, with nearly 300,000 connections.</p> <p><i>Vertical structure:</i> Water and sanitation services are provided separately.</p> <p><i>Cross-sector structure:</i> Water is provided separately from other utilities.</p>
Competition constraints	<p><i>Competition for the market:</i> No information.</p> <p><i>Competition in the market:</i> There is no formal exclusivity stipulated in the contract, although such exclusivity is effective in practice (SdE is the only private water operator in Senegal). Standpipe operators can buy water in bulk from SdE and resell it in the area, but this practice has remained fairly limited.</p>
Bulk water payment	The operator does not pay for bulk water.
Donor financing	None

Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations	<p><i>Input or output terms:</i> Obligations are specified mostly in output terms.</p> <p><i>Coverage obligations:</i></p> <ul style="list-style-type: none"> • Achieve network targets specified in the contract (kilometers of network, number of connections and meters, and replacement of electromechanical equipment) • Achieve additional network targets if the concession area expands. SdE's service area is the same as the concession area of public asset company Societe Nationale des Eaux du Senegal (SONES). SdE has no incentive or responsibility for increasing coverage outside this area.
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Quality obligations:

- Achieve leakage reduction, water quality improvements, bill collection, and other customer service improvements. The operator tariff formula includes incentive payments linked to these improvements.

Cost recovery	The customer tariff covers the operator's fees for operation and maintenance of the system, fees paid to SONES and the Office National de l'Assainissement du Senegal (ONAS, the public utility responsible for sanitation for users connected to the sewerage network), and other fees.
Tariff structure	<p>There are two types of tariffs: an increasing-block tariff for domestic customers and a single tariff block for nondomestic customers. The increasing block covers:</p> <ul style="list-style-type: none"> • a subsidized social tariff for levels of consumption below 20 m³ in a 60-day period • a regular tariff for consumption over this • a dissuasive tariff for consumption above 40 m³ in a 60-day period. <p>Tariffs are the same across the national territory, which implies cross-subsidization between regions.</p>
Types of subsidy	The government, through SONES, subsidizes social connections, which are provided free to eligible households. Eligibility for social connections is based on location, including some areas of Dakar and most secondary cities. SdE is then contracted to install the connections.
Donor financing	Donor funding was provided and matched with private funds to finance the transaction. The World Bank provided consultants to assist the government to plan the introduction of private participation and to design the necessary contracts, incentives, and institutions. Donors provided US\$230 million, but the World Bank required a portion of this credit to be funded by commercial credit in order to reduce dependence on donor funds.

Allocating business responsibilities and risks

Main business responsibilities	<p><i>Operator:</i></p> <ul style="list-style-type: none"> • Management • Operations—including extraction, production, and distribution of water—and maintenance of all materials used in production and distribution, including the network. Certain renewals are also included • Limited investment responsibility for necessary network renewals, connection renewals, and electromechanical equipment. <p><i>Government:</i></p> <ul style="list-style-type: none"> • Asset ownership through SONES • Guaranteeing that infrastructure is available to the operator and that investments are made (including a three-year investment program, adjusted each year, which takes into account the operator's proposals) • Prompt execution of works relating to system investments • Responsibility for obtaining financing for the works • Adjustment of tariffs in accordance with the sector development contract.
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Allocation of main risks Risks are allocated by a contractual formula that determines SdE's remuneration and estimates the funds available to SONES for financing investment and repaying debts. SdE's revenues are made up of two parts, incorporating incentives to improve technical and commercial efficiency.

This formula below summarizes the total operator tariff in each year: where:

$$OT = OP_n (Vp_n \times CTE_n \times CCE_n) + T_{avg,n} [(Vp_n \times ATE_n \times ACE_n) - (Vp_n \times CTE_n \times CCE_n)]$$

OT = operator tariff

$T_{avg,n}$ = average tariff: sum of the amount billed in each tariff category divided by the total overall volume billed for in cubic meters

OP_n = operator's water supply rate per cubic meter (sometimes called "bid price" or "operator's fee"), adjusted annually according to an indexation formula specified in the contract

Vp_n = water put into supply (volume of water produced) in m³/year

ATE_n = actual technical efficiency; water billed divided by water produced (equal to 1 – nonrevenue water)

CTE_n = contractual technical efficiency; the target for water billed divided by water produced according to the contract

ACE_n = actual commercial (bill collection) efficiency: actual amount of water paid for divided by water billed

CCE_n = contractual commercial (bill collection) efficiency; the target for water paid for divided by water billed according to the contract

The amount to be paid by the operator to SONES (ST) in each year (n) is:

$$ST = (T_{avg,n} - OP_n) Vp_n \times CTE_n \times CCE_n$$

According to these formulas, the operation-related risk is effectively divided between SdE and SONES. SdE bears the investment risk up to the limited amount of investments that it is supposed to carry out, while SONES bears most of the investment and financial risks.

Provisions for unforeseen events and changes SdE's remuneration can be adjusted by negotiation every five years or in the event of external changes, or if there is significant change in the standard or quality of drinking water, in taxes, or in the cost of water extraction.

Managing the relationship with institutions

Monitoring and enforcing performance Overall responsibility for monitoring resides with a contract-monitoring committee comprising the president, a representative of the Ministère de l'Hydraulique (the ministry responsible for water), a representative of the ministry of finance, and the Director-General of SONES. SONES is responsible for overseeing SdE's performance, including: technical management, quality of water extraction and exploitation, economic and financial status, development, and state of infrastructure.

Role of independent experts	Independent experts can be requested to verify data used in calculating parameters for targets and remunerations and to help settle disputes between parties.
Resolving disputes	Independent experts are used to resolve disputes.
Adjusting tariffs	The Ministère de l'Hydraulique is responsible for adjusting customer tariffs according to the principles of financial viability and economic efficiency set out in SONES' concession contract. SONES is responsible for calculating annual customer tariffs based on a financial model prepared at the time of the transaction and updated annually. Tariffs are adjusted based on inflation parameters and real-term increases, forecast at the time of the transaction to be around 3 percent a year to enable the sector to reach financial equilibrium by 2003.
Changes in the arrangements	<p><i>Initial renegotiation of the value of the assets:</i> When SdE took over the moveable assets, it found substantial inconsistencies in inventory, which led the parties to revise downward the bid price.</p> <p><i>Initial renegotiation of efficiency targets:</i> The baseline technical efficiency figure used in contract negotiations was renegotiated downward. In 1998 SdE renegotiated the efficiency targets again because SONES had not implemented scheduled investments. At that time, the indexation mechanism for SdE's remuneration was revised to reflect changes in weights of SdE's cost factors.</p>

Designing legal instruments for the arrangement

Legal instruments	<p>Laws and contracts set out the arrangements. A 1995 law governing the institutional reform of the urban water supply sector authorized the creation of the three key institutions: an asset-holding company (SONES), a national office for urban sanitation (ONAS), and a water operating company (SdE) destined to be privatized. Four interrelated contracts set out the regulatory arrangements for the sector as a whole:</p> <ul style="list-style-type: none"> • An affermage-lease contract between three parties: SdE, the state, and SONES • A 30-year concession contract between SONES, the public asset-holding company, and the state, with an associated planning contract • A sector development contract (contract plan) between SONES and the ministry (Ministère de l'Hydraulique) that outlines SONES' investment obligations • A parallel 10-year performance contract between SONES and SdE, which was included as an Annex to the affermage-lease contract.
Mechanisms for compliance	<p><i>Operator:</i> Incentives for performance improvement are included in the operator's remuneration formula. In addition, SdE is also liable for penalties in circumstances specified in its contract, including technical and communication failures.</p> <p><i>Government:</i> The government's responsibilities, carried out by SONES, are outlined in the concession contract and the performance contract.</p> <p><i>Customers:</i> SdE is permitted to disconnect customers for nonpayment.</p>

Selecting an operator

Operator selection	The operator was selected by competitive bidding. The contract award was based on a two-stage process: prequalified companies were requested to submit a technical bid. Shortcomings in the bids were discussed with each bidder. Bidders then submitted a revised technical bid with a financial proposal. The final award was based on the lowest "operator price" per cubic meter.
Re-tendering	The government has not indicated the strategy it intends to adopt after the contract concludes, but the contract is renewable every 5 years after the first 10 years.

Other comments and references

Other contract information	Preparation of the contract and setting of performance targets were greatly facilitated by a transparent financial model for the sector that enabled all actors to see the impact of policy decisions.
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Sources and references: Brocklehurst and Janssens 2004, Trémolet and others 2002.

SOFIA (BULGARIA)

Contract overview

Award date	2000
Type	Concession
Duration and possible extension	25 years. There is no possible extension.
Contracting authority	Local government (Municipality of Sofia)
Operator	Sofijska Voda AD (SV), a consortium between the U.K./U.S. company International Water Ltd. (50 percent) and the U.K. company United Utilities (50 percent), owns 75 percent of the total shares and the existing municipality-owned utility company, Vodospabdajavne I Kanalizatsia EAD (ViK) owns the remaining 25 percent. The shares of International Water Ltd. were later sold to United Utilities.

Setting upstream policy

Market structure	<p><i>Horizontal structure:</i> The service area covers the capital city Sofia, with a population of more than 1.2 million people in urban areas. The operator also provides potable supply to a limited number of settlements outside the Sofia area, which rely on the Beli Iskar dam for their water supply.</p> <p><i>Vertical structure:</i> Water and sanitation services are jointly provided.</p> <p><i>Cross-sector structure:</i> Water is provided separately from other utilities.</p>
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Competition constraints	<p><i>Competition for the market:</i> No constraints</p> <p><i>Competition in the market:</i> The operator has exclusivity for its service area.</p>
Bulk water payment	The operator pays for bulk water. If the cost of purchasing bulk water exceeds a certain level, customer tariffs can be adjusted to compensate the operator's increased payment for bulk water.
Donor financing	None

Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations	<p><i>Input or output terms:</i> Obligations are specified in detail and are mainly output-based although a minimum amount of capital investment is defined in the concession agreement.</p> <p>The concessionaire is responsible for the operation, maintenance, servicing, and replacement of all pipes and other conduits.</p> <p><i>Coverage obligations:</i> No extensions were included in the contract.</p> <p><i>Quality obligations:</i> Quality obligations are output-based and include standards prescribed by Bulgarian law, international standards, and future obligations of the European Union Water Framework Directive.</p>
Cost recovery	Tariffs fully cover the costs of service provision.
Tariff structure	No information available.
Types of subsidy	None
Donor financing	The European Bank for Reconstruction and Development (EBRD) played a key role in the entire transaction. After initial conception and assistance in mobilizing funds for an international advisory team, the EBRD reduced its advisory role so, for example, permission in respect to change of consortium ownership is required by the city and the EBRD.

Allocating business responsibilities and risks

Main business responsibilities	<p><i>Operator:</i></p> <ul style="list-style-type: none"> • Management • Operation and maintenance, including rehabilitation and extension of existing infrastructure within the service area • Investment, including specific targets over the life of the contract. <p><i>Government:</i></p> <ul style="list-style-type: none"> • Asset ownership.
Allocation of main risks	<p>The government's approach to risk allocation in the concession was to allocate to SV only those risks over which SV had considerable control, while bearing most other risks, with the important exception of demand, a risk that is heavily allocated to the concessionaire. According to the concession agreement:</p> <ul style="list-style-type: none"> • SV bears the following risks: interest rate, revenue, demand, certain changes in law, and certain <i>force majeure</i> events (for example, increased costs due to war, civil disorder, and the like)

- Customers bear the risks connected with inflation, foreign exchange, and tariff adjustments under certain eligible events (including qualifying change in law, grantor variations, and *force majeure* events as specified in the contract).
- Customer contracts can provide for further risk allocations. For example, SV's contracts with industrial customers contain provisions ensuring unlimited liability for loss or damage arising from unacceptable discharges.
- The government and the operator bear foreign debt exposure. The Bulgarian government formed a currency board to minimize exposure and stabilize investment. The concessionaire could seek compensation if the government abandoned or significantly altered the currency board.

Provisions for unforeseen events and changes	The contract provides a mechanism for adjusting the tariffs due to eligible events. The contract does not contain any specific rules regarding renegotiation.
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Managing the relationship with institutions

Monitoring and enforcing performance	The Municipality of Sofia set up a special concession monitoring unit (Omonit) to control tariffs and monitor the concessionaire's performance. Omonit is a private company, selected through bidding, that acts on behalf of the municipality and consumers. They have a series of short-term renewal contracts with the city. According to the 1997 Water Act (and the revised act) there are no specific regulators; the relationship between public authorities and private operators is left to the contract.
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Role of independent experts	When procuring the concession contract, the municipality created a bidding commission dedicated to the transaction and supported by an international advisory team (financial, legal, and technical), appointed through a bidding organized by the municipality and the EBRD. The municipality also appointed a Bulgarian law firm as an "in-house" project manager to link the parties. Omonit uses independent experts to support its monitoring work in the contract.
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Resolving disputes	There is a nonbinding mediation procedure set out in the contract and a Concession Dispute Resolution Board with three members: a chairperson (a lawyer trained in arbitration), a technical expert, and a financial expert. There is also an appointing authority in the event the parties cannot agree on the selection of these members. If either party disagrees with a board decision they can take the case to arbitration in Bulgaria within 30 days; otherwise, the decision automatically becomes binding. Arbitration is conducted under rules of the United Nations Commission on International Trade Law.
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Adjusting tariffs	Tariffs are adjusted annually to take account of price inflation using a cost-reflective indexation mechanism based on agreed price indices. Tariffs may also be adjusted due to certain eligible events. These adjustments are calculated with a financial model that takes into account
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changes in applicable parameters in order to preserve the concessionaire's projected internal rate of return. A comprehensive scheduled review is undertaken in the third year of the concession as part of a revised concession term investment plan to be prepared by the concessionaire. No other scheduled or periodic reviews are provided for under the concession agreement.

Changes in the arrangements The arrangements have not been significantly changed.

Designing legal instruments for the arrangement

Legal instruments Arrangements are set in the contract, laws, and regulations. Fundamentally, the 1999 Water Act paved the way for existing government or municipally owned water supply and sewerage companies to enter agreements with private operators.

Mechanisms for compliance *Operator:* Failure to achieve operator obligations can result in contract termination by the government.

Government: The operator can terminate the contract, subject to criteria stated in the contract, if the government fails to pay any sums due to the concessionaire. Omonit ensures compliance from the concessionaire; the concessionaire ensures compliance of the city and customers.

Customers: Failure of payment entitles the concessionaire to disconnect supply except for customers that provide critical medical facilities.

Selecting an operator

Operator selection The operator was selected through an international competitive bidding process within a multistage procurement process involving prequalification, preparation of detailed bids, and negotiations with preferred bidder. During the bidding process, a draft of the concession agreement was circulated twice to bidders and the EBRD for written comment before issue of the final agreement.

Final bids were submitted on the basis of a willingness to sign the contract without material amendment after the selection of a preferred bidder.

The contract was awarded on the basis of a technical and financial evaluation with the preferred bidder selected on the basis of a weighted combined score. Financial evaluation was based on a smoothed average tariff, expressed in real prices, over the concession period.

Re-tendering The government has not indicated the strategy it intends to adopt after the contract concludes.

Other comments and references

Other contract information At the time of the contract, no national regulator existed for water utilities in Bulgaria. Sofia's arrangements are therefore only based on regulation by contract. The transaction took over two years, from the start of the preparatory studies through to the final close.

Costs associated with maintenance and operation of the Beli Iskar dam (the main water source) were not included as part of the concessionaire's bid but could be covered under tariff adjustments.

Sources and references: Mandri-Perrott 2003, Pricewaterhouse Coopers 2001a, Public Services International Research Unit 2002, and Shugart 2002.

TANGIERS (MOROCCO)

Contract overview

Award date	2001
Type	Concession
Duration and possible extension	25 years. After 10 years, the government authority can terminate the contract. In this event the private operator would be compensated for previously agreed-on fixed asset investments and other forms of compensation. The operator can propose renewal of the contract after 10 years from the contract signing date.
Contracting authority	Local government (Communauté Urbaine de Tanger and surrounding municipalities)
Operator	AMENDIS, a consortium of Veolia Environnement, fully owned by Veolia Environnement (51 percent), the Canadian company Hydro-Québec International (16 percent), the Moroccan financial group ONA (16 percent), and the Moroccan-United Arab Emirates group Societe Maroc Emirates Arabs Unis de Developpement (SOMED) (15 percent).

Setting upstream policy

Market structure	<p>Horizontal structure: The service area covers the city of Tangiers and some surrounding rural areas. As of 2002, the operator served approximately 111,000 water connections.</p> <p><i>Vertical structure:</i> Water and sanitation services are jointly provided.</p> <p><i>Cross-sector structure:</i> Water is jointly provided with electricity distribution services.</p>
Competition constraints	<p><i>Competition for the market:</i> No constraints</p> <p><i>Competition in the market:</i> The operator has exclusive right for service delivery within the service area.</p>
Bulk water payment	The operator pays the Office National de l'Eau Potable for bulk water supply services to municipalities.
Donor financing	None

Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations	<i>Input or output terms:</i> Obligations are specified in input terms (for example, investment guidelines broken down by categories of works and time increments) and output terms (for example, quality standards).
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Coverage obligations: Improve network output as stipulated in the contract.

Quality obligations: Improve service standards.

Cost recovery	The contract states that the operator has all of the necessary rights to recover costs, keeping in the bounds of the tariff guidelines.
Tariff structure	Three types of water use are defined with differentiated tariffs: domestic, preferential, and industrial. Different tariff structures apply to each water use category. For domestic use, there are four blocks, with a subsidized tariff for the first consumption block (less than 8 m ³ a month). For preferential and industrial use, a two-part tariff is in place, with a fixed rate and a variable rate.
Types of subsidy	The tariff structure allows for a cross-subsidized low-consumption block for domestic use.
Donor financing	None

Allocating business responsibilities and risks

Main business responsibilities	<p><i>Operator:</i></p> <ul style="list-style-type: none"> • Management • Operations and maintenance • Investment. Programs specific to potable water, sewerage, and electricity are specified in the contract and are stated as requirements by decade. <p><i>Government:</i></p> <ul style="list-style-type: none"> • No business responsibilities.
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Allocation of main risks Main risks are allocated mostly through the tariff adjustment formula:

$$TVA_n = \frac{TA_n}{R_n} \bar{M}e_n Ke_n + \bar{M}i_n [\alpha_n Ki_n + (1 - \alpha_n) Kidr_n]$$

where:

TVA_n is the actual tariff for a given portion of consumption for a given type of user and indexes the years of the contract

TA is the average price of bulk water purchased from ONEP

\bar{R} is the contractually assumed fraction of water purchases billed to clients

$\bar{M}e$ and $\bar{M}i$ are contractually specified margins between the bulk and retail price of water relating, respectively, to operations investment

Ke is a price index related to operating costs

Ki is a price index related to investment costs and $Kidr$ is the Ki index applied at the last revision year n .

α is a weight.

According to the formula, risks are allocated in the following ways:

- Network output risk. The operator bears the risk of actual losses as the tariff adjustment formula accounts for theoretical losses.

- Demand risk. The operator bears the risk of demand changes (changes are not accounted for in the tariff adjustment formula).
- Inflation risk. If inflation is low (causing the price index to change by 3 percent or less), the operator bears the risk. However, if inflation is high, the operator and government authority must determine a solution based on the circumstances.
- Operation risk. The government can benefit from excess operator returns when the operator's EBITDA exceed a specified threshold within a given time frame. In this event, the concessionaire returns 50 percent of the amount above the threshold to the contracting authority.

Provisions for unforeseen events and changes	The contract can be modified upon request of one or more contractual parties. If not requested by the parties, reassessment of the contract occurs automatically every five years.
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Managing the relationship with institutions

Monitoring and enforcing performance	<p>A <i>comité de suivi</i> monitors performance of the operator in both the Tangiers and Tétouan arrangements (a similar contract for Tétouan was let simultaneously with that of Tangiers). The president of the Urban Community chairs the committee. The comité comprises six members representing the Tangiers local government, six members representing the concessionaire, and two members representing the Ministry of the Interior. Decisions, regarding for example, work programs and allocation of investments, are reached by consensus of the <i>comité</i>.</p> <p>The Ministry of Finance carries out financial supervision and a National Audit Office audits the accounts.</p>
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Role of independent experts	There is no explicit role for independent experts.
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Resolving disputes	The Supervision Authority, l'Autorité de Tutelle, hears contract disputes that have not been resolved between the parties after 30 days. The Authority has 90 days to help the parties reach a mutually agreeable solution. If no agreement is reached after 90 days, arbitration can be filed with the International Centre for the Settlement of Investment Disputes.
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Adjusting tariffs	Tariffs are evaluated annually according to a formula as specified above. If the variation in tariff index is greater than 3 percent of the previous year's tariff, the contractual parties decide on tariff changes. If the tariff index changes by 3 percent or less, there is no corresponding change in tariffs.
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Changes in the arrangements	The contract has not been changed.
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Designing legal instruments for the arrangement

Legal instruments	The concession contract is the primary legal instrument setting out the arrangements.
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Mechanisms for compliance	Operator. The contract provides that for every five years, or by request of any one of the contractual parties, all parties will meet and review the contract, obligations, and any new requirements. In the event of the operator noncompliance, the operator will incur a penalty immediately payable to the government authority. Penalties, for example, for delayed infrastructure construction completion, correspond to a percentage of the operator's gross revenue. The contract includes detailed penalties of breakdowns for types of activities.
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Selecting an operator

Operator selection	<p>The contract was awarded by competitive bidding. The Tangiers and Tétouan contracts were simultaneously let with identical bidding and selection procedures:</p> <ul style="list-style-type: none"> • Publicized prequalification: Criteria for consortia included an operating partner and minimum conditions for professional experience and financial capacity • Submission of bidding documents from seven consortiums • Bid evaluation phase: technical and financial evaluation of six of the seven bids • Selection of a preferred bidder with whom ultimately the contract was signed.
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Re-tendering	The government has not indicated the strategy it intends to adopt after the contract concludes.
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Other comments and references

Other contract information	While let simultaneously, Tangiers and Tétouan are distinct contracts.
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Sources and references: Ministère de l'Intérieur: Direction des Régies et Services Concédés 2002, Ministère de l'Intérieur 2001, and Nouha and others 2002.

TRINIDAD AND TOBAGO

Contract overview

Award date	1995
Type	Performance-based management contract, also called the Interim Operating Agreement
Duration and possible extension	36 months, with a possible extension to 60 months. The contract concluded in 1998.
Contracting authority	Central government. Ministry of Finance, and the Water and Sewerage Authority (WASA) which is the national public water and wastewater operator.
Operator	Trinidad & Tobago Water Services (TTWS), a joint venture between U.K. company Severn Trent Water International Ltd. (50 percent) and Tarmac Caribbean Ltd. (formerly Wimpey Caribbean Ltd.) (50 percent).

Setting upstream policy

Market structure	<p><i>Horizontal structure:</i> The service area included all of Trinidad and Tobago for WASA's 132,075 water connections and a slightly smaller number of sewerage connections. It encompassed urban, peri-urban, and rural areas, although rural areas were usually not networked.</p> <p><i>Vertical structure:</i> Water and sanitation services were jointly provided. There were many small-scale, separate wastewater treatment systems built by housing developments which were not part of the contract.</p> <p><i>Cross-sector structure:</i> Water was provided separately from other utilities.</p>
Competition constraints	<p><i>Competition for the market:</i> Bidders needed to be international companies; local companies were required to associate with an international company.</p> <p><i>Competition in the market:</i> WASA, the public service provider, had exclusivity over network services. WASA also had responsibility for licensing abstractions from other uses.</p>
Bulk water payment	The operator did not pay for bulk water.
Donor financing	None

Setting service standards, tariffs, subsidies, and financial arrangements

Operator obligations	<p><i>Input or output terms:</i> Obligations were specified mostly in output terms, with detailed performance objectives.</p> <p><i>Coverage obligations:</i></p> <ul style="list-style-type: none"> • Expand service coverage (water and wastewater) and improve continuity of supply. <p><i>Quality obligations:</i></p> <ul style="list-style-type: none"> • Improve the level of service to customers and the create customer service centers • Improve collections of revenue owed • Provide cost-effective services through operational efficiency gains • Introduce computerized systems for recordkeeping • Reduce nonrevenue water • Reduce operating plant downtime.
Cost recovery	The tariff did not cover all operation and maintenance costs, investment costs, or asset depreciation.
Tariff structure	Domestic tariff structures were based on property values rather than amounts of water consumed; there was very little metering. Specific lower standpipe charges were also in place, and discounts were granted to schools and religious institutions. Industrial water tariffs were higher than domestic and commercial tariffs. Wastewater tariffs were approximately 50 percent of the water tariff.
Types of subsidy	The government provided operating subsidies to WASA and investment subsidies for coverage extension programs.

Donor financing The World Bank provided assistance through its Water Sector Institutional Strengthening Project (1994-1999). The assistance was conditioned on private participation and covered the bidding process through the procurement of an operator. The contract was also predicated on a proposed World Bank loan to WASA for capital investment, which was to help the operator fulfill its performance requirements. This loan did not materialize, however, because the government and the World Bank could not agree on loan conditions, including a tariff increase.

Allocating business responsibilities and risks

Main business responsibilities

Operator:

- Management
- Operations.

Government:

- Provide investment guarantees, if necessary, to facilitate borrowing by WASA, and support WASA in meeting its short-term financing needs
- Permit WASA's accounts to be audited by a private auditor appointed by WASA
- Assume WASA's trade liabilities and loans
- Appoint members to and participate in the Consultative Committee (see below) and approve persons nominated by TTWS for management positions.

Allocation of main risks

The government retained most of the business risk; the operator assumed some risk through the performance element of the remuneration formula. Performance payment indicators included: deliverables for growth in customer base, continuous supply of water, performance of customer meters, compliance with effluent discharge permits, treated water production capacity, potable water quality, cleaning and servicing of service reservoirs, and the ratio of nonrevenue water to water supplied. Upon meeting the performance objectives by established deadlines, TTWS was paid specified sums at the end of each respective quarter. If the performance indicators were not met, TTWS was not paid. According to the contract, 60 percent of operator fees were to be paid through performance deliverables.

Provisions for unforeseen events and changes

Standard provisions existed for *force majeure*. The contract was expected to extend into long-term arrangements, but there were no specific provisions in the contract to govern an extension.

Managing the relationship with institutions

Monitoring and enforcing performance

The Consultative Committee was established in the agreement to monitor the contract and facilitate consultation on its implementation. It comprised members from the contracting parties, with the chair nominated from those members by the government. It met at least monthly and reported quarterly to the government. Its main purposes and responsibilities were as follows:

- Monitor the implementation of the agreement
- Be a forum for consultation on specific areas of policy and key issues concerning the agreement

- Make recommendations for changes to agreed-on practices to suit the needs of all parties
- Provide a forum for dispute resolution between the board and TTWS on matters relating to the agreement
- Be a consultative body for the long-term plans of WASA
- Address other matters referred to it by the government of Trinidad and Tobago.

WASA was effectively in charge of monitoring, because the Consultative Committee did not have sufficient staffing for similar monitoring.

Role of independent experts	There were no provisions for independent experts in the arrangements, but independent experts were used to evaluate the contract's midterm progress.
Resolving disputes	According to the management contract, any dispute between TTWS, WASA, or the government in connection with the agreement would first be addressed through the Consultative Committee. If that failed, the dispute was referred to the International Chamber of Commerce and resolved under its Rules of Conciliation and Arbitration. Arbitration took place in Trinidad.
Adjusting tariffs	There were no specific guidelines for setting tariffs.
Changes in the arrangements	There were no changes throughout the arrangement's 36-month term. The contract was not renegotiated although TTWS requested an extension to the agreement in order to give time to both parties to prepare for negotiations for the long-term arrangement. This request for an extension was denied by the government.

Designing legal instruments for the arrangement

Legal instruments	The management contract, a standard common law contract, was supported with the Water and Sewerage Act and its associated amendments and the arrangement.
Mechanisms for compliance	<i>Operator:</i> Penalty amounts could be withheld from the fixed management fee or the performance-related amount. <i>Customers:</i> Customers could be disconnected if they failed to pay their bills.

Selecting an operator

Operator selection	The contracted was awarded by both competitive bidding and negotiation. Using a shortlist procedure, five international operators were invited to tender over three months. A preferred bidder was selected to negotiate and develop the final contract form. Bids were evaluated with a three envelope system: Envelope 1 addressed details of the operational approach; contractors receiving sufficient points in Envelope 1 proceeded to Envelope 2, which included presentation of a financial plan for WASA and a finance package to cover financing during the arrangement. Envelope 3 was a proposal for providing water to industry and to areas in South Trinidad, in addition to other proposals for the development and operation of WASA.
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Re-tendering	The government did not indicate the strategy it intended to adopt after the contract concluded. However, the incumbent management contractor was to be given preference for negotiations relating to the anticipated long-term arrangement. At the end of the arrangement, the government decided not to enter into a long-term arrangement and reverted to public-sector management.
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Other comments and references

Other contract information	The contract relied on uncertain information about the state of WASA's operations, due to a lack of management information systems. This had an impact on the effective monitoring and evaluation of performance indicators in the first year of the arrangement, particularly with respect to nonrevenue water targets and continuity of supply indicators.
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Sources and references: Stiggers 1997, Water and Sanitation Authority 1995, Water and Sanitation Authority 1999, World Bank 1999.



