Selecting an Option for Private Sector Participation

The World Bank
Washington, DC

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Millions of urban dwellers, especially the poor, lack adequate access to safe drinking water and sanitation. Improving services significantly will, in most cases, require more efficient operation of water utilities and investments in rehabilitating and extending supply systems. Many central and local governments are turning to the private sector to help address these needs. But private sector participation is no simple panacea. Its success depends on how well the chosen private sector arrangement fits local circumstances, on whether the regulatory environment is suitable, and on how well the reforms respond to the concerns of those affected.

For these reasons, designing and implementing a private sector arrangement can be a complex and often costly task. There is no blueprint for this task. Careful, case-specific work is required to prepare an arrangement that will make sense in local conditions. But all reform processes have elements in common and can build on experience elsewhere. We have prepared these toolkits to transmit the experience gained so far and the lessons this experience offers on what can make or break a private sector participation process. The toolkits are meant to support, not substitute for, independent advice by experienced professional firms.

The movement toward private sector participation in water and sanitation is young in developing countries, and we still have much to learn. We view the toolkits as an evolving product—and would welcome your suggestions on how to make the next version better.

The toolkits have been developed in collaboration with many colleagues in the public and private sectors of our member countries. Their participation has been critical to the quality of the toolkits and demonstrates the importance of working together to find better ways of achieving our common objective of improving services for developing country citizens. In particular, we would like to acknowledge the generous financial and advisory support of the Department for International Development (U.K.), without whose partnership the toolkits would not have been possible.

Comments are welcome.
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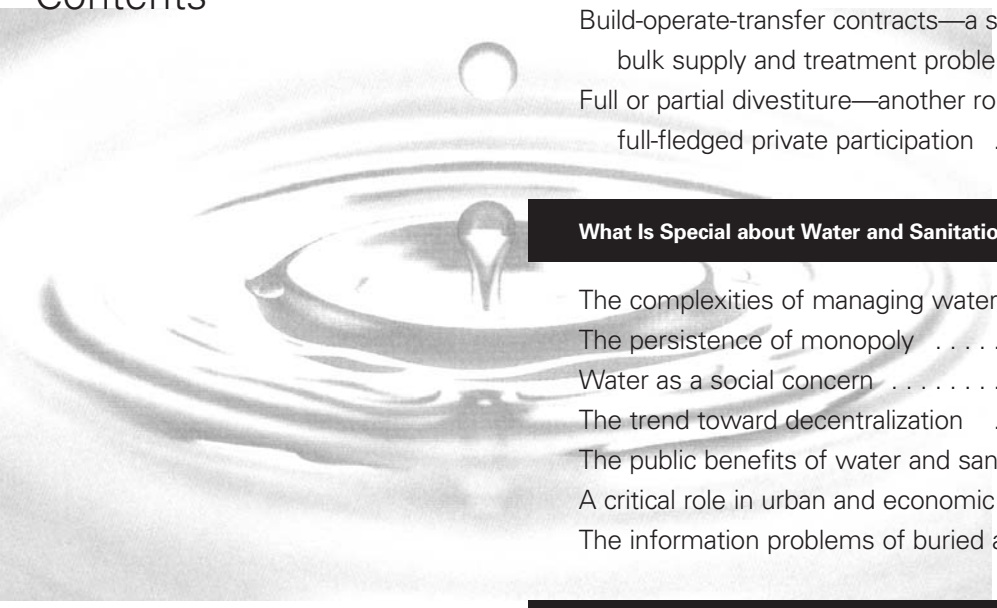
When to Use This Toolkit

A government that has decided to involve the private sector in the provision of water and sanitation can choose from many ways of doing so. Which are feasible, and which of these best fits local circumstances, will vary from country to country—and from city to city.

Designed for governments to use as they begin to look for a private partner, this toolkit sets out the issues that a government must work through to identify which kind of private sector arrangement best meets its needs and circumstances. To reach an initial decision, the government must ask itself some questions: What problems does it hope to solve? Which private sector options offer the best solutions to these problems? Do existing legal and regulatory arrangements support private sector involvement? Are the tariffs and subsidies required by the preferred option politically feasible—and the option therefore financially viable? Can the government win political support for the preferred option from key interest groups? If not, are there alternative paths that the government can take?

Once a government has worked through the issues in this toolkit, it should be able to make a decision about which kind of private sector arrangement to pursue. That decision is the first critical step toward putting the arrangement in place. But much work will remain. Toolkit 2 focuses on how governments move from identifying their preferred option to implementing it. Toolkit 3 concentrates on the issues and risks that governments need to deal with in the resulting contractual arrangement.

Contents



Why are more and more governments turning to the private sector for help in developing and delivering water and sanitation services? They hope to take advantage of private sector skills and know-how, improve the efficiency of service delivery, and gain access to finance for new investments. Experience in countries that have entered into arrangements for private sector participation shows that, if well designed, these arrangements can bring big improvements in the quality, availability, and cost-effectiveness of services.

But private sector participation on its own is no panacea for problems in water and sanitation. It requires a partnership between government and the private sector participants, and the nature of this partnership—and the rights, responsibilities, and risks it entails for each partner—must be carefully mapped out. The first step is choosing the private sector option best suited to local circumstances. To make this choice, a government must identify the problems in service provision, evaluate how well different options address those problems, and assess its capacity to accept the roles, duties, and risks that each option imposes.

Governments seeking to involve the private sector in water and sanitation generally have one or more of the following objectives in mind:

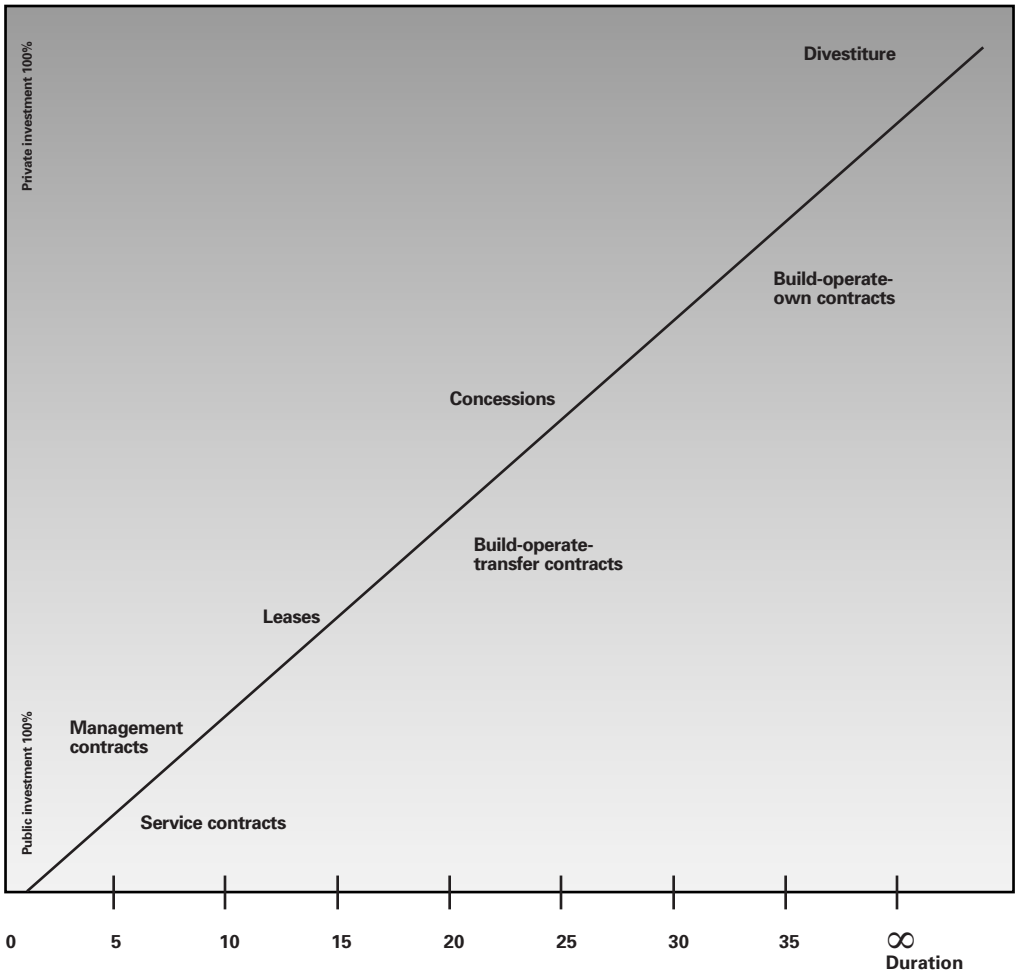
- Bring technical and managerial expertise and new technology into the sector.
- Improve economic efficiency in the sector—in both operating performance and the use of capital investment.
- Inject large-scale investment capital into the sector or gain access to private capital markets.
- Reduce public subsidies to the sector or redirect them from the groups now served to the poor and those not now served.
- Insulate the sector from short-term political intervention in utility operations and limit opportunities for intervention by powerful interest groups.
- Make the sector more responsive to consumers' needs and preferences.

All forms of private sector participation can be designed so as to improve technical and managerial capacity. But the other objectives can only be achieved if the appropriate arrangement for private sector participation is chosen and if the government creates the necessary enabling and regulatory environment. The toolkits therefore emphasize not only choosing a contract for private participation that is well tailored to local needs but also putting a supporting regulatory environment in place.

The toolkits also address other concerns that governments often have about involving the private sector in water and sanitation—such as the consequences for utility employees, loss of control of a strategic sector, and price increases and their impact on the poor. The toolkits show how to deal with these concerns through the design of the process for private participation and of the contract and associated regulatory provisions.

The options for private sector participation can be ranged along a spectrum. At one end are those in which the government retains full responsibility for operations, maintenance, capital investment, financing, and commercial risk—at the other, those in which the private sector takes on much of this responsibility (figure 1). But even where the private sector takes on full responsibility for operations and financing, as in concessions and asset sales, it does so within a framework created by the government. The most important parts of this framework are regulatory arrangements to protect consumers from monopolistic pricing and enforce health and environmental standards, and subsidy regimes to ensure access to services for the disadvantaged.

Figure 1
The range of options



The main options for private sector participation can be clearly distinguished by how they allocate responsibility for such functions as asset ownership and capital investment between the public and private sectors (table 1). But in practice private sector arrangements are often hybrids of these models. For example, leases often pass some responsibility for small-scale investment to the private sector, and management contracts may have revenue-sharing provisions that make them

a little like leases. Options might also be used in combination—for example, a build-operate-transfer (BOT) contract for bulk water supply might be combined with a management or lease contract for operating the distribution system.

Table 1
Allocation of key responsibilities under the main private sector participation options

Option	Asset ownership	Operations and maintenance	Capital investment	Commercial risk	Duration
Service contract	Public	Public and private	Public	Public	1–2 years
Management contract	Public	Private	Public	Public	3–5 years
Lease	Public	Private	Public	Shared	8–15 years
Concession	Public	Private	Private	Private	25–30 years
BOT/BOO	Private and public	Private	Private	Private	20–30 years
Divestiture	Private or private and public	Private	Private	Private	Indefinite (may be limited by license)

Service contracts—simple, but with limited benefits

Service contracts secure private sector assistance for performing specific tasks—installing or reading meters, monitoring losses, repairing pipes, or collecting accounts. They are typically for short periods, from six months to two years. Their main benefit is that they take advantage of private sector expertise for technical tasks or open these tasks to competition. They leave the responsibility for coordinating these tasks with the public utility managers. They also leave the responsibility for investment with the public sector.

Service contracts are widely used. In India, Madras Metro Water has contracted services ranging from the provision of staff cars to the operation and maintenance of sewage pumping stations. The water utility in Santiago de Chile has contracted out services accounting for about half its operating budget, including computer services, engineering consulting services, and repair, maintenance, and rehabilitation of the

Service contracts are at best a cost-effective way to meet special technical needs for a utility that is already well managed and commercially viable. They cannot substitute for reform in a utility plagued by inefficient management and poor cost recovery.

network. To enhance competition, the Santiago utility has at least two service contracts for each kind of task.

Although relatively simple, service contracts must be carefully specified and monitored. If a utility is poorly managed, its service contracts probably will be too. Service contracts are at best a cost-effective way to meet special technical needs for a utility that is already well managed and commercially viable. They cannot substitute for reform in a utility plagued by inefficient management and poor cost recovery.

Management contracts—a good first step

Management contracts transfer responsibility for the operation and maintenance of government-owned businesses to the private sector. These contracts are generally for three to five years. The simplest involve paying a private firm a fixed fee for performing managerial tasks. More sophisticated management contracts can introduce greater incentives for efficiency, by defining performance targets and basing remuneration at least in part on their fulfillment. To be worthwhile, these more complex management contracts must produce efficiency gains large enough to offset the regulatory costs of establishing targets and monitoring performance against them.

Management contracts are most likely to be useful where the main objective is to rapidly enhance a utility's technical capacity and its efficiency in performing specific tasks, or to prepare for greater private involvement.

Specifying clear and indisputable targets is often difficult, especially when information about a system's current performance is limited. Some targets may be beyond the private sector partner's power to achieve. For example, unaccounted-for water is a good indicator of a system's efficiency, but it can be hard to measure—especially if metering is inadequate—making it difficult to establish a meaningful base for evaluating the operator's performance. And the operator's ability to reduce unaccounted-for water may depend not only on its efforts to reduce leaks but also on the resources that the government makes available for rehabilitating pipelines. There is often a fine dividing line between operations and maintenance expenditures, for which the private operator is responsible, and capital investment, for which the government is responsible—and both will affect the operator's performance.

Because management contracts leave all responsibility for investment with the government, they are not a good option if a government has as one of its main objectives accessing private finance for new investments. And because they do not necessarily transfer any of the commercial risk to the management contractor, they draw little on private sector incentives to reduce costs and improve the quality of services.

Management contracts are most likely to be useful where the main objective is to rapidly enhance a utility's technical capacity and its efficiency in performing specific tasks, or to prepare for greater private involvement.

Management contracts—a step toward greater private sector participation

Management contracts can be a good first step toward more full-fledged private sector involvement where conditions make it difficult for the government to commit to a long-term arrangement or to induce the private sector to undertake capital investment or accept commercial or political risk. A management contract might be chosen, for example, where:

- Tariffs are too low to support a commercial operation, and the government needs time to increase tariffs or develop a system of public subsidies compatible with private sector participation.
- The regulatory framework has defects that need to be remedied before a long-term private sector arrangement can be secured.
- The country lacks a good track record in public-private partnerships.
- The government faces difficulties in getting key stakeholders to agree to long-term involvement of the private sector.

In such conditions a management contract can provide a window of opportunity for developing trust between the public and private sectors and for the government to create an environment more conducive to private sector risk-taking. This was the approach adopted in Mexico City and in Trinidad and Tobago.

Where lack of information about the system is a problem, a requirement to collect and disseminate this information can be included in the management contract. But making the contract holder responsible for gathering information could give it an advantage in bidding for a longer-term lease or concession. Appointing an independent engineer or auditor can help ensure equitable access to the information produced by the management contractor.

Stepwise approaches beginning with a management contract are a good way to secure at least some private sector involvement in risky countries, but there is no guarantee that they will go beyond the first step. Because decisions about involving private companies in the water sector can be politically costly, governments may be unwilling to move beyond a management contract, especially if they have not raised tariffs to cost recovery levels. Governments may also be lulled into a false sense of security if a management contract provides just enough gains to keep voters happy—even if many people still lack adequate services. Management contracts can be good at improving services for those who already have water and sewerage connections, but they typically do little for those lacking connections, who often have less political power. So, when management contracts are meant to be transitional, they should include incentives for the next steps, such as triggers for reallocating risks and responsibilities once specified conditions have been met.

Leases—a way to pass on commercial risk

Under a lease arrangement a private firm leases the assets of a utility from the government and takes on the responsibility for operating and maintaining them. Because the lessor effectively buys the rights to the income stream from the utility's operations (minus the lease payment), it assumes much of the commercial risk of the operations. Under a well-structured contract the lessor's profitability will depend on how much it can reduce costs (while still meeting the quality standards in the lease contract), so it has incentives to improve operating efficiency.

Leases are most appropriate where there is scope for big gains in operating efficiency but only limited need or scope for new investments.

Leases have been widely used in France and Spain and are currently in place in the Czech Republic, Guinea, and Senegal. They were also used in Côte d'Ivoire until replaced by a concession.

Leases leave the responsibility for financing and planning investments with the government. So if major new investments are needed, the government must raise the finance and coordinate its investment program with the operator's operational and commercial program.

Leases are most appropriate where there is scope for big gains in operating efficiency but only limited need or scope for new investments. Leases have also sometimes been advocated as stepping stones toward more full-fledged private sector involvement through concessions. But their administrative complexity and the demands they place on governments for commitment are nearly as great as those of concessions—so a lease is a much bigger first step than a management contract.

"Pure" leases are rare, however. Most place some responsibility for investment on the private partner, if only for rehabilitation works. These contracts operate as a hybrid between a lease and a concession contract.

Concessions—a route to full-fledged private participation

A concession gives the private partner responsibility not only for the operation and maintenance of a utility's assets but also for investments. Asset ownership remains with the government, however, and full use rights to all the assets, including those created by the private partner, revert to the government when the contract ends—usually after 25 to 30 years. Concessions are often bid by price: the bidder that proposes to operate the utility and meet the investment targets for the lowest tariff wins the concession. The concession is governed by a contract that sets out such conditions as the main performance targets (coverage, quality), performance standards, arrangements for capital investment, mechanisms for adjusting tariffs, and arrangements for arbitrating disputes.

The main advantage of a concession is that it passes full responsibility for operations and investment to the private sector and so brings to bear incentives for efficiency in all the utility's activities. The concession is therefore an attractive option where large investments are needed to expand the coverage or improve the quality of services.

Concessions have a long history of use in infrastructure in France. And recently they have spread to the developing world, where they have been used for water and sanitation in Buenos Aires, for water in Macao, and for sewerage in Malaysia.

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On the government's side, administering a concession is a complex business, however, because it confers a long-term monopoly on the concessionaire. The quality of regulation is therefore important in determining the success of the concession, particularly the distribution of its benefits between the concessionaire (in profits) and consumers (in lower prices and better service).

Joint venture leases and concessions

In such countries as Spain it has become common for governments—national, regional, and local—to establish joint ventures with the private sector to run leases and concessions. A typical joint venture creates a new company, with the state entity holding 51 percent of the equity and the private operator or a financial institution (or both) holding the remaining shares. By limiting the private sector's control, these joint ventures can help secure stakeholders' agreement to private sector participation. And by demonstrating public commitment to the venture, they can reduce the private sector's perception of risk. But they can create conflicts of interest if the same government entity is both the regulator of the utility company and its part owner.

Another issue is the extent to which the private firm can exercise management control, especially if it has only a minority shareholding in the joint venture. Without such control the private firm may not feel that its interests are protected and may not be able to produce the efficiency gains expected from private involvement. Most joint ventures address control issues through detailed clauses in the company's by-laws allowing both parties to vet key managerial appointments. These clauses may foster partnership, but they can also complicate the utility's governance.

Build-operate-transfer contracts—a solution for bulk supply and treatment problems

Build-operate-transfer (BOT) arrangements resemble concessions for providing bulk services but are normally used for greenfield projects, such as a water or wastewater treatment plant. In a typical BOT arrangement a private firm might undertake to construct a new dam and water treatment plant, operate them for a number of years, and at the end of the contract relinquish all rights to them to the public utility. The government or the distribution utility would pay the BOT partner for water from the project, at a price calculated over the life of the contract to cover its construction and operating costs and provide a reasonable return. The contract between the BOT concessionaire and the utility is usually on a take-or-pay basis, obligating the utility to pay for a specified quantity of water whether or not that quantity is consumed. This places all demand risk on the utility. Alternatively, the utility might pay a capacity charge and a consumption charge, an arrangement that shares the demand risk between the utility and the BOT concessionaire.

BOTs have been used for water treatment in such countries as Australia and Malaysia and for sewage treatment in Chile and New Zealand.

BOTs tend to work well if the main problem a utility faces relates to water supply or wastewater treatment. But if the problem is a faulty distribution system or poor collections performance, a BOT is unlikely to remedy it—and may even aggravate it.

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Where private sector participation is needed both to provide new bulk services (a reservoir or a water or wastewater treatment plant) and to improve the performance of or expand distribution systems, separating these tasks under different contracts and bidding processes may have advantages. Separating the tasks maximizes the

potential efficiency gains from competitive bidding and reduces the monopoly power given to a single company.

There are many possible variations on the BOT model, including build-operate-own (BOO) arrangements, in which the assets remain indefinitely with the private partner, and design-build-operate (DBO) arrangements, in which the public and private sectors share responsibility for capital investments. BOTs may also be used for plants that need extensive overhauls—in arrangements sometimes referred to as ROTs (rehabilitate-operate-transfer).

Full or partial divestiture—another route to full-fledged private participation

Divestiture of water and sewerage assets—through a sale of assets or shares or through a management buyout—can be partial or complete. A complete divestiture, like a concession, gives the private sector full responsibility for operations, maintenance, and investment. But unlike a concession, a divestiture transfers ownership of the assets to the private sector, so the nature of the public-private partnership differs slightly. A concession assigns the government two primary tasks: to ensure that the utility's assets—which the government continues to own—are used well and returned in good condition at the end of the concession and, through regulation, to protect consumers from monopolistic pricing and poor service. A divestiture leaves the government only the task of regulation, since, in theory, the private company should be concerned about maintaining its asset base.

But private companies may not always take the long view. Even with an asset sale, the regulator may need to scrutinize the utility's plans for renovating or enhancing its assets. In England and Wales the regulator requires utilities to report the serviceability of their assets.

Although widely used in other infrastructure sectors, divestitures in the water and sanitation sector have been limited to England and Wales. (Private water companies have also long operated in the United States.) Given the national economic importance of infrastructure services, governments are generally unwilling to divest water and sanitation assets without introducing safeguards. The U.K. government retains "safety net" powers to appoint another operator in case a water company fails. It also limits the length of the licenses under which water companies operate.

Even though governments may find divestiture ideologically or even constitutionally difficult to contemplate, they should not dismiss it without evaluation. In some circumstances divestiture may be more appropriate than a concession. Where the public sector utility is technically capable, for example, divestiture by sale of shares or management buyout may produce the required efficiency gains without involving the foreign water conglomerates that typically dominate bids for concessions.

It could also help develop local private firms capable of working in water and sanitation. (This strategy is most likely to be effective where local financial institutions are well developed.)

Table 2
Some private sector contracts in place in water and sanitation

Option	Water	Sanitation	Water and sanitation
Management or service contract	**Colombia Gaza Malaysia Turkey**	**United States**	**Puerto Rico Trinidad and Tobago**
Lease	**France Guinea Italy Senegal Spain**		**Czech Republic France Poland**
Concession	**Côte d'Ivoire France Macao Malaysia Spain**	**Malaysia**	**Argentina France**
BOT	**Australia China Malaysia Thailand**	**Chile Mexico New Zealand**	
Divestiture	**England and Wales**		**England and Wales**

In many ways decisions about how to involve the private sector in water and sanitation resemble decisions about privatization in any other utility sector. But water and sanitation have special features that governments must take into account in choosing and designing a contract and in designing a supporting policy framework, if private sector participation is to succeed:

- Systems for allocating scarce raw water resources among alternative uses—urban consumption, irrigation, industry—are often underdeveloped or incompatible with efficient use of these resources.
- Water and sanitation systems are characterized by a high degree of "natural" monopoly.
- Water is essential to life, and access to it needs to be ensured for all, with special attention to the poor.
- Water and sanitation are naturally well suited to local management, and in many countries responsibility for service provision is decentralized to the provincial or municipal level.
- Broad access to water and sanitation yields important public health and environmental benefits.
- Water and sanitation are critical to economic and urban development.
- Many water and sanitation system assets are buried underground, so that obtaining accurate information about them is costly.

None of these issues is a barrier to private sector participation—all arise under both public and private provision. But governments often consistently confront these issues only when they begin to contemplate private sector involvement in water and sanitation. The success of a private sector arrangement will depend in large part on the quality of the policy framework that the government builds in response to these issues. Failure to adequately address them will increase the risk that the government will be unable to find a partner for its preferred form of private sector participation or that a private sector arrangement will fall short of the government's broad policy objectives.

The complexities of managing water resources

Water resources exist in interconnected hydrological systems in which what one user does can affect all other users. Whether sufficient raw water is available for urban use will depend on the overall availability of raw water and on prior use rights established by other users—such as farmers and hydropower companies. And the level and quality of sewage treatment by an urban utility will affect the availability and quality of water for downstream users—whether industries, farmers, or other towns.

How governments structure regimes for allocating water resources among these competing users and how they design policies to control the quality of the available water can determine how well urban utilities can do their job—and the feasibility and cost of different options for private sector participation.

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Any prospective private partner will need assurance about future access to raw water supplies and about the quality of such supplies, which will affect water

treatment costs. And other water users will require protection from the effects of utility operations, such as the depletion of groundwater or rivers, and the pollution of surface water or groundwater by untreated or partially treated sewage.

Where water law and regulatory or market mechanisms for allocating water use rights fail to manage these effects, to allocate resources in a way that is efficient and politically acceptable, or to provide secure access to water resources, long-term arrangements such as concessions may be infeasible or require substantial government guarantees. But short-term management contracts could be used as a stopgap, providing enough time to create an acceptable water resource management regime.

The persistence of monopoly

Any form of private sector participation can improve performance if the private partner has strong technological management skills. But sustaining the improvements in performance depends on more than the characteristics of the company that runs the utility—it requires competitive pressure on the utility.

Competition comes naturally to few areas of the water and sanitation business, however (table 3). Monopoly is reinforced by the fact that there are no substitutes for water in many of the purposes for which it is used.

Monopolies, whether public or private, often yield lower productive and allocative efficiency than competitive firms. Their output, service standards, and investment in capacity all tend to be lower than under competitive conditions, while their prices tend to be higher.

For governments to achieve the efficiency and investment goals that they typically have in mind in seeking private sector participation, they need to pay attention first of all to maximizing competitive pressures on the utility. Then they need to devise a regulatory regime that provides incentives for a monopoly utility to act as though it were operating in a competitive market.

Although competition tends to be scarce in the water and sanitation business, careful design of a sector reform and private sector participation option can introduce the potential for competition—while reducing the need for regulatory intervention. Four main kinds of competitive pressure are possible in water and sanitation provision:

- Direct competition in the supply of services, sometimes referred to as "competition in the market."
- Competition for the right to supply water and sanitation services through concession or other contracts, often called "competition for the market."
- Competitive pressures deriving from markets for the capital with which new investments are financed.
- Comparative, or "yardstick," competition, in which the performance of suppliers in different cities is compared.

Monopoly occurs where consumers of a service can buy it from only one supplier. Natural monopoly occurs where it is only feasible for one supplier to exist in the market—because the more services provided, the lower the costs of providing each additional unit of service. This means that if a new entrant tries to compete with the existing supplier, it can do so only at a higher cost.

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Table 3
Competition and monopoly in water and sanitation

Activity	Characteristics of competition
Allocation of water resources and regulation of use	**Natural monopoly in each hydrogeographical unit (such as a river basin)**
Capacity construction (including storage and water and sewage treatment)	**Competitive (but may depend on access to water resources)**
Bulk supply generation	**Small number of possible suppliers (often only one)**
Water treatment	**Local monopoly**
Local distribution	**Local monopoly**
Local sewerage network and interconnected storm water network	**Local monopoly**
Sewage treatment	**Local monopoly**
Equipment and appliance sales, plumbing services	**Competitive**

Which forms of competition are available and how effective each is will depend on how the sector is structured (are all activities concentrated in one business, or spread across several businesses?) and on the form of private sector participation chosen. These issues are covered in detail in annex 1.

Water as a social concern

A primary concern of governments is to ensure that water is available to all citizens—at a price they are willing and able to pay. For many governments it is this concern that motivates them to involve the private sector, as the agent best able to expand services cost-effectively. In many developing country cities where the public sector continues to run the water and sanitation utility, the very poor lack connections to the utility's supply system and must instead buy water from tankers or other sources for very high prices—often 10 to 40 times the utility's price.

Even with the expectation of efficiency gains from private sector involvement, a government may still be concerned that prices will be beyond reach for the poorest citizens. This concern needs to be tested, through willingness-to-pay surveys. If it is found to be valid, the government will need to establish a policy framework to ensure access to water and sanitation for low-income groups. (Developing such a policy framework is, of course, desirable with or without private sector participation.)

If most low-income households have connections and the government can afford to offer subsidies, one option would be to introduce targeted subsidies, as Chile has done (see the box on Chile's scheme). But if many of the poor lack connections and the government's capacity to offer subsidies is limited, alternative technologies and delivery mechanisms, such as the condominial sewerage systems developed in Brazilian slums, may be more effective in meeting the needs of low-income households.

Expanding service for the urban poor

Most developing countries have large and growing informal settlements in their urban areas. The poor families living in these settlements often have no access to means for sewage removal and rely on expensive or inconvenient sources of water—such as water tankers or sparse, often poorly functioning communal standpipes.

Extending better water and sanitation services to the people in these settlements within the context of a move to private sector participation poses major challenges. Innovative schemes have been devised for involving informal communities in decisions about service provision and in the development of community-based water and sanitation services. But conventional water and sanitation utilities—both public and private—historically have not had to work with communities, either in making decisions about expanding traditional water and sanitation services or, where traditional solutions are far too costly for households, in finding alternatives. A major challenge ahead is to design arrangements for private sector participation that respond better to informal communities, finding innovative ways of meeting their water and sanitation needs at reasonable cost.

Subsidizing low-income households in Chile

In the early 1990s Chile introduced a comprehensive subsidy scheme to help low-income households purchase a range of public services. These direct, targeted subsidies replaced a system of cross-subsidies that had proved ineffective in meeting the service needs of the poor. Water and sanitation subsidies amount to $12 million to $13 million a year, excluding administrative costs. The program is financed by the central government, but administered through the municipalities, which pay the subsidies directly to the public service operator.

The goal of the scheme is to ensure that water and sanitation services take up no more than 5 percent of household income. The water subsidy covers 40 to 85 percent of the charges for the first 20 cubic meters of consumption for eligible families. Eligibility is determined by such criteria as region, family size, average cost of water, and household income and wealth and is reassessed every three years. Households that fail to pay their share of the bill have their subsidy suspended.

Initially, households were required to apply for this subsidy and to prove their eligibility. But low participation rates prompted the government to seek the collaboration of the water utilities in identifying needy customers by examining payment records. The scheme is now believed to cover all eligible households in urban areas—some 20 percent of the population.

The trend toward decentralization

Two features of water make its supply a "local" service that can be administered in a decentralized way: water is expensive to transport over long distances, and it is cheap to store. Except in dry countries, there are few extensive water transmission systems. In many countries the provision of water and sanitation services is the responsibility of local governments. And in the past decade a growing number of national governments have decentralized water and sanitation, shifting management of services to the lowest feasible level—sometimes the province, more often the municipality. The size of a utility's jurisdiction may range from a few hundred consumers to many millions.

This predominantly local responsibility has two important sets of consequences for designing private sector arrangements for water and sanitation. The first set relates to scale. Except in a few major cities, in most countries the great majority of water and sanitation utilities are quite small. Because these small utilities do not offer opportunities for exploiting economies of scale, they are generally unattractive to the private sector, at least individually. And they typically lack the skills and resources to act as strong partners in introducing private sector participation.

The second set of consequences relates to the likely involvement of more than one level of government in decisions about private sector participation and its implementation. National governments will probably take an interest in the decisions of lower levels of government, and they have the capacity to make or break local deals through the broad regulatory environment they create. Private investors in local projects may look to national governments for guarantees against some project risks. And more than one local government may be involved. In metropolitan systems several municipalities may have to "pool" their rights into a joint body able to function as a counterpart to a private contractor. Successful private sector participation reforms require careful resolution of a range of interjurisdictional issues.

The public benefits of water and sanitation

Water and sanitation services yield public benefits, both reducing the incidence of waterborne disease and improving the general environment. These public benefits are in addition to the benefits for the individual consumers of water and sanitation services and are particularly marked for sewerage services.

Before embarking on an arrangement for private sector participation, a government needs to make crucial decisions about who is to be responsible for providing and funding desired health and environmental benefits. (The demand of low-income households for health- and environment-improving water and sewerage services should not be underestimated.) Private operators will need to be safeguarded against unrealistic demands to provide goods and services for which neither the government nor the customers are willing to pay. But an arrangement for private sector participation is unlikely to be politically acceptable unless it protects essential social interests.

A critical role in urban and economic development

Water infrastructure plays a crucial role in urban and economic development. So, where the private sector is responsible for new investment to extend the system, governments have a legitimate interest in ensuring that such investments reflect public priorities. Where built-up areas are unserved, clear targets for coverage can be specified in the concession contracts. But these targets need to be realistic, taking into account the concessionaire's financial capacity and customers' ability to afford connections to the system.

Matters are more problematic where services need to be extended for predicted urban development and flexibility is required in the timing of these investments. Concession holders will undertake such investments only if the unexpired concession period is long enough for them to make acceptable returns, and if the concession contract contains incentives for continuing investment over the life of the contract. Concession contracts are commonly revised or renegotiated when new extensions are required. But without the pressure of competition there is no guarantee that revision will result in least-cost provision. So, when new extensions are likely to be needed, the original contract should explicitly establish criteria for revisions, possibly allowing for retendering, or at least market testing, for system extensions.

The information problems of buried assets

Contracting with the private sector for the provision of water and sanitation services—or monitoring the provision of these services by the public sector—is complicated by the fact that information about water and sanitation systems can be difficult and costly to come by. A large share of water and sanitation assets are hidden from view—literally buried underground—making it difficult to assess their condition and value. So, in many countries accurate information on asset conditions is lacking. This may affect the choice of an arrangement for private sector participation and can certainly complicate contract specification and the subsequent monitoring of the private company's performance.

Lack of good data is a particular concern for concessions. An independent audit and valuation of the assets before entering into a contract is desirable not only to give bidders better information on the value of the assets but also to establish a baseline from which to monitor the concessionaire's care of the assets. In addition, it will be necessary to clearly specify in the contract what valuation criteria and auditing mechanisms will be used at the end of the concession period. Where data are very poor and there is a desire for speedy adoption of a private sector arrangement, governments should consider using a short-term management contract, during which independent audits and valuations of the assets and asset management planning can be undertaken.

Governments often worry that detailed preparations will take too much time and cause them to miss a window of opportunity to enter into a private sector arrangement. But private participation is not the object of the exercise. Rather, private participation is a means to the end of improving performance in water and sanitation, and proper preparation is essential to ensure that this end is achieved and sustained. When a need for urgent action rules out sufficient preparation, adopting a short-term private sector arrangement may be wisest.

The options for involving the private sector can be implemented on different scales, with different combinations of functional responsibilities and with different forms of regulation. To have some assurance that the option a government chooses has a good chance of meeting its objectives and that it will be feasible in local circumstances, the government needs to undertake careful analysis of a range of technical, regulatory, political, and financial factors.

This precontract analysis has two distinct stages. In the first, the government needs to clarify its objectives for the sector and determine whether private sector participation is appropriate and affordable. It will need to carry out a rough financial feasibility analysis to obtain an order-of-magnitude estimate of the tariff changes or subsidies required to involve the private sector. It will need to do a preliminary analysis of the political support for and opposition to private sector participation. And it should use informal market soundings to assess which forms of private sector participation are likely to attract bidders.

Once a government has determined that private sector participation appears financially and politically feasible, it needs to move on to the second, more in-depth stage of analysis, focusing on the following questions:

- What is the state of the existing utility?
- How compatible is the regulatory regime with private sector participation?
- How committed—or opposed—to private sector participation are key stakeholders?
- What are the main risks that need to be allocated or mitigated to ensure that private sector participation can succeed?

This section briefly introduces these analyses, signaling the issues that a government should at least have thought about before forming a first opinion on its preferred option for private sector participation. Toolkit 2 discusses these issues at the more detailed level governments will need when refining and implementing a private sector contract.

Governments often worry that detailed preparations will take too much time and cause them to miss a window of opportunity to enter into a private sector arrangement. But private participation is not the object of the exercise. Rather, private participation is a means to the end of improving performance in water and sanitation, and proper preparation is essential to ensure that this end is achieved and sustained. When a need for urgent action rules out sufficient preparation, adopting a short-term private sector arrangement may be wisest.

Precontract analysis is vital not only in deciding on the form and timing of private sector involvement, but also in designing the contract and the accompanying regulatory regime. Without such analysis the package offered may contain too much risk to be attractive to the private sector, and considerable effort and resources will have been expended for no gain. Or a contract may be secured, but only by offering big concessions to the private sector and leaving much risk with the public sector. Time spent before entering into a contract—in testing and refining the preferred private sector option, working through alternative risk management mechanisms, and developing a supportive regulatory framework—is a good investment for other

reasons: it can reduce the time spent in postbid negotiations, and it lessens the risk that the resulting private sector arrangement will diverge widely from what was originally intended.

What is the state of the utility?

In this initial evaluation of the water and sanitation utility, the government needs to assess its current performance, the quality and quantity of information available about the utility, and the feasibility of changing the factors that would make the utility unattractive to potential private sector partners. The government will need to gather—or identify as unavailable—information on such matters as:

- The utility's current and proposed service area.
- The current characteristics of service (quantities supplied, metered, and paid for).
- A basic inventory of the assets and their condition and serviceability.
- Current performance standards and the record of achievement (relating to quality, pressure, supply security, interruptions, sewer flooding, sewer collapse, and the like).
- Human resources (numbers, skills, wage rates, conditions of service, pension arrangements).
- Tariffs (level and structure, subsidy arrangements, disconnection arrangements).
- Financial performance.

At this stage the government should also assess consumers' ability and willingness to pay for services. Often governments proceed with private sector participation without knowing what level of services consumers receive and at what price, or the service level they are willing to pay for. Market or survey research can give a clearer understanding of consumer preferences.

During the initial stages of preparing for private sector participation, the baseline data collected in this evaluation will:

- Inform an assessment of the costs of improving services, of possible efficiency gains, and of the viability of different options for private sector participation.
- Form a basis for negotiations with key stakeholders, who may require safeguards before accepting private sector participation.
- Inform discussions about realistic performance standards, asset rehabilitation plans, and service enhancement programs—all of which need to be specified in the contract.
- Inform discussions with the treasury or finance department (or the finance department of the local authority) about possible needs for continued government subsidies (for example, to extend basic service to low-income areas).
- Identify areas where data are lacking or may be inaccurate. The advisers that the government hires to assist in preparing a private sector option should rectify these data deficiencies where possible.
- Establish whether data inadequacies rule out some private sector options from immediate consideration. In some cases very simple management contracts combined with basic data collection may be a necessary precursor to longer-term contracts.

These data, supplemented by data collected by hired consultants, will later be made available in an information room set up to make sure that all potential bidders have basic information about what they are bidding for. Still later, the data can provide the regulator of the contract with baseline information for assessing the contractor's performance.

Is the regulatory framework conducive to private sector participation?

Because decisions about the private sector option, industry structure, and regulatory frameworks are closely linked, consideration of regulatory matters should not be left until after decisions have been made on the private sector option and the area of coverage. Doing so can increase the burden and cost of regulation, reduce its effectiveness by restricting the range of regulatory tools, and risk failing to match the need for public regulation with regulatory capacity.

Planning a private sector arrangement is not simply a matter of choosing the type of private involvement and the area that it will cover. The effectiveness and consequences of a private sector arrangement depend on the regulatory mechanisms used to influence private sector decisionmaking and on how they are implemented. But the regulatory controls available depend in turn on the type of private sector arrangement—and private partners' response to regulation depends critically on industry structure.

Because decisions about the private sector option, industry structure, and regulatory frameworks are closely linked, consideration of regulatory matters should not be left until after decisions have been made on the private sector option and the area of coverage. Doing so can increase the burden and cost of regulation, reduce its effectiveness by restricting the range of regulatory tools, and risk failing to match the need for public regulation with regulatory capacity.

Governments do not need to undertake detailed design of the regulatory framework when they are first considering private sector participation. But they should take regulatory needs and costs—and their regulatory capacity—into account when making choices about private sector participation. And when embarking on the first private sector venture in water and sanitation, it is important to consider whether the regulatory system proposed for this first transaction will preclude the regulatory options that might be most appropriate as private sector arrangements become more common. A government that fails to get the structural and regulatory package right in the first place can face an immensely costly, time-consuming, and acrimonious process to rectify matters later on.

One of the most important factors in a government's ability to regulate well is the availability of good information on operating practices and investments—ideally, from sources other than the utility operators. In Britain and Chile the regulator's ability to compare operators' performance with industry benchmarks has proved vital in promoting and sustaining improvements in performance. To be effective, comparative regulation requires a large number of comparators. These comparators can be taken from both the public and the private sectors, however, so the regulatory system need not be devised exclusively for private sector arrangements. A system able to compare public and private performance can provide efficiency incentives for both sectors.

The precontract analysis of regulatory issues has four main purposes:

- To identify elements in the broad framework of laws, constitutional requirements, and regulatory activities that could impede private sector participation or affect the viability of different options for industry structure and private participation, and assess the possibility of remedying any deficiencies before bidding the contract.
- To consider the potential for restructuring the water and sanitation sector to make it more conducive to regulation by competition.
- To design the sector-specific regulation that will make private sector participation possible, specify the powers that will remain in the public sector, identify who will exercise these powers and at what level of government, and create new regulatory arrangements as needed.
- To decide which elements of regulation should be incorporated into the private sector contracts, how much the contracts limit the discretion of any public sector regulators, and what safeguards the contracts should contain against regulatory and political risk.

These four purposes are closely related. For example, if there are elements in the framework of laws that could inhibit private sector participation, it may be possible to reduce their impact through the design of sector-specific regulation or the terms of the contract. And if restructuring the sector to facilitate competition is feasible, this fact will affect sector regulation and the terms of the contract.

Assessing the broad regulatory framework

In assessing how the broad regulatory framework will affect the choice and design of a private sector arrangement and the attractiveness of that arrangement to the private sector, governments need to consider a wide range of laws, constitutional rules, and activities of government agencies:

- The constitutional and legislative division of responsibility for service among national, regional, and local governments.
- Interjurisdictional arrangements, if service responsibilities are decentralized and the system covers several jurisdictions.
- General legislation allowing or restricting private sector involvement, including by foreign companies.
- Water resource management law.
- Environmental laws.
- Contract law.
- Competition law, and competition or antitrust enforcement agencies.
- Employment law.
- Tax liability.
- Procurement rules.
- Currency control rules.
- Public sector borrowing rules.
- Access and right-of-way rules and compulsory purchase arrangements relating to the installation of infrastructure.
- Health and safety regulation.
- Social policy (for example, subsidies, and disconnection rights for nonpayment of bills).

Clearly, some elements of this framework cannot be changed or may take time to change. In some cases that may rule out the preferred option for private sector participation. If it does, it is best to recognize this early—and to adopt a stepwise approach to private sector participation that allows time to improve the general legal and regulatory framework.

In many countries the broad regulatory framework may not adequately support a private sector arrangement. But governments can still make private sector participation work, by taking one or more of the following actions:

- Choose a private sector arrangement that reduces the risks associated with deficiencies in the regulatory framework—for example, use a fee-based management contract for distribution (and possibly BOTs for bulk supply) if collection performance or requirements for providing subsidized services pose unacceptable revenue risks for the private partner.
- Choose a private partner in a good position to manage risks associated with deficiencies in the regulatory framework—for example, if there are adverse foreign exchange, currency convertibility, and profit repatriation rules, explore the potential for contracting with local companies, including companies created through management buyout or share sales.
- Incorporate explicit safeguards in the contract—such as provisions allowing access for essential work, protection from liability for third-party actions, specified compensation or price adjustments for changes in service standards, and minimum revenue guarantees. Some safeguards for the public sector are also likely to be necessary—for example, requirements for market testing when the private contractor purchases raw materials or services.
- Develop appropriate regulatory capacities—for example, if the constitution gives responsibility for asset ownership and service provision to a level of government that has limited capacity to regulate or is vulnerable to short-term political interests, consider separating ownership from monitoring and locating regulation at a higher level of government.

Designing new regulatory arrangements

Experience suggests that many of the efficiency benefits from involving the private sector stem from competitive pressures, not just the presence of a private owner. Competitive pressures also affect the amount and appropriate form of sector regulation needed: the more competitive pressures brought to bear on a utility, the less regulation may be required. So governments—especially those with limited regulatory capacity—stand to gain a great deal from introducing as much competition as possible. The main options:

- Competition at different levels of the water and sanitation business, introduced, for example, by separating bulk treatment and supply from distribution and allowing competition among suppliers.
- Competition between utilities along their mutual boundaries.
- Competition for the market (through the tendering of concession, lease, BOT, and management contracts).
- Competition among utilities and other businesses for finance on the capital market.
- Comparative, or yardstick, competition.

Even if all these forms of competition are used to regulate the sector, some monopoly power will inevitably remain. To offset that power, governments will need to introduce safeguards against its improper use, provide incentives for the private sector to operate efficiently, and monitor performance against contractual requirements.

Competition cannot do away with the need for regulation. And, of course, the social, public health, and environmental aspects of water use and waste removal call for continued public scrutiny of operations under the private sector. In designing a regulatory system to protect customers and the general public interest, governments need to keep several broad principles in mind. First, it is important to be realistic: a balance must be struck between what is ideal and what is achievable. Second, regulation should not be too restrictive or controlling. Overly restrictive regulation could deter private companies from entering private sector arrangements or limit their ability to introduce innovative and efficient operating practices. And regulation that seeks to control in detail how the private contractor runs its business risks defeating the central purpose of private sector participation—improving service delivery. Third, a regulatory system must be consistent with the capacity and resources of the regulators. These issues are discussed in detail in annex 2.

Designing a regulatory system to accommodate private sector participation can be broken down into six basic steps:

- Specify the essential regulatory tasks—these vary with the option for private sector participation and with the industry structure.
- Determine how far existing laws go toward assigning these tasks.
- Determine who is best able to carry out the remaining tasks—and at what level of government.
- Consider how much regulatory discretion should be allowed.
- Consider what regulatory tools and mechanisms will be used.
- Incorporate regulatory details into laws and private sector contracts.

The regulatory tasks are least for service contracts and simple management contracts. For these contracts regulation could be limited to ensuring that the private contractors fulfill their contractual obligations. But this monitoring role remains important in ensuring that adequate service standards are achieved and maintained. There is always a danger that companies will enter bids with a small profit margin to win a contract and then try to increase profits by cutting costs in ways that affect performance.

For longer-term contracts—leases and concessions—and for divestitures, more attention must be paid to ensuring that companies have incentives to act efficiently and that regulators can respond adequately to the inevitable changes that occur over the life of a contract or license. These issues require important decisions about where regulatory power should lie: for example, should it be decentralized to the local level, incorporated into new, sector-specific agencies at a national or regional level, or given to a multisectoral regulatory agency? There are no correct answers; all options have advantages and disadvantages, and what works best will vary across countries. But in deciding these questions, the reasons for involving the private sector must be kept in mind. For example, if private participation is needed to insulate the sector from political intervention and to reduce public subsidies, there are clear

Regulation is a critical part of any private sector arrangement. Basic decisions about the regulatory framework need to be made early. Regulatory capacity can determine which private sector option is most appropriate in a country. And the regulatory system chosen can affect the willingness of the private sector to participate and the cost of its participation.

dangers in giving regulatory authority to bodies dominated by short-term political or electoral interests.

Another key question is how much discretion to give regulators. Discretion helps regulators respond flexibly to changing conditions, but it also creates regulatory risks for private sector partners and may therefore discourage their participation or raise the price of their involvement. A delicate balance needs to be struck between allowing regulatory discretion and developing very tightly specified contracts that will have to be renegotiated when unexpected changes occur.

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Which stakeholders support private participation—and which oppose it?

A range of stakeholders have a legitimate interest in the performance of the water and sanitation sector. Governments need to identify the key groups of stakeholders and assess their potential support for or opposition to private sector participation, because in some cases opposition will limit the range of feasible options for private participation. Stakeholders might oppose concessions or divestiture, for example, but accept management contracts or BOTs, which give the private sector a more limited role. Or stakeholders might oppose any arrangement that has the private sector acting alone, but support joint ventures with the public sector.

Who are generally the key stakeholders?

- The national government (ministries with some jurisdiction over water-related matters, such as the ministries of health, environment, and urban and economic development).
- Provincial and local governments that will act (or may act) as grantors of private sector contracts, regulators, partners, or financiers of the utility.
- Regional or local planning departments, which coordinate land use and infrastructure planning.
- Other established regulatory entities (such as water commissions, environmental agencies, and competition and fair trade commissions).
- Political parties and individual politicians.
- Labor unions.
- The utility management.
- Suppliers of goods and services to the sector.
- Consumer organizations (formal and informal, including nongovernmental organizations concerned with service quality and prices and with protecting the poor).

Once a government has identified the key stakeholders and assessed their stance toward private sector participation, it needs to evaluate where safeguards for specific interest groups will be needed to win support or diffuse opposition. Identifying necessary safeguards will require consultations with such key groups as labor unions, which should be held before policy decisions are made about the private sector package. Five kinds of safeguard might be needed:

- Protection for labor and management (redundancy and superannuation packages, worker share allocations, minimum wages and working conditions, health and safety measures).
- Protection for contractors or suppliers (regulatory rules to ensure competition in subcontracting and procurement).
- Protection for customers (tariff adjustment rules, subsidy policies, complaint mechanisms).
- General health and environmental protection (regulation of service standards, penalties for default).
- Protection for other government agencies (a regulatory role to compensate for loss of direct control, rules allowing the local authority's labor force to bid for contracting tasks).

While such safeguards can secure sufficient support to allow private sector participation to proceed and to ensure that it benefits users, they all involve costs. These costs need to be broadly estimated, and consultations held about who will pay them. Although such costs as redundancy payments could be allocated to the private sector partner, governments need to keep in mind that passing on such costs to the private partner will increase the price that the grantor will have to pay to secure its involvement.

Which options are financially viable?

A critical step in selecting among possible options for private sector participation is to test their financial viability. If the private sector partner is expected to invest in rehabilitating the system or expanding coverage, how will that affect the tariff? Will the current tariff cover costs after allowing for expected efficiency gains? If the projected tariff exceeds what some households are willing to pay, can the government afford to subsidize these households? If not, could investment programs that are more financially realistic be devised?

In the rush to expand services, governments often do not take into account the private sector's objectives for investment returns. As a result, they can waste time and resources designing private sector arrangements that are not financially feasible or are not affordable to users.

Preparing a private sector arrangement requires detailed financial work—assessing the financial status of the water and sanitation utility, testing the financial and tariff implications of hoped-for service expansions and efficiency gains (and the implications for the subsidies needed), and preparing the financial specifications for the final bidding documents.

To make a preliminary decision about what kinds of private sector participation are likely to be feasible before beginning detailed project development, it is a good idea for governments to do a rough "first-cut" financial analysis, focusing on the financial and tariff implications of the proposed project. While this analysis will need to be deepened and revised as preparation proceeds, this first cut can give governments a general idea of the private sector options likely to be sustainable in local circumstances.

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This first-cut analysis, by determining the tariff levels required to cover proposed service improvements, will give a rough idea of the financial viability of private sector options. The key variables to consider:

- The utility's current operating and maintenance cost for water supply, treatment, and distribution and for sewage collection and treatment.
- The current tariff (price per cubic meter).
- The current water consumption by the service area population and the projected consumption over the next 10 years or so.
- The cost of capital improvements to the water supply, distribution, and sewerage systems, and annual expenditures necessary to achieve intended service levels.
- The annual government or private funds (or both) expected for financing service improvements (grants, equity, and loans).
- The additional annual operating costs of the capital improvements, net of the efficiency gains that private operation might reasonably achieve.

What are the risks—and how can they be managed?

At the precontract stage a preliminary review of risks is also advisable. It is important for governments to recognize risks, consider how they might best be allocated between the public and private sectors, and develop a clear risk management strategy. Early thinking about the risks associated with private sector participation can save time in postbid negotiations and help ensure that the resulting private sector arrangement comes close to what was originally intended.

Different risks are associated with different options for private sector participation (see the box on precontract risk analysis). The risks for each option are discussed in more detail in toolkit 3.

Precontract risk analysis for different private sector options

Management contract

The most significant risk under a management contract is that operating performance will fall short of expectations. To address this risk, during the precontract phase the government should analyze its capacity to monitor the contractor's performance, and ensure that water quality and other standards that it wants to identify in the contract can in fact be enforced. If adequate staff are not available to monitor performance, the government might consider contracting with a third party for this task.

Lease, concession, and BOT

In these options for private sector participation the contractor retains the tariff revenue it collects from customers in exchange for operating—and, under a concession or BOT, investing in—the water and sanitation system. This arrangement provides an incentive for the contractor to improve the efficiency of operations and investments. But in the presence of monopoly power, it also creates a risk that the contractor will reap windfall profits by charging excessive tariffs or reducing service quality. These risks are best managed through the careful design of a monitoring and regulatory system (see the section above on the regulatory framework).

The special problems in smaller towns

Private sector participation generally occurs earliest in a country's large metropolitan areas, those with populations of at least half a million. Yet smaller municipalities have just as much need for better water and sanitation services and can also benefit from private participation. But their financial, economic, institutional, and technical conditions present difficult problems.

A private contractor will often find it harder to make sufficient returns on its investments in small networks unless it operates many in the same region. The generally lower average household income in smaller towns makes it more difficult for families to pay tariffs that cover costs and yield a reasonable return. And smaller systems offer fewer opportunities to exploit economies of scale, making it harder for the private sector to reduce operating costs and achieve operating efficiencies.

The relatively limited administrative skills and institutional capacity in many smaller municipalities also pose a problem for private sector participation. Small municipalities generally lack the personnel to bid, award, and negotiate contracts for private sector participation and to supervise them after they are awarded. Local officials and their staff will need assistance from higher-level government agencies in preparing for a private sector project.

There are several ways to tackle these problems. Several smaller towns can be grouped into a single service area large enough to provide the economies necessary to attract private investment while keeping tariffs affordable (see the section above on financial viability). Officials from neighboring towns can collaborate on a private sector project and create a single administrative entity responsible for implementing a contract. The national government can help smaller cities by supplying standardized advisory services, financial models, and contractual documents—an approach most likely to be feasible if private sector participation has already been implemented in one or more larger cities. The documents should serve as aids rather than inflexible guidelines, able to be tailored to meet the needs of each locality.

Once a government has worked through this toolkit—considering general water and sanitation issues and analyzing local technical, regulatory, political, and financial conditions—it is ready to come to a preliminary conclusion about the kind of private sector arrangement that is likely to work in local circumstances and respond to local problems. To reach this preliminary conclusion, governments need to ask the following questions:

What problem are we trying to solve?

- Is it primarily a problem of operational efficiency, or are substantial increases in service coverage and improvements in quality needed?
- If the second, is investment efficiency a problem?

What are the implications of the increases in coverage and quality for the tariffs that consumers will be expected to pay?

- Do current tariffs cover costs?
- Can the private sector reasonably be expected to boost efficiency enough to meet the proposed service objectives without increasing tariffs?
- If not, will consumers be willing to pay higher tariffs?
- If not, can grant finance (or subsidies to needy households) support service improvements?

Does the existing regulatory framework provide sufficient support for the private sector so that it will willingly take on commercial risk?

- If not, can the necessary changes be made fairly easily?
- If not, can parts of the regulatory function be simplified or contracted out in the short term?

Do key stakeholders (such as employees, consumers, and environmentalists) support or at least not oppose private sector involvement?

- Can processes and policies be put in place to meet stakeholder concerns?
- Can the risk of political interference be minimized?

Is information about the utility's assets good enough to serve as a base for long-term contracts?

- If not, can better information be produced rapidly?

The answers to these questions will point governments to different choices on arrangements for private sector participation. Tables 4 and 5 encapsulate the issues raised by the questions and are designed to help guide those choices. Although they necessarily simplify and compress many complex issues, thoughtful consideration of those issues is essential early on. However rigorous a government's initial analysis of the private sector arrangement most likely to meet local needs, the arrangement is likely to be modified during the detailed preparation that follows. But much time—and political anguish—can be avoided through careful early analysis.

Table 4 shows the responsiveness of different private sector options to common government objectives in involving the private sector. A government seeking improvements in operating efficiency and responsiveness to consumers, for example, will prefer a management contract with performance incentives or a lease to either a service contract or a concession. A government seeking greater efficiency and new investment will prefer a concession or divestiture—or, for investment in bulk services, a BOT.

Table 4
What do governments want—and which private sector options deliver it?

Option	Objective: Technical expertise	Managerial expertise	Operating efficiency	Investment efficiency	Investment in bulk capacity	Investment in distribution system	Responsiveness to consumers	Insulation from political intervention
Service contract	●	○	○	○	○	○	○	○
Management contract with fixed fee	●	●	◐	○	○	○	◐	◐
Management contract with performance incentives	●	●	●	○	○	○	◐	◐
Lease	●	●	●	○	○	○	●	●
BOT	●	● Ⓑ	● Ⓑ	● Ⓑ	●	○	○	● Ⓑ
Concession	●	●	●	●	●	●	●	●
Divestiture	●	●	●	●	●	●	●	●

○ Objective cannot be satisfied.
● Objective can be satisfied.
◐ Objective can be partially satisfied.
Ⓑ For bulk services.

But a government's preferred option may not be attractive to the private sector. Where regulatory capacity is weak and political commitment is low, a concession will be difficult to implement. The most direct way to tackle this problem is to build political commitment and regulatory capacity. In the meantime the government could implement a simpler arrangement, such as a management contract. Table 5 can serve as a guide to what is immediately possible, or as a guide to what must be done to get the preferred contract at reasonable cost.

Table 5
How much do governments have to offer to get what they want?

	Requirement				
	Stakeholder support and political commitment	**Cost-recovering tariffs**	**Good information about the system**	**Developed regulatory framework**	**Good country financial rating**
Option					
Service contract	**Unimportant**	**Not necessary in the short term**	**Possible to proceed with only limited information**	**Minimal monitoring capacity needed**	**Not necessary**
Management contract with fixed fee	**Low to moderate levels needed**	**Preferred but not necessary in the short term**	**Possible to proceed with only limited information**	**Minimal monitoring capacity needed**	**Not necessary**
Management contract with performance incentives	**Low to moderate levels needed**	**Preferred but not necessary in the short term**	**Sufficient information required to set incentives**	**Moderate monitoring capacity needed**	**Not necessary**
Lease	**Moderate to high levels needed**	**Necessary**	**Good system information required**	**Strong capacity for regulation and coordination needed**	**Not necessary**
BOT	**Moderate to high levels needed**	**Preferred**	**Good system information required**	**Strong capacity for regulation and coordination needed**	**Higher rating will reduce costs**
Concession	**High levels needed**	**Necessary**	**Good system information required**	**Strong regulatory capacity needed**	**Higher rating will reduce costs**
Divestiture	**High levels needed**	**Necessary**	**Good system information required**	**Strong regulatory capacity needed**	**Higher rating will reduce costs**

Annex 1

For many aspects of water and sanitation provision, competition does not come naturally. But careful design of a sector reform and private sector participation option can introduce the potential for competition—and therefore reduce the need for regulatory intervention.

This annex covers the kinds of competition that can be introduced in water and sanitation and explains how industry restructuring can increase the potential for competition.

The options

Four kinds of competitive pressure are possible in water and sanitation provision:

- Direct competition in the supply of services, sometimes referred to as "competition in the market."
- Competition for the right to supply water and sanitation services (through concession or other contracts), often referred to as "competition for the market."
- Competitive pressures deriving from markets for the capital with which new investments are financed.
- Comparative, or "yardstick," competition, in which the performance of suppliers in different cities is compared.

Competitive forces can be introduced by restructuring the industry before involving the private sector and by choosing more competitive forms of private sector participation.

Where these different forms of competition can be introduced depends in large part on the form of private sector participation in place (table A1.1).

Competition in the market

Injecting competition into the market is not easy in water and sanitation, except in the business segments concerned with constructing capacity or providing plumbing services to end consumers. But some competitive forces can be introduced by restructuring the industry before involving the private sector and by choosing more competitive forms of private sector participation. In particular, competition may be allowed on the boundaries of a utility's jurisdiction (boundary competition) and to supply wholly new developments (inset competition). In addition, mechanisms can be put in place to prevent vertically integrated water businesses—those responsible for everything from bulk water treatment to sewage collection and treatment—from monopolizing water sectors in which "competition in the market" is possible. For example, if a concession holder has exclusive rights to construct new facilities, market testing requirements can be introduced to ensure that these facilities are built at least cost.

Competition becomes increasingly likely as an industry becomes more disaggregated. Disaggregation can be vertical (with different firms responsible for bulk supply, distribution, and bulk sewage treatment) or horizontal (with many companies, each with a relatively small service area). Vertical disaggregation makes it conceivable that a company serving one function in an area could bid to take over other functions for particular customers if the incumbent supplier is making excessive profits on the functions or operating inefficiently. Horizontal disaggregation could increase the number of companies with the geographic proximity necessary to offer water supply or sewage disposal services. But this possibility must be balanced with economies of scale in network management. (U.K. experience suggests that a service area of less than about 500,000 customers leads to suboptimal operation.)

The more the system can be structured to allow entry at different levels, the more competitive pressure can be introduced. And the more competitive pressure there is, the less the need for regulation—of critical importance in countries or cities with limited regulatory capacity.

Table A1.1
The forms of competition possible under different private sector options

Form of competition	Management contract	Concession	BOT	Divestiture
In the market	No	No	No	Yes ○
For the market	Yes	Yes (but limited by contract length)	Yes	No
Capital market	No	Yes	Yes	Yes
Comparative by the regulator	Yes ◐	Yes ◐	Yes ◐	Yes ◐
Comparative by independent companies	Yes ●	Yes ●	Yes ●	Yes ●

○ If common carriage rules exist, and entry is allowed. Common carriage occurs when the owner of a distribution line or network is required to allow other suppliers to use the system, for a fee determined to be fair and reasonable.
◐ If several companies are operating in the country.
● If the industry is vertically disaggregated.

Competition for the market

Competition for the market occurs when potential contractual partners bid competitively for a concession, lease, or management contract. The benefits of such competition are likely to be greatest if the contracts are rebid frequently. For simple service contracts, it may be feasible to hold annual bidding rounds. But for management and lease contracts, which require the private partner to operate an entire enterprise, longer contract periods are necessary.

Frequent rebidding is less feasible where the private sector is required to provide the bulk of investment capital. Rebidding concession-type contracts requires highly detailed provisions for the transfer of, and compensation for, assets funded by the incumbent concessionaire. But even in this case competition for the market can reduce the potential for abuse of monopoly power if many different private sector participation contracts are operating in a country or region. Companies will then need to consider their reputations, as their ability to win a bidding competition in one city will depend in part on their performance in other cities. Such reputational effects will work best where there are provisions for publishing consistent information about company performance.

One potentially important constraint on effective competition for the market is that only a small group of major companies are currently involved in the international water and sanitation business. Difficulties in generating active competition can be compounded by overly stringent prequalification criteria, requiring long experience in the water sector or substantial financial resources. Many

elements of the water and sanitation business are not technically difficult (and technical expertise can, in any event, be hired). What is important is that a company has relevant experience in handling an infrastructure enterprise with a large and diverse customer base. One way to generate more competitive bidding—and to support local enterprise—is to broaden the set of potential private partners, including through management buyouts or partial share sales.

Capital market competition

Capital market competition is relevant for both divestitures and concessions. It operates through the possibility that an underperforming company will be taken over by new investors who think that they can improve efficiency. This possibility is sharpened because inefficient management tends to bring share prices down. It also makes borrowing for further investment more expensive. In extreme cases underperformance can bring the risk of bankruptcy, a powerful force for efficiency. In many developing countries, however, capital market competition is underdeveloped, and its effectiveness as a force for managerial efficiency therefore limited.

Comparative competition

The objective of comparative competition is to create a flow of information about utilities' performance to consumers, regulators, and the utility managers. Used in combination with a price control regime, comparative competition can help ensure that reasonable efficiency targets are incorporated in allowable price increases (see annex 2). It can help customers better judge the standard and value for money of the service they are receiving—which can lead to better-informed pressures on the private sector partner to improve performance. Finally, it can provide utility managers with valuable information on how well they are doing.

Clearly, the more similar the circumstances of the utilities being compared, the easier it is to introduce comparative competition. But careful choice of comparators can help alleviate the problem of differences among utilities. The comparators need to be carefully selected, too, because utilities inevitably skew their attention to doing well against the measured targets. And in any yardstick regime there will be trade-offs between avoiding costly and intrusive regulation (for example, by minimizing data requirements) and ensuring the accuracy and comprehensiveness of comparisons.

Annex 2

Even with careful structuring of the water and sanitation sector to bring competitive pressures to bear, some monopoly power will remain. There will thus always be a need for some public oversight of the activities of water and sanitation companies, though regulatory tasks will vary depending on the private sector option (table A2.1). Clearly, the continued need for public regulation is least for a very simple operations and maintenance contract: the operator receives a fixed fee for a specified service, and the contract can be competitively rebid frequently. Divestitures and long-term concessions will require a more comprehensive system of public scrutiny.

Some regulatory tasks may already be adequately provided for in existing laws (for example, fair trading laws). Those that are not must be specifically provided for through:

- Sector laws relating to private sector participation.
- The contracts for private sector participation.
- The legally specified duties of the chosen regulatory authority or authorities.

Commonly, general and sector-specific laws establish the broad principles of regulatory policy and set national service standards, such as minimum drinking water quality, while contracts cover the commercial details for the locality to be served. Between the broad principles and the local specifics, there inevitably exists a gray area. Here it is necessary to decide which legal instrument to employ (contract, law, or regulatory decision) and to establish where regulatory authority should lie.

Often a private sector contract contains many or most of the provisions governing regulation of the private sector partner to the contract. In decisions on how much the contract should cover, two questions arise:

- Is it possible to encompass all the necessary regulatory provisions within the contract?
- If so, would that be desirable, or is some degree of regulatory discretion to be preferred?

Though it is sometimes argued that a tightly specified contract can remove all the need for direct regulation, this is rarely the case. Even for a short-term management contract, someone needs to be able to monitor performance against the contract, have the authority to allow minor variations in contract specifications, and arbitrate disputes between the company and its customers and between the government and the contractor. And for longer-term concession and BOT contracts, it is usually neither possible nor desirable to have highly specified contracts, especially in countries undergoing rapid social, political, economic, or demographic change.

Detailed, rigid, and very specific contract conditions do have advantages. In particular, they help protect the private company from politically motivated, and frequent, changes in service requirements. By reducing revenue risk, such protection may help attract more bidders for the contract, reduce the cost of capital, and help the government strike a more advantageous bargain.

But rigid contract specification also has important disadvantages. Most obviously, it limits easy responses to changing social, economic, and technical conditions. It makes it difficult to fine-tune or improve on the original arrangements—an important constraint, because it is rarely possible to get everything right at the outset, particularly where information on the system is limited. In addition, highly specific contracts normally lead to a need for frequent renegotiation, where the contract holder typically has a strong bargaining position—and always has better information about the state of its business.

Table A2.1
Regulatory tasks required under different options for private sector participation

Regulatory task	Management contract	Lease	Concession	BOT	Divestiture
Regulate prices	●	✔	✔	✔	✔
Promote operating efficiency	●	✔	✔	✔	✔
Specify and monitor service standards	✔	✔	✔	✔	✔
Control externalities	✔	✔	✔	✔	✔
Maintain public good functions	✔	✔	✔	✔	✔
Ensure asset serviceability	●	✔	✔	✔	✔
Ensure development of essential infrastructure	●	●	✔	●	✔
Prevent manipulation of land values	●	●	✔	●	✔
Prevent unfair trading practices	✔	✔	✔	✔	✔
Promote efficient water use	✔	✔	✔	**Possibly**	✔
Ensure responsiveness to final customer needs	✔	✔	✔	●	✔

So a delicate balance needs to be struck between highly specified contracts, which reduce the regulator's role to monitoring compliance, and more flexible arrangements, which allow regulatory discretion.

Designing the regulatory system

In designing a regulatory system, a government needs to answer five basic questions:

- What duties should regulators have?
- How decentralized should regulation be?
- How much discretion should regulators have?
- How independent should regulators be?
- How can regulators be made accountable?

What are the regulatory duties?

The duties of the regulator will depend on the kind of private sector arrangement adopted, the degree to which service conditions and price adjustment rules are specified in law or contract, and

the existence of other sector regulators (for example, competition and fair trading authorities, catchment authorities, pollution control agencies, drinking water inspectorates, and health and safety inspectorates).

Commonly, some regulatory authority will be required to:

- Determine allowable increases in water and sewerage prices.
- Determine (or advise policymakers on) appropriate service standards.
- Monitor company performance and contractual compliance.
- Receive complaints and arbitrate disputes between the utility and its customers.
- Impose sanctions for failure to meet agreed standards.

These tasks need not be undertaken by a single body, and some may be incorporated into the contract. For example, the service standards, the formulas for price increases, and the sanctions for nonperformance could all be covered in the contract.

The monopoly character of water and sanitation network services means that price regulation (and preventing hidden price rises through reduced standards of service) is a critical regulatory task for all but very short-term management contracts. There are several types of price regulation, with the key difference in the incentives they provide for efficient performance by the utility operator, and they can be implemented in different ways (see the box on price regulation).

Rate-of-return regulation is used where there is capital investment. After determining an appropriate return on this investment, the regulatory agency sets the maximum rate of return that the utility may earn on its assets for a specific period, to reduce its incentives to raise prices in order to earn monopoly profits. The advantage of this approach in theory is that it reduces the extent to which prices depart from competitive levels. It also gives comfort to investors that they will be able to earn a return on their investments—which may lower the cost of capital. In principle, it is possible to fix the rate of return for the life of even very long contracts, reducing the need for periodic renegotiation.

But there are several problems with this approach in practice. It can reduce the incentives of regulated utilities to lower costs and encourage them to overinvest in capital. If the allowed rate of return is greater than a utility's cost of capital, the utility will be inclined to maximize its profits by substituting capital investment for other inputs to its production (such as labor). And if the allowed rate of return is less than the cost of capital, the utility may have an incentive to use a less capital-intensive method of production than it otherwise would. In both cases the result will be higher production costs. Rate-of-return regulation can also impose high information costs on both the regulator and the regulated utilities.

Where responsibility for capital investment remains with the public sector, rate-of-return regulation reduces to cost-of-service regulation, with allowable price increases fixed according to the legitimate operating cost of the contract holder. But what does legitimate mean? In some cases costs are established on the basis of the actual expenditures of the contract holder, but this approach reduces incentives for efficient operation. More often, allowable price increases are calculated by applying a formula, which uses national inflation indexes for each cost component, to the cost structure of the contract holder. This approach makes regulation relatively simple, but there is no guarantee of the efficiency of the contract holder's cost structure.

Under pure price control, regulation involves setting a general "cap" on prices. This cap is usually defined by reference to the inflation rate and to an assessment of the potential for efficiency

Options for regulating prices

Rate-of-return or profit control

Regulators place limits on the returns earned on invested capital and may also place restrictions on dividends payable to shareholders and on accumulated capital reserves.

Price control

Regulators peg allowable price increases to an independent measure such as the retail price index, possibly adjusted for expected efficiency gains.

improvements by the regulated utility. The main advantage of this approach is that it provides utilities with an incentive to reduce costs and operate efficiently, because they keep any profits generated by increasing productivity more than required to. The approach also has several drawbacks. If the price is set too high, the business will earn high profits, which may be unacceptable to the public. If the price is set too low, the level and quality of services may fall as the utility finds it impossible to earn a reasonable rate of return; investors are then placed at risk, and the cost of capital may increase accordingly. Expected productivity gains may also be set too high, a risk the investor must confront each time the cap is renegotiated (which may be as many as five or six times over the life of a concession contract). Price caps may not be attractive if the primary concern is to promote new investments by the regulated utilities.

Price cap regulation was expected to be easier to administer than rate-of-return regulation, which is highly information intensive. But under a price cap regime regulators must still (if only implicitly) determine an appropriate rate of return in order to set required productivity gains at a sustainable level—and so will have information requirements similar to those in rate-of-return regulation.

How decentralized should regulation be?

As utilities are decentralized, more governments are considering decentralizing regulation. Decentralized regulation may be more responsive to local needs and conditions, ease monitoring, and ensure better access to information. But decentralization can increase regulatory costs (through replication of regulatory agencies), reduce regulatory effectiveness (because of lack of capacity), increase the danger of "capture" by the private sector operator, and allow local interests to neglect the external costs of their actions (for example, pass the pollution costs from untreated sewage to downstream municipalities). Decentralized regulation can also reduce the potential for comparative competition.

Where regulatory functions are decentralized national governments can still put in place arrangements to support effective and consistent regulatory decisions. Options include:

- Providing national or regional training facilities for regulatory staff.
- Publishing national performance indicators.
- Creating a central or regional agency with auditing functions to monitor the effectiveness of local regulators and reduce the risk of capture.
- Requiring local regulators to publish the results of their monitoring activities and regulatory decisions.
- Providing reporting and monitoring guidelines to help ensure that utility performance is measured consistently and in a way that eases comparisons.
- Providing or funding, or requiring local regulators to employ, professional, independent system monitors (these could be private firms).

All these measures leave regulatory authority at the local level but attempt to ensure that a higher level of government has a role in monitoring the performance of utilities and local regulators.

How much discretion should regulators have?

Because contracts that will guide a relationship of 10, 25, or 30 years cannot be fully specified in advance—and should not be, if flexibility is to be preserved—some regulatory discretion is

desirable. But a regulatory system that involves significant discretion may deter private sector participation, because it increases risk. To avoid this outcome, it is necessary to ensure that:

- Clear limits to discretion are specified in the law and the contract.
- The criteria and processes to be employed by the regulator are established in law.
- Adequate arrangements are in place for appeal of the regulator's decisions.
- The regulator is trusted to be impartial (a condition that may be difficult to satisfy in countries that lack a tradition of an independent civil service and judiciary).

More generally, the design of the regulatory agency should provide assurance to:

- *Investors* that regulatory discretion will be exercised in a way that protects their legitimate interests and will not be subject to undue political influence.
- *Consumers* that regulatory discretion will be exercised in a way that protects their legitimate interests and will not be subject to undue influence by the regulated industry.
- *All stakeholders* that sufficient skill, expertise, and resources will be devoted to what is often a technically challenging regulatory task.
- *Elected officials* that the regulatory agency will remain true to its mandate and accountable for its performance.

How independent should regulators be?

To be effective, regulators must operate independently from both short-term political pressures and the regulated companies. If regulatory authority lies within the political sphere of government, there is always a danger that prices, service standards, and investment priorities will be manipulated to serve short-term electoral interests. With a more independent regulator, there is a greater chance that the sector can be managed to meet long-term service and efficiency goals. But achieving independence is not easy:

- Regulatory appointments must be made on professional criteria.
- Tenure must be for a fixed period (that is, regulators must be protected from arbitrary removal from office).
- The regulatory body must be funded out of direct levies on utilities or customers, not from ministerial budgets.
- Pay must be competitive with private sector salaries, to minimize the risk of corruption and to attract competent staff.
- Regulators must be barred from political activity and from having financial interests in water and sanitation and related sectors (such as construction or land holdings).

Several strategies could be used to reduce the danger of capture by the regulated firms or by political interests—and to economize on generally scarce regulatory skills:

- Establish a multisectoral regulatory commission—for example, one covering telecommunications, electricity, and water and sanitation.
- Contract out some elements of regulation to reputable, technically competent private sector firms—such as financial auditing or monitoring service standards or asset condition.
- Use an existing regulatory body with a reputation for independence and honesty—such as a fair trading or antitrust agency or the courts.

How can regulators be made accountable?

While regulators ought to have a high degree of independence from democratically elected bodies, there is still a need to ensure their accountability. Ways to do that include:

- Specifying the regulator's duties clearly in law. If there are multiple goals, primary and secondary objectives should be differentiated.
- Prescribing transparent decisionmaking processes, including requiring regulators to allow interested parties to make submissions and to publish decisions and the reasons for those decisions.
- Making decisions subject to review before the courts or some other independent forum.
- Requiring regulatory authorities to present annual reports on their activities and to be subject to independent audits.

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Millions of urban dwellers, especially the poor, lack adequate access to safe drinking water and sanitation. Improving services significantly will, in most cases, require more efficient operation of water utilities and investments in rehabilitating and extending supply systems. Many central and local governments are turning to the private sector to help address these needs. But private sector participation is no simple panacea. Its success depends on how well the chosen private sector arrangement fits local circumstances, on whether the regulatory environment is suitable, and on how well the reforms respond to the concerns of those affected.

For these reasons, designing and implementing a private sector arrangement can be a complex and often costly task. There is no blueprint for this task. Careful, case-specific work is required to prepare an arrangement that will make sense in local conditions. But all reform processes have elements in common and can build on experience elsewhere. We have prepared these toolkits to transmit the experience gained so far and the lessons this experience offers on what can make or break a private sector participation process. The toolkits are meant to support, not substitute for, independent advice by experienced professional firms.

The movement toward private sector participation in water and sanitation is young in developing countries, and we still have much to learn. We view the toolkits as an evolving product—and would welcome your suggestions on how to make the next version better.

The toolkits have been developed in collaboration with many colleagues in the public and private sectors of our member countries. Their participation has been critical to the quality of the toolkits and demonstrates the importance of working together to find better ways of achieving our common objective of improving services for developing country citizens. In particular, we would like to acknowledge the generous financial and advisory support of the Department for International Development (U.K.), without whose partnership the toolkits would not have been possible.

Comments are welcome.
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When to Use This Toolkit

This toolkit is intended for use by government staff and advisers as they implement a private sector participation option. It offers guidance on the process by which a government fine-tunes the option it has chosen, makes the legal and regulatory changes necessary for this option, and develops and enters into a contract with the private sector. It thus provides a procedural framework for refining and implementing the policy decisions discussed in toolkit 1. The detailed content of regulations and contracts is covered in toolkit 3.

The procedural issues discussed in this toolkit are most relevant for arrangements in which the private sector takes on a substantial role—management contracts, leases, build-operate-transfer (BOT) contracts, concessions, or divestitures. The toolkit focuses on such areas as the structure of the government unit set up to manage the design and implementation of a private sector arrangement, the hiring of consultants to assist with the process, the steps in the process and the critical path through these steps, and the design and management of bidding for the private sector contract.

Contents

The quality of the process of designing and implementing an option for private sector participation can determine whether or not the reform succeeds. That process has two objectives:

- To develop the best possible arrangement for local needs and local circumstances.
- To find a suitable private sector partner for this arrangement and obtain the best possible offer from that partner.

A process that will achieve these objectives costs money and takes time, especially for private sector options that involve private investment. A government about to enter into a 25- or 30-year partnership with a private company wants to be sure that it doesn't do things in haste that it will spend the next decades repenting. But governments face a trade-off between the potential benefits to their citizens from getting the best possible arrangement and the costs of the extra refinements in both time and money. A good process is one that produces a satisfactory outcome for consumers without unnecessary costs or delays.

A good process should also allow flexibility to respond to unforeseen events, without losing track of the original objectives of private sector participation. And it should assure stakeholders that it is fair and transparent, reducing the risk of legal or political disruptions later on.

A government about to enter into a 25- or 30-year partnership with a private company wants to be sure that it doesn't do things in haste that it will spend the next decades repenting. But governments face a tradeoff between the potential benefits to their citizens from getting the best possible arrangement and the costs of the extra refinements in both time and money.

Choosing a good arrangement

Toolkit 1 provides guidance on how to choose an arrangement for private sector participation that will be feasible, sustainable, and well targeted to meeting consumer needs. This choice requires considering what kind of contract will best mobilize private sector skills and resources to meet consumer demands and what legal and regulatory framework will be necessary to support and sustain that contract. For the chosen arrangement to work, it has to make sense *technically, financially,* and *politically*.

A *technically sound proposal* is one that is well targeted to the problems (such as need for new investment or for gains in operational efficiency) and is compatible with the existing legal framework—or includes supporting changes in that framework. A *financially sound proposal* is one that can be financed at a tariff that consumers are willing to pay—or with the aid of a fiscally and politically viable government subsidy scheme.

To arrive at a technically and financially sound proposal, a government needs to establish a unit to work through the issues in toolkit 1. This unit will probably need to hire independent advisers to assist in refining and implementing the proposed private sector arrangement. (Issues relating to the structure and mandate of this unit and the hiring of advisers are discussed in the section below on managing the process.)

Experience around the world with efforts to reform and restructure water and sanitation utilities shows that, as with any other reform, political commitment is absolutely crucial to the success of a transaction. Political commitment is essential, for example, to ensure a genuine response to the concerns of stakeholders, particularly government utility employees.

A *politically sound proposal* is one that has political support, both within government and among interested stakeholders. The political viability of a chosen arrangement will depend in part on how well it meets technical problems. But it will also depend on such factors as:

- The presence of a political champion, willing and able to provide high-level support for the project throughout the preparation and bidding.
- The government's capacity to mobilize support for the arrangement within its own ranks.
- Support from the utility's management and labor, to allow a smooth transition.
- The identification of key stakeholders and the development of a plan for responding to their concerns (toolkit 1 identifies typical stakeholders, and the section below on managing the process gives guidance on meeting their concerns).
- The transparency and fairness of the process of implementing private sector participation.

Experience around the world with efforts to reform and restructure water and sanitation utilities shows that, as with any other reform, political commitment is absolutely crucial to the success of a transaction. Political commitment is essential, for example, to ensure a genuine response to the concerns of stakeholders, particularly government utility employees.

Political commitment is also essential to attract private sector interest. Potential private sector partners—and their financiers—will be looking for signs that the present government is willing not only to sign a contract, but also to put in place regulatory arrangements that will protect their legitimate future interests. They will also look for evidence that the government will honor the commitments it makes in contracts. Concerns about political commitment on these points will be reflected in less attractive bids or in an absence of bidders altogether.

Finding a suitable partner

Once a government has decided on the kind of arrangement it would like, it needs to find a suitable private sector partner for that arrangement. The most effective way to do so, and to elicit the best bid, is to require prospective partners to compete with one another to win the contract. Such competition is particularly important where the company that wins the contract will have a sole (or monopoly) right to serve customers in the utility's jurisdiction. The purpose of the competition is to get potential partners to find the most efficient ways possible to meet consumer demands (see the section in annex 1 of toolkit 1 on competition for the market).

The extent to which competition for a contract can be achieved—and the extent to which this competition translates into the best possible outcomes for consumers—depends on how bidding is organized (see the section below on this issue). Getting good results for consumers also depends on the regulatory arrangements put in place to guide the contract and on the government's ability to find other mechanisms for keeping competitive pressures alive (see the last section of this toolkit).

To prepare a private sector arrangement in a timely way requires carrying out many tasks simultaneously. In particular, work on the regulatory framework required to support the transaction generally needs to be under way while the transaction is being prepared. The "critical path" below shows the many tasks that must be undertaken in developing and implementing a sustainable transaction and the need for clear coordination among them.

The time required to complete all the elements on this critical path will vary among countries and by the type of private sector option being pursued. Countries with legal and regulatory frameworks supportive of private sector participation in water and sanitation and with good-quality information on the system may be able to proceed relatively rapidly. Management contracts should take less time to prepare and implement than concessions: given strong political commitment, a management contract could be designed and implemented in 8 to 10 months, while a concession could easily require 18 months to 2 years. The Buenos Aires concession, for example, took 2 years to prepare, while the Manila concessions were completed in around 18 months.

As a country undertakes more private sector contracts, it may be able to shorten the preparation time. But there is a lower limit, determined by the need to develop an arrangement well tailored to local circumstances and by the time required by potential bidders to develop considered offers.

Preparing a transaction for private sector participation is inevitably an iterative process, as new information continually emerges. Different stages in the process will require different levels of detail and precision. Governments will need to give some thought to all the subject areas covered here before coming to an initial decision about the kind of private sector participation option they would like to pursue, but this early analysis can be quite crude (see toolkit 1). For example, early financial modeling can be based on limited data and approximations. By the time bidders are asked to prepare their bids, however, governments will want to have the best possible information available and to have thought through in detail both the proposed contract and the supporting regulatory arrangements.

The key tasks in preparing the transaction fall into six areas: policy formulation, technical analysis, legal and regulatory work, economic and financial analysis, public relations, and human resources. For each of these groups of tasks governments may need to hire consultants.

Policy formulation

The cornerstone of the reform is the central policy paper in which the government sets out its main policy objectives and the broad parameters of the proposed transactions. This policy paper will draw on several inputs:

- A review of completed sector studies.
- A review of the key financial parameters on which the government will base policy decisions on such matters as the financial support that it is prepared to give to projects.
- A review of the legal framework relating to the sector.
- A review of the institutional framework of the sector.

Preparing a transaction for private sector participation is inevitably an iterative process, as new information continually emerges. Different stages in the process will require different levels of detail and precision. Governments will need to give some thought to all the subject areas covered here before coming to an initial decision about the kind of private sector participation option they would like to pursue, but this early analysis can be quite crude.

The critical path	Preparation phase	Implementation phase

Policy formulation

Industry analysis—review sector studies
Financial analysis—review key financial parameters
Legal and regulatory—review current status
Institutional—review current arrangements
Draft central policy paper with principal objectives
Define bid process and criteria
Address issues of transaction structure

Technical

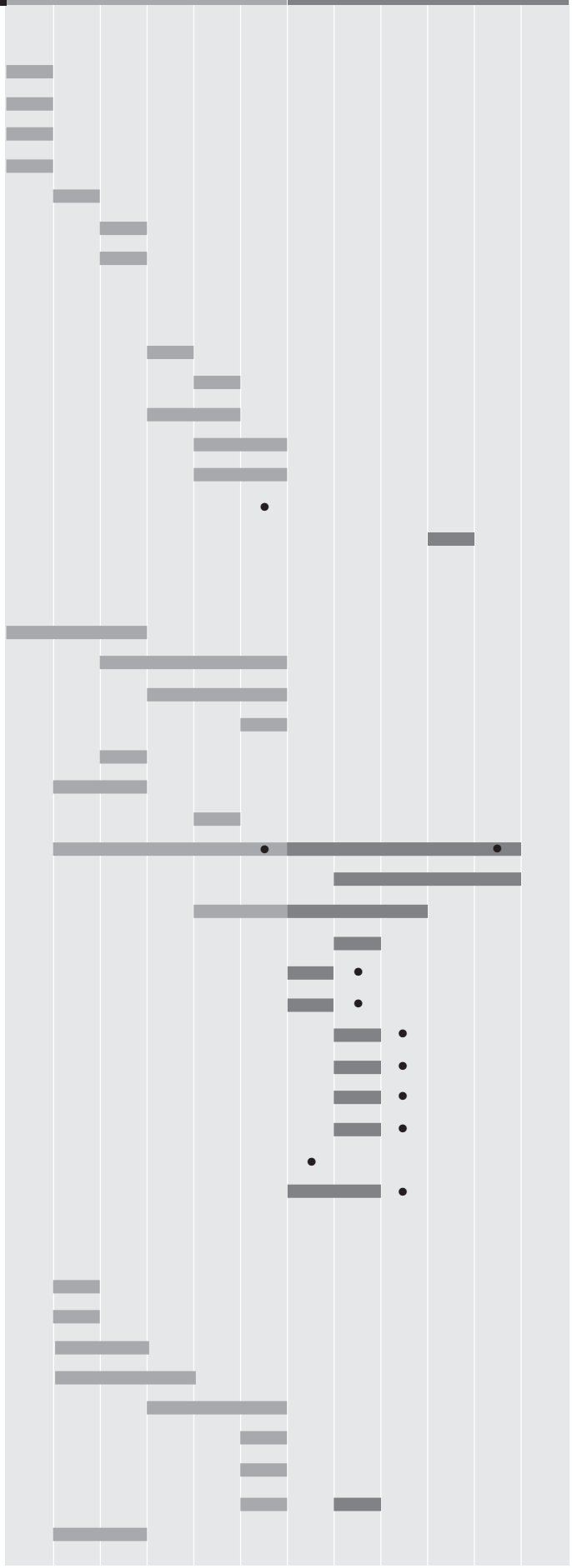
Carry out preliminary technical overview of the system
Define the service area
Estimate replacement cost and capital expenditure requirements
Define technical performance standards
Estimate human resource requirements
Prepare final report
Draft relevant sections of the information memorandum

Legal and regulatory

Review legal and regulatory issues
Draft legislation
Draft regulations
Prepare briefing papers on legislative package
Draft paper on privatization issues
Draft paper on corporatization issues
Review legal aspects of labor issues
Prepare legal due diligence report
Prepare data room
Draft transaction documents
Draft relevant sections of information memorandum
Enact necessary enabling laws
Enact regulations
Establish regulatory authority
Approve charter and operational rules for regulators
Select and appoint regulators
Establish customer representative body (if any)
Provide initial funding for regulators
Establish regional coordination (if private participation is at the municipal level)

Economic and financial

Develop financial model
Review demand forecasts
Test alternative tariffs and tariff structures
Estimate costs (capital, operating, maintenance)
Draft tariff and schedules (including formulas)
Propose capital structure (debt-equity ratio)
Determine government support (foreign exchange, other guarantees, grants)
Draft relevant sections of information memorandum
Review existing financial statements



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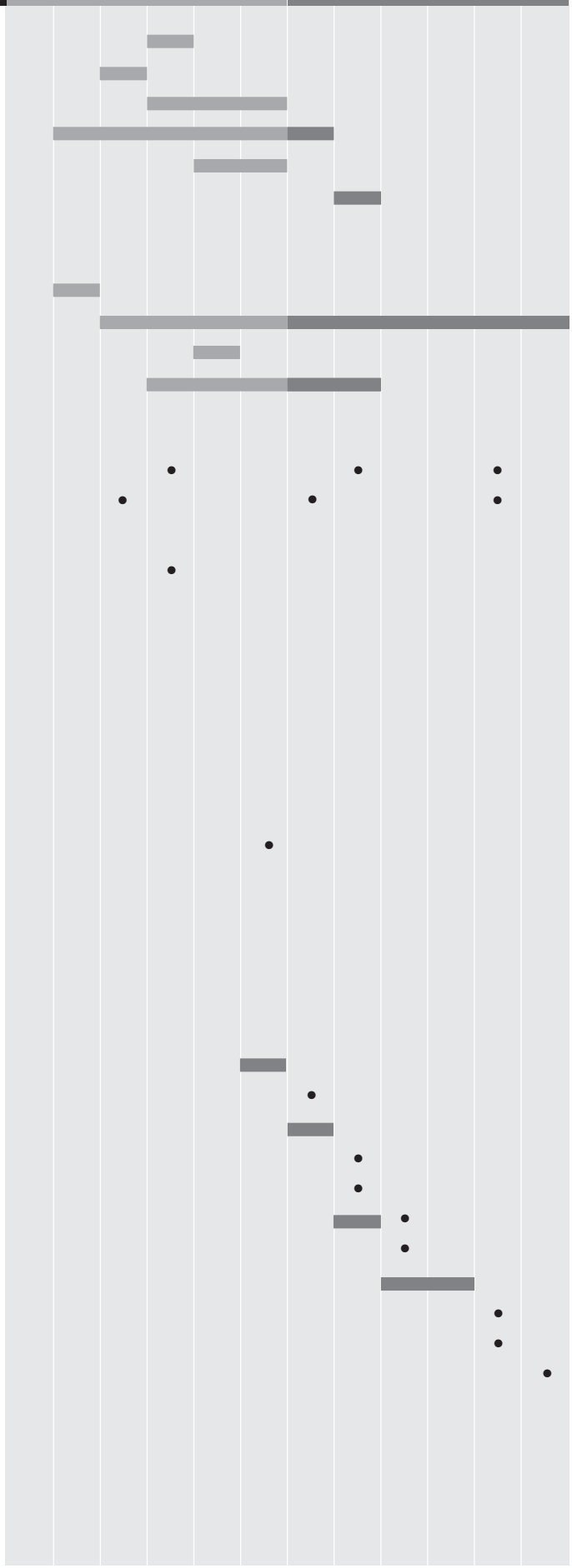
The critical path	Preparation phase	Implementation phase
Assess implications of tax, dividend, and foreign exchange requirements		
Review personnel costs and restructuring (if any)		
Prepare preliminary financial statements		
Prepare financial due diligence report		
Define financial covenants		
Draft relevant sections of information memorandum		
Public relations		
Prepare public attitude surveys (if any)		
Run public awareness campaign		
Prepare public relations campaign for implementation phase		
Premarketing		
Human resources		
Organize interactions with workers		
Organize interactions with unions		
Workshop 1: Structure and policy issues		
Sector structure		
Tariff policies, subsidies, reform		
Legal and regulatory issues and implications		
Labor considerations		
Performance standards		
Legislation and regulations		
Service area		
Workshop 2: Transaction strategy		
Corporatization issues		
Private sector participation method		
Bid process and criteria		
Project documents		
Transaction		
Finalize information memorandum		
Announce process to the press		
Register interested parties		
Enter into confidentiality agreements		
Issue information memorandum		
Prequalify bidders		
Issue project documents		
Negotiate terms with bidders		
Receive final bids		
Issue letter of award		
Reach financial closing		



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Technical analysis

During the preparation phase input from technical engineering consultants should be obtained to estimate the expenditures needed to achieve realistic performance standards in such areas as water quality, pressure, water losses, and service coverage (see the section in toolkit 1 on assessing the current state of the utility). This input will be key in developing reasonable performance targets and methods for measuring performance. This input will aid in valuing the assets at the end of the contract. Most private operators will also wish to conduct their own technical due diligence.

The results produced by the technical consultants will be key inputs for the financial consultants. The technical consultants' assessment of the assets' physical condition, judgment on the assets' remaining useful life, and estimate of the capital expenditure required to meet the performance criteria will all serve as inputs to the financial model. And the technical consultants' estimate of the human resources required to provide safe, efficient service will feed into the analysis by the lawyers and financial analysts of the likely effect of retrenchment compensation on tariffs and financial feasibility. The results on human resource needs will also go to the human resource consultants, who will manage this information and present it to the workers and their unions in a way that ensures transparency and a clear flow of information.

Legal and regulatory work

Once broad policy decisions have been made about what form of private sector participation is preferred, what areas and functions will be covered, and how private sector participation will operate within the national structures for water resource management and regulation (see the section in toolkit 1 on the regulatory framework), further work on legal and regulatory aspects is required to prepare for the transaction. This work, carried out by lawyers, consists of two groups of tasks, the first relating to the legal and regulatory framework and the second to the transaction strategy.

The first group of tasks involves:

- Identifying the areas within existing laws, regulations, and decrees that constrain the transaction or increase its cost (reduce its value) and either preparing amendments or proposing safeguards within the transaction.
- Examining the continued regulatory tasks of the public sector and advising on how these should be accomplished (by contract, by sector-specific regulation, by legally specified duties of a regulatory agency, or by some combination of these).
- Based on a review of existing institutional arrangements, clarifying the roles of different agencies in relation to the private company and advising on the development of new bodies and mechanisms for coordination, for example, among municipal, provincial, and national functions, between economic regulation and environmental and health regulation, and between infrastructure development and land use planning.
- If restructuring the utility company is a policy option, evaluating the necessary legal and political measures.

In the second group of tasks the lawyers will develop, in conjunction with the other advisers, the principal transaction strategy—including key papers on corporatization, tax, labor transfer, and bidding process issues—and present this strategy to key policymakers. In addition, the lawyers will be responsible for developing all the transaction documents. Different private sector options will require different suites of contracts and instruments (see the box on a typical contract package).

Economic and financial analysis

The economic consultants, working with the financial analysts, will play a key part in developing the tariff formulas and base tariffs for the transaction documents. They will also assist in developing the general legal framework. They will examine demand projections and willingness-to-pay information, prospects for growth, the current tariffs and tariff structure, and the method for calculating tariffs. Their output will be an input to the final transaction documents and the final laws and regulations for the sector. The economists should also be able to assist in evaluating the current institutional capacity for regulation and to advise on how best to configure the sector to maintain competitive pressures after the transaction closes (see annex 1 in toolkit 1).

The financial advisers will usually play a wide-ranging role—from premarketing (identifying and discussing with potential private investors the possible transaction options), to coordinating inputs from other advisers, to marketing the transaction. The financial advisers will assist the government in determining the effects of changes in the tariff on the likely price or value of the assets or concession fee. This analysis will entail developing a financial model and discussing with the government the policy assumptions that should be included in the model. The model will be used to test the viability of the proposed service objectives and their impact on the tariff. Once an option has been selected, the model can be used to develop the financial specifications for bids and as a reference for contract negotiations.

A typical contract package

The contract package for a typical concession might include the following:

- The request for proposals or tender document.
- The concession contract.
- The license or other regulatory documents.
- The asset sale and purchase agreement.
- An implementation agreement on the government's support (if any) to the project.
- A disclosure letter against any warranties and indemnities given in other contracts.
- Bulk water supply and sewage treatment contracts.

Checklist for financial modeling

Review demand forecasts

Review the forecasts of residential, commercial, and industrial water consumption for the utility's existing service area and any proposed extensions. Are they based on credible assumptions about the willingness of customers to pay for services? Do they take account of customers' response to tariff increases?

Incorporate costs

Incorporate the construction schedule, the equipment procurement schedule, and the operating and maintenance costs of existing and proposed facilities into the model. Determine the impact on tariffs of changes in the construction schedule. Evaluate the construction management plan, especially as it relates to lender requirements.

Incorporate assumptions about capital structure

Analyze the appropriate mix of private equity and debt to finance the project. Provide assumptions about:

- Minimum rates of return on equity.
- Interest rates and tenor of senior, subordinated, and shareholder loans.
- Foreign exchange rates over the life of the loan (if applicable).
- Debt service coverage ratios (senior and subordinated debt).
- Priority distribution of tariff revenues to debt (senior and subordinated, principal and interest payments) and equity (dividend payouts).
- Depreciation and tax benefits.

Determine government financial support

Determine how the government could provide financial support. Some of the possible ways:

- Direct grants (or waiver of a transaction fee).
- Loans.
- Foreign exchange and convertibility guarantees.
- Loan principal and interest guarantees.
- Delinquent payment coverage.
- Supply and purchase guarantees (take-and-pay or take-or-pay contracts for bulk supply).
- Tariff subsidies for specific user groups (these may be time-bound).
- Tax relief.

Test alternative tariff structures

On the basis of the cost inputs, capital structure assumptions, and demand forecasts, evaluate alternative tariff structures and identify the structure that meets government objectives and is capable of financing the project.

Draft tariff schedules and adjustment formulas

On the basis of the tariff structure, evaluate alternative tariff schedules and a formula for adjusting the tariff. Those selected will depend on the basis on which the contract is awarded and must be consistent with the regulatory framework.

The financial advisers will need the input of the legal and regulatory advisers, because the draft contracts will affect the commercial and financial viability of the proposed project. The financial advisers will review the demand forecasts, test alternative tariff structures and technical solutions, and estimate capital, operating, and maintenance costs. They will advise on the capital structure for the new entity (debt-to-equity ratio), and any covenants that should be applied with regard to financial ratios and potential collateral for lenders. They will also advise on the preparation of the information memorandum for the transaction and later assist in evaluating bids.

Public relations

Public relations consultants, preferably with good knowledge of the local area, can be retained to act as official spokespersons for the process, keeping the public informed of the proposed transaction structure. Through regular team meetings, these consultants should be kept fully up to date on the details of the proposed

transaction, and briefed on which matters are confidential and which may be disclosed. It is usually a good idea to have the public relations consultants run a general corporate awareness campaign to ensure that the public is aware of the reform process and the underlying government policies. Such a campaign is important to assure the electorate that the reform process is taking care of their legitimate concerns as consumers.

Human resources

Human resource consultants should also be retained, to help organize interactions with unions and employees and identify ways of meeting their concerns. Like the public relations consultants, these consultants need to be kept fully briefed on how the proposed transaction is evolving and on which matters are confidential and which may be disclosed to employees and their union representatives.

Effective management of a reform process has both political and technical aspects. This section focuses on managing the politics of reform, establishing a unit to coordinate the reform process, and hiring advisers to assist with technical inputs.

Managing the politics of reform

If political commitment appears weak, bidders may stay away or raise the price of their involvement. If the government mismanages politically sensitive issues, it risks delays, increased uncertainty, and reduced chances for a strongly positive outcome. The political problems raised by the process of involving the private sector often turn out to be more difficult to solve than the technical or conceptual problems of the contract design.

The success of any process of involving the private sector in the provision of water and sanitation services will depend on a belief among potential bidders that:

- There is a firm political commitment to the process among the key decisionmakers in the government.
- This political commitment will be sustained once the transaction is completed.
- The government has taken action to deal with the main politically sensitive issues that surround the transaction.

If political commitment appears weak, bidders may stay away or raise the price of their involvement. If the government mismanages politically sensitive issues, it risks delays, increased uncertainty, and reduced chances for a strongly positive outcome. The political problems raised by the process of involving the private sector often turn out to be more difficult to solve than the technical or conceptual problems of the contract design. Identifying possible issues early and developing a careful program for managing them are essential. Several steps are critical in this process (table 1):

- Identify key stakeholders in the reform and the primary nature of their interest in the design and the outcomes of the process.
- Identify up front issues that are likely to be politically sensitive or to require policy decisions or political action.
- Identify substantive policy decisions needed.
- Identify ways to secure stakeholder input and commitment to the reform process. (Here it is important to distinguish between the stakeholders who need to be consulted by virtue of their legitimate interests in the reform process and those whom it is simply politic to inform, through public relations campaigns.) For each measure identified, the costs—and who should bear them—will also need to be identified.

Table 1
Possible stakeholder issues and policy responses

Stakeholder group	Possible issues	Policy decisions required	Ways to get inputs
Employees	**Is retrenchment likely to be needed?**	**Retrenchment packages** **Employment requirements for the private operator**	**Representation in the reform process** **Regular consultation**
Consumers	**Which consumers will receive new works first?** **What are customers willing to pay?**	**System for planning extensions** **Tariff methodology** **Design of a subsidy scheme, if needed**	**Public relations campaigns and opportunities for consultation**
Environmentalists	**Will new works have major environmental consequences?**	**Environmental standards to be applied** **Identification of who will bear cleanup costs from past pollution**	**Consultation on key issues**
Existing government agencies	**Will restructuring or shifts in responsibilities be required?**	**Identification of which agency will have regulatory authority, and how it will coordinate with other agencies**	**Opportunities for consultation**
Other citizens	**Will new works require resettlement?**	**Resettlement policy**	**Direct consultation with affected groups**

Managing the process of reform

For a reform to proceed smoothly, the government will need to establish a unit responsible for the day-to-day management of the process. The skills of the people appointed to this unit will be critical. While the unit may consult with interested stakeholders or representative forums, it must be able to view the process from a broader, social perspective, focusing above all on the interests of water and sanitation consumers.

In designing the management unit, the government needs to address the following questions:

What will be the legal and organizational status of the unit?
- Will it be a ministerial working group or committee?
- What will be its legal powers?

The skills of the people appointed to the management unit will be critical. While the unit may consult with interested stakeholders or representative forums, it must be able to view the process from a broader, social perspective, focusing above all on the interests of water and sanitation consumers.

Where will the unit be located?
- Will it be attached to a government department?
- A ministerial office?
- A mayor's office?

How will the unit be staffed?
- What sorts of skills and experience will be needed?
- What are the reputations of the key staff?
- Will they be seen as independent?
- Who will head the unit?

How will the unit obtain the resources it needs?
- What will its funding base be?
- What procedures must the unit follow to secure funds and procure goods and services?

To whom will the unit answer?
- A single politician, charged with oversight of the process?
- A parliamentary committee?
- A bureaucratic steering committee?

What mechanisms will be used for holding the unit accountable?
- Reporting on progress against the critical path?
- Financial reporting?
- Incentives for performance?

How will the unit obtain key information and cooperation from elsewhere in the public sector?

What kind of access will the unit have to key political decisionmakers?
- Will it be direct or mediated?

There is no single set of right answers to these questions. Political and institutional structures, prior experience with private sector projects, and the extent to which the necessary skills are available domestically will all shape the structure a government chooses.

In deciding how to set up the unit, the government's objectives should be to:
- Ensure that the unit has sufficient autonomy, both managerial and financial, to carry out its task cost-effectively.
- Shield the unit's staff from political interference in their day-to-day tasks.
- Give politicians and relevant government agencies confidence that the task is proceeding as intended and that any major policy issues are dealt with as they arise—by putting in place reporting and accountability mechanisms.

Hiring advisers

Designing and implementing private sector participation in water and sanitation requires substantial economic, financial, technical, and legal expertise, and the

coordination of that expertise. The process requires detailed work—first refining the option to be implemented and the legal and regulatory measures needed to support it, then preparing many complex documents, such as the regulatory framework law, the bidding documents, and the draft contracts. Preparing the documents often involves several iterations, as preliminary versions are distributed to prospective private partners for comment and then modified in accordance with these comments and with the government's policy concerns.

Governments usually lack the full range of expertise within the civil service to carry out these tasks. Even where earlier privatization projects have helped build up a body of skilled staff, these staff are unlikely to have the full range of skills needed to see through every aspect of the process. Some countries may have few of the necessary skills available locally and will need international advisers. All governments will need to contract out at least some of the tasks to external advisers. Managing these advisers then becomes a primary task of the government unit.

What kind of advisers might be needed?

Economic and regulatory consultants, to advise on:

- How the market might be structured.
- How competition might be promoted.
- How tariffs might be structured and adjusted.
- What regulatory and monitoring mechanisms are needed.
- What instruments will be needed to promote efficient use and allocation of water (in coordination with the environmental consultants).

Legal consultants, to prepare:

- Legislation and regulations.
- Bidding documents.
- Draft contracts.

Technical consultants and engineers, to:

- Undertake a technical assessment.
- Prepare the technical specifications and requirements of contracts and regulations.

Environmental consultants, to:

- Prepare environmental studies.

Investment bankers and financial consultants, to:

- Prepare financial projections.
- Determine the bankability of the project.
- Prepare the information memorandum and prospectus.
- Undertake sales promotion.

Selecting advisers

Once the government has decided which kinds of advisers it wishes to hire, it needs to set up a selection process, which will include:

- Preparing terms of reference setting out the objectives, scope of work, and expected outputs from each group of advisers.
- Preparing a letter of invitation setting out the process for submitting proposals and the criteria that will be used to evaluate proposals.
- Identifying a shortlist of qualified advisers.
- Evaluating bids and finalizing contracts.

The terms of reference for each group of consultants will depend on such factors as the kind of private sector involvement planned; the extent to which local staff are available to work with external consultants on some issues; local social, institutional, and hydrogeographic factors; and the structure of the advisory process (for example, will it cover both design and implementation phases?).

But there are general sets of issues that will typically need to be covered regardless of local conditions. These issues are illustrated in the sample terms of reference for economic, legal, technical and engineering, and financial consultants set out in annexes 1 through 4. These terms of reference can be packaged in one or several contracts, as discussed below.

The letter of invitation should clearly describe the process for submitting bids and the criteria against which bids will be evaluated. Again, the form will vary according to how advisory functions are grouped and what kind of project is planned.

After preparing the terms of reference and evaluation criteria, the next task is to invite proposals from a shortlist of qualified consultants. Limiting the number of firms allowed to bid makes evaluating the proposals more manageable. It also tends to encourage firms to devote time and resources to developing good proposals—because they feel that they have a serious chance of winning. A government may have a list of experienced consultants if it has had experience in private sector contracting. But if it does not, it can publish a notice in the international press seeking information on firms' qualifications and experience, which it can then use to establish a shortlist. In the interest of maintaining clear competition at a later stage, the government may wish to short-list only consultants that are not affiliated with companies interested in bidding for the private sector contract.

There are two broad options for evaluating proposals. If price is to be a factor, firms may be required to submit technical and financial proposals in separate envelopes. The technical proposals are opened first and scored according to such factors as the firm's experience, its proposed work program, and the qualifications and experience of the proposed team. Firms scoring below a predetermined number may be dropped at this stage. The financial proposals are then opened and again scored against predetermined criteria. The contract is awarded on the basis of the combined technical and financial scores. If price is not a factor (for example, if a

maximum budget is determined beforehand), proposals may be evaluated solely on a technical basis.

In some cases (generally in hiring investment banks), potential advisers may be requested to make presentations to the government outlining their qualifications, experience, team, and intended approach. This type of presentation, often referred to as a "beauty contest," is designed to give the client better knowledge of the proposed personnel and approach.

Opinions on the merits of beauty contests vary. In their favor is that they can reveal how the potential consultants will work and whether the necessary chemistry exists between the consultant team and the government—important, since the government must work closely with its advisers. But there are concerns that beauty contests can weaken the competitiveness of the hiring process by making it harder for all firms to be considered on the same terms. This problem can be alleviated by specifying in advance the questions that will be asked during interviews and the criteria for evaluating responses. Alternatively, the beauty contest can be held before bids are opened.

Packaging the advisory contracts

A key issue in hiring advisers is how to package the contracts. Some governments have opted for contracting out advisory work in a single assignment to a consortium of firms with the requisite legal, financial, economic, and technical skills. The consortium is often led by an investment bank that takes the lead in preparing the transaction.

One advantage of the consortium approach is that it allows the government to delegate to the lead firm much of the complex task of managing and coordinating the advisory work. That can help ensure that the work proceeds more smoothly and minimize inconsistency in content and approach—a help when the government has limited human resources and little experience with private sector participation projects. Another advantage is that the lead firm or consortium can be made fully accountable for advisory services, avoiding situations in which, for example, a financial firm fails to perform its task and blames delay on another task group, such as the engineers.

But the consortium approach has some drawbacks. A consortium of several firms may have areas of weakness if it was selected on the basis of its overall qualifications and price rather than on the basis of its expertise in each area. And the approach can lead to conflicts of interest if the government wants to create different incentives for different members of the consortium. For example, it might want the investment bank leading the consortium to maximize the value of the transaction. But this outcome might conflict with developing a sound set of regulatory arrangements that maximizes competitive pressures.

For these reasons, some governments have opted for hiring advisers through several different contracts. In principle, this should result in higher-quality advisers in each area and in clearer mandates, but it places a heavy coordination burden on the government. Consequently, many governments have chosen a hybrid approach,

packaging some but not all tasks. For example, governments may separate tasks related to developing the regulatory framework from tasks related to completing the transaction. Governments may also hire advisers in two stages—the first relating to broad policy advice on industry structure and regulatory design, and the second to implementation.

Structuring the advisory fees

Establishing appropriate fee structures for advisers is an important and potentially complex task. A poorly designed fee structure can have unintended consequences for the kind of advice given.

Economic, legal, technical, and environmental consultants are usually paid on the basis of outputs specified in the terms of reference or on a cost-plus (daily) basis. Both methods require a well-defined set of outputs.

Investment banks are often paid on the basis of a success fee for completing the transaction. This fee is often a percentage of the sales price or transaction size, although it can also be fixed. The bank may also be paid a monthly retainer to cover its expenses in the preparation period, which may be deducted from the final success fee.

The virtue of a success fee is that it provides a strong incentive to complete a transaction and, if it is variable, to maximize the value of that transaction to the government. But variable fees raise a risk in the water sector because the entities in which private sector participation is sought generally have monopoly characteristics: in such cases, the value of the transaction may be maximized by having weak regulatory arrangements, an outcome at odds with the interests of customers. To avoid this problem, the government has several options: fix the tariff, competition, and regulatory arrangements before hiring the investment bank; hire regulatory advisers separate from the investment bank; or pay the investment bank a fixed success fee, independent of the final price of the transaction.

Checklist for hiring advisers

Issues

- What types of advisory services are needed to complement the government's in-house skills?
- How should these services be structured—that is, how many contracts or assignments should there be?
- How should a shortlist be developed?
- How should the proposals be evaluated?
- How should the advisers' fees be structured?

Outputs

- Terms of reference.
- Letters of invitation.
- Shortlists.

The preparation process set out in this section culminates in the selection of a private sector partner. The objective of the bidding process is to choose a suitable partner, on the best possible terms—a partner with the skills, experience, and resources necessary to secure the desired improvements in services to consumers in the most efficient way possible.

Experience suggests that the best way of finding a suitable partner at reasonable cost is to hold some kind of competition among prospective partners. Competition is all the more important when private companies are bidding for a monopoly right to provide services over some period of time (3 to 5 years for a management contract, 25 to 30 years for a concession). This section addresses the question of how to design a bidding process so as to bring this kind of competitive pressure to bear and to get the best possible outcome.

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The bidding process is not an isolated event. Rather, it is the beginning of a partnership between the government and a private sector partner. The institutional and regulatory framework established to guide that relationship may, over the long term, have an even more important impact on the quality of outcomes for consumers than the bidding process—and bidders can be expected to take this fact into account. Issues relating to this framework are discussed further in the next section.

The first part of this section discusses the relative strengths of competitive bidding processes and negotiated contracting. The next two parts assume that a competitive approach has been chosen and focus on the design of prequalification procedures and the design of bidding processes. The fourth part looks at final negotiations with the selected private partner and financial closure.

Choosing a process for awarding the contract

Although there are a wide variety of possible contract bidding and award procedures, they can be grouped into three categories:

- Competitive bidding.
- Competitive negotiations.
- Direct negotiations.

Competitive bidding

A competitive bidding process generally has the following parts:

- Public notification of the government's intention to seek a private partner for the provision of water and sanitation services, including a request for expressions of interest from private companies.
- Distribution of bidding documents and draft contracts to potential bidders.
- A formal process for screening potential bidders and finalizing a list of qualified bidders.
- A formal, public process for presenting proposals, evaluating them, and selecting a winner.

The main advantages of competitive bidding

- It ensures transparency.
- It provides a market mechanism for selecting the best proposal.
- It stimulates interest among a broad range of potential partners.

The main disadvantages

- It works best where outputs are standardized and all technical parameters can be clearly defined.
- It may encourage underbidding if renegotiation is possible later.

Designing a competitive bidding process—and getting the best possible result with it—is easiest when the product or service required is a fairly standard one and the technical outputs can be defined with reasonably certainty in the bidding documents. These conditions often do not hold in the water and sanitation sector, especially for network concessions. For example, the information available on the technical parameters for service improvements may be limited, and there may be scope for innovative engineering and commercial solutions in meeting needs for expanded service. These issues do not mean that competitive bidding should be avoided, however, but that particular attention should be paid to providing good-quality information to potential bidders and to the detailed design of the bidding process.

Competitive negotiations

Competitive negotiations, a variant on competitive bidding, generally involve the following stages:

- The government specifies its service objectives, and seeks proposals from private operators for meeting these objectives, through a request for proposals.
- The government reviews the proposals and selects those that are technically responsive to the request for proposals.
- The government then negotiates contract terms and conditions with the selected bidders.

Competitive negotiations may involve simultaneous negotiations with two or more bidders with the objective of awarding one contract, or they may result in the award of several contracts.

Competitive negotiations are well suited to projects in which many technical variations are possible, there is much scope for innovation, and it would be difficult to secure project financing on the basis of standardized contract documents.

The approach has some risks, however. In particular, it is less transparent than a pure competitive bidding approach. Evaluating proposals on a variety of technical and price grounds increases the opportunities for giving preference to favored bidders. The government can try to reduce this risk by specifying publicly, and as clearly as possible, what the evaluation criteria will be, by standardizing the negotiation processes across bidders, and by keeping a detailed record of the process.

The main advantages of competitive negotiations

- They permit bidders to be more creative and innovative.
- They reduce the incentive for bidders to deliberately underbid in order to win projects.
- They offer a richer means of screening bidders than price alone.

The main disadvantages

- Bids can be difficult to compare.
- Competition is less transparent than with competitive bidding.

Direct negotiations

Direct negotiations occur most often where a project idea originates with a private sector sponsor rather than with the government. A developer or operator seeks to negotiate directly with a government or a public utility the terms and conditions for a management contract, BOT, or concession. Allowing direct negotiations can be a good way of attracting innovative projects and securing private sector involvement in smaller cities and towns (where the costs of entering competitive bidding contests may be high relative to the expected returns). But direct negotiations make it difficult to ensure transparency in the selection process and an efficient outcome. Without competition, it is much harder to assess the reasonableness and cost-effectiveness of a proposal. And direct negotiations can increase the risk of reversal for a contract, especially where there is some public resistance to privatization.

The main advantages of direct negotiations

- They provide incentives for private companies to find innovative solutions to local service problems.
- Where the costs of competitive bidding would be high relative to expected revenues (as in small towns), they increase the chance of private sector interest.

The main disadvantages

- The approach lacks transparency.
- The absence of competition reduces pressures for cost-effectiveness.
- Political sustainability may be a problem.

If direct negotiations are allowed, governments must take extra steps to ensure transparency and efficiency. For example, a government might establish an independent advisory panel to advise on whether direct negotiations are appropriate for a particular project. Requiring all contracts to be approved by the representative body of the government (national or local) and audited by the government auditor could enhance transparency. And assessing proposed projects using benchmark comparisons of construction costs or service tariffs from comparable projects and operations could increase the chances of an efficient outcome. (But comparable projects might not be easily identified.)

Although most governments state a preference for competitive bidding to select private partners, some allow direct negotiations under certain circumstances and have adopted rules for handling them aimed at reducing their risks.

Possible solutions

In general, the more competitive and transparent the process for choosing a contractual partner, the greater the likelihood that the best possible deal will be achieved and that the deal will be politically sustainable. For these reasons, most governments—and also multilateral agencies such as the World Bank—favor or explicitly require competitive bidding of private sector contracts. Many countries have laws that explicitly forbid direct negotiations.

Where competitive bidding is not feasible governments might need to implement special rules, processes, and auditing procedures to ensure that the best possible partner is found, on the best possible terms, and that the resulting deal will stand up to political scrutiny.

As indicated above, however, there may be circumstances that make it difficult to achieve perfectly competitive bidding. If information about what is being bid is substantially incomplete, for example, or there are a range of possible solutions to the service problems the government is trying to solve, the government may wish to enter into a dialogue with potential bidders to work out how best to specify the contracts. This approach does not preclude competition, but it does reduce transparency and the chance that bidders will be able to bid on equal terms. In these cases governments might need to implement special rules, processes, and auditing procedures to ensure that the best possible partner is found, on the best possible terms, and that the resulting deal will stand up to political scrutiny.

Although there is general agreement that direct negotiation is less preferable than competitive bidding, in some situations it can seem to be the only feasible approach. For example, the costs of competitive bidding, already high for water and sanitation projects, can be so high relative to the expected revenue stream from small contracts as to deter bidders. But allowing direct negotiations is not the only solution—another is to compensate losing bidders for some share of their costs.

Bidding in stepwise strategies of private sector participation

Countries that choose a stepwise approach to securing private sector involvement in the supply of water and sanitation services—starting with a management contract, and then moving on to a lease or concession—must face the issue of rebidding. Even if they achieved real competition in awarding the initial management contract, maintaining competitive pressures during the transition to a lease or concession is difficult. The company that wins the management contract will have a natural advantage in bidding for subsequent contracts, and seeing this, other potential bidders may stay away. But barring that company from bidding for the next stage may reduce interest in bidding for the original management contract. In either case competition is likely to be limited or absent during the shift to a more complex contract.

There are no proven solutions to this problem. But the best approach may be to have independent consultants perform detailed financial auditing and technical monitoring of the management contract, ensuring that much of the information obtained by the incumbent is shared with the government and other bidders.

Prequalifying bidders

Why prequalify? A government entering into a contract for private sector participation in water and sanitation is establishing a long-term relationship with its contractual partner. To be confident that the relationship will work, it needs to be able to assess the quality of the partner's bid (what it promises to do and on what terms), but also whether the partner is truly qualified to do what is needed. Prequalification is a way to ensure that potential bidders have the technical and financial capacity the task demands and a track record in performing similar tasks.

Prequalification can also reduce the costs of bidding processes. Those involving large numbers of bidders can be complex and costly—without necessarily increasing the quality of the winning bid. For this reason, governments often choose to limit bidding to a few prequalified firms. Limiting the number of bidders can also increase firms' motivation to participate in bidding, because it increases each bidder's chance of winning.

Prequalification can also impose discipline on governments, by requiring them to define early on the type of project they want.

Prequalification criteria generally include some combination of the following:

- Minimum share capital of the bidder company.
- Length of experience in the business.
- Size of the customer base currently served by the bidder company.
- Number of countries in which the bidder has similar experience.
- Efficiency and performance of recent projects or franchises.

The criteria may be either qualitative or quantitative. Qualitative criteria allow greater flexibility and discretion, but they are also less transparent and more likely to produce complaints by bidders that fail to prequalify.

In defining prequalification criteria for water and sanitation contracts, governments need to keep in mind that the number of private companies with substantial experience in providing water and sanitation services to sizable populations is small. That does not mean that few companies could provide these services, but it does mean that few are capable of meeting conventional prequalification criteria. Some governments are seeking to broaden the range of potential bidders, while minimizing the risk that bidders will not be capable of performing the required services. This means thinking carefully about the skills and experience needed and seeing whether these might be drawn from sources other than private water companies. For example, a telecommunications company or a company with experience on the commercial side of electricity distribution might be able to handle the commercial side of a water business when paired with a company with engineering expertise in the sector.

Completing the bidding and evaluating the bids

In a bidding process, prospective private partners make proposals that set out the terms under which they are willing to provide the services required by the government. Ensuring that the proposals are high quality requires detailed planning

and decisionmaking by the government. The first step is to design the bidding process, which calls for decisions about:

- The information to be provided to bidders and the form in which it is to be provided.
- The extent to which there will be discussions with bidders before the formal bidding begins and the form these discussions will take.
- The instructions to bidders on what their proposals should contain.
- The rules and scoring mechanisms that will be used to evaluate bids.
- How complaints and appeals will be handled.
- The timetable for bidding.

Information for bidders

The better the information available to bidders about the state of the water and sanitation business and about what the government wants a private partner to do, the better the chance that:

- Bidders will be able to prepare bids that are responsive to the government's requirements.
- Bidders will have a common understanding of what is needed and can enter bids that are competitive with one another.
- The risk of complaints about fairness and transparency—both from bidders and from political critics—will be kept to a minimum.

Preparing and assembling this information will be one of the primary tasks of the advisers assisting the government with the transaction. There are two main formal mechanisms for making the information available to (prequalified) bidders:

- The set of bidding documents provided to bidders. These documents focus on the form of private sector arrangement that the government seeks and the form that proposals should take. They include draft contractual documents.
- The information room. The purpose of the information room is to make available to bidders information about the state of the water and sanitation business, including the results of technical audits and evaluations, financial information, and information on staffing.

Prebid contacts with bidders

In deciding what form a private sector arrangement should take, governments need to think not only about what they would like to happen, but also about how the private sector is likely to react to their proposals. For example, a government might want the private sector to make large investments in new capacity and take all the commercial risks associated with them—only to find that the private sector judges its country to be too high a risk to do so. Or a government might assume that local circumstances are so unattractive that the best it can hope for is a fixed fee management contract—and unknowingly preclude initiatives by private companies that would be prepared to take more commercial risk.

To come up with the best possible private sector arrangement—and avoid nasty surprises at the bidding stage—it is generally a good idea to have informal discussions with bidders before finalizing the bidding documents. Bidder feedback on early drafts of

the bidding documents or regulatory design can help identify changes that would make the transaction more attractive to private firms with no loss to the government or other stakeholders—and result in better, more affordable bids.

Prospective bidders can be consulted through road shows, where the government and its advisers present their proposals, and prebid conferences, where prequalified bidders are invited to hear and respond to the government's ideas. The government should try to ensure that all prospective bidders hear the same things—so there can be no complaints later that some were favored over others. For this reason a prebid conference might be preferred to a road show.

Prebid contacts can provide much information about what must be done to attract favorable bids. But they should not be seen as solving the problem of what kind of transaction should be offered or guaranteeing participation in bidding, for several reasons:

- Bidders with good ideas about how the transaction might be made to work better may be unwilling to share these ideas with their competitors at prebid conferences.
- Bidders will often respond favorably to ideas at the prebid stage that they will be cautious about putting their money behind at the bidding stage.
- Bidders may try to steer the process toward lower-risk forms of private sector participation when higher-risk, higher-gain forms are possible.

Bid contents and evaluation

Central to the bidding process are decisions about what (prequalified) bidders should be asked to include in their bids and how these bids should be evaluated. How should the responsiveness of the bid to the government's requirements be evaluated? How should all the parameters of the proposal be combined into a single variable so that comparing the bids is straightforward? Should there be a two-stage process in which technical characteristics are scored in the first stage and price bids are obtained and compared in the second? Or should price be weighed against other attributes of the offer?

Bid requirements and evaluations will differ according to such factors as:

- What kind of private sector arrangement is sought (bids for management contracts will differ from bids for concessions).
- How complete the available information is.
- How fully the services being sought can be technically specified.

Most projects use a two-stage bidding system in which bidders submit a technical envelope and a financial envelope.

The technical envelope may have purposes ranging from simply obtaining an indication of firms' fitness and willingness to participate in bidding, to eliciting detailed proposals from bidders on how they would satisfy the government's requirements. There are four main approaches, varying in complexity and transparency (see the box on the technical envelope).

The technical envelope—four possible approaches

Approach 1

The technical envelope simply contains legal certification of the bidding consortium and a bid bond. Once these items have been confirmed, the financial envelope is opened, and the contract is awarded to the best offer.

Approach 2

The technical envelope serves some of the purposes of prequalification (if prequalification has not taken place earlier), providing technical and financial information on the bidder. Some bidders may be disqualified once this information is assessed. The financial envelopes of the surviving bidders are then opened, and the contract is awarded to the best offer.

Approach 3

Bidders are required to include a technical proposal in the technical envelope setting out their proposed business plan (including investment and financing plans) for meeting the service objectives. The plans are reviewed for consistency with the project specifications and requirements, and proposals either pass or fail. Again, the contract is awarded to the surviving bidder with the best financial bid. This approach was used for the Buenos Aires water concession.

Approach 4

Technical proposals are required as in approach 3, but rather than passing or failing, the proposals are scored. The financial proposals are also scored, and the contract is awarded on the basis of the weighted technical and financial scores. This approach was used to allocate freight rail concessions in Argentina.

Approaches 1 and 2 are relatively simple and transparent. They tend to work well when technical requirements can be prespecified clearly and precisely and when only limited scope for variation is possible in ways to meet these requirements. Approaches 3 and 4 are more complex and less transparent. They may be preferred when the technical criteria cannot be clearly specified in advance and when the government is looking to bidders for bright ideas on how to achieve service objectives. The third might be chosen if the government has firm and clear ideas on the minimum technical requirements; the fourth if there is less clarity about requirements, and if different technical proposals may have different financial implications at different stages of the project's life. For these more complex approaches, the government should specify as clearly as possible and in advance the processes and rules that it will use for evaluating bids.

Financial envelopes also vary in form and complexity, depending in part on the form of private sector participation sought (see the box on the financial envelope). Management contracts clearly require different kinds of financial bids than concession contracts.

The financial envelope—four possible approaches

Approach 1

Bids are based on the price of the shares or assets being sold. This is the method most often used for privatizations involving the sale of shares or the divestiture of assets.

Approach 2

Bids are based on an up-front payment in combination with future concession fee payments. This approach is appropriate for concessions and leases and was used, for example, in the Argentine freight rail concessions. The bid is evaluated on the basis of a weighting of the up-front payment and future fees.

Approach 3

Bids are based on the future tariff rather than on an asset or share price in this approach, which is particularly suited for concessions and BOTs. Bidders specify the average service tariff for which they would be prepared to run the business (for a concession) or the take-or-pay fee (for bulk supply). This approach was used, for example, for the Buenos Aires water concession, for which bidders competed on the basis of who could offer the largest discount on the current water tariff.

Approach 4

Bids are for a service fee, with or without an incentive component. This approach is suitable for management contracts. If bidders are required to bid on an incentive component (such as a revenue sharing rule) as well as a service fee, the two may be weighted to select the winning bid.

The approach chosen for specifying and evaluating financial proposals will depend, first, on the kind of contract being bid. Approach 1 is suitable only for share sales and divestitures. Approaches 2 and 3 are suitable for concessions and leases, where the government retains ownership of the assets but the private sector is asked to take responsibility for their operation and for the commercial risk involved. Approach 4 is more suitable for contracts that transfer little risk to the private sector, such as management contracts.

Complaints and appeals

The more complex a bidding process, the greater the chance that competition will be perceived to be unfair or that losers will question the choice of winner: Did the winner have some kind of inside information? Was the scoring method used to evaluate technical proposals the right one—or did it favor some bidders over others? Was too much weight put on technical issues relative to price, or vice versa? Once a bidder was chosen, did the negotiations leading to contractual closure result in substantial changes in what the winning bidder was required to do?

The first-best solution to such problems, of course, would be to make perfect information available to all the bidders, have a pure and unambiguous bidding rule (the highest price or lowest tariff wins), and preclude substantive negotiations after the bidding contest. For obvious reasons this is rarely possible. The next-best solution is to structure the process as clearly as possible, ensuring that everyone gets access

to the same information (no one gets privileged discussions), that bidding and evaluation rules are as simple as possible and are clearly explained at the outset, and that there are clearly defined limits on postbid negotiations.

But no bidding process, no matter how carefully structured, can eliminate the potential for complaints and appeals. So, as part of the bidding process, the government should create a mechanism for handling complaints, specifying:

- Who will be responsible for hearing and arbitrating complaints and appeals.
- On what basis complaints and appeals will be heard.
- How complaints and appeals should be formulated.
- Whether a fee will have be deposited for each complaint (to discourage frivolous complaints).
- What the deadlines are for the receipt of complaints and appeals and their resolution.

Getting to closure

Once a contract has been awarded, several steps remain in finalizing the project. The developer or sponsor must negotiate and sign a series of contracts with other project participants—including consortium members and financiers—defining, for example, how the risks allocated to the project company are shared among the participants. The winning bidder's objective in this final, critical stage is to achieve financial closure, when all the equity for the project has been unconditionally committed and all loan documents have been signed so that disbursement of loans can start without further problems. (This is clearly most relevant for concession and BOT-type contracts, which require the private partner to make investments and take financial risk.) Although lenders first become involved at this stage, after contract award, their likely concerns should have been taken into account much earlier to avoid derailing the process after bidding.

The government and the winning bidder will probably need to clarify some issues before signing their contract or contracts with each other. Some of these issues will arise as a result of gaps or lack of clarity in the draft contract documents; others may arise as the winning bidder seeks financial closure.

All these postbid processes can be lengthy. They can also lead to many changes in the resulting private sector arrangement, a possibility that can have important implications for the bidding process: bidders will bid to win, knowing that there could be scope for changes in their commitments during the contract negotiations. Governments have several means at their disposal for reducing the risks associated with this approach:

- Requiring detailed and firm evidence at the bidding stage that financial closure can be reached within a specified period (although this is likely to be difficult to enforce).
- Preparing draft contracts so as to minimize the scope for changes as a result of postbid negotiations (this requires great clarity and consistency in drafting).
- Keeping the runner-up in the bidding process in the wings.

The future regulator may also be involved in the postbid negotiations. Its participation is a good way for it to become familiar with the private company (and for the company to become familiar with the regulator) and with controversial issues in the contract. It helps give both a deeper understanding on which to base their future relationship.

The private sector participation process does not end when the private partner is chosen and all the relevant papers are signed. Contract closure marks the beginning of an ongoing partnership between the public and private sectors.

The private sector participation process does not end when the private partner is chosen and all the relevant papers are signed. Contract closure marks the beginning of an ongoing partnership between the public and private sectors. The quality of the contract and the quality of the contractual partner are very important to the success of this partnership, but so too are the institutions put in place for maintaining and governing the partnership and for perpetuating competitive pressure on the private partner.

This section provides guidance on mechanisms:

- To ensure that any adjustment or renegotiation of a contract produces results in accordance with the spirit of the initial contract and the interests of customers.
- To maintain a degree of competitive pressure on the private sector partner.
- To ensure a clear distinction between appropriate regulation and inappropriate interference in the private sector's job of running a utility.

Most public-private partnerships are long, and planning for their maintenance is critical. The poorer the quality of information at the start and the greater the doubts of both parties about their relationship, the more inevitable renegotiations will be and the more important it is to introduce robust provisions for renegotiation and to supplement competition at the bidding stage with future competitive pressures.

Renegotiating the contract

Carefully specified provision must be made for renegotiating aspects of the contract and for adjusting contractual terms. Over the life of the partnership, these provisions can turn out to be even more important to success than the initial terms of the contract.

Most initial contracts are based on incomplete information, for example, about the condition of underground assets or the most appropriate forms of investment for addressing service deficiencies. But even if a contract were bid on the basis of perfect information about the status of water utility assets and about new investments needed, the future would hold uncertainties that could not all be handled by contract. So careful provision must be made to deal with unexpected events over the life of a contract.

Carefully specified provision must be made for renegotiating aspects of the contract and for adjusting contractual terms. Over the life of the partnership, these provisions can turn out to be even more important to success than the initial terms of the contract.

The issues that should be covered by contractual and institutional provisions for renegotiation and adjustment of contracts are set out in detail in toolkit 3. Four general elements are essential:

- The conditions under which adjustment of terms or renegotiation may occur (including penalties to curb frivolous renegotiation).
- When (and under what conditions) contract renegotiation must occur rather than price or service adjustments by agreement or by regulatory discretion.
- The process by which renegotiation must be initiated and conducted.
- The procedures to be followed, and the organizations or individuals to be appealed to, in the event that the parties to the contract cannot agree on how to resolve an issue (arbitration provisions).

Maintaining competitive pressure

In the water and sanitation sector, where monopoly power is inevitable, one important function of the regulatory system is to attempt to ensure that private companies operate as efficiently as they would have to in competitive markets. Some competitive pressure is introduced when companies compete to win a private sector contract, but it is short-lived. Regulators can exert longer-lived competitive pressure by:

- Allowing direct competition, say at the boundary of a concessionaire's area or for specific new services within its area, and by ensuring that major new capacity expansions are not simply negotiated with the incumbent, but are bid for.
- Using yardstick or comparative competition.
- Comparing the performance of the private operator with international benchmarks.
- Choosing a form of price control that explicitly requires the company to make efficiency gains.
- Employing market testing requirements. Market testing is generally used when a utility purchases inputs or services from other companies within the same group or consortium. But it can also be used for jobs carried out by the regulated utility for which comparative market costs can be obtained (for example, pipe laying). This form of market testing is analogous to benchmarking.

Designing a regulatory system to maintain competitive pressures involves two important trade-off decisions:

- Are the costs of additional regulation justified by the potential efficiency gains?
- Will a more competitive regime increase the risks perceived by the private sector to the point where, in an already uncertain environment, the transaction simply ceases to be attractive?

Drawing a line between regulation and interference

Once a contract has been awarded to a private company, it is that company's job to run the business. This may seem an obvious point. But experience suggests that great care is needed to ensure that regulators do not become involved in the day-to-day management of the utility. Regulatory tasks—and regulatory staff—need to be focused on desirable outcomes, not on how to achieve these outcomes. For example, it is the regulator's task to specify a standard for drinking water quality and to establish a system for monitoring performance against this standard. It is the company's task to decide what technical measures and operating practices are needed to meet the standard. When a government specifies the regulator's duties and decides on the appropriate staffing and skill mix for the regulatory agency, it must have a clear understanding of the dividing line between regulation and operational management.

When a government specifies the regulator's duties and decides on the appropriate staffing and skill mix for the regulatory agency, it must have a clear understanding of the dividing line between regulation and operational management.

Annex 1

1. Background

[*This section provides background on the reform process, briefly describes the existing water and sewerage utility and regulatory framework, and sets out the government's core objectives in the reform.*]

2. Objective

The economic consultants will provide advice to [*name of client*] and prepare for and deliver to [*name*] reports (as specified below) on all economic, tariff and regulatory matters arising as part of [*restructuring or private participation in the water utility*]. The utilities in which the private sector will be invited to participate include [*name of entity or entities*] (the "Water Utility").

3. Scope of work during the preparation phase

Regulatory and institutional issues

3.1 Review existing regulatory framework for water supply and sewerage, including status and operations of the Water Utility and the [*ministry for environment and water resources*]; review industry structure and potential for restructuring to promote competition.

3.2 Review responsibilities and relationships of relevant government entities at different levels and propose mechanisms to ensure proper coordination and cooperation.

3.3 Define regulatory tasks necessary after the transaction, including advice on form of price control and related monitoring of service standards.

3.4 Assess viability of [*name*] as a regulatory agency.

3.5 Recommend institutional measures necessary for the regulatory agency to perform effectively the new set of regulatory functions, including board composition and operating procedures, institutional setup, staffing, job descriptions, and equipment and other resources required.

3.6 Recommend legislative changes as necessary and work with the government's lawyers to ensure that the legal drafting correctly reflects the recommended and accepted economic goals and principles.

3.7 Comment on the draft legal documentation, including status of regulatory agency and any legislative changes prepared by the government's lawyers.

3.8 Recommend the residual role and responsibilities of the Water Utility after the transaction.

Demand

3.9 Develop forecasts of demand for water and sewerage services, by customer category. In collaboration with the financial advisers, adjust these forecasts on the basis of the tariff projections.

Tariffs

3.10 Review current water and sewerage tariff structure and government policies as they relate to rate setting.

3.11 Analyze existing and historic tariffs to determine the basis for rate setting, including the relationship between rates and costs (marginal versus average), the tariff adjustment process, and treatment of financial and social objectives.

3.12 Analyze existing rates and costs for different categories of customers and determine whether there are subsidies; if so, identify their extent and nature; if not, determine whether they should be retained or reformed for certain customer categories.

3.13 Consider whether tariffs should be set to ensure total cost recovery, including capital expenditures, or whether the government should subsidize certain costs.

3.14 Review incentives to consumers implicit in the tariff regime and their impact on demand management.

3.15 Review the different methods to set rates (cost of service, RPI–X, long-term marginal cost, rate of return) and their appropriateness for [*name of country*], and recommend a method.

3.16 Assess the adequacy of current tariffs to support future requirements in the light of projected capital expenditures and demand.

3.17 Recommend new tariff structure as appropriate, to be implemented before the transaction.

4. Scope of work during the implementation phase

Provide occasional support to the government's financial and legal advisers on regulatory, institutional, and tariff issues in the course of implementation.

Annex 2

1. Background

[*This section provides background on the reform process, briefly describes the existing water and sewerage utility and regulatory framework, and sets out the government's core objectives in the reform.*]

2. Objective

The international lawyers will, in conjunction with local lawyers, provide all legal advice to [*name of client*] and prepare for and deliver to [*name*] reports (as specified below) on all legal and regulatory matters arising as part of the [*restructuring or private participation in the water utility*]. The utilities in which the private sector will be invited to participate include [*name of entity or entities*] (the "Water Utility").

3. Scope of work

To achieve the objective(s) set out above, the international and local lawyers shall coordinate closely with each other to efficiently perform each of the main tasks assigned to them in the table below.

Allocation of legal tasks

	Task	Responsibility and action
	Local lawyers	**International lawyers**
Preparation phase: Step 1		
Legislation and regulatory reform	Gather all relevant laws, Supreme Court decisions, ordinances, acts of Parliament or Congress, government resolutions and decrees relating to the sector, including the water laws, the laws establishing the utilities, laws and regulations relating to tariffs, environmental laws, health and safety laws, the Constitution, and relevant parts of the Civil Code.	
	Provide comments on the legal implications under national and local law of different methods of private sector participation (sale of shares, concession, lease, management contract, and so on).	Advise on the legal implications of different methods of privatizing the Water Utility (sale of shares, concession, lease, management contract, and so on) and the proposed transaction structure.
	In conjunction with the international lawyers, review current institutional arrangements, legislation, government resolutions, court decisions relevant to the water sector, and the Water Utility's charter to identify key legal and regulatory issues that must be addressed in order to achieve acceptable international standards to facilitate the privatization. This will involve taking comments from the international lawyers on the draft joint report (see below).	In conjunction with the local lawyers, review current institutional arrangements, legislation, government resolutions, court decisions relevant to the water sector, and the Water Utility's charter to identify key legal and regulatory issues that must be addressed in order to achieve acceptable international standards to facilitate the privatization. This will involve commenting on the draft joint report, which will be finalized by the international lawyers according to international standards.
	In conjunction with the international lawyers, review the national and local laws and assist in preparing any amendments necessary to facilitate the proposed transaction. This will involve producing the draft joint report for review by international lawyers.	After the review, list key points and issues arising from the review and assist the local lawyers in preparing the necessary draft legislation to enable those key points and issues to be addressed. Attention should be paid to the institutional framework.

Task	Responsibility and action	
	Local lawyers	**International lawyers**
Preparation phase: Step 1 (cont.)		
	Deliverable: Joint report on the legal and regulatory framework.	**Deliverable:** Joint report on the legal and regulatory framework.
Policy coordination (regulatory task)	Provide a supporting and advisory role on the practicality of implementing proposed new arrangements.	Review current and proposed future arrangements for regulation (institutional issues and methodology) in the light of international experience and standards.
Regulatory and sector structure policy options (regulatory task)	Advise on the implications of specified options under local law (for example, tax implications).	Advise on policy options for regulation of the sector (for example, municipal or national regulator) and highlight benefits and drawbacks.
Legislative changes	Assist in drafting legislative amendments to ensure consistency with other legislation and local legal practice. Provide detailed comments and drafting support on the briefing papers and at presentations on the proposed framework.	Prepare necessary legislative amendments and supporting briefing papers in the light of the transaction structure and the proposed legal and regulatory framework.
Preparation phase: Step 2		
Transaction documents	Comment on the international lawyers' proposed documents; provide detailed input on the draft transaction documents (such as share purchase agreement, shareholders agreement, corporate statutes, bulk water supply agreements, and concession contract).	Recommend and draft the legal documentation required to implement the selected transaction structure. Provide comments on the draft documentation in reference to international experience and standards.
Regulatory body (regulatory task)	*If a regulator is to be established:* If required, develop detailed internal procedures and charter for a regulatory authority, reflecting the legislative amendments already made.	*If a regulator is to be established:* Outline the key issues to be addressed in the internal procedures and founding charter for a regulator. Provide comments on the detailed drafting in reference to experience from other countries.
Due diligence on corporate and debt issues	Conduct a due diligence exercise to review the Water Utility's existing contracts, agreements, arrangements, assets, liabilities, long-term debt, and other commitments to ensure compatibility with the approved legislative arrangements and assess how to deal with any remainder transfers.	Review and comment on the results of the due diligence exercise, with particular reference to the impact on the transaction documents and liability. Provide drafting assistance (if required) on developing suitable transfer schemes for assets, property, and liabilities.
Due diligence on labor-related issues	Review existing legal obligations of the Water Utility and any new companies to be established and assess the potential exposure of the Water Utility to, for example, redundancy or retrenchment compensation and pension liabilities as a result of the privatization.	Review and comment on the results of the due diligence undertaken by the local lawyers, with particular emphasis on the transaction documents and guidance on how these matters should be addressed.
Due diligence on litigation and environmental and other issues	Review existing and potential liabilities.	Review and comment again, with particular consideration of the effect on the transaction documents.

Task	Responsibility and action	
	Local lawyers	**International lawyers**
Preparation phase: Step 2 (cont.)		
	Advise on the transferability of assets, properties, and liabilities by breakdown into new corporate entities, long-term lease or concession, or management contract.	Review with the financial advisers and the government which assets, properties, and liabilities are to be transferred in the restructuring of the Water Utility in the light of the due diligence exercise and in order to conform to the new legislative arrangements.
	Comment on the documents of the international lawyers.	Draft the documents for transfer of title, with attention to tax-related issues.
	Deliverable: Interim legal due diligence report.	Comment on draft and final legal due diligence report, highlighting issues for the transaction documents (for example, the implications of warranties or indemnities).
Regulatory agreements	Review, comment on, and provide drafting assistance on the regulatory instruments under local law.	Draft the necessary regulatory instruments for the post-transaction Water Utility (concession and license agreements, for example) to ensure the documents meet international standards for the water industry.
Implementation phase: Step 3		
Prequalification procedure (including the information memorandum)	Review the documents relating to the prequalification procedure and coordinate all responses from bidders. Review the information memorandum and provide all assistance required by the government's financial advisers in relation to it.	Assist the government's financial advisers in drafting the information memorandum, taking into account the due diligence report(s) and the regulatory framework; assist in preparing the prequalification documents and the request for proposal (RFP) package.
Transfer scheme	Comment on and assist in finalizing the transfer scheme in the light of the due diligence exercise.	Amend and finalize the draft transfer scheme.
Concession agreement (if adopted method)	Comment on the international lawyers' drafts of the concession agreement and provide local legal advice on specific issues as they arise.	Draft and negotiate the concession agreement.
Tender documents	Comment on the RFP package, particularly on issues of local procurement law (where applicable).	Develop the RFP package with the government and its financial advisers, drafting and negotiating the formal RFP documents and terms, the evaluation criteria, and the related appendices and attachments.
Corporate documents	Provide detailed comments and drafting assistance and advice on local legal issues for the corporate and transaction documents. Participate and assist in the "discussion rounds" on the draft RFP package.	Negotiate with the lenders and equity investors the concession contract, shareholders agreement, memorandum and Articles of Association, share purchase agreement (as applicable), and other corporate documents to form part of the RFP package.
Labor-related issues	Advise on local laws and draft and negotiate any employee share scheme.	Comment on any employee share scheme or other arrangement.

Task	Responsibility and action	
	Local lawyers	**International lawyers**
Implementation phase: Step 3 (cont.)		
Ancillary agreements	Review all ancillary agreements and provide detailed local legal advice on issues arising.	Draft and negotiate ancillary (commercial) agreements as may be required, including shared facility, construction, operation and maintenance, supply, and sale contracts.
General	Provide general legal advice in relation to the above agreements and arrangements.	Provide general legal advice in relation to the above agreements and arrangements.
Public relations	Receive and respond to information on the public relations and corporate awareness program and comment on the program's impact (if any) on negotiations and the tender process.	Provide guidance on legal implications of information given in the course of any corporate awareness program and comment on the program's impact (if any) on negotiations and the process.
Technical information	Receive and respond to technical input during negotiations and the tender process.	Advise on the impact of technical inputs and terms in the transaction documents (for example, the link of any performance bond sought under the concession or license with the quality and coverage targets established as technical goals).
Negotiation to financial close	Assist in finalizing the due diligence report. Complete the due diligence exercise. **Deliverable:** Final legal due diligence report.	Support the government and its financial advisers in the negotiations with the selected bidding consortium in order to finalize the contractual documents and supporting arrangements. Review the due diligence report and advise on implications for the final transaction documents.
Financial close	Arrange the closing of the transaction (if to take place locally).	Arrange the closing of the transaction (if to take place abroad) and assist in finalizing the transaction.

4. Deliverables

All reports and transaction documents will be prepared in the [*English*] language. Both the international and the local lawyers will receive full and prompt cooperation from the Water Utility and the government to facilitate the execution of their respective tasks.

Annex 3

1. Background

[*This section provides background on the reform process, briefly describes the existing water and sewerage utility and regulatory framework, and sets out the government's core objectives in the reform.*]

2. Objective

The technical consultants will provide all technical advice to *[name of client]* and prepare for and deliver to [*name*] reports (as specified below) on technical matters arising as part of the [*restructuring or private participation in the water utility*]. The utilities in which private sector participation will be invited include [*name of entities*] (the "Water Utility").

3. Scope of work

To achieve the objective(s) set out above, the technical consultants shall carry out the following principal tasks:

3.1 Review the background studies and papers (prepared by the Water Utility), including any asset appraisals or analogous reports, and use them as a basis for the preparation of the engineers' report.

3.2 Prepare and issue detailed questionnaires to the Water Utility in order to obtain accurate and detailed information as to the technical standards of operation and asset condition in respect of the Water Utility; conduct spot checks and tests of asset condition.

3.3 Gather further information from the Water Utility in sufficient detail as to permit the formation of estimates as to the capital expenditure requirements and to formulate reasonable technical performance standards. This work will include:

a. Assessments of water resource availability and cost.
b. The preparation of demand projections, by type of service.

3.4 For the Water Utility (or for each water utility to be restructured or privatized, if there is more than one):

a. Prepare an engineers' report as described below.
b. Review and comment on drafts of the initial and final information memorandums prepared by the government's financial advisers.
c. Prepare a letter for inclusion in the final information memorandum to be prepared by the government's financial advisers (the "Final Information Memorandum").
d. Prepare a letter to the government and the financial advisers commenting on the technical assumptions used in the valuation models.

3.5 Provide technical advice on the development or review of any applicable technical operational codes.

3.6 Provide technical advice, where required, on the terms of the contracts and licenses governing the performance of the Water Utility.

3.7 Provide technical advice to the government and its financial and legal advisers during the investor's due diligence and bid clarification stage.

4. Deliverables

As a result of its activities the technical consultants will deliver to [*the government*] and its financial and legal advisers the following:

4.1 For the Water Utility (or for each water utility, if there is more than one):

a. Questionnaires for the Water Utility, together with mechanisms for the validation of data.
b. Engineers' report.
c. Comments on the initial information memorandum to be prepared by the financial advisers.
d. Comments on the final information memorandum.
e. Letters for inclusion in the final information memorandum.
f. Letters to [*the government*] and its financial advisers confirming that the technical assumptions elaborated and provided by the financial advisers and used in the valuation models are appropriate.

4.2 Comments on any operational codes.

4.3 Comments on the proposed transaction documents and contracts.

4.4 Comments on licenses or concessions from the technical perspective.

5. Engineers' report

The engineers' report will provide a review of the technical and operational aspects of the Water Utility and will highlight matters identified by the technical consultants as having an impact on the regulatory and contract terms, the valuation model, or the contents of the final information memorandum. The report will present the technical consultants' opinion, based on the information provided to it by the Water Utility.

The report will be based on the information contained in the draft information memorandum prepared by the government and its financial advisers and the Water Utility, additional documentation provided by the Water Utility and examined by the technical consultants, and interviews by the technical consultants with the Water Utility management.

The technical consultants will review documentation for completeness and consistency, and will use reasonable effort, within the resources and time available, to verify the technical contents by reference to source documentation and through interviews with Water Utility management and operational personnel. The technical consultants will visit selected Water Utility establishments and carry out a general visual inspection and a review of records. The purpose of these visits will be to provide the technical consultants' personnel with a general overview of the installations and to give an indication of the extent to which the reality agrees with what is in the documentation. The scope of services will not include testing or detailed examination and investigation of Water Utility assets or operations.

All reports will be prepared in [*English*]. The technical consultants will receive full and prompt cooperation from the Water Utility.

The engineers' report will cover, among other things, the following topics:

- Description of assets.
- Metering.
- System losses (physical and commercial).

- Quality of supply (quantity, pressure, availability, raw and treated quality).
- Network safety.
- Network environmental compliance.
- Network maintenance, network operation, and associated standards.
- System planning.
- Network security and availability.
- Asset residual life.
- Technical appropriateness of planned investments and anticipated useful life.
- Contracting strategy for new investment.
- Operation and maintenance.
- Spares and supplies retained on site.
- Options at the end of the contract; decommissioning requirements.

Annex 4

1. Background

[*This section provides background on the reform process, briefly describes the existing water and sewerage utility and regulatory framework, and sets out the government's core objectives in the reform.*]

2. Objective

The financial advisers will provide all financial advice to [*name of client*] and prepare for and deliver to [*name*] reports (as specified below) on all financial matters arising as part of the [*restructuring or private participation in the water utility*]. The utilities in which the private sector will be invited to participate include [*name of entity or entities*] (the "Water Utility").

3. Scope of work during the preparation phase

To achieve the objective(s) set out above, the financial consultants, in conjunction with a local accounting firm, shall carry out the tasks below:

Regulatory and institutional issues

3.1 Review the legal advisers' joint report on the legal and regulatory framework (see terms of reference for legal counsel, preparation phase, step 1, deliverable); comment on the financial implications of any existing or proposed private sector participation laws, regulations, and institutional structures.

3.2 Evaluate the impact of any existing or proposed laws on the ability of the government to attract private sector participation and financing in water sector reform. Recommend changes to the proposed or existing legislation, if appropriate.

Policy coordination (financial assessment)

3.3 Develop a financial model with inputs from the legal, economic, and technical consultants to assess the financial viability of alternative private sector participation options. The model will be used to prepare a financial policies paper and develop the financial parameters for the transaction, including sensitivity analyses required for the information memorandum. The model will include the following inputs:

a. Demand forecasts and tariff structure provided by the economic consultants.
b. Cost inputs—construction, operating, and maintenance costs, and schedules provided by the technical consultants.
c. Capital structure—debt and equity sources of funds, domestic and foreign.
d. Government financial support—the types of financial support the government will provide for the transaction.

3.4 Evaluate the outputs of the financial model and, with assistance from the economic, legal, and technical consultants, prepare a financial policy paper that recommends:

a. The type and extent of government financial support for alternative forms of private sector participation.
b. Tariff structure, rates, and subsidies.
c. Tax allowances (sales, income, value added, and so on) for private sector project sponsors.

d. Allocation of government funds for restructuring the Water Utility (if applicable), including redundancies and pension liabilities.
e. The financial feasibility of alternative options for private sector participation.
f. Financial basis of award for the contract (cost of service, rate of return, or price control).

4. Scope of work during the implementation phase

4.1 Prepare financial aspects of the draft information memorandum. The financial advisers will prepare the draft information memorandum from information provided by the Water Utility, the legal advisers' due diligence report, the economic consultants' tariff report, the engineers' report, and its own review of the utility's financial statements. The financial advisers will critically evaluate the information from all the consultants to assess its impact on the financial feasibility of the proposed transaction. The draft information memorandum will contain the following items:

a. A description of the service area, customer profile, and demand forecast.
b. A description of the Water Utility, including:
   - A brief history of the organization and current management.
   - The services delivered by the utility (see terms of reference for technical consultants, engineers' report);
   - Capital improvement plans.
c. Regulatory issues that may affect current operations and future investments.
d. The financial condition of the utility based on a review of the financial statements, with an emphasis on:
   - Outstanding debt structure.
   - Operating results and debt service coverage.
   - Liabilities to other government entities.
   - Dependence on operating transfers from other government entities.
   - Tariff revenue history, major users, and payment delinquencies.
   - Significant accounting policies: depreciation, tax issues, asset valuation, construction in progress, and accrued pension liabilities and other benefits.
   - Regulatory issues and outstanding litigation.
   - Government financial support for operations and future capital expansion.
   - Tariffs, rate setting, and adjustment process.
   - Description of the proposed private sector participation option.
   - Restructuring of the Water Utility (if appropriate), including the relationship between the restructured unit and the private sector participation option.
   - Financial feasibility analysis. Using the financial model, prepare cash flow analysis indicating the financial feasibility of the project. Assess the capital structure, financial covenants, debt service coverage ratios, price elasticity of demand, and sensitivity analyses for the proposed private sector participation option.

4.2 In conjunction with the legal advisers, prepare the prequalification documents and a marketing strategy for the transaction. This work includes the following tasks:

a. Identify domestic and foreign companies that may be interested in the transaction.
b. Evaluate the status of current and future private sector projects in the region, the country, and other countries.
c. Assess the competitive position of the proposed option and restructure the transaction based on the market evaluation.
d. Prepare marketing strategy memorandum.

e. Recommend the prequalification criteria.
f. Recommend the timing for the release of the request for proposals.
g. Prepare the tasks, responsibilities, and schedule of activities for the road show or prebid conference.

4.3 In conjunction with the legal advisers, prepare the request for proposals. This work includes the following tasks:

a. Review the economic consultants' recommended method of rate setting for the transaction and comment on its financial implications for the transaction.
b. Recommend the proposal's financial requirements, such as:
   - Format and content of financial pro formas, for example, cash flow, income statement, and balance sheets that indicate the financial viability of the project.
   - Amount of equity required for the project, timing of equity contributions, and evidence of access to credit or collateral for the equity contribution.
   - Financial commitments from banks and other investors for the required debt.
   - Ability to obtain the required insurance coverage.
   - Ability to obtain the required performance bonds, and other financial assurances for construction and operations.
c. Assist the legal advisers in the preparation of related appendices and attachments by coordinating the inputs from the economic consultants, the engineers' report, and the Water Utility.
d. Review the concession agreement and advise on the financial issues raised in the document.
e. Prepare the final information memorandum.

4.4 Clarify any financial issues presented in the bidding consortia proposals and confirm their financial feasibility using the financial model. Prepare the bid evaluation report, which recommends the winning bid to the evaluation committee.

a. Verify the commitment letters from the financial institutions supporting the bids, including the reasonableness of the terms and conditions of any proposed loans, including interest rates, terms, security, amounts, and capacity of underwriters to support the transactions.
b. Review the capital structure and shareholders agreement, and ensure that the bidders can provide any scheduled equity payments (from existing resources, bank credits, or other sources).

4.5 Participate in the contract negotiations with the selected bidding consortium, providing financial advice on the major contract documents, such as the concession contract, shareholders agreement, articles of association, share purchase agreement (if applicable), and other documents that may be required for the transaction.

a. Provide sensitivity analyses during contract negotiations for changes in project assumptions, using the financial model.
b. Assess the marketability of the proposed debt instruments, based on the terms and conditions of the financing documents and the concession contract.
c. Ensure that the concession contract is bankable, especially with regard to such terms and conditions as lenders' rights and security for lenders' market, political, and construction risks.
d. Evaluate the private partner's marketing plan for loan obligations required to finance the project.

4.6 Prepare the schedule of events for the transaction's closing and coordinate the work of the legal, economic, and technical advisers to finalize the transaction.

5. Deliverables

- Financial model.
- Draft and final information memorandum.
- Marketing strategy memorandum.
- Schedule of activities and responsibilities for prequalification; preparation, evaluation, and negotiation of bids; and financial closing.
- Bid evaluation report.

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What a Private Sector Participation Arrangement Should Cover

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Millions of urban dwellers, especially the poor, lack adequate access to safe drinking water and sanitation. Improving services significantly will, in most cases, require more efficient operation of water utilities and investments in rehabilitating and extending supply systems. Many central and local governments are turning to the private sector to help address these needs. But private sector participation is no simple panacea. Its success depends on how well the chosen private sector arrangement fits local circumstances, on whether the regulatory environment is suitable, and on how well the reforms respond to the concerns of those affected.

For these reasons, designing and implementing a private sector arrangement can be a complex and often costly task. There is no blueprint for this task. Careful, case-specific work is required to prepare an arrangement that will make sense in local conditions. But all reform processes have elements in common and can build on experience elsewhere. We have prepared these toolkits to transmit the experience gained so far and the lessons this experience offers on what can make or break a private sector participation process. The toolkits are meant to support, not substitute for, independent advice by experienced professional firms.

The movement toward private sector participation in water and sanitation is young in developing countries, and we still have much to learn. We view the toolkits as an evolving product—and would welcome your suggestions on how to make the next version better.

The toolkits have been developed in collaboration with many colleagues in the public and private sectors of our member countries. Their participation has been critical to the quality of the toolkits and demonstrates the importance of working together to find better ways of achieving our common objective of improving services for developing country citizens. In particular, we would like to acknowledge the generous financial and advisory support of the Department for International Development (U.K.), without whose partnership the toolkits would not have been possible.

Comments are welcome.
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When to Use This Toolkit

Once a government has chosen an approach to private sector participation, selected a contractual option, and made basic decisions about the supporting regulatory framework, it must proceed to the task of drafting contractual documents and preparing regulations—the subject of this toolkit.

A government can use the toolkit:

- To guide the drafting of contractual and regulatory documents.
- To guide the review of draft contractual and regulatory documents prepared by the government's advisers.
- To provide background for negotiations.

The toolkit provides checklists of the issues that should be covered in three basic kinds of contract: the concession contract, the build-operate-transfer (BOT) contract, and the management contract. Some of these issues may be covered in existing laws and so would not need to be addressed in the contract. Rather than attempt to provide model contractual language (which would be unlikely to apply in all the vastly differing circumstances that countries face), the checklists set out questions to which contracts and supporting regulations should provide answers.

The checklists try to cover all of the main issues, but each project has different features and risks and every issue in a checklist will not apply to every project. Users will need to identify the issues relevant to their project.

The toolkit provides a separate checklist of issues for each kind of contract, a checklist of risks that arise for contracts of all kinds and options for handling these risks, and a checklist of "boilerplate" clauses required in any contract.

Contents

What Should Contractual and Regulatory Documents Cover?

Basic checklist

For each of the three types of contract—concession, BOT, and management—this section addresses the following issues:

- Who are the parties to the contracts that constitute the arrangement?
- What are the object and scope of the contractual arrangement?
- What is the duration of the arrangement, and what circumstances will give rise to early termination?
- What are the obligations and rights of the concessionaire?
- What are the obligations of the grantor?
- What are the key regulatory provisions?
- How will key risks be managed?
- How will performance be measured and monitored?
- How will assets (including land) be transferred?
- What consents are required?
- Who will be responsible for past environmental liabilities?
- How will disputes be resolved?

Scenario

A public utility provides water and sanitation services to customers through an inadequate and outdated distribution network. Substantial capital investment is needed to make up for years of underinvestment: only a small number of people in the service area have sewerage connections, and the water supply cannot meet rapidly increasing demand. The distribution reservoirs, pumping stations, water treatment plants, and distribution network all need upgrading.

The government has determined that it can gain stakeholder and political support for involving the private sector in the provision of water and sanitation services. It has also found that the country's broad regulatory framework is consistent with private sector involvement and that private investment in water and sanitation will not involve undue risks to consumers or to private investors, and it has established that the tariffs necessary to cover the required investments are politically and economically feasible. So it has decided to seek a concession for operation and expansion of water and sanitation services.

Who are the parties to the arrangement?

This section covers detailed issues surrounding who grants the concession (the grantor) and how the private sector counterpart (the concessionaire) is constituted.

The grantor

- Is the grantor the government, a state-controlled entity, a ministry, a municipality or several municipalities, an association of municipalities, or some other entity? How many of these entities should be parties to the contract? For example, depending on the legislation for the sector, the regulator may need to be a party to the concession contract even if it is not the grantor in order to gain directly enforceable rights against the concessionaire.
- Are the relevant assets or use rights to be transferred under the concession owned by different parties? If so, should two or more parties grant the concession?
- Which entity has the power to grant permission to provide water and sewerage services?

Ensuring the authority of the grantor in Latin America

In a proposed water privatization in Latin America assets controlled by the state water company, which was granting the concession, had come to it from many different sources, and the transfer of title had not been properly registered. To ensure that no disputes would later arise regarding transfer of the assets from the state water company to the concessionaire, the entities that had transferred the assets to the state water company—the government and certain municipalities—all needed to be parties to the concession contract, waiving any claims or rights to the assets.

What is the authority of the grantor and the legal basis of the concession?

- Does the grantor have the power to grant the concession, enter into the project agreements, and perform its obligations?
- What is the legal basis, statutory or otherwise, for the concession?
- Will the grantor accept responsibility for ensuring passage of necessary laws by the legislature?
- Can the concession be reviewed, overridden, or withdrawn, and if so, what options does the concessionaire have? In many civil law jurisdictions the concession contract is treated as an instrument under administrative law, so the grantor has the right to make unilateral amendments (against compensation where such amendments change the financial balance or equilibrium of the contract).
- What type of entity is granting the concession, and what happens if the entity winds up, becomes insolvent, has a receiver appointed, or is otherwise dissolved?
- Does the legal basis for the concession provide sufficient certainty for the project and security that financing can be raised?
- Is the agreement ambiguous in any way, particularly with respect to performance obligations and tariffs?
- Is there an independent regulator for water and sewerage services? If so, what powers does the regulator have to affect the terms of the concession? How is independence assured?
- How are powers relating to the supply of water and sewerage services divided between national and local bodies?

The legal basis for concessions in the Czech Republic and the Philippines

The legal basis for a concession depends both on the type of concession and on the entity that grants the concession. For example, the legal basis for the privatization of assets by the state may be very different from that for a concession by an association of municipalities. The Czech Republic privatized the water sector under the Large Privatization Act (Law 92/1991), which provides for the transfer of assets and the sale of shares to the private sector. The Philippines has a special BOT law (Republic Act 6957) authorizing private sector financing, construction, operation, and maintenance of infrastructure projects.

The concessionaire

- What type of entity should be used as the concession vehicle—a local company, a partnership, a limited partnership, a joint venture?
- What are the tax and other consequences of the choice of concession vehicle such as for limited liability, management control, minority rights, and foreign exchange?
- What will be the timing for creating the concession vehicle?
- Does the grantor require a guarantor to be party to the concession?
- If a sponsor is not a party to the concession contract, what other forms of sponsor support may be required—comfort letters, undertakings, guarantees, letters of credit, subordinated loans?

- What is the relationship between the concession company and the other parties to the transaction, including the lenders, sponsors, project managers, construction companies, operating companies, insurers, and export credit agencies?
- How will conflicts of interest between sponsors be dealt with? Is a shareholders agreement appropriate?
- Does the agreement fully account for any restrictions on foreign ownership or participation?

Restrictions on foreign participation in the Philippines

There are often legal restrictions on foreign participation in local entities. In the Philippines, for example, the concessionaires selected for the privatization of the Manila Metropolitan Water Works and Sewerage System faced several such restrictions. The Philippine constitution and various laws limit participation by non-Philippine nationals in the ownership and management of public utilities, including water services and the appropriation of water as a natural resource. The Philippine constitution permits the exploration, development, and utilization of water resources only by Philippine citizens and by corporations or associations whose capital is at least 60 percent owned by Philippine citizens. Foreign investors' participation in the governing body of any public utility enterprise is limited to their share in its capital, and all executive and managing officers must be Philippine citizens.

What are the object and scope of the agreement?

- What are the area and the limits of the concession?
- Will the concessionaire be granted exclusivity? If not, will the grantor undertake to not grant similar licenses or concessions or to prevent third parties from acquiring similar rights during the life of the concession? Will the grantor also undertake to not supply services itself? Will exclusivity lapse after a specified period if services are not provided?
- What services will be provided under the concession?
- Is the concession flexible enough to allow amendment as circumstances change?
- Will the grantor impose restrictions on the concessionaire's ability to build or improve infrastructure that is not part of the project?

What is the area to be served?

- Can the area be expanded during the lifetime of the concession?
- Is a map of the area annexed to the agreement?
- How will the infrastructure interface and interconnect with other water and sewerage systems?
- Will water and sewerage be provided by different entities?
- What is the interface with other utilities or with community groups providing their own services?
- What are the rights and obligations of customers?
- Have any assumptions been made that could prove inaccurate—for example, about per capita consumption or the population growth rate?

What is the duration of the concession, and what might lead to early termination?

- Is the duration long enough to make the project "bankable"—that is, to allow repayment of loans from the revenue stream from customers?
- Can the grantor change the duration of the contract? In particular, can the contract be extended, and if so, how? If the contract is extended, can the public authority amend it?
- Under what conditions may early termination occur? How will compensation be determined in the event of early termination (for fault and without fault)?
- Does the concession period include construction time? If not, what happens if there are delays in construction?
- Is the duration contingent on certain events?
- What conditions apply upon expiry and will they be set out in the concession or imposed later?
- What factors would allow the grantor to extend the concession? Typical ones are force majeure events, political risk events (disruption of construction, strikes), delays caused by the grantor during construction or operation, and operating problems that are not under the control of the concessionaire and are not force majeure events (lack of appropriate materials and supplies).

What are the obligations of the concessionaire?

A concession typically contains many detailed requirements on the services to be provided, generally set out in an annex to the contract. They might cover:

- Quality targets—water quality, industrial discharges, treatment and disposal of sewage.
- Pressure.
- Continuity.
- Coverage.
- New connections.
- Suspension and reconnection of service.
- Condition of assets.
- Leakage and use of water resources.
- Compliance with regulations and codes of practice (relating to all the above).
- Use of appropriate water and sewage treatment technology.
- Quantity of water to be supplied.
- Obligations in the event of emergencies (approval, cost, and reimbursement guidelines).
- Compliance with health and safety standards.
- Operational standards.

To monitor the concessionaire's performance in meeting these requirements, the grantor may wish to have some or all of the following rights:

- The right of access to the site and equipment.
- Supervisory control to regulate further investment and capital expenditure.
- The right to approve subcontracting for financing, construction, and operation.

- The right to approve all replacements, cancellations, and modifications of insurance policies and guarantees.

In defining such rights, a careful balance needs to be struck between conferring on the grantor the ability to monitor and enforce the spirit of the concession in the interest of consumers and ensuring that the concessionaire has the scope and incentives to deliver services efficiently, without undue interference.

Who is responsible for billing customers?

- Who is responsible for collecting water and sewerage fees?
- How will nonpayment be dealt with?
- What authority will the contractor have to collect delinquent payments and enforce user sanctions?
- What regulations cover reconnection for delinquent users who have paid their debts to the utility? How will the government monitor compliance?

Who is responsible for capital investment?

- Who will decide on investments in maintenance, repair, and upgrading of the system and in new infrastructure, and who will be responsible for carrying them out?
- Who is responsible for planning, coordination, supervision, and implementation of capital expenditure?
- What formulas will be used for asset depreciation to ensure that the concessionaire is adequately compensated at the end of the concession?
- What are the procurement procedures for new investment? (For example, is competitive bidding required for pipes and supplies over a certain size, and is there a reimbursement schedule for pipes and supplies under a certain size?)
- Is competitive tendering required for works?
- What are the obligations and responsibilities relating to capital expenditure for major water and sewerage facilities and distribution and collection networks?
- Who is responsible for meeting requests from other government agencies for the extension, relocation, or provision of water and sewerage networks?
- How will new construction be financed—from retained earnings from fees, by direct government grants, by the operator, or from a combination of sources?
- If the government pays for new construction, how will it disburse the funds? Will it reimburse the operator upon presentation of invoices or advance it funds? Who will monitor the construction? Will the monitoring agent approve invoices before payment?

How much debt and equity will be put into the project?

- How much equity should be contributed to the project vehicle to ensure that lenders will provide finance? May equity be contributed in kind?
- What shares of equity will the parties contribute and when?
- Is the equity sufficient to meet any required debt-equity ratios?
- What debt on the existing facilities will be assumed by the concessionaire?

- Will the shareholder agreement require the parties to retain their shares for a minimum period, such as until construction is completed?
- How will tariff revenues be distributed? Will different classes of debt and equity have different priority for receiving revenue distributions?

What are the technical specifications?

- What quality of materials will be used?
- What safeguards will the private contractor have against changes in specifications?

While some technical specifications are essential to ensure that repairs and equipment last for an acceptable period, overspecification works against innovation and efficiency. Where possible, attention should be focused on specifying output, not inputs—that is, specifying the performance expected, not how to achieve it.

Lenders' rights in concession contracts

Concession (and BOT) contracts are often developed without a good understanding of lenders' requirements. Even though lenders often provide more capital for water and sewerage projects than the private sector participant, their interests are seldom considered until after the contract is awarded and its terms and conditions negotiated with the concessionaire. The result can be significant delays in financial closing, as lenders often require substantial changes in the concession contract to protect their interests.

To ensure that they have a secure interest in the project assets and that the concession contract allows them to attach or control this security, lenders will require that the contract include clauses that clearly define the concessionaire's ability to assign them project assets (tariff revenues, property mortgages, leases). In some cases the lenders may require the right to approve a transfer or sale of shares in the concessionaire, although this right is covered in the shareholders agreement and is not necessarily included in the concession contract.

Lenders will also review the clauses in the concession contract that affect the project's ability to generate tariff revenues. As a first step, they will ensure that the facility that generates the tariff revenues is built on time and within budget and is operated properly, usually by appointing an independent engineer to review construction progress and operating efficiency. Lenders may also be given the right to request changes in the concessionaire's contractors, including its operating contractor. This usually occurs when, in the lender's opinion, the contractor cannot comply with the terms of the contract and the noncompliance will substantially increase the project's cost.

The lenders will also want to ensure that the tariff collection and adjustment mechanism protects their interest in tariff revenues. They will carefully review the contract clauses on the regulatory procedures for tariff collection and adjustment, especially the conditions that allow special adjustments, such as a change in environmental law or a significant shift in macroeconomic conditions.

The concession contract must also address default situations, such as when the borrower is unable to make a loan payment on time or declares bankruptcy. The contract should allow the lender to

step in and assume control of the concession until the default is remedied or the lender appoints a substitute concessionaire. The concession contract should allow the substitute concessionaire to enter into the same contract. That gives the lender control of the concession—and the ability to improve management, company profitability, and thus the chances of loan repayment.

What are the obligations of the grantor?

What are the responsibilities of the grantor regarding the supply of raw water and the use of off-take contracts?

- To what extent can revenues be guaranteed by the off-take contracts?
- Who will enter into the off-take contracts?
- Who has legal rights to the raw water?
- What are the arrangements relating to the supply of raw water?
- Is the supply of raw water sufficient and guaranteed?
- How will changes in the quality of raw water affect the quality standards for treated water?
- How will the quality of bulk water be measured?
- What are the provisions relating to increases in and liability for untreated wastewater contaminants?
- Who is liable for changes in the quality of raw water?
- Who is responsible for the bills, stocks, loans, and contracts of the former water company?

What are the key regulatory provisions?

A concession is a long-term relationship that confers significant monopoly power on the concessionaire for 25 to 30 years. As toolkit 1 explains, that confers significant regulatory responsibility on the government. So, in preparing a concession, decisions need to be made about:

- How much market restructuring will be undertaken in order to introduce and promote competitive pressures on the concessionaire.
- What residual regulatory functions the government must perform in the sector.
- What type of agency will perform these functions—a choice that also requires decisions on such issues as how its independence is to be assured and what skills are required.
- What regulatory rules will be applied (in particular, for adjusting tariffs).
- What the nature and limits of regulatory discretion will be.
- How regulatory activities will be funded.
- How the various regulatory functions for water and sanitation—such as health and environmental regulation and water resource management—are to be integrated.

Concession contracts need to be specific about where regulatory responsibility lies and about the limits to regulatory discretion. They also need to include arbitration procedures to handle potential conflicts between regulatory requirements and the concessionaire's financial viability.

Designing regulations to ensure incentives

Because concessions require long-term investment by the concessionaire, regulation must be designed to ensure that:

- The concessionaire earns a reasonable rate of return on the investments it must make to meet service improvement targets.
- Incentives for efficiency are maintained throughout the long concession period.
- The concessionaire has incentives to make appropriate investments throughout the concession period.

What are the arrangements for tariff design and uprating?

- Are the rules for establishing the level and structure of tariffs clear?
- Are there requirements to implement lifeline tariffs or to provide services free of charge, for example, to firefighters?
- Does the concessionaire have the freedom, within specified limits, to vary the tariff structure and cost allocation across the customer base?
- What are the procedures for raising tariffs? For example, what are the roles of cost of service elements and price indexation rules? What is the frequency of uprating? Is there any requirement for operating efficiency gains?
- Does the concessionaire have the freedom to introduce peak tariffs and drought surcharges to manage demand?
- What costs can be charged to customers for meter installation and over what period?
- Where there are both metered and unmetered customers, what rules will ensure that billing is equivalent?
- What is the tariff formula for sewage treatment of nonstandard effluents?
- What method will be used to incorporate the cost of new construction into the tariff structure?
- Is the operator responsible for collecting all tariffs, connection fees, delinquent payments, penalties, and any other rates and charges?
- Will the tariffs be remitted to the government or retained by the operator?
- If tariffs are insufficient to cover costs, is the operator at risk, or will the government make up any shortfalls? If the government makes up shortfalls, will it also share in any profits (above the fixed fee level established in the contract)?
- How will depreciation and taxes be treated in the rate structure?
- What are the rules for cost pass-through?
- Is the method for setting tariffs compatible with the way water consumption is measured?
- Is the tariff setting schedule based on fixed and variable rate costs? If so, what accounting basis will be used to determine operating and maintenance costs and capital costs?
- For the variable rate component of the cost structure (based on volume of water used), will the government guarantee a minimum quantity of water? Will it guarantee growth in consumption? At what rate?
- Which capital, operating, and maintenance cost components of the tariff will be used to adjust it—payroll, utilities, supplies, overhead, other operating costs

(taxes, meter repair, regulatory fees, interest on debt)? How will taxes and depreciation be calculated, and how will they be included in the tariff cost structure? What inflation indices will the government use to adjust the coefficients? How often will the coefficients be adjusted—monthly, quarterly, annually, or every several years?

- How will the government calculate the base rate? (The base rate is the basic capital facility charge, which includes the cost of leasing the assets from the government and the cost of new construction to expand the facilities.)
- If the tariff adjustment method inflates individual cost components, is a locally published index available for each component?
- Will the tariff also be adjusted for changes in foreign exchange rates? If so, what foreign exchange index will be used, and where and how often is it published? (Are foreign exchange loans fixed or floating? How are their costs passed through?)
- What are the "trigger events" that will allow the concessionaire to adjust the tariff? Typical trigger events include significant variations in reference volumes, change in the concession area, significant inflation requiring more frequent adjustments, changes in taxes and depreciation, changes in the requirements for and timing of capital expenditures, changes in the water supply contract, and changes in environmental regulations relating to water quality.
- Are the guidelines for tariff rate appeals to the regulatory authority clear and unambiguous?

Customer relations

The concessionaire needs to be clear about who its customer is—the municipality (or other grantor) or individuals. If it is individuals, the contract may need to require the publication by the concessionaire of codes of practice for customers describing services and service standards, arrangements for billing and debt collection (including easy payment options), procedures for handling complaints, compensation rules for failure (including arbitration arrangements), and rules for resolving meter reading disputes.

- What are the customers' obligations—for example, allowing access to meters, keeping banned substances out of the sewerage system, or maintaining supply pipes and internal fittings? And what rules must customers comply with to avoid disconnection—such as paying bills on time or preventing neighbors from making illegal connections?
- What are the mechanisms to allow customer input on priorities for improving services and to gauge customer satisfaction?
- What are the procedures for disconnection, including any legally required steps?
- In the event that service is disconnected because of a delinquent payment, who will pay for reconnection?

What are the arrangements for renegotiation?

- What constitutes a material change requiring renegotiation of contractual provisions rather than simply a cost pass-through?
- Who can request renegotiation of the contract?

- Are there limits on the frequency of renegotiation?
- What extensions to the contract—for example, the addition of new treatment works or the servicing of a new district—allow or require retendering the contract?

Incumbent contractors will undoubtedly have an advantage when retendering for the contract. But to maintain competitive pressures "for the market," nontransparent recontracting agreements should be ruled out and proper provisions made for retendering. To minimize the disadvantage to new tenderers, explicit rules need to be established requiring disclosure of certified information.

How will responsibilities and liabilities be allocated between the public sector and the private contractor?

The broader regulatory environment of a country has implications for the costs of the concessionaire and for the risks that the concessionaire faces in seeking to meet service targets. Contractual provision may be made to counteract these risks.

- Which assets are included in the concession (and therefore revert to the grantor on termination), and which belong to the concessionaire?
- What are the compensation rules for public sector failure? And are there safeguards for the public sector if inadequate supplies to customers result from private sector failure to maintain the system?
- Who is responsible for allowing new connections to the water and sewerage system and liable if such connections result in failure to meet such performance standards as supply security and pressure?
- Who is responsible for land drainage and liable when interconnections between surface water and foul water systems cause foul water flooding and exceed the sewage treatment plant's capacity?
- Who is responsible for new connections to the sewerage system that introduce waste components untreatable at current facilities and for indemnifying the contractor from resulting failure to meet required treatment standards?
- What compensation rules apply if the public sector permits connections that ruin the ability of the treatment plant to process normal waste?
- Who has the operational and financial responsibilities for routine system maintenance (as opposed to system renovation, which can involve considerable capital expenditure)?
- Is there a clear dividing line between system maintenance and system renovation? What are the safeguards for the private contractor if inadequate financing results in failure to meet performance standards or targets?
- What are the safeguards for the private operator if nonpayment or noncollection reduces its expected revenue share or delays payment of management fees?
- Who is responsible for ensuring access to assets and customers' premises to effect repairs, meter reading, and the like, and who is liable for any damage—to roads, for example—that result from such access?
- Who bears the cost for damage arising from unlawful discharges to the sewerage system?
- Who is responsible for managing the allocation of raw water, including the use of boreholes?

Safety net rules

- What is the financial liability of the operator?
- Who is liable for financial default?
- Are there alternative suppliers?

Warning

Some private and public sector obligations increase with the length of the contract and are therefore more important in concession contracts than in management or service contracts, which have a shorter duration. Concession contracts may need to pay special attention to long-term raw water security and to safeguards relating to long-term environmental standards, for example. In particular, sector economic regulation should provide for reviewing tariffs and service standards in light of changes in raw water availability or in environmental standards.

How will key risks be managed?

Does the agreement provide a fair balance in allocating risk between the parties?

All long-term contractual relationships involve risks. Some of these risks can be reduced through careful drafting of contractual and regulatory provisions. The remaining risks should be allocated as far as possible to the party best able to handle those risks. (These issues are covered in more detail in the section below on key risks.)

Who is responsible for the construction risk?

- Who is responsible for delays in construction and higher-than-expected construction costs? Is there a fixed price turnkey contract with the construction contractor under which that contractor assumes the risk of delays and higher-than-expected construction costs?
- What is the scope of the construction work and of the specifications for project infrastructure?
- What is the mechanism for changing the specifications?
- What warranties will be provided relating to the infrastructure construction?
- What completion and testing procedures will be used?
- Will the grantor have the right to monitor design and construction?
- What is the timetable for construction?
- Are there restrictions on subcontracting with third parties for financing, construction, and operation?
- Who will be responsible for site surveys, ground and geotechnical investigations, utility surveys, land issues (restrictive covenants and easements), and environmental surveys?
- Who will purchase land for the laying of pipes?
- Who will be the project manager?
- How will any necessary acquisition of land affect the timetable for construction?
- What are the development risks?
- What happens if the local authority will not grant rights of way or permission to dig up streets, hampering the achievement of service objectives?
- Who will finance construction cost overruns, and what assurances will lenders have that the funds will be available when required?
- What type of financial support will the government provide for new construction? If the government contributes direct grants, will it require the concessionaire to establish a separate construction fund account? Will the concessionaire be

required to match the government's deposits in this account? Who will manage the account and approve disbursements for construction?
- Is there joint and several completion liability among the construction contractors and subcontractors, and equipment suppliers?
- Who will monitor construction, approve contractor invoices, and provide commissioning and completion certificates? Will the concession agreement allow creditors to undertake these activities?
- Will the government require the concessionaire to establish a construction reserve fund, a major repair and replacement fund, an operating fund, and a rate-stabilization fund?
- Will planning approvals be required? Who is responsible for obtaining planning approvals and permits?
- Who is responsible for purchasing the land and providing a vacant site free of utilities, structures, and other encumbrances?
- Will the concessionaire be required to pay liquidated damages to the grantor if it causes a construction delay, or is this risk covered in the construction contract (and is it a joint and several liability with subcontractors)?
- Will the construction contract include contractor incentives?
- What percentage of the total project value will the concessionaire be required to secure with a performance bond? Will this percentage change over time?
- Is competitive tendering required for works?
- What are the obligations and responsibilities relating to capital expenditure for major water and sewerage facilities and distribution and collection networks?
- Who is responsible for requests from other government agencies for extending, relocating, or providing water and sewer networks?
- How will new construction be financed—from retained earnings collected through fees, by direct government grants, by the operator, or from a combination of sources?
- If the government pays for new construction, how will it disburse the funds? Will it reimburse the operator on presentation of invoices or advance it funds? Who will monitor the construction? Will the monitoring agent approve the invoice request before payment?

Who will take the operation and maintenance risk?

- Who will distinguish between routine maintenance expenditures and capital expenditures?
- Is there joint and several operating liability among the operating contractor and subcontractors?
- What sanctions and penalties would the concessionaire face for noncompliance with environmental and other regulations?
- Will the concessionaire have incentives for improving productivity? What methodology will be used to measure productivity improvements?

What are the political risks?

- How stable is the country?
- Will export credit agencies guarantee debt and equity against political risk?
- Is insurance available?

What is the revenue risk?

- How secure is the cash flow?
- Is the cost to the customer of water and sewerage services reasonable?
- If the government provides support for the project, what form will that support take?
  -Minimum revenue guarantees or undertakings.
  -"Shadow tolls" payable during the construction phase, when no fees can yet be charged to customers.
  -Standby equity or subordinated debt to meet revenue shortfalls.
  -Tax privileges.
  -Duty exemptions for imports of capital equipment.
  -Assurances on the availability of foreign exchange and the exchange rate with foreign currencies relevant to the project, free transfer of funds, or interest rate guarantees.
  -Arrangements for increases in tariffs, such as index linking in the concession contract and review by an independent regulator.
  -Minimum water consumption or purchase guarantees.
  -Coverage of delinquent user payments.
  -Capital grants and loans, lines of credit, or letters of credit.
- What are the legal and administrative mechanisms required for the government to provide this additional support?
- What assurances will creditors have that the government can comply with the guarantees?
- Are the government guarantee provisions in the contract enforceable, or will a special legal opinion be required to assure that contract clauses are enforceable under the country's law and under international law?
- Will the government provide other revenue sources to secure debt besides tariffs? What reassurances will investors require in the concession contract that the additional government revenues will be available for timely debt service payments by the concessionaire?
- Will the government provide a guarantee for a minimum amount of new works per year, including any additional government revenue sources that are required to complete these works?
- What are the rate covenants that require the concessionaire to increase tariffs to maintain a minimum debt service coverage ratio?
- Who will be responsible for paying penalties for noncompliance with environmental regulations in the event of deterioration in the quality of wastewater influent?
- What failures by the concessionaire to meet its obligations will lead to possible sanctions? Noncompliance with standards for water quality, quantities, and pressure? Disruptions in supply? Noncompliance with environmental regulations? Failure to submit technical and financial reports?
- How are penalties set? What are the payment terms for concessionaire penalties? Is there a grace period for payment? Are there interest penalties for payments more than 30 days late? Under what conditions may the regulator waive or delay payment? If paying a penalty meant that the concessionaire would be unable to make a debt service payment, for example, would payment be waived or postponed?

- Will the concessionaire maintain segregated debt service accounts for principal and interest payments?
- What type of sponsor guarantee will the concession contract require—a construction completion guarantee, performance guarantee, debt service guarantee for senior bonds or loans, or shareholder loan guarantee? How will the cost of expanding treatment capacity be allocated between new and existing users?
- Will the grantor require the concessionaire to provide special tariff rates for water exports to large customers and other public agencies?
- How will the use of grantor subsidies be monitored? If the government provides subsidies for operations, how will the regulator ensure that the subsidies are used for their intended purpose? Will the regulator require that the concessionaire establish a separate subsidy account, and if so, who will manage this account? Will disbursements from the account occur only upon proof that the customers intended to benefit from the subsidy have received the service? How will this proof be verified?
- Will the contract require business interruption insurance (to provide coverage in the event that the project is shut down and no revenues are generated), and is this type of insurance available in the local or international market?
- Will the government guarantee the cost of inputs controlled by government entities, such as electricity and water supply?
- Will the concession facilitate the development of off-take contracts that are favorable for private financing?
  - -Will the concession allow price breaks and adjustments in the off-take contract?
  - -Will the concession allow price escalation—and how frequently?
  - -What special events will trigger price changes in off-take contracts—for example, changes in water supply conditions or unexpected growth in competing service areas?
  - -Will the off-take contract include carry-forward clauses that preserve water purchase rights?

What is the regulatory risk?

- Is there an independent regulator?
- Does the regulator have the necessary skills?
- What limits are placed on the regulator's discretion?
- What are the procedures for appealing regulatory decisions?
- What compensation or cost pass-through arrangements are there to safeguard the company against shifts in regulatory ground rules?
- To what extent must the economic regulator make allowance for or coordinate with other regulators in setting environmental and public health standards?

How will performance be measured and monitored?

Concessions generally specify broad performance targets and a tariff rule and then rely on incentives to compel the concessionaire to find the most efficient way—through technological and commercial innovation—of meeting the performance targets. Their central aim is to pass to the concessionaire the responsibility for working out how best to meet customer service objectives. The monitoring of a

concession should therefore focus on the concessionaire's success in meeting the targets specified in the concession rather than on how it meets those targets. Whether realistic performance targets can be established will depend on the quality of information available about the system at the time the concessionaire takes it over. And whether the concessionaire's achievement of the targets can be adequately monitored will depend on the creation of a regulatory agency with real monitoring capacity and on the contractual requirements for reporting and monitoring.

What are the requirements for provision of information to the regulator or grantor?

- Will the concessionaire provide information as may be reasonably required by the regulator or grantor? What is the definition of reasonable?
- What are the mechanisms for independent verification of financial data, data on the condition of assets, and the achievement of performance targets?
- What are the provisions for market testing when the contractor subcontracts tasks or purchases services from associated companies?
- What is the goal of contract information requirements?
- What access will the regulator or grantor—or agent of the regulator or grantor—have to assets and records?
- Who will pay for independent financial auditors and technical auditors (reporters), and who will be responsible for their selection and training?
- What are the "ring-fencing" provisions, transfer pricing checks, and market-testing arrangements (where the concessionaire is a diversified company)?
- What are the provisions for submission of regulatory accounts and program performance data and for desegregated accounts to aid comparative competition?
- What are the requirements for publication of financial information and performance standards?
- What reports will be used to verify the tariff rate?
- Will the regulator require audits by an independent auditor? What auditing procedures will be used to confirm the tariff cost components?
- What technical information will the concessionaire be required to report? Typical requirements include:
  - -Volumes (forecasts, production, distribution, amounts sold and bought, the number and types of customers).
  - -New works and major maintenance completed and new connections.
  - -Emergency repairs made.
  - -New installations.
  - -Meters installed and repaired and the allocation of the costs between the concessionaire and users.
  - -The results of laboratory tests of water and wastewater samples.
- What financial information will the concessionaire be required to report? Some typical requirements:
  - -Accounting for the expenditures listed above.
  - -Income from water sales and sewage treatment (tariff income, bulk sales, or both) and revenues from major customers.
  - -Historical and projected income trend analysis.

-Overdue and delinquent payments, by type of customer—residential (single and multifamily), commercial, industrial.
-Annual financial statements—profit and loss and income statements and a balance sheet in the format required by the regulatory body.

How will assets be transferred to the concessionaire?

- Who has good legal title to the assets to be transferred?
- What assets will be included in the concession? Are they sufficient to enable the concessionaire to provide the required services? Does the transfer include all necessary buildings, machinery, plant, equipment, fixtures, materials, land, waterways, wells, rights of way, and access rights?
- Will the infrastructure and operating assets be split between different entities?
- To what extent can the assets be replaced, disposed of, and encumbered during the life of the concession? Can lenders be granted first-ranking security?
- Will the grantor enter into direct agreements with the lenders for remedies in the event of termination?
- Can security be created over the concession itself?
- How will transfer of the assets at the expiry of the agreement be handled?
- How will the value of assets, tangible and intangible, be determined?
- Can the concessionaire use the assets as security in a sale-leaseback or other lease financing structure?
- Can security be created over the insurance policy and insurance proceeds?
- Will the condition of the assets be assessed before the parties enter into the concession contract?
- If renovation and improvement (as opposed to maintenance in present condition) is required, will there be an asset management plan?
- Will the concessionaire be allowed to dispose of redundant assets, such as service reservoirs? Will approval be required for the allocation of the sales proceeds?

The complexities of asset transfer in the transition economies

Asset valuation and transfer is often particularly problematic in the former East Bloc countries. Property records tend to be minimal, and they often do not correspond to the water infrastructure. The spotty records of formerly state-owned utilities make establishing contractual arrangements and security over the assets difficult. And governments sometimes have to contend with restitution issues.

Privatization can add complexity. It is increasingly common for privatization to split infrastructure assets (such as water and sewage treatment plants and pipes) and operating assets (such as administrative buildings and tankers) between different entities, as occurred in a recent water privatization in the Czech Republic. So it is important to ensure that the entity granting the concession has legal title to the assets being transferred to the concession company.

What consents are required?

- Are consents needed for the supply of potable water, disposal of sewage and sludge, imports of materials and equipment, and employment of foreign personnel? Are competition law and environmental consents required?
- Who is responsible for obtaining the necessary consents, approvals, and permissions?
- How much support will the grantor offer in obtaining such permissions?
- What will happen if approvals are delayed or denied?
- Is there any time limit for applying for consents and approvals?
- What will happen if the approving authority attaches conditions to the issuance or renewal of consents and approvals?
- Are the permits and consents of sufficient duration?
- Have all necessary local and national consents been obtained?

Who will be responsible for environmental liabilities?

- Who will be responsible for any contamination of raw water supplies?
- Who will be responsible for the satisfactory disposal of sewage and sludge?
- Who will be responsible for past liabilities relating to the operation of the water and sewerage services?
- Who will be responsible for any environmental liabilities attached to the assets to be transferred?
- If when the assets are transferred, operating practices cannot immediately be altered—as is often the case with such assets—who will be responsible for liabilities arising from such practices? Is an "environmental holiday" appropriate?

Dealing with environmental liabilities in the Czech Republic

The Czech Republic has severe environmental problems and environmental liability issues have blocked the progress of many privatization projects. To deal with these problems, a special government resolution was passed providing for environmental indemnification when assets are privatized. In preparing for a concession, it is important to analyze the extent to which environmental liabilities are being transferred along with the assets.

How will disputes be resolved?

What will be the jurisdiction for dispute resolution?

- Are the judgments of the chosen forum enforceable against all the parties?
- What is the appropriate method for resolving disputes—arbitration, court proceedings, appointment of experts, or alternative dispute resolution?
- If arbitration is chosen, which international rules should apply—those proposed by the International Center for Settlement of Investment Disputes (ICSID), the International Chamber of Commerce (ICC), or the United Nations Commission on International Trade Law (UNCITRAL), or other rules?

- Are all the parties from countries that are signatories of the New York Convention on the Enforcement of Arbitral Awards, which provides for reciprocal enforcement of international arbitration awards?
- What are the local legal provisions in the countries in which the parties are resident regarding enforcement of such awards?

What will be the governing law?

- What are the advantages and disadvantages of the choice of law?
- Is the governing law other than the law of the country in which the dispute resolution proceedings are taking place recognized in the proceedings?

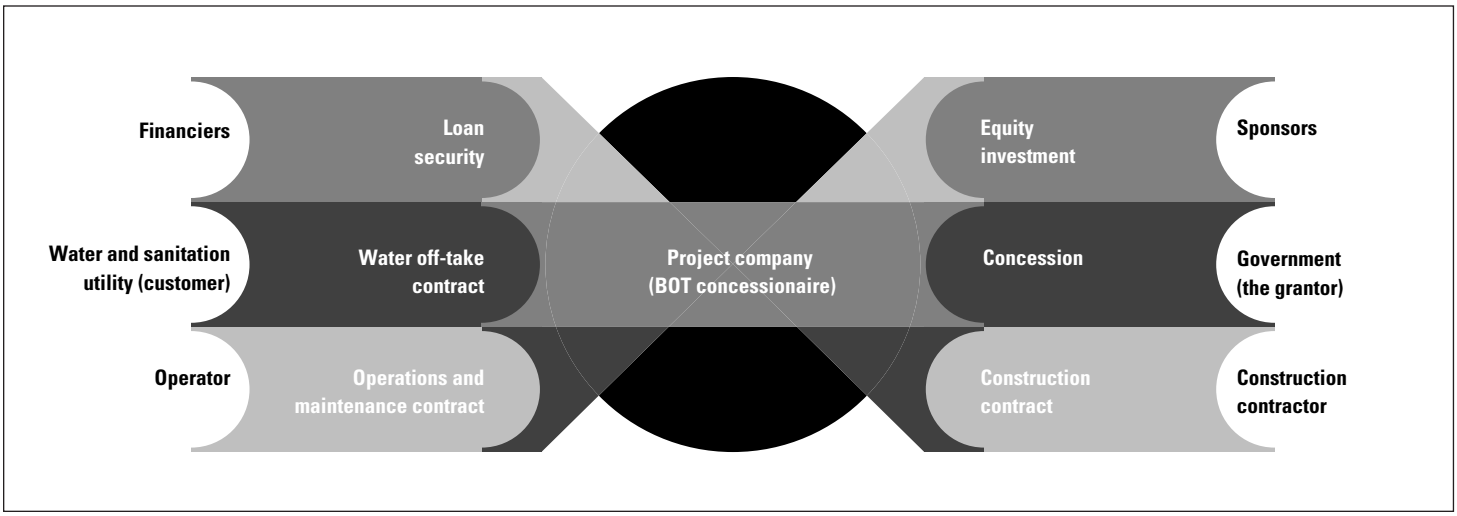
Scenario

The systems for supplying bulk water and treating wastewater cannot keep pace with demand—new capacity is needed. The water distribution and sewage collection systems are functioning well, however, with low physical and commercial losses. And tariffs allow full cost recovery—or could readily be raised to a level at which they would. These are conditions conducive to private sector involvement, a possibility for which there is reasonable political support. So the public authority turns to the private sector to provide the new capacity needed by constructing and operating a new plant for bulk water supply and sewage treatment on a greenfield site—under a build-operate-transfer (BOT) arrangement.

Who are the parties to the contract?

A typical BOT arrangement involves multiple relationships and contracts (see figure 1).

Figure 1
Typical project structure



The grantor

- Is the grantor the government, a state-controlled entity, a ministry, a municipality or several municipalities, an association of municipalities, an independent regulator, or another entity? How many of these entities should be parties to the contract?
- Are any of the relevant assets to be transferred under the concession owned by different parties? If so, should two or more parties grant the concession?
- Which entity has the power to grant permission to provide the water and sewerage services?

What is the authority of the grantor and the legal basis of the BOT concession?

- Does the grantor have the power to grant the BOT concession, enter into the project agreements, and perform its obligations?

- What is the legal basis, statutory or otherwise, for the BOT arrangement?
- Will the grantor accept responsibility for ensuring passage of necessary laws by the legislature?
- Can the BOT arrangement be reviewed, or overridden, or withdrawn, and if so, what options does the BOT concessionaire have?
- What type of entity is granting the BOT concession, and what happens if that entity winds up, becomes insolvent, has a receiver appointed, or is otherwise dissolved?
- Does the legal basis for the BOT arrangement provide sufficient certainty for the project and security that financing can be raised?
- Is the agreement ambiguous in any way?
- Is there an independent regulator for water and sewerage services? If so, what powers does the regulator have to affect the terms of the BOT arrangement?
- How are powers relating to the supply of water and sewerage services divided between national and local bodies?

The BOT concessionaire

- What type of entity should be used as the BOT concession vehicle—a local company, a partnership, a limited partnership, a joint venture?
- What are the tax and other consequences—such as for limited liability, management control, minority rights, and foreign exchange—of the choice of project vehicle?
- What will be the timing for creating the project vehicle?
- Does the grantor require a guarantor to be a party to the BOT arrangement?
- If a sponsor is not a party to the BOT concession, what other forms of sponsor support may be required—comfort letters, undertakings, guarantees, letters of credit, subordinated loans?
- What is the relationship between the project company and the other parties to the transaction, including the lenders, sponsors, project managers, construction companies, operating companies, insurers, and export credit agencies?
- How will conflicts of interest between sponsors be dealt with? Is a shareholders agreement appropriate?
- Does the agreement fully account for any restrictions on foreign ownership or participation?

What are the object and scope of the BOT arrangement?

- What are the concession area and limits?
- Will the BOT operator be granted exclusivity? If not, will the grantor undertake to not grant similar contracts or to prevent third parties from acquiring similar rights during the life of the BOT arrangement?
- What services will be provided under the BOT arrangement?
- Is the BOT arrangement flexible enough to allow amendment as circumstances change?
- Will the grantor impose restrictions on the BOT concessionaire's ability to build or improve infrastructure that is not part of the project?

What is the area to be served?

- Can the area be expanded during the lifetime of the concession?
- Is a map of the area annexed to the agreement?
- How will the infrastructure interface and interconnect with other water and sewerage systems?
- Will there be exclusivity of supply?
- What is the interface with other utilities?

What is the duration of the BOT arrangement, and what might lead to early termination?

- Is the duration long enough to make the project "bankable"—that is, to allow repayment of loans from the revenue stream from customers?
- Can the grantor change the duration of the contract? In particular, can the contract be extended, and if so, how? If the contract is extended, can the public authority amend it?
- Does the BOT period include construction time? If not, what happens if there are delays in construction?
- Is the duration contingent on certain events?
- What conditions apply upon expiry, and will they be set out in the BOT contract or imposed later?
- What factors would allow the grantor to extend the BOT concession? Typical factors are force majeure events, political risk events (disruption of construction, strikes), delays caused by the grantor during construction or operation, and operating problems that are beyond the control of the BOT operator but not force majeure events (lack of appropriate materials and supplies).

What are the obligations of the BOT operator?

BOT contracts contain many detailed requirements on the services to be provided, typically set out in an annex. These requirements might cover:

- Quality targets—water quality, industrial discharges, treatment and disposal of sewage.
- Pressure.
- Continuity.
- Coverage.
- New connection.
- Suspension and reconnection of service.
- Condition of assets.
- Leakage and use of water resources.
- Compliance with regulations and codes of practice (relating to all the above).
- Use of appropriate water and sewage treatment technology.
- Quantity of water to be supplied.
- Obligations in the event of emergencies (approval, cost, and reimbursement guidelines).
- Compliance with health and safety standards.
- Operational standards.

To monitor the BOT operator's performance in meeting these requirements, the grantor may wish to have some or all of the following rights:

- The right of access to the site and equipment.
- Supervisory control to regulate further investment and capital expenditure.
- The right to approve subcontracting for financing, construction, and operation.
- The right to approve all replacements, cancellations, and modifications of insurance policies and guarantees.

In defining such rights, a careful balance needs to be struck between conferring on the grantor the ability to monitor and enforce the spirit of the concession in the interest of consumers and ensuring that the BOT concessionaire has the scope and incentives to deliver services efficiently, without undue interference.

Who is responsible for billing customers?

- Who is responsible for collecting water and sewerage fees?
- How will nonpayment be dealt with?
- What authority will the contractor have to collect delinquent payments and enforce user sanctions?
- What regulations cover reconnection for delinquent users who have paid their debts to the utility? How will the government monitor compliance?

Who is responsible for capital investment?

- Who will decide on investments in maintenance, repair, and upgrading of the system and construction of new infrastructure, and who will be responsible for carrying them out?
- Who is responsible for planning, coordination, supervision, and implementation of capital expenditure?
- What formulas will be used for asset depreciation to ensure that the BOT operator is adequately compensated at the end of the concession?
- What are the procurement procedures for new investment? For example, is competitive bidding required for pipes and supplies over a certain size, and is there a reimbursement schedule for pipes and supplies under a certain size?
- Is competitive tendering required for any subset of works?
- What are the obligations and responsibilities relating to capital expenditure for major water and sewerage facilities and distribution and collection networks?
- Who is responsible for meeting requests from other government agencies for the extension, relocation, or provision of water and sewerage networks?
- How will new construction be financed—from retained earnings from fees, by direct government grants, by the operator, or from a combination of sources?
- If the government pays for new construction, how will it disburse the funds? Will it reimburse the BOT operator upon presentation of invoices or advance it funds? Who will monitor the construction? Will the monitoring agent approve invoices before payment?

How much debt and equity will be put into the project?

- How much equity should be contributed to the project vehicle to ensure that lenders will provide finance?
- What shares of equity will the parties contribute—and when?
- Is the equity sufficient to meet any required debt-equity ratios?
- What debt on any existing facilities will be assumed by the BOT concessionaire?
- Will the shareholders agreement require the parties to retain their shares for a minimum period, such as until construction is completed?
- How will tariff revenues be distributed? Will different classes of debt and equity have different priority for receiving revenue distributions?

What are the technical specifications?

- What quality of materials will be used?
- What safeguards will the private contractor have against change in specifications?

While some technical specifications are essential to ensure that repairs and equipment last for an acceptable period, overspecification works against innovation and efficiency. Where possible, attention should be focused on specifying outputs, not inputs—that is, specifying the performance expected, not how to achieve it.

Lenders' rights in BOT concession contracts

BOT contracts are often developed without a good understanding of lenders' requirements. Even though lenders often provide more capital for water and sewerage projects than the private sector participant, their interests are seldom considered until after the contract is awarded and its terms and conditions negotiated with the concessionaire. The result can be significant delays in financial closing, as lenders often require substantial changes to the concession contract to protect their interests.

To ensure that they have a secure interest in the project assets and that the concession contract allows them to attach or control this security, lenders will require that the contract include clauses that clearly define the concessionaire's ability to assign them project assets (tariff revenues, property mortgages, leases). In some cases the lenders may require the right to approve a transfer or sale of shares in the project company although this right is covered in the shareholders agreement and is not necessarily included in the concession contract.

Lenders will also review the clauses in the concession contract that affect the project's ability to generate tariff revenues. As a first step, they will ensure that the facility that generates the tariff revenues is built on time and within budget and is operated properly, usually by appointing an independent engineer to review construction progress and operating efficiency. Lenders may also be given the right to request changes in the concessionaire's contractors, including its operating contractor. This usually occurs when, in the lender's opinion, the contractor cannot comply with the terms of the contract and the noncompliance will substantially increase the project's cost.

The lenders will also want to ensure that the tariff collection and adjustment mechanism protects their interest in tariff revenues. They will carefully review the contract clauses on the regulatory procedures for tariff collection and adjustment, especially the conditions that allow for special adjustments, such as a change in environmental law or a significant shift in macroeconomic conditions.

The concession contract must also address default situations, such as when the borrower is unable to make a loan payment on time or declares bankruptcy. The contract should allow the lender to step in and assume control of the concession until the default event is remedied or the lender appoints a substitute concessionaire. The concession contract should allow the substitute to enter into the same contract. That gives the lender control—and the ability to improve management, company profitability, and thus the chances of loan repayment.

What are the obligations of the grantor?

What are the responsibilities of the grantor with regard to the supply of raw water and the use of off-take contracts?

- To what extent can revenues be guaranteed by the off-take contracts?
- Who will enter into the off-take contracts?
- What is the credit status of the off-take contractor?
- Who has legal rights to the raw water?
- What are the arrangements relating to the supply of raw water?
- Is the supply of raw water sufficient and guaranteed?
- How will changes in the quality of raw water affect the quality standards for treated water?
- How will the quality of bulk water be measured?
- What are the provisions relating to increases in and liability for untreated wastewater contaminants?
- Who is responsible for changes in the quality of raw water?

What are the key regulatory provisions?

There is wide variation among both concession arrangements and BOT arrangements. But these two options for private sector participation are clearly distinguished by how they assign responsibility for investment in infrastructure, particularly new facilities and systems.

In the traditional concession model the concessionaire is responsible for the operation, maintenance, and management of water and sewerage services as well as for capital investments to expand services. The fixed assets are entrusted to the concessionaire for the life of the concession contract but remain the property of the government or public authority and must be returned in the same condition at the end of the contract.

Under a BOT contract a firm or consortium builds, owns, and operates a new facility or system and then, after an agreed period, transfers ownership of the facility to the public authority. BOT arrangements are used for new facilities requiring large amounts

of financing, such as water or wastewater treatment plants, while concession arrangements are used for existing infrastructure that needs to be maintained and upgraded. Because of these characteristics, BOT arrangements need to:

- Ensure that construction and its quality fit the purpose for which it was intended and the ability of end users to pay. This is best done through realistic contract specification and a bidding process.
- Include mechanisms to allocate responsibility for cost overruns (few schemes are built at the bid cost) and for unexpected costs (such as riots, union problems, and government changes to specifications). There must also be an appeals procedure for disputes over cost allocations.
- Ensure that the operating period allows adequate returns on the capital invested. This requires provisions for resolving problems when the price paid by the public sector for raw water and treatment is below contract expectations.

What are the arrangements for tariff design and uprating?

- Are the rules for establishing the level and structure of tariffs clear?
- Are there requirements to implement lifeline tariffs or to provide services free of charge, for example, to firefighters?
- Does the contractor have the freedom, within specified limits, to vary the tariff structure and cost allocation across the customer base?
- What are the procedures for raising tariffs?
- Does the contractor have the freedom to introduce peak tariffs and drought surcharges to manage demand?
- What costs can be charged to customers for meter installation and over what period?
- Where there are both metered and unmetered customers, what rules will ensure that billing is equivalent?
- What is the tariff formula for sewage treatment of nonstandard effluents?
- What method will be used to incorporate the cost of new construction into the tariff structure?
- Is the operator responsible for collecting all tariffs, connection fees, delinquent payments, penalties, and any other rates and charges?
- Will the tariffs be remitted to the government or retained by the operator?
- How will depreciation and taxes be treated in the rate structure?
- What is the allowable rate of return on capital, and what mechanisms will be used to determine it—to avoid gold-plating and encourage efficiency?
- What are the cost pass-through rules?
- Is the methodology for setting tariffs compatible with the way water consumption is measured?
- Is the tariff setting schedule based on fixed and variable rate costs? If so, what accounting basis will be used to determine operating and maintenance costs and capital costs?
- For the variable rate component of the cost structure (based on volume of water used), will the government guarantee a minimum quantity of water? Will it guarantee growth in consumption? At what rate?
- Which capital, operating, and maintenance cost components of the tariff will be used to adjust it—payroll, utilities, supplies, overhead, other operating costs (taxes,

meter repair, regulatory fees, interest on debt)? How will taxes and depreciation be calculated, and how will they be included in the tariff cost structure? What inflation indices will the government use to adjust the coefficients? How often will the coefficients be adjusted—monthly, quarterly, annually, or every several years?
- How will the government calculate the base rate? (The base rate is the basic capital facility charge, which includes the cost of leasing any assets from the government and the cost of new construction to expand the facilities.)
- If the tariff adjustment method inflates individual cost components, is a locally published index available for each component?
- Will the tariff also be adjusted for changes in foreign exchange rates? If so, what foreign exchange index will be used, and where and how often is it published?
- What are the "trigger events" that will allow the BOT operator to adjust the tariff? Typical trigger events include significant variations in reference volumes, a change in the concession area, significant inflation requiring more frequent adjustments, changes in tax and depreciation laws, changes in the water supply contract, and changes in environmental regulations relating to water quality.
- Are the guidelines for tariff rate appeals to the regulatory authority clear and unambiguous?

What are the arrangements for renegotiation?

- What constitutes a material change requiring renegotiation of contractual terms rather than simply a cost pass-through?
- Who can request renegotiation of the contract?
- How often can renegotiation occur?
- What extensions to the contract—such as adding treatment works or a new service district—allow or require retendering the contract?

Incumbent contractors will undoubtedly have an advantage when retendering for the contract. But to maintain competitive pressures "for the market," nontransparent recontracting agreements should be ruled out and proper provisions made for retendering. To minimize disadvantages for new tenderers, explicit rules need to be established requiring disclosure of certified information.

How will responsibilities and liabilities be allocated between the public sector and the private contractor?

- Which assets are included with the BOT concession (and therefore on termination revert to the grantor), and which belong to the concessionaire?
- What are the compensation rules for public sector failure? And are there safeguards for the public sector if inadequate supplies to customers result from private sector failure to maintain the system?
- Who is responsible for allowing new connections to the water and sewerage system and liable if such connections result in failure to meet such performance standards as supply security and pressure?
- Who is responsible for land drainage and liable when interconnections between surface water and foul water systems cause foul water flooding and exceed the sewage treatment plant's capacity?

Safety net rules

- What is the financial liability of the operator?
- Who is liable for financial default?
- Are there alternative suppliers?

- Who is responsible for allowing new connections to the sewerage system that introduce waste components untreatable at current facilities and for indemnifying the contractor from resulting failure to meet treatment standards?
- What compensation rules apply if the public sector permits connections that ruin the ability of the treatment plant to process normal waste?
- Who has the operational and financial responsibilities for routine system maintenance (as opposed to system renovation, which can involve considerable capital expenditure)?
- Is there a clear dividing line between system maintenance and system renovation? What are the safeguards for the private contractor if inadequate financing results in failure to meet performance standards or targets?
- What are the safeguards for the private operator if nonpayment or noncollection delays payment of the BOT concession fee?
- Who is responsible for ensuring access to assets and customers' premises to effect repairs, read meters, and the like, and who is liable for any damage—to roads, for example—that results from such access?
- Who bears the cost for damage arising from unlawful discharges to the sewerage system or for disputes stemming from such discharges?
- Who is responsible for managing the allocation of raw water, including the use of boreholes?

How will key risks be managed?

Does the agreement provide a fair balance in allocating risk between the parties?

Long-term contractual relationships inevitably involve risk. Careful design of contracts and regulatory arrangements can help both reduce the level of risk and ensure that any remaining risks fall on the party best able to manage them. (These issues are taken up in more detail in the section below on key risks.)

Who is responsible for construction risk?

- Who is responsible for delays in construction and higher-than-expected construction costs? Is there a fixed price turnkey contract with the construction contractor under which that contractor assumes those risks?
- What is the scope of the construction work and of the specifications for project infrastructure? Is there an annex for this information?
- What is the mechanism for changing the specifications?
- What warranties will be provided relating to the infrastructure construction?
- What completion and testing procedures will be used?
- What is the timetable for construction?
- Are there restrictions on subcontracting with third parties for financing, construction, and operation?
- Who will be responsible for site surveys, ground and geotechnical investigations, utility surveys, land issues (restrictive covenants and easements), and environmental surveys?
- Who will purchase land for the laying of pipes?
- Who will be the project manager?

- How will any necessary acquisition of land affect the timetable for construction?
- What are the development risks?
- Who will finance construction cost overruns, and what assurances will lenders have that the funds will be available when required?
- What type of financial support will the government provide for new construction? If the government contributes direct grants, will it require the BOT concessionaire to establish a separate construction fund account? Will the BOT concessionaire be required to match the government's deposits to this account? Who will manage the account and approve disbursements for construction?
- Is there joint and several completion liability among the construction contractors and subcontractors, and equipment suppliers and subcontractors?
- Who will monitor construction, approve contractor invoices, and provide commissioning and completion certificates? Will the BOT arrangement allow creditors or the grantor to undertake these activities?
- Will the government require the BOT concessionaire to establish a construction reserve fund, major repair and replacement fund, operating fund, and rate stabilization fund?
- Will planning approvals be required? Who is responsible for obtaining planning approvals and permits?
- Who is responsible for purchasing the land for the BOT project and providing a vacant site free of utilities, structures, and other encumbrances?
- Will the BOT concessionaire pay liquidated damages to the grantor if it causes a construction delay, or is this risk covered in the construction contract (and is it a joint and several liability with subcontractors)?
- Will the construction contract include contractor incentives?
- What percentage of the total project value will the BOT concessionaire be required to secure with a performance bond?
- Is competitive tendering required for any subset of works?
- What are the obligations and responsibilities relating to capital expenditure for major water and sewerage facilities?
- Who is responsible for meeting requests from government agencies for the extension, relocation, or provision of water and sewerage networks?
- How will new construction be financed—from retained earnings from fees, by direct government grants, by the operator, or from a combination of sources?

Who will take the operation and maintenance risk?

- Who will distinguish between routine maintenance expenditures and capital expenditures?
- Is there joint and several operating liability among the operating contractor and subcontractors?
- What sanctions and penalties would the BOT concessionaire face for noncompliance with environmental and other regulations?
- Will the BOT concessionaire have incentives for improving productivity? What method will be used to measure productivity improvements?

What are the political risks?

- How stable is the country?
- Will export credit agencies give guarantees against political risk?
- Is insurance available?

What is the revenue risk?

- How secure is the cash flow?
- Is the cost to the customer of water and sewerage services reasonable?
- If the government provides support for the project, what form will that support take?
  -Minimum revenue guarantees or undertakings.
  -"Shadow tolls" payable during the construction phase, when no fees can yet be charged to customers.
  -Standby equity or subordinated debt to meet revenue shortfalls.
  -Tax privileges.
  -Duty exemptions for imports of capital equipment.
  -Assurances on the availability of foreign exchange and the exchange rate with foreign currencies relevant to the project, free transfer of funds, or interest rate guarantees.
  -Arrangements for increases in tariffs, such as index linking in the concession contract and review by an independent regulator.
  -Minimum water consumption or purchase guarantees.
  -Coverage of delinquent user payments.
  -Capital grants and loans, lines of credit, or letters of credit.
- What are the legal and administrative mechanisms required for the government to provide this additional support?
- What assurances will creditors have that the government can comply with the guarantees?
- Are the government guarantee provisions in the contract enforceable, or will a special legal opinion be required to assure that contract clauses are enforceable under the country's law and under international law?
- Will the government provide other revenue sources to secure debt besides tariffs? What reassurances will investors require in the BOT contract that the additional government revenues will be available for timely debt service payments by the BOT concessionaire?
- Will the government provide a guarantee for a minimum amount of new works per year, including any additional government revenue sources required to complete these works?
- What is the priority distribution of tariff revenues to lenders (senior and subordinated), debt service, foreign exchange fund, repair and replacement fund, rate stabilization fund, and operating reserve fund?
- Will there be any financial covenants, such as minimum debt service coverage ratios for senior and junior debt? What are the rate covenants requiring the concessionaire to increase tariffs to maintain a minimum debt service coverage ratio?
- Who will be responsible for paying penalties for noncompliance with environmental regulations in the event of deterioration in the quality of wastewater influent?

- What failures by the BOT concessionaire to meet its obligations will lead to possible sanctions? Noncompliance with standards for water quality, quantities, and pressure? Disruptions in supply? Noncompliance with environmental regulations? Failure to submit technical and financial reports?
- How are penalties to be determined? What are the payment terms? Is there a grace period for payment? Are there interest penalties for payments more than 30 days late? Under what conditions may the regulator waive or allow a delay in payment? If paying a penalty meant that the BOT concessionaire would be unable to make a debt service payment, for example, would payment be waived or postponed?
- Will the BOT concessionaire maintain segregated debt service accounts for principal and interest payments?
- What type of sponsor guarantee will the BOT arrangement require—a construction completion guarantee, performance guarantee, debt service guarantee for senior bonds or loans, shareholder loan guarantee?
- Will the BOT concession require business interruption insurance (to provide coverage in the event that the project is shut down and revenues are not generated)? Is this type of insurance available in the local or international market?
- Will the government guarantee the cost of inputs controlled by government entities, such as electricity and water supply?
- Will the BOT arrangement facilitate the development of off-take contracts that are favorable for private financing?
  -Will the arrangement allow price breaks and adjustments in the off-take contract?
  -Will it allow price escalation—and how frequently?
  -What special events will trigger price changes in off-take contracts—for example, changes in water supply conditions or unexpected growth in competing service areas?
  -Will the off-take contract include carry-forward clauses that preserve water purchase rights?

What is the regulatory risk?

- Is there an independent regulator?
- What limits are placed on the regulator's discretion?
- What are the procedures for appealing regulatory decisions?
- What compensation or cost pass-through arrangements are there to safeguard the BOT concessionaire from shifts in regulatory ground rules?
- To what extent must the economic regulator make allowance for or coordinate with other regulators in setting environmental and public health standards?

How will performance be measured and monitored?

Performance measurement and monitoring should focus on the achievement of targets, rather than on the technical details of how the targets are achieved.

What are the requirements for provision of information to the regulator or grantor?

- Will the BOT concessionaire provide information as may be reasonably required by the regulator or grantor? What is the definition of reasonable?
- What are the mechanisms for independent verification of financial data, data on the condition of assets, and the achievement of performance targets?
- What are the provisions for market testing when the contractor subcontracts tasks or purchases services from associated companies?
- What is the goal of contract information requirements?
- What access will the regulator or grantor—or the agent of the regulator or grantor—have to assets and records?
- Who will pay for independent financial auditors and technical auditors (reporters), and who will be responsible for their selection and training?
- What are the "ring-fencing" provisions, transfer pricing checks, and market-testing arrangements (where the concessionaire is a diversified company)?
- What are the provisions for submission of regulatory accounts and program performance data and for desegregated accounts to aid comparative competition?
- What are the requirements for publication of financial information and performance standards?
- What reports will be used to verify the tariff rate?
- Will the regulator require audits by an independent auditor? What auditing procedures will be used to confirm the tariff cost components?
- What technical information will the BOT operator be required to report? Typical requirements include:
  -Volumes (forecasts, production, distribution, amounts sold).
  -New works and major maintenance completed; new connections.
  -Emergency repairs made.
  -Special requirements and new installations.
  -The results of laboratory tests of water and wastewater samples.
- What financial information will the BOT operator be required to report? Some typical requirements:
  -Accounting for the expenditures listed above.
  -Income from water sales and sewage treated.
  -Historical and projected income trend analysis.
  -Annual financial statements—profit and loss and income statements and a balance sheet in the format required by the regulatory body.

How will assets be transferred to the BOT operator?

- Who has good legal title to the assets to be transferred?
- What assets will be included in the BOT arrangement, and are they sufficient to enable the BOT operator to provide the services set out in the BOT contract? Does the transfer include all necessary buildings, machinery, plant, equipment, fixtures, materials, land, waterways, wells, rights of way, and access rights?
- Will the infrastructure and operating assets be split between different entities?
- To what extent can the assets be replaced, disposed of, and encumbered during the life of the BOT arrangement? Can lenders be granted first-ranking security?
- Will the grantor enter into direct agreements with the lenders for remedies in the event of termination?
- Can security be created over the BOT contractual arrangements themselves?

- How will transfer of the assets at the expiry of the agreement be handled?
- How will the value of assets, tangible and intangible, be determined?
- Can the BOT operator use the assets as security in a sale-leaseback or other lease financing structure?
- Can security be created over the insurance policy and proceeds?
- Will the condition of the assets be assessed before the parties enter into the contract?
- If renovation and improvement (as opposed to maintenance in present condition) is required, will there be an asset management plan?
- Will the BOT operator be allowed to dispose of redundant assets, such as service reservoirs? Will approval be required for the allocation of the sales proceeds?

What consents are required?

- Are consents needed for the supply of potable water, disposal of sewage and sludge, imports of materials and equipment, and employment of foreign personnel? Are competition law and environmental consents required?
- Who is responsible for obtaining the necessary consents, approvals, and permissions?
- How much support will the grantor offer in obtaining such permissions?
- What will happen if approvals are delayed or denied?
- Is there any time limit for applying for consents and approvals?
- What will happen if the approving authority attaches conditions to the issuance or renewal of consents and approvals?
- Are the permits and consents of sufficient duration?
- Have all necessary local and national consents been obtained?

Who will be responsible for environmental liabilities?

- Who will be responsible for any contamination of raw water supplies?
- Who will be responsible for the satisfactory disposal of sewage and sludge?
- Who will be responsible for past liabilities relating to the operation of the water and sewerage services?
- Who will be responsible for any environmental liabilities attached to the assets to be transferred?
- If when the assets are transferred, operating practices cannot immediately be altered—as is often the case with such assets—who will be responsible for liabilities arising from such practices? Is an "environmental holiday" appropriate?

How will disputes be resolved?

What will be the jurisdiction for dispute resolution?

- Are the judgments of the chosen forum enforceable against all the parties?
- What is the appropriate method for resolving disputes—arbitration, court proceedings, appointment of experts, or alternative dispute resolution?
- If arbitration is chosen, which international rules should apply—those proposed by the International Center for Settlement of Investment Disputes (ICSID), the

International Chamber of Commerce (ICC), or the United Nations Commission on International Trade Law (UNCITRAL), or other rules?

- Are all the parties from countries that are signatories of the New York Convention on the Enforcement of Arbitral Awards, which provides for reciprocal enforcement of international arbitration awards?
- What are the local legal provisions in the countries in which the parties are resident regarding enforcement of such awards?

What will be the governing law?

- What are the advantages and disadvantages of the choice of law?
- Is the governing law other than the law of the country in which the dispute resolution proceedings are taking place recognized in the proceedings?

Scenario

A management contract might be chosen as a means of improving operational efficiency in a mature water and sanitation utility, where there is no need for substantial new investment, or where there is insufficient political support for moving to a lease arrangement (in which the private sector would take on commercial risk).

More often, however, management contracts are seen as an initial step toward more substantial private sector involvement in countries or cities where initial conditions are not conducive to private sector investment and risk-taking because, for example:

- The information available about the state of the system is poor.
- Tariffs are below cost recovery levels and can be raised only slowly, and there are no government budgetary resources for substantial subsidies.
- The government lacks the capacity to administer a complex arrangement for private sector participation over the long term.
- The government has no track record as a regulator, or a poor one, and there is no credible regulatory framework.

In such cases a management contract can allow gains in the efficiency of service delivery and in the quality of services, and provide a "window" during which deficiencies in the regulatory framework can be remedied and information about the system improved.

Who are the parties to the contract?

Who owns the assets to be operated and maintained, and who can grant the management contract?

- Are the water and sewerage infrastructure and the operating assets split between different parties? If so, who should be parties to the contract?

What are the object and scope of the management contract?

- Does the management contract include:
  - -The production and transport of drinking and nondrinking water and the supply of water to consumers?
  - -The collection of sewage from customers, including the pumping, purification, treatment, and discharge of sewage and the disposal of sludge and waste?
  - -The collection, transport, and evacuation of rain water runoff and wastewater—and their treatment, if applicable?
  - -The maintenance of the water distribution and sewerage networks, pumping stations or potable water treatment plants, wastewater treatment plants, and all installations constituting service assets?
  - -Renewal of installations, pipes, and plant relating to the water and sewerage services?
  - -The construction of private connections and pipeworks?
  - -Responsibility for the technical, administrative, financial, and commercial aspects of the water and sewerage services?

- Are the water and sewerage services to be provided described in sufficient detail?
- Do the operation and maintenance obligations require the operator to guarantee that it will meet specified standards or merely operate "with a view to ensuring" that the project achieves these standards?
- Is the operator to be granted exclusivity in operating the water and sewerage services?
- Is the management contract flexible enough to allow amendment as circumstances change?

What is the area to be served?

- Can the area be expanded during the lifetime of the contract?
- Is a map of the area annexed to the contract?
- How will the infrastructure interface and interconnect with other water and sewerage systems?
- Will there be exclusivity of supply?
- Will water and sewerage be provided by different entities?

What is the duration of the contract?

- Can the grantor change the duration of the contract? In particular, can the contract be extended, and if so, how? If it is extended, can the public authority amend it?
- Is the duration of the contract contingent on certain events?
- What conditions apply upon expiry and will they be set out in the contract or imposed later?
- What factors would allow the grantor to extend the contract? Typical ones are force majeure events, political risk events (disruption of construction, strikes), delays caused by the grantor during construction or operation, and operating problems that are beyond the control of the operator and are not force majeure events (lack of appropriate materials and supplies).
- When do the operator's obligations begin?

What are the rights and obligations of the operator?

- Will the grantor of the management contract be given the right to substitute itself for the operator in contracts with third parties?
- What are the security, safety, environmental, and public health requirements that the operator must comply with?
- What warranties will be given by the parties?
- Will the operator be given free and safe access to the site and public thoroughfares?
- Can the operator subcontract or delegate its obligations?
- Will the operator be required to give a guarantee or performance bond?
- How are the operating and infrastructure assets to be provided to the operator for its use?
- Will the operator acquire any rights relating to these assets?
- Is there an inventory of assets to be handed over to the operator?
- Will there be any leasing arrangement relating to the operator's use of assets?

- How will the assets be transferred back to the grantor at the end of the management contract?
- Who will have the right to restructure the organization, including altering terms and conditions of employment, hiring new employees, and terminating existing employees?

Who will be responsible for capital expenditure?

- Who will decide on and be responsible for maintenance, repair, and upgrading of the water and sewerage system and construction of new infrastructure?
- Will the operator be responsible for works up to a certain value?
- Do works carried out by the operator require approval?
- Is competitive tendering required for works?
- How will contractors be granted access for works, and will the operator be compensated for additional operating and management costs resulting from works?
- What are the obligations and responsibilities relating to capital expenditure for major water and sewerage facilities and distribution and collection networks?
- How will replacement equipment and spares be provided?
- If construction work is required (replacing pipes, extending water or sewerage networks, making emergency repairs), what procurement procedures must the operator follow?
- Who is responsible for meeting requests from government agencies for the extension, relocation, or provision of water and sewerage networks?
- Will the operator have any expenditure limits for major maintenance?
- How will new construction be financed—from retained earnings from fees, by direct government grants, by the operator, or from a combination of sources?
- If the operator finances construction, will the government provide lines of credit or working capital loans? What are the terms and conditions of the credit lines or loans?
- Does the law allow each funding provider to furnish funds to a private operator?
- Will the government offer financing, grants, or other support to users to pay for private connections and pipes? Will the operator be responsible for connecting new users to the system? If so, how will the operator recoup its costs—through tariff rates, installment payments, or lump sum payments? What recourse does the operator have if a user does not pay?
- How are payments to be made to the operator for new construction?
- If the operator is responsible for new construction, what procurement procedures will it have to follow in awarding the contract? Will it be required to award the contract to the lowest, most responsible bidder? Will payment be on the basis of cost reimbursement plus a fixed fee? Will the cost be incorporated into the tariff rate?*
- If the government pays for new construction, how will it disburse the funds? Will it reimburse the operator on the presentation of invoices or advance it funds? Who will monitor the construction? Will the monitoring agent approve the invoice before payment?

* Recovery of capital expenditures through increases in tariff rates is more common in concession contracts, although it can also be specified in a management contract.

- How will the government charge residential, commercial, and industrial users for direct connections—through cost reimbursement or by incorporating the cost into the tariff?

Dividing responsibility for water supply in Guinea

Water supply in Guinea's capital, Conakry, and in sixteen other towns in the country is managed under a lease contract. Two organizations are central to the lease arrangement: a state-owned national water authority, SONEG, and a water management company, SEEG, which is jointly owned by the government and a foreign private consortium. SONEG owns the water supply facilities in the towns covered by the lease and is responsible for sector development, including planning and implementing new investments, servicing debt, and setting tariffs. SEEG is responsible for operating and maintaining urban water supply facilities, billing customers, and collecting fees. The private partner provides management services to SEEG through a separate management contract.

The lease arrangement has improved both efficiency and coverage. But it has also led to a number of disputes about who bears responsibility for increasing connections and reducing water losses. SONEG has attributed the slow pace in new connections to SEEG's reluctance to make connections from the existing network. Meanwhile, SEEG argues that SONEG is not expanding the network in areas where there is a demand for connections. Such disputes illustrate the difficulty of clearly delineating tasks in an arrangement that assigns responsibility for management and investment to different entities.

Who will be responsible for billing customers?

- What are the method and currency of revenue collection?
- Is the contractor responsible for collecting water and sewerage fees?
- How often will customers be invoiced?
- How will nonpayment be dealt with?
- What authority will the contractor have to collect delinquent payments and enforce user sanctions?
- What regulations cover reconnection for delinquent users who have paid their debts to the utility? How will the government monitor compliance with them?

What will happen if the operator fails to meet operating standards?

- How will customers be compensated?
- Are there provisions for changes in operating standards following changes in the quality of raw water and the flow of sewage?

What are the obligations of the grantor?

How will the operator's fee be calculated?

- Will the operator be paid by the government on a cost-reimbursable basis (the operator's cost plus a fixed fee) or according to an annual maximum budget or

other contract payment procedure—or compensated through the water and sewerage revenues collected?*

- How are operating incentives to be implemented?
- How will operating cost overruns be dealt with?
- What is the definition of operating and maintenance expenses? How will unit costs for these expenses be compiled, and what are the required reporting and auditing procedures?
- What will be the treatment of taxes and depreciation by the contractor?
- Is there a schedule of fees for other services provided by the contractor, such as engineering consulting for major works undertaken by third parties?
- If the contract is based on a maximum annual or monthly budget cap, what method will the government use to establish the annual budget? Will it negotiate unit prices, base the payment on annual audits, or make payments on a cost-reimbursable basis? If the government selects the auditing method, what accounting procedures will it use to determine unit prices for such items as payroll, utilities, chemicals, motor fuel, maintenance supplies, laboratory supplies and equipment, overhead (administration, legal fees, computer services), and construction (repair, replacement, connections)? Will it use fund accounting to aggregate expenditures (for example, operating, renewal and replacement, and investment accounts) or some other accounting method?
- Will the government require the operator to create reserve and renewal accounts? If required by the government, will these accounts be funded from tariff revenues?
- Will the government require the operator to maintain a reserve account for operations? For construction?
- If reserve accounts are required, how will they be funded? By tariffs? By government contributions? When will the operator be required to establish the operating fund, before operations, or during operations with periodic deposits?
- If reserve funds are used, what claim can be made on tariff revenues to replenish them?
- How will the government determine the annual fee paid to the contractor under a fixed fee, lump sum payment contract? How frequently will the operator invoice the government and on what basis?
- What cost components will be used to adjust the initial budget—payroll, utilities, supplies, overhead? What inflation indices will the government use to adjust the coefficients? How often will the coefficients be adjusted—monthly, quarterly, annually, or every several years?
- If the operator is responsible for capital expenditures, how will its annual budget be adjusted to accommodate the expenditures?
- How will the cost of operating new works be incorporated into the annual budget regardless of whether the government or the operator builds them? Will the same pricing method used in the original budget be used to determine the budget increase?
- What accounting method will the government use to compensate the operator for emergency repairs and operations not covered in the scope of services?

* If payment is taken directly from tariff revenues, the government must define the base tariff rate, collection of delinquent fees, and normal tariff adjustments and adustments resulting from system expansion, changes in regulations, and other factors that increase cost.

- What auditing method will be used to reconcile the budget with actual expenditures?
- Will the contract include incentives to reduce costs, such as sharing savings if actual expenditure falls below the approved budget? How will the amount of the savings be determined? From annual financial reports or audited financial reports?
- Will the operator's compensation include a management fee?
- Will the government pay the operator a fixed monthly fee based on services rendered? On what basis will the cost of these services be determined—audit, unit prices, or a one-twelfth share of the agreed annual budgeted amount? Can the contractor petition for an increase in the monthly payment? What factors (for example, unexpected increases in consumption) would allow an increase?

Who will take the operation and maintenance risk?

- Who will distinguish between routine maintenance and capital expenditures?
- Is there joint and several operating liability among the operating contractor and subcontractors?
- What sanctions and penalties would the operator face for noncompliance with environmental and other regulations?
- Will the operator have incentives for improving productivity? What method will be used to measure productivity improvements?

How will responsibilities and liabilities be allocated between the public sector and the private contractor?

- How will the security and quality of raw water supply be assured?
- What are the compensation rules for public sector failure? And are there safeguards for the public sector if inadequate supplies to customers result from private sector failure to maintain the system?
- Who is responsible for allowing new connections to the water and sewerage system and liable if such connections result in failure to meet such performance standards as supply security and pressure?
- Who is responsible for land drainage and liable when interconnections between surface water and foul water systems cause foul water flooding and exceed the sewage treatment plant's capacity?
- Who is responsible for allowing new connections to the sewerage system that introduce waste components untreatable at current facilities and for protecting the contractor from resulting failure to meet treatment standards?
- What compensation rules apply if the public sector permits connections that ruin the ability of the treatment plant to process normal waste?
- Who has the operational and financial responsibilities for routine system maintenance (as opposed to system renovation, which can involve considerable capital expenditure)?
- Is there a clear dividing line between system maintenance and system renovation? What are the safeguards for the private contractor if inadequate financing results in failure to meet performance standards or targets?
- Who is responsible for billing and collection?

- What are the safeguards for the private operator if nonpayment or noncollection reduces its expected revenue share or delays payment of the operation and maintenance fee?
- Who is responsible for ensuring access to assets and customer's premises to effect repairs, read meters, and the like, and who is liable for any damage—to roads, for example—that results from such access?
- Who bears the cost for damage arising from events beyond the private operator's control, such as extreme climatic events, unlawful discharges to the sewerage system, and national labor disputes?
- Who is liable for past environmental and health damage and for damage occurring after the contract enters into force?

How will performance be measured and monitored?

Management contracts can take different forms and can be used for different reasons. The more activities a management contract covers, and the more sophisticated its incentives for efficient performance by the contractor, the more regulatory sophistication will be required.

Many management contracts establish performance indicators and provide for paying bonuses to the contractor if it meets or exceeds the performance targets. Such indicators must be readily measured and largely indisputable—that is, their measurement should not provoke debates, and poor performance should not provoke debates about who is at fault. For example, if unaccounted-for water is used as an indicator, disputes may arise both about how it is to be measured (especially if metering is incomplete or inadequate) and about whether poor performance stems from inadequate investment by the government in rehabilitating the system, or from substandard performance by the management contractor.

In establishing regulatory requirements, there is always a need to establish clear regulatory limits—the regulator must not become a business manager. Therefore, it is normally best to avoid detailed technical specifications in contracts. The focus should be on what the contractor needs to achieve, not on how to achieve it.

In countries that adopt management contracts as a first step toward greater private sector involvement, monitoring and regulatory capacity may be very limited at the beginning of the contract period. A government facing such capacity constraints could contract part of the monitoring task to an auditing company and reconfigure its task as monitoring the auditor.

- Who will monitor performance against service standards and improvement targets specified in the contract?
- What margins of sampling error will be used?
- What penalties will there be for performance failure?
- Who will be compensated for performance failure—customers or the grantor?
- What appeals procedures are in force?
- How will fault be established in performance failures?
- How will the tariff structure be established? And what process will be used for raising tariffs?

- Can comparative competition be used in determining tariff increases?
- Can other efficiency bonuses be built into the system—for example, a share of additional revenue collected?
- What access does the regulator have to company information?
- What customer relations and complaint procedures need to be in place?
- What payment options and debt collection procedures need to be in place?
- Are any subsidies or cross-subsidies required?
- How will unpredicted costs be dealt with?
- Who is responsible for the monitoring and oversight of new construction?
- What technical information will the operator be required to report? Typical requirements include:
  - -Volumes (forecast, production, distribution, amounts sold and bought, the number and types of customers).
  - -Delinquent payments.
  - -New works and major maintenance completed and new connections.
  - -Emergency repairs made.
  - -Special requirements and new installations.
  - -Meters installed and repaired and the allocation of the costs between the operator and users.
  - -The results of laboratory tests of water and wastewater samples.
- What financial information will the operator be required to report? Some typical requirements:
  - -Accounting for the expenditures listed above.
  - -Income from water sales and sewage treatment (tariff income, bulk sales, or both) and revenues from major customers.
  - -Historical and projected income trend analysis.
  - -Overdue and delinquent payments, by type of customer—residential (single and multifamily), commercial, industrial.
  - -Annual financial statements—profit and loss and income statements and a balance sheet in the format required by the regulatory body.

Renegotiating contract conditions and retendering contracts

For short-term contracts renegotiation should be unnecessary if adequate and automatic safeguard procedures for changes in conditions have been built into the contract. But in the real world governments change hands, and the new political masters may be dissatisfied with the initial contract terms. So it is prudent to clearly specify renegotiation procedures and to allow independent arbitration if necessary.

Incumbent contractors will undoubtedly have an advantage when retendering for the contract. But to maintain competitive pressures "for the market," nontransparent recontracting agreements should be ruled out and proper provisions made for retendering. To minimize the disadvantage to new tenderers, explicit rules need to be established requiring disclosure of certified information.

Basic operating issues for management contracts

A management contract may need to cover some or all of the following operational issues:

- Measurement and monitoring of the flow of water and sewage.
- Disposal of sludge.
- Analysis and sampling of water and both influent and effluent sewage.
- Safety, reliability, and hygiene.
- Cleaning of pipes, sewer connections, and water and sewerage facilities.
- Records of maintenance and water distribution and treatment, including the day-to-day operation of water and sewerage facilities.
- Reports based on such records.
- Maintenance of files and technical literature.
- Operation and maintenance manuals and provisions regarding revision of such manuals.
- Storage of spare parts and treatment chemicals.
- Inspection rights for the concessionaire and the concession grantor.
- Provision of emergency services in the event of breakdowns and accidents.
- Safety equipment and instructions.
- Insurance requirements.
- Flood control provisions.
- Division of support between regional offices and the head office.
- Means of transport from the facility to the ultimate disposal site for sewage, sludge, and other waste.
- Provisions applicable to works on public roads and other areas open to the public.
- Provision of properly experienced and trained personnel; staffing requirements, remuneration, and training.
- Liaison with other parties.
- Updating of maps of the plant and water and sewerage network as necessary.
- Preventative maintenance in accordance with equipment manufacturers' recommendations and guidelines.
- Protective clothing and safety equipment.
- Civil defense regulations.
- First aid, fire fighting, and rescue.
- Monitoring of works.
- Auditing, accounting, and reporting procedures.

What consents are required to operate the facility?

- Who will be responsible for obtaining permissions for operation of the facilities?
- How will intellectual property rights regarding the use of facilities be protected?

Who will be responsible for environmental liabilities?

- Who will be responsible for any contamination of raw water supplies?
- Who will be responsible for the satisfactory disposal of sewage and sludge?
- Who will be responsible for past liabilities relating to the operation of the water and sewerage services?

- Who will be responsible for any environmental liabilities attached to assets to be transferred to the operator?
- If when the assets are transferred, operating practices cannot immediately be altered—as is often the case with such assets—who will be responsible for liabilities arising from such practices? Is an "environmental holiday" appropriate?

How will disputes be resolved?

What will be the jurisdiction for dispute resolution?

- Are the judgments of the chosen forum enforceable against all the parties?
- What is the appropriate method for resolving disputes—arbitration, court proceedings, appointment of experts, or alternative dispute resolution?
- If arbitration is chosen, which international rules should apply—those proposed by the International Center for Settlement of Investment Disputes (ICSID), the International Chamber of Commerce (ICC), or the United Nations Commission on International Trade Law (UNCITRAL), or other rules?
- Are all the parties from countries that are signatories to the New York Convention on the Enforcement of Arbitral Awards, which provides for reciprocal enforcement of international arbitration awards?
- What are the local legal provisions in the countries in which the parties are resident regarding enforcement of such awards?

What will be the governing law?

- What are the advantages and disadvantages of the choice of law?
- Is the governing law other than the law of the country in which the dispute resolution proceedings are taking place recognized in the proceedings?

Critical to the success of a project is appropriate allocation and mitigation of risk. The assessment of risk for a project and the allocation of that risk will depend on the project conditions—including the type and location of the project, whether bulk water supply and off-take agreements are used, the negotiating position of the parties, and the proposed technology. The risk matrix below is not intended to be exhaustive, but it highlights many of the key risks and details, how they may arise, how they can be mitigated, how remaining risks are typically allocated, and what steps can be taken to minimize them. In allocating risk, two general issues should also be borne in mind:

Does the agreement provide a fair balance in allocating risks among the parties?

Are the risks allocated to the parties best able to bear them?

Timing also matters. Early action to identify and mitigate risk can often be far more effective in reducing its seriousness than similar action taken later. And risks tend to change, so it is important to review risks and mitigation strategies regularly.

Key risks

What is the risk?	How does it arise?	What steps can mitigate the risk?	Who typically bears the remaining risk?	In what types of contract does the risk arise?	What steps can minimize risks?
Design and development risk					
Design defects in water or sewerage plant.	Design fault in tender specifications.	Require the public sector to provide a remedy or compensate the project company.	The public sector.	BOT, concession (especially with new infrastructure).	Check tender specifications.
	Design contractor fault.	Include provisions in the design contract requiring the contractor to provide a remedy or pay damages (insurance cover).	The design contractor. Once liquidated damages are exhausted, finance from project lenders is drawn down.*	BOT, concession (especially with new infrastructure).	Monitor design work; replace contractors insurance.
Construction risk					
Cost overrun.	Within the construction consortium's control—inefficient working practices, waste of materials.	Provide for cost overrun in fixed lump sum price in the construction contract.	The construction contractor. Once liquidated damages are exhausted, standby finance is drawn down.	Concession, BOT.	Monitor and inspect construction work; provide for early warning mechanisms in the contract.
	Beyond the construction consortium's control—changes in a law, delays in obtaining approvals or permits, increased taxes.	Allocate cost overruns in the concession contract; purchase business interruption insurance.	The insurer. Once insurance proceeds are exhausted, the investor's return might be eroded because of timing effects.	Concession, BOT.	Obtain approvals in advance; anticipate problems and allocate risk in contract; use insurance.
Delay in completion.	Within the construction consortium's control—lack of coordination of subcontractors.	Require liquidated damages from the turnkey contractor under the construction contract (sufficient to cover interest due to lenders and fixed operating costs).	The constructor. Once liquidated damages are exhausted, standby finance is drawn down.	Concession, BOT.	Monitor and inspect construction work; provide for early warning mechanisms in the contract.
	Beyond the construction consortium's control—insured force majeure event.	Draw on proceeds from business interruption insurance policy.	The insurer. Once insurance proceeds are exhausted, standby finance is drawn down, debt service coverage ratios will be reduced, and investor's return might be eroded.	Concession, BOT.	Rely on insurance.
Failure of plant to meet performance criteria at completion tests.	Within the construction consortium's control—quality shortfall, defects in construction.	Require liquidated damages payable by the construction consortium, supplemented by insurance.	The construction consortium and, once liquidated damages are exhausted, the insurer. Once insurance proceeds are exhausted, investor return is eroded.	Concession, BOT.	Monitor and inspect construction work; provide for early warning mechanisms; use insurance.

* Liquidated damages are payments that the contractor or operator is required to make to the sponsor of the project if specified performance targets or milestones are not reached. They are capped at a percentage of the contract's value. The amount of the liquidated damages is agreed at the contract's signing.

What is the risk?	How does it arise?	What steps can mitigate the risk?	Who typically bears the remaining risk?	In what types of contract does the risk arise?	What steps can minimize risks?
Operating risk					
Operating cost overrun.	Change in operator's practices at project company's request.	Require project company to provide a remedy or compensation under the operating contract.	The project company bears the risk under the operating contract; debt service coverage ratios are reduced; sponsor's return is eroded.	Operation and maintenance, concession, BOT.	Build flexibility into contract; cost changes in practices in advance; define acceptable reasons for changes; provide for changes in remuneration after initial period.
	Operator failure.	Require liquidated damages payable by the operator under the operating contract.	The operator. Once liquidated damages are exhausted, debt service coverage ratios and return are reduced.	Operation and maintenance, concession, BOT.	Monitor and inspect operating practices; provide for early warning mechanisms.
Failure or delay in obtaining permissions, consents, approvals.	Public sector discretion.	Allocate risk in the operating contract.	The public sector. Where there is no public sector discretion, licenses are processed quicker by the project company, so the project company bears the risk.	Operation and maintenance, concession, BOT.	Obtain approvals in advance where possible; ensure clear division of responsibilities in the contract.
Shortfall in water quality or quantity.	Operator's fault (malpractice).	Require liquidated damages payable by the operator.	The operator. There is no effect on other parties until liquidated damages are exhausted, when debt service coverage ratios are reduced and the owner's return is eroded.	Operation and maintenance, concession, BOT.	Monitor and sample water quality and quantity; provide for early warning mechanisms.
	Project company's fault.	Require liquidated damages payable by project company to the public authority.	The project company. There is no effect on other parties until payment of liquidated damages completely erodes shareholder returns, when cash flow may become insufficient and the project company's return is eroded.	Operation and maintenance, concession, BOT.	Quantity: ensure security of supply; enter into bulk water supply contract. Quality: monitor and sample water quantity; provide for early warning mechanism.
Revenue risk					
Increase in bulk water supply price.	Service difficulties; no security of supply.	Allocate risk by contract; adjust tariffs; if there are off-take and bulk water supply agreements, both guaranteed by the government, pass through the price increase.	As allocated by contract; bulk water supplier.	Lease, concession, BOT.	Fix price by contract and pass through price increase.

What is the risk?	How does it arise?	What steps can mitigate the risk?	Who typically bears the remaining risk?	In what types of contract does the risk arise?	What steps can minimize risks?
Revenue risk (cont.)					
Change in tariff rates.	Fall in revenue.	Risk depends on extent of government support. There is usually no market risk in water prices if an off-take agreement is in place. If not, owners may use hedging facilities such as forward sales, futures, and options.	The project company. There is no effect unless there is no common off-take agreement and unless hedging facilities are not in place or do not compensate for losses, in which case the return can be severely reduced.	Lease, concession, BOT.	Ensure a clear regulatory regime.
Water demand.	Decreased demand.	Risk depends on extent of government support. Use shadow tolls; use long-term take-or-pay off-take agreement that leaves the demand risk with the public utility (guaranteed by the government).	Risk depends on extent of government support. If there is no support and no off-take agreement, the risk is borne by the project company.	Lease, concession, BOT.	Ensure exclusivity of supply.
Financial risk					
Exchange rate.	Devaluation of local currency, fluctuations in foreign currencies.	Include in security package hedging facilities against exchange rate risks such as currency rate swaps, caps, and floors.	There is no effect unless hedging facilities are not in place or do not compensate for losses, in which case the return can be severely reduced.	Operation and maintenance, concession, BOT.	Require loans in local currency and same currency as revenue.
Foreign exchange.	Nonconvertibility or nontransferability.	Have the government guarantee availability, convertibility, and transferability (with the ministry of finance a party to the contract); if the government defaults, the project company can terminate. Have the central bank ensure the continuing availability of foreign exchange.	The government. If the government defaults on its guarantee and the project company terminates, the government pays compensation for termination.	Operation and maintenance, concession, BOT.	Transfer funds offshore as much as possible.
Interest rate.	Fluctuations in interest rates.	Same as above (for hedging facilities against exchange rate risks).	See above (exchange rates).	Operation and maintenance, concession, BOT.	Negotiate fixed rate loans.

What is the risk?	How does it arise?	What steps can mitigate the risk?	Who typically bears the remaining risk?	In what types of contract does the risk arise?	What steps can minimize risks?
Force majeure risk					
Force majeure.	Flood, earthquake, riot, strike.	If risk relates to an insured event (such as earthquakes in certain regions), the policy is called; if not, standby finance is drawn down.	The insurer. There is no effect unless the event is not insured or is uninsurable. If the insurance policy is exhausted, there might be a severe impact on project returns.	Operation and maintenance, concession, BOT.	Use insurance and government guarantees; clearly define force majeure in contract; include provision in contract that if the changes are specific to the project (rather than general), the government bears the risk.
Legal and regulatory.	Changes in tax law, customs practices, environmental standards.	If during the operating period, adjustment is possible (see provisions in contract on compensation).	The project company or operator.	Operation and maintenance, concession, BOT.	
		If during the construction period, draw down standby finance.	The contractor. Standby finance could be required.	Operation and maintenance, concession, BOT.	
Political.	Breach or cancellation of the concession.	The project company is entitled to terminate if the government defaults.	The government pays compensation to the project company if the company terminates.	Operation and maintenance, concession, BOT.	Use insurance.
	Expropriation.	Take out political risk insurance with official bodies, such as export credit agencies, with private companies, or involve multilateral agencies (IBRD, IFC) in the financial package.	Once the insurance policy is exhausted, the project company bears the risk. See clause in contract on expropriation.	Operation and maintenance, concession, BOT.	Use insurance.
	Failure to obtain or renew approvals.	See contract.	See contract. If the government has discretion, it should bear the risk.	Operation and maintenance, concession, BOT.	Obtain approvals in advance where possible.
	Creeping expropriation (discriminatory) taxes, revocation of work visas, import restrictions.	See contract.	The government.	Operation and maintenance, concession, BOT.	
	Interference causing severe prejudice (sometimes referred to as force majeure).	See contract.	The government.	Operation and maintenance, concession, BOT.	

What is the risk?	How does it arise?	What steps can mitigate the risk?	Who typically bears the remaining risk?	In what types of contract does the risk arise?	What steps can minimize risks?
Insurance risk					
Uninsured loss or damage to project facilities.	Accidental damage.	Insure against all the main risks.	Once standby debt finance is drawn down, the project company's return is reduced.	Operation and maintenance, concession, BOT.	Quantify and allocate risk in advance in the contract.
Environmental risk					
Environmental incidents.	Operator's fault.	Require indemnity from the operator.	The operator. There is no effect unless the operator's payments are exhausted and standby finance is drawn down, in which case the project company's return is reduced.	Operation and maintenance, concession, BOT.	Use insurance.
	Preexisting environmental liability.	Provide for public sector cleanup or compensation.	The public sector.	Operation and maintenance, concession, BOT.	Carry out detailed environmental survey; use insurance.

Every contract requires some general boilerplate clauses.

Provision of insurance

- Is there a transparent structure of local primary insurance, and is there access to the global markets for reinsurance?
- Who will be responsible for insurance, and what form should it take?
- What risks can be insured against?
- Who will be the loss payee?
- Who will be named on the insurance policy?
- Can environmental risks be insured against?
- To what extent can insurance policies be assigned?
- What types of insurance coverage will the contractor be required to carry—for example, workers compensation, comprehensive general liability, and automobile liability? What is the minimum coverage?

Force majeure provisions

- What events will trigger the force majeure provisions?
- Does the force majeure clause include political and labor risks, natural events, and operational risks?
- What events of force majeure may be under the control of the government? Will the public authority accept responsibility for such events?
- Does the force majeure clause include changes in the law that will affect the project?
- Does this clause deal with the consequences of force majeure, the parties' notification obligations relating to an event of force majeure, and provisions for mitigating the effects of force majeure?

Linking the force majeure provisions of contracts under concession and BOT arrangements

The concession contract is the key project document, but it is important to remember, particularly in the context of force majeure, that it is just one of a set of documents under which the project will take place. If there is a force majeure event that leads to suspension of the concession contract, the event should also trigger the force majeure provisions in the other contracts so that parties to the suspended concession contract are not obliged to continue to perform under the others. For example, if a force majeure event under a water off-take contract did not trigger the force majeure provisions under the bulk water supply contract, the water and sewerage company would be obliged to take and pay for the raw water but would not be reimbursed by the off-taker. Avoiding such situations does not simply mean ensuring that all the force majeure provisions in the agreements mirror each other, however; each contract must be considered individually.

Termination provisions

- What are the termination rights of each party?
- To what extent can the contract be terminated in the initial stages?

- What are the provisions for compensation for early termination, and what are the limits to such compensation? How would this compensation be granted?
- In what circumstances would there be no compensation?
- How will the assets be transferred on termination?
- Does the agreement terminate on the termination of other agreements?
- Are there provisions enabling the grantor to intervene and run the project itself?
- What rights would the grantor acquire in relation to other contracts in cases of forfeiture?

Sovereign immunity

- If the contract is to be granted by a government entity, will that entity waive its right to sovereign immunity, enabling the contractor to bring the grantor before the courts to enforce the rights and obligations under the agreement?

Assignability

- Will lenders be given step-in rights in relation to the agreement?

Miscellaneous provisions

- Will the contract include provisions regarding notices, invalidity, confidentiality, amendment, waiver, language, counterparts, and the entire agreement?

Who will sign the agreement?

- Will the agreement be signed by authorized signatories of the parties?
- Where necessary, has the agreement been witnessed in the appropriate manner? Is notarization necessary? Has the agreement been superlegalized with the appropriate stamps and certifications?
- Does the agreement need to be registered? 🌐

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