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Private Sector Participation in Water and Sanitation Infrastructure

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Private Sector Participation in Water and Sanitation Infrastructure

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Contact: Céline Kauffmann (celine.kauffmann@oecd.org)

OECD, Directorate for Financial and Enterprise Affairs, Investment Division

Introductory Note

The introductory note lays out the rational for this sectoral application of the OECD Principles for Private Sector Participation to Infractructure. It describes the scope of the work and identifies the key concepts.

Why this sectoral application of the OECD Principles?

The context

Water and sanitation is a key sector where much effort is needed: with over a billion people without access to drinking water and 2.6 billion lacking basic sanitation, developing the relevant infrastructure constitutes a major challenge. Halving the proportion of people without access to drinking water and sanitation by 2015 would require investments of some 30 billion USD per year, which is twice the current spending levels. To meet these tremendous needs, many countries have sought the involvement of the private sector. Ensuring that such partnerships yield the hoped-for benefits to all constituencies is a necessity to policy makers.

The last century has seen dramatic changes in the organization and the governance of the water sector. From massive infrastructure developments, management issues have evolved towards resource allocation, quality control, improved maintenance and preservation, i.e. demand management. It has involved deep changes in terms of policy making, and to promote new paradigms, such as decentralization and local governance; participation – partnerships - and equity; financial viability; and environmental sustainability, most of which are embedded in the Integrated Water Resource Management approach (see box 1).[1]

Meanwhile, outcomes of the increased partnership with the international private sector as witnessed since the 1990's have often fallen short of expectations and have led to highly politicized debates. Today, there is a need for reconsidering the issues more serenely and laying some basic principles based on the lessons learned from the different country experiences. There is also a need to take into account the rapid changes in the terms of involvement of private sector, notably the trend towards less risky contracts (service, management contracts and greenfield projects), the emergence of new actors (local and regional), and the growing recognition of the role of the alternative (i.e. small-scale, very often informal) private providers.

The water and sanitation sector cumulates most of the features that habitually make the cooperation between the public and the private sector difficult: (i) high fixed costs coupled with long-term irreversible investments and inelastic demand make it a monopolistic sector where competition is difficult to introduce, (ii) water is a basic need and quality of access has important externalities on health, gender equality and environment justifying high political interest, (iii) water and sanitation are local issues calling for local management, but the importance of externalities and of taking into account the full water cycle requires an integrated water resource management approach, (iv) the organization of the sector is complex, both due to the number of stakeholders and segmentation, (v) the water and sanitation sector cumulates contractual risk, foreign-exchange risk, sub-sovereign risk and political interferences, and (vi) pricing is a complex issue in the sector due to its multiple objectives: cost recovery, economic efficiency, equity and affordability.

Box . Defining Integrated Water Resource Management (IWRM).

IWRM is a process that promotes the co-ordinated development and management of water, land and related resources, in order to maximize the resultant economic and social welfare in an equitable manner without compromising the sustainability of vital ecosystems. This approach promotes more co-ordinated development and management of land and water, surface water and groundwater, the river basin and its adjacent coastal and marine environment, and upstream and downstream interests.

IWRM is also about reforming human systems to enable people to obtain sustainable and equitable benefits from those resources. For policy making and planning, taking an IWRM approach requires that:

• Water development and management takes into account the various uses of water and the range of people's water needs;

[1] Sylvain Perret (2006). Water governance for sustainable development.

• Stakeholders are given a voice in water planning and management, with particular attention to securing the involvement of women and the poor;
• Policies and priorities consider water resources implications, including the two-way relationship between macroeconomic policies and water development, management, and use;
• Water-related decisions made at local and basin levels are along the lines of, or at least do not conflict with, the achievement of broader national objectives; and
• Water planning and strategies are incorporated into broader social, economic, and environmental goals.

An IWRM approach focuses on three basic pillars that aim at avoiding a fragmented approach of water resources management:
• An enabling environment of suitable policies, strategies and legislation for sustainable water resources development and management
• Putting in place the institutional framework through which to put into practice the policies, strategies and legislation
• And setting up the management instruments required by these institutions to do their job.

Source: Global Water Partnership

A misleading debate: private vs. public

There is a heated debate on the net benefits from involving the private sector in infrastructure development and management. The usual expected benefits include relieving budgetary burden, network expansion, improved efficiency in service delivery, reduction in cost, long-term sustainability, and technology transfer[2]. However, empirical studies, largely based on the performance of international investors, show[3] that benefits do not occur automatically (increased financial flows did not materialize[4], improved efficiency is debated, and competition was bypassed by high concentration of sector and contract renegotiations[5]). In addition, they also show that expectations might have been disproportionate and the sometimes long list of expected benefits might have ended-up accommodating contradictory objectives. Finally, external factors have undoubtedly played a determining role in some highly mediatised cases.

The private vs. public debate is largely misleading for two main reasons. First, the obstacles to water and sanitation infrastructure development are largely unrelated to ownership. As noted by Franceys (2006), the legal framework remains very similar, whatever the provider. Private sector participation brings to light the tensions that the development of water infrastructure generates, tensions that remain largely hidden when infrastructure is kept closely in the public sector. In that sense, most OECD Principles remain relevant tools to facilitate infrastructure development projects regardless of the partners (public agencies, municipalities…).

Secondly, the private vs. public debate largely focuses on the large networked utilities run by international corporations. It consequently overlooks the diversity of private actors that are concretely involved in water and sanitation: the small-scale actors but also a continuum of partnerships between private operators, public actors and communities. Most systems are hybrid and never either purely public or purely private. It also largely overlooks the current situation where small private systems are already ensuring a large share of provision.

Finally, "the OECD Principles are intended as guidance to public authorities contemplating the involvement of private enterprises as one, among several, options to improve the provision of infrastructure services. They shall not be construed as advocating the privatization or private management of publicly owned infrastructure." As highlighted by the first principle, the private vs. public debate can only be

[2] BIAC position paper (2004)
[3] Estache (2005). PPI partnerships versus PPI divorces in LDCs.
[4] Patricia Clarke Annez (2006). Urban infrastructure finance from private operators: what have we learned from recent past experience?
[5] Guash (2004). Granting and renegotiating infrastructure concessions.

answered locally and through tailor made models. Once the decision made, the principles aim to offer an approach combining the levelling of the playing field and corporate responsibility.

What is the purpose of this guidance on Private Sector Participation to Water and Sanitation?

This sectoral application of the Principles for Private Sector Participation in Infrastructure aims to offer practical guidance to optimise private sector participation in the development and management of infrastructure in view of improving access to water and sanitation. This guidance builds on the most recent experiences of a selection of countries to highlight the key issues faced by the governments and the companies in their cooperation and the good practices that have developed.

Who will find this guidance useful?

The practical guidance on water and sanitation is primarily addressed to governments and other tiers of the public sector that are responsible in last resort for the provision of drinking water and sanitation. The guidance may however be of use to other constituencies, such as the private sector, the users and the international donor community, for a better understanding of the issues at stake and as a platform for policy dialogue.

What makes this guidance different?

The guidance is a concise tool that, in a unique logical framework, provides a checklist of the main specificities of the water and sanitation sector that bear on the cooperation between the public and the private sector; identifies the most pregnant issues for governments; and presents some good practices, building on the most recent country experiences. It does not provide a comprehensive approach of the steps to take when engineering a partnership. For this, other tools exist such as the Toolkit on Approaches to Private Participation in Water Services (developed by PPIAF) and the Policy principles and implementation guidelines for Public-Private Partnerships for Water Supply and Sanitation (developed by the Swiss cooperation).

The guidance draws on a wide corpus of material from governments, international organisations, academia and builds on the experience of selected countries in Africa, Latin America and Asia, for which information has been collected according to a common framework on seven key dimensions of water and sanitation (see box).

The scope is not limited to international private sector. The diversity of the private sector operating in water and sanitation is largely taken into account throughout the application of the Principles, including the contribution of the small-scale, sometimes informal, private actors.

Box . An evidence base of country experience

In order to support the conceptual work, a systematic review of country experiences is being carried out based on a common framework. It allows a comparative assessment of the level and nature of private sector involvement in the water and sanitation sector and to identify best practices and typical bottlenecks holding back private investment in the sector. The expected output is a database involving some 30 to 35 countries in Africa, Latin America and Asia/ Pacific in 7 "dimensions" of key importance for private sector involvement in the water and sanitation sector, such as access rates, institutional setting and pricing policies.

Tentative list of countries:

BRICS	Africa	Asia & Pacific	Latin America	MENA
Brazil	Burkina Faso	Bangladesh	Argentina	Algeria
Russia	Ghana	Cambodia	Bolivia	Egypt

India	Kenya	Indonesia	Chile	Jordan
China	Mauritania	Malaysia	Colombia	Morocco
South Africa	Mozambique	Nepal	Honduras	Tunisia
	Senegal	Philippines	Mexico	
	Tanzania	Singapore	Peru	
	Uganda	Thailand		
	Zambia			

Tentative list of indicators
1- Environment: Demography, Economic and business environment
2- Basic water and sanitation data: Resources, Uses, Access
3- Management Performance indicators
4- Financing: Investment needs, Available financing tools
5- Pricing policy
6- Water institutional and policy framework
7- Private sector Participation: State of the art of private sector participation, Perspectives

Defining the scope

This work focuses mainly on developing and emerging countries, where expanding the relevant infrastructure constitutes a major challenge. High-income countries also face substantial needs in terms of maintaining and replacing ageing networks[6]. But issues and conditions differ depending on the level of development, most notably in terms of institutional and regulatory framework development (the rooting of institutions, the decentralization process) and of level of access to water and sanitation (low access combined with multiple alternatives). The experience of an OECD country is examined and more might be added as the project develops.

The focus is ultimately on increasing access to drinking water and sanitation and therefore excludes other uses of water such as irrigation, hydroelectricity, etc… In that context, water and sanitation infrastructures include upstream facilities, as well as distribution and sewerage networks. Water delivery systems involve 6 components[7]: (1) capture of the natural resource, (2) treatment to ensure adequate quality for use, (3) transportation (primary network: aqueducts and mains), (4) delivery to users (secondary network: pipelines and taps), (5) wastewater capture and (6) treatment. The sanitation sector is highly segmented and involves many different actors around the initial provision of facilities, waste removal and transport and treatment of waste.

Among these activities, upstream water activities, such as extraction, water treatment and downstream activity of wastewater treatment involve a buoyant (often international) private sector activity, generally in the form of Build, Operate and Transfer (BOT) contracts. Thriving business opportunities are developing in water purification and desalinization. Direct services to users also involve substantially private actors, but usually in the form of small-scale and informal SMEs. Worth noting, there is also a thriving emerging market for bottled water.

The private actors

The water and sanitation sector calls on a wide variety of private actors: international investors, local and regional actors, small-scale water operators, private sector whose core activity is not water (such as

[6] OECD (2006). Infrastructure to 2030:Telecom, Land Transport, Water and Electricity.

[7] Kessides (2004). Reforming infrastructure. Privatisation, regulation and competition.

construction companies), including joint ventures between public and private companies as well as public companies operating abroad as private participant to competitive bidding. For the purpose of that work, there is no need to adopt a restrictive definition of private sector as the principles and their application are well adapted to most partnerships. However, not-for-profit systems (NGOs and community based organizations), although essential in water and sanitation service provision in most developing countries, are not included as their motivations and therefore the design of incentives differ.

In most developing countries, the progress of conventional public service provision has barely kept pace with rapid population growth and migration to urban areas. In that context, small-scale local actors have made up for the deficiencies in public service provision and have sometimes ended up accounting for most of water and sanitation service delivery. As a result, the market is fragmented and accommodates a large variety of different agents. The African Water Utilities Partnership classifies these alternative providers into intermediate and independent service providers: the intermediate providers purchase bulk water from utilities for resale while independent providers develop their own supply systems in parallel to the formal utility. Table 1 lists the activities of small-scale private service providers depending on their link with the formal system, based on Kariuki and Schwartz (2005).

Table 1. Categorizing Water Supply Small-scale Private Service Providers

Features	**Dependent**	**Independent**
Piped networks		
System	Operator buys water in bulk from utility and develops distribution sub-networks connected directly to households, institutions and public kiosks stand posts.	Operator develops own water sources (wells or boreholes) and connects network to households and other users.
Organization	Private company or individual, community organization or neighbourhood association.	Sole proprietor, cooperative, private land and housing developer, water user association, community-based organization.
Regulatory Issues	Contract with utility, business license, customer agreements, bulk rates, customer tariffs.	Groundwater abstraction permits, title deeds, resale permits/licenses, water quality testing, business licenses, rights to own infrastructure and/or to lay networks in public rights of way.
Country examples	Operators in partnership with water utilities in Marinilla (Colombia), Manila (Philippines) and Banteay Meanchey (Cambodia).	Registered operators in Guatemala city. Unregistered operators in Kampala (Uganda) and Cebu city (Philippines). Private land and housing developers and homeowners association in Cordoba, Manila.
Point Sources		
System	Kiosk or stand post connected to the utility network (could be household supply); buying water in bulk - at a special tariff - o at household tariff.	Water point linked to own source (well or borehole, underground or aboveground storage tank) installed privately and operated on a for-profit basis. Water may be purchased from a tanker.
Organization	Individual, enterprise, self-help group.	Neighbourhood association, microenterprise, community based organizations
Regulatory Issues	Contract with utility, license/permit, customer tariff, bulk purchase price, performance incentives.	Groundwater abstraction permit, license, tariff structure, water quality testing.
Country examples	Water kiosk and taps in Nairobi (Kenya) Franchisers of public bathing facilities in Delhi (India).	- Development of own water points for profit in Kampala and Gitaru (Kenya) - Private baths with independent source of water in Lima (Peru). - Private owner of well or borehole selling bulk water to public or private mobile vendors in Lima (Peru) and Karachi (Pakistan).
Mobile distributors		

System	Tankers or truckers obtain water in bulk from the utility (or municipal supply) and deliver it directly to the customer, including public utility water storage tanks, communal cisterns, or individual households and institutions.	Tankers, truckers or carters develop source or obtain water from a private well for distribution to households; public utility water storage tanks, communal cisterns, or institutions
Organization	Sole proprietor, tanker association, lessee, informal sector.	Sole proprietor, tanker association, lessee, informal sector
Regulatory Issues	Transport license, business license, tanker cleanliness, bulk rate, utility contract, customer tariff.	Transport license, business license, water quality, abstraction permit
Country examples	Private, registered trucks buying water in bulk from utilities or municipal sources and distributing to storage tanks or individual households in Chennai (India), Teshie (Ghana) Carters, street vendors purchasing water from tankers / kiosks and delivering water by the can in Dakar (Senegal) and Dar es Salaam (Tanzania). Bottlers and vendors of tap water in Nairobi (Kenya) and Kano (Nigeria).	Trucks purchasing water from private wells or untreated sources, registered or not and distributing to storage tanks or individual households in Lima (Peru), Kathmandu (Nepal). Carters, street vendors obtaining water from private wells or untreated sources and delivering water by the can in Nairobi and Mombasa (Kenya). Bottlers and vendors of purified water in Manila (Philippines) and Shanghai (China).

Source: Kariuki and Schwartz (2005)

Even among official operators, the landscape of service provision has become more diversified in the last 10 years. During the 1990-97, five operators accounted for 53 per cent of projects awarded (Suez, Veolia, Thames, Agbar and Saur) [8]. Five years after, their share had dropped to 23 per cent (over 2003-2005). The new players come from diverse backgrounds: they are water construction or engineering companies, industrial conglomerates seeking to diversify, local companies that formed joint ventures with international operators and local companies expanding and going regional (see table 2).

Table 2. Categorizing recent market entrants

Categories of recent market entrants		Examples
Diversification into water of companies with core business elsewhere.	Firm moving into water as a business opportunity. Boosted by dynamism of BOT in wastewater treatment plants and in desalinisation projects.	Wastewater treatment plants: China Desalinisation projects: MENA
	Multiutility spreading to water to enjoy economies of scale and cross-subsidies.	RUS & CES (Russia), NWS Holdings (China), JUSCO (India), Ranhill & YTL (Malaysia), Davao Light & Power (Philippines).
	Spread of construction firms, notably through the development of housing estates.	In Asia and Latin America.
Financial and investment companies including water services in their portfolio	Growing worldwide interest of banks and financial groups in buying water service companies.	Consortio Financiero (Chile), CITIC (China).

[8] Philippe marin, World Bank Water Week, 2007

Expansion by established water operators	Local private operators taking over other projects internally or externally.	Latin Aguas (Argentina), Aguas Nevas (Chile), Tianjin Capital (China), ILFS and IVRCL (India), Ranhill (Malaysia).
	Public companies acting in a commercial fashion and venturing into the market.	Rand Water from South Africa bidding jointly with Vitens for a management contract in Ghana.
	Privatisation of former public utilities	EMOS (Chile), SABESP (Brazil)
Joint ventures with foreign operators	To benefit from foreign investors know-how, while mitigating the foreign exchange risk and facilitating local insertion.	Common in Latin America and Asia.
Graduation of small-scale water operators		Uganda, Mauritania

Source: OECD Investment Division, based on OECD/ENV/EPOC/GF/SD(2006)1

Meanwhile, the "traditional" international players are changing their strategies. Suez, the most active international company in concessions during the first phase of private sector involvement, is today largely withdrawing. By contrast, Veolia has become the most active international operator as of 2005, mostly through development of local partnerships. Agbar is also developing a strategy of local partnerships, through joint ownership with local government. Other international players are concentrating on less risky arrangements such as management and service contracts (Severn Trent).

Nature of involvement: the key issue of risk-sharing

Infrastructure and Participation are understood in their broad definition: including non-financial forms of participation that involve managing infrastructure services. Table 3 provides a typology of contractual arrangements and their consequences in terms of risk-sharing between the public sector (G) and the private actor (P).

Table 3. Typology of contractual arrangements

	Service contract	**Management contract**	**Affermage/ Lease**	**Concession**	**BOT**	**Joint venture**	**Divestiture**
Asset ownership	G	G	G	G	P/G	G/P	P
Capital investment	G	G	G	P	P	G/P	P
Commercial risk	G	G	Shared	P	P	G/P	P
Operations / Maintenance	G/P	P	P	P	P	G/P	P
Contract duration	1-2 yrs	3-5 yrs	8-15 yrs	25-30 yrs	20-30 yrs	Infinite	Infinite
Retribution of operator	Municipality	Municipality	Users	Users	Municipality	Users	Users
Examples	Mexico city Chennai	Johannesburg	Côte d'Ivoire Senegal	Nelspruit Casablanca Jakarta Buenos Aires	China India Malaysia Mexico Morocco	Cartagena Netherlands	England Chile

Source: OECD Investment Division, based on Budds and McGranahan, 2003.

Box . Definition of the different contractual arrangements

Under a **subcontracting arrangement – typically a service contract -**, the private party performs specific, time-bound tasks, such as supplying inputs, taking care of planning studies, computing and payroll services or public relations, construction, maintaining assets, installing meters or billing customers, usually in exchange for a fixed fee. In this situation, the private sector bears very little risk and there is very little uncertainty around the expected outputs. In recent years, more and more activities have been outsourced that way to the private sector, including the task of reducing non-revenue water[9].

Under a **management contract**, a private firm is appointed by the government to provide managerial services, often for a fixed fee. The contract typically requires the private party to manage a utility and provide services to the public for a given period of time. The remuneration of the private operator may be fixed at the outset, in which case the commercial risks of the operation are borne entirely by the public sector, or it may be linked to the performance of the utility, in which case the private operator bears some commercial risk.

A **lease** is a written agreement under which a property owner allows a tenant to use the property for a specified period of time and a specified rent. The private-sector operator is responsible for providing the service at its own risk, including operating and maintaining the infrastructure for a given period of time. The operator is not responsible, however, for financing investment such as the replacement of major assets or expansion of the network. If payments from users cover more than the operator's remuneration, the operator is generally supposed to return the difference to the public authorities in order to cover the cost of the investments under the latter's responsibility. **Affermage** only differs from a lease in terms of revenue for the private sector. In both cases, the private operator collects the tariffs and pays, on top of the operation and maintenance costs, a fee to the public sector. But while this fee is fixed in the first case, it is proportional to the volume of water sold in the second case.

A **concession** is similar to a lease except that the private operator is responsible for asset replacement and network expansion as well. **BOT (build-operate-transfer) contracts** correspond to greenfield concessions. These contracts involve take or pay provisions, i.e. revenue guarantees, that subject governments to contingent liabilities. On expiration of a BOT, the assets are returned to the public sector. BOOs (build-own-operate) are similar to BOTs except that they do not involve transfer of the assets to the public sector after a pre-determined period of time. The private operator thus remains responsible for carrying out all the investment required to meet its service obligations. Under BOOT (build-own-operate-transfer) schemes, the private sector obtains the capital needed for construction, builds and operates the infrastructure for an agreed period of time (anywhere between 15 and 30 years) and then transfers ownership back to the relevant government. BOTT is another variation of BOT whereby the private operator commits to train the public sector for a smoother transfer. It was used by Suez in South Africa.

In a **joint venture**, a new company is formed that combined private and public sector. With a public limited company (PLC), a commercial company is formed but owned by local, provincial and national government. In water cooperatives, customers are members of board, but uncommon in large cities (rural water in Chile). With **divestiture**, ownership of the existing assets and responsibility for future upkeep and expansion are transferred to the private sector.[10]

Risk allocation is a crucial issue in the partnership with private sector for water and sanitation. Indeed, there are very specific risks for commercial funding in the water and sanitation sector, as stressed by the Camdessus panel[11]. The water and sanitation projects are usually capital intensive. They involve high initial investment, long payback periods and low rate of return. The resulting infrastructure is fixed, very specific and cannot be used for other purposes or removed from the country. This profile generates high *contractual risk* especially in a context of poor initial information and a weak regulatory environment. The revenues come mainly from user fees or government subsidies in local currency while funding is largely in foreign currency, exposing the investor to high *foreign exchange risk*, a true constraint for international investors, but also for national operators in a context of poorly developed local financial markets. Management of the

[9] Kingdom, Liemberger and Marin (2006). The challenge of reducing non-revenue water in developing countries.
[10] Based on OECD (2004). Privatisation in Sub-Saharan Africa. Where do we stand?
[11] Winpenny (2003). Financing Water for All: Report of the World Panel on Financing Water Infrastructure.

projects is mainly local, exposing the investors to weak management and financial capacities of the sub-sovereign entities (*sub-sovereign risk*). Finally, as a basic need, water has important political repercussions, and therefore justifies political interference, notably in the setting of tariffs that consequently rarely reflect the full reality of costs.

Some of these constraints may also apply to other infrastructure sectors. However, the water sector differs in that it cumulates all these features, combination that in effect amplifies the different risks. Such a project profile tends to deter commercial financing. Indeed, the most recent trends show some reluctance on the part of private sector to commit to investment obligations and the development of contracts that do not involve much financing implications. New developments in the area of guarantees and risk mitigation mechanisms may however help to enhance the attractiveness of the water sector and make sub-sovereign financing a viable option. Table 4 highlights the water related risks and the available risk mitigation instruments.

Table 4. Typology of risks and mitigation mechanisms

Water-related risks	Mitigation mechanisms	Country experiences
Commercial: Tariff affordability and resistance Project cash-flow profile Credit risk Contractual risk Performance risk Demand and markets Inappropriate technology Information gaps / hidden costs Costs of inputs (energy)	**Careful project design & review** **Partial Credit Guarantee**: covers different events causing non payment, incl. commercial risk. Offered by multilaterals – IFC – and some bilaterals. Traditionally used by governments or public entities, but also recently by sub-national governments, municipalities, private companies. **Pooled financing**: to allow smaller cities to aggregate financing needs, diversify credit risk and spread transaction costs of bond issuance.	PCG: Johannesburg, Mexico PIDG (private infrastructure development group) related Emerging Africa Infrastructure Fund (long-term financing + provision of guarantees) & GuarantCo (PCG on LCU debt issued by PS infrastructure companies and municipalities from lower income countries). Innovative combination of pooled financing & PCG in Tamil nadu (India): Municipal Urban development Fund issued bonds with PCG from USAID's Development Credit Authority.
Political: Expropriation Political interference New standards and directives Sub-sovereign agencies Local stakeholder actions Devaluation	**Bilateral investment treaty, dispute resolution mechanisms** embedded in contract (i.e. the Convention on the Settlement of Investment Disputes between States and Nationals of other States - ICSID) **Political Risk Insurance**: covers war and civil disturbance, expropriation and confiscation, currency convertibility and transferability (export credit agencies, investment insurers, private political risk insurers and multilaterals - MIGA) Foreign exchange risk usually covered through **government exchange rate guarantees**, **indexation of tariffs** or **local finance in LCU** (joint ventures with local partners, split-currency revenue arrangements: costs in LCU, repatriation of profits in foreign currency). Development of local capital market.	156 States have signed the ICSID convention. However, Bolivia became 1rst country to denounce the convention in May 2007. Long term currency swap contract ADB/Philippines for LCU loans. IFC & EBRD have created municipal finance units and provide loans and PCG to sub sovereign entities. WB / IFC Municipal Fund. IADB & MIGA provide PRG & PRI for municipal concession projects. Asian Bond Market Initiative: guarantee facility for LCU debt
Regulatory, legal and contractual:	**Partial Risk Guarantee**: covers breach of contract, changes in law, license	

Weak or arbitrary regulator Weak legal framework Contract enforcement	requirements, obstruction in the process of arbitration and non-payment of termination amount. Offered by multilaterals and some bilaterals.	
Water resource issues: Scarcity and cost / Reliability / Quality / Pollution Environmental liabilities Right of indigenous people Climatic change and variability	Environmental indemnity.	
Reputational: Local sensitivities and needs	Communication, participation in awareness campaigns.	
All	Combination of guarantees.	Regional infrastructure guarantee facility for West Africa (WB / MIGA / AFD / BOAD): PRG + PRI + guarantees for political risks to promote small and medium infrastructure project

Source: OECD Investment Division, based on UNEP Finance Initiative, Winpenny (2005) and Matsukawa & Habeck (2007)

Regulating the partnerships: key concepts and issues

Regulation is a key issue in monopolistic sectors, where contracts are incomplete and the partnership is multi-stakeholder. It is also all the more necessary providing the need for a holistic approach to preserve the well-being of users and environmental sustainability, from water extraction to wastewater discharge. However, it raises important issues, such as (i) how to balance accountability, transparency and independence of regulatory bodies; (ii) how to ensure the credibility of regulation in a context of very recent structural reforms, low institutional capacity and important asymmetry of information; and (iii) how to reach out to the small-scale, informal providers when national regulatory tools are often ill-suited to decentralised activities.

In addition to self-regulation, there are mainly four regulatory models as developed by Eberhard (2007) and summarised in figure 1[12]: (1) regulation by government, (2) independent regulation where independence has three dimensions: independence of decision-making, of management and of financing (usually referred to as the Anglo-American model), (3) regulation by contract, which specifies the regulatory regimes in legal instruments (usually referred to as the French model), and (4) outsourcing regulatory functions to third parties, which makes use of external contractors to perform activities such as tariff reviews, benchmarking, dispute resolution. These models are not exclusive and often hybrid models are adopted. Moreover, transition from one to another is also possible as institutional and human resource capacities are building up.

In the area of drinking water and sanitation, the main activities of regulation pertain to regulation of water quality, environmental regulation, economic regulation to oversee monopolistic market, monitoring of sector and consumer protection. Setting the right incentives for private sector and preventing monopolistic

[12] Developed by Eberhard (2007). Infrastructure regulation in developing countries. An exploration of hybrid and transitional models.

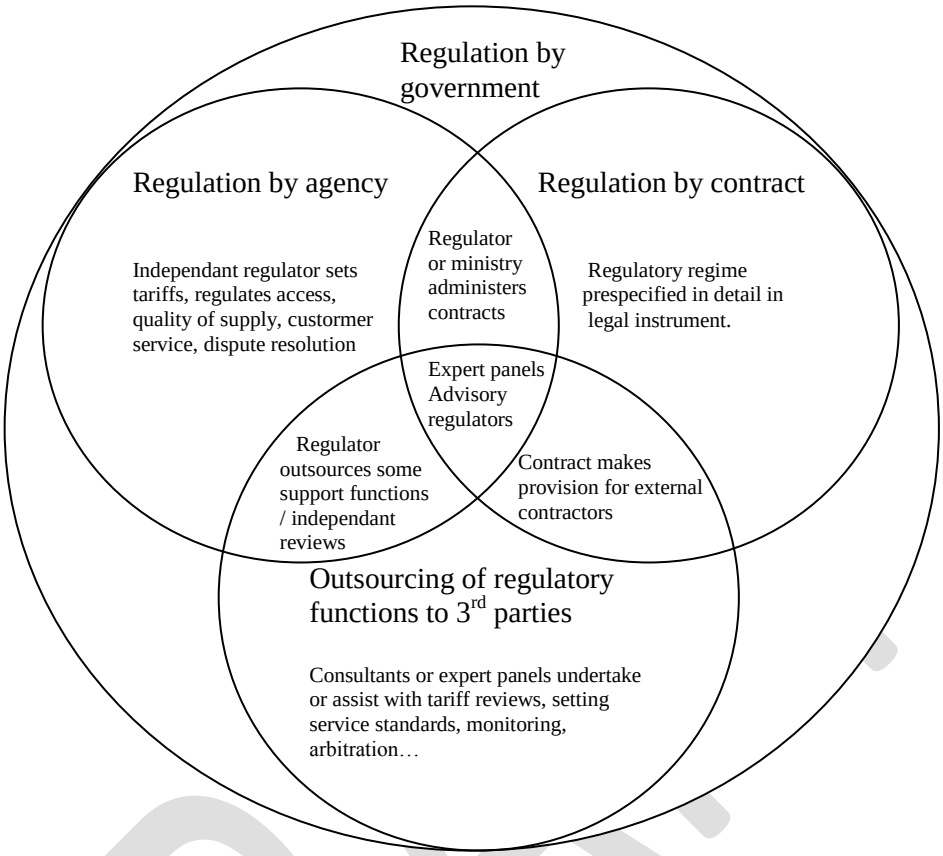
behaviour are the key elements of economic regulation. Regulating prices is mainly guided by tradeoffs among the five following basic goals[13]: (1) rent extraction or setting rates that strike a socially acceptable compromise between the interests of investors and consumers. (2) supply-side efficiency or providing signals and incentives for suppliers and investors to increase efficiency. (3) demand-side efficiency or providing signals and incentives for efficient consumption of regulated utility services. (4) revenue adequacy or allowing regulated firms to earn sufficient revenue to attract needed capital. (5) fairness or ensuring that prices are just and reasonable, and contribute to universal service goals without creating significant distortions.

Two alternative mechanisms for regulating prices exist[14]. In price-cap regulation, the regulator sets maximum prices on the services, often with automatic adjustments to account for changes in costs outside the control of the concessionaire and to account for expected feasible improvements in efficiency within the control of the concessionaire, and a pre-set review date. In rate of return regulation, the regulator assigns a value to certain assets necessary to perform regulated services, sets a rate of return on those assets (often the market-determined rate of return on assets with similar risk characteristics) and sets prices that will allow sufficient revenue to cover both return on capital as well as costs that the regulator allows the concessionaire to pass through. With rate of return regulation, the investors have an incentive to invest as their operating and investment costs are covered. However, unless the regulator has access to a well-developed accounting system to audit the costs, the firm might be led to overestimate the costs to justify higher prices. Consequently, the firm has no incentive to reduce costs and may tend to adopt excessive capital-intensive technology. Price cap regulation is less information intensive since prices and not earnings are controlled; and provides for strong incentives to reduce costs. However, recent empirical evidence has shown that it was more likely to lead to contract renegotiations. In reality most regulatory mechanisms are hybrid systems between rate of return and price cap regulations in order to balance the incentives for efficiency, investments, rent-extraction and fairness.

The traditional regulatory tools are ill-suited to reach out to small-scale (often informal) private operators. Nevertheless, if small-scale providers show a very good understanding and high flexibility to adapt to low-income customers' circumstances, there is a need to monitor the quality of the water they provide and to oversee their monopolistic behaviour and the consequences of their disparate activities on the environment. Economic regulation of alternative providers rarely extends beyond abstraction licensing and tanker truck registration[15]. Very often, when regulatory rules exist (such as price limits), they are largely ignored due a lack of enforcement and opacity in the regulatory framework. Setting regulation for alternative providers faces a trade-off between the adoption of rules, their enforceability and the flexibility of the market. In that context, monitoring the activities and results is as important as setting the rules and involving the customers through complaints handling mechanisms can be a powerful safeguard. Most importantly, formalizing the market requires offering in exchange some form of legal recognition and protection for small-scale private operators.

[13] Kessides (2004). Reforming infrastructure. Privatisation, regulation and competition.
[14] OECD (2006). Concessions.
[15] Franceys (2006). Regulating Public and Private Partnerships for the Poor.

Figure1. Institutional options for regulation



Source: Anton Eberhard (2007).

OECD, Directorate for Financial and Enterprise Affairs, Investment Division

Sectoral annex to the OECD Principles for Private Sector Participation in Infrastructure

Building on the newly released OECD Principles for Private Sector Participation in Infrastructure, this sectoral annex, in the form of a matrix, aims to help governments wishing to engage the private sector in the development and management of water and sanitation infrastructure to: 1). understand the key specificities of the water and sanitation sector; 2). address the issues raised by collaborating with the private sector; and 3). learn some country good practices. It is part of a broader OECD horizontal project on *Sustainable financing to ensure affordable access to water and sanitation* and is developed in conjunction with an information base of country experiences. Several regional roundtables and multi-stakeholder discussions are programmed to validate its findings.

A- Deciding on public or private provision of infrastructure services

1) Informed and calculated choice

The choice by public authorities between public and private provision should be based on cost-benefit analysis taking into account all alternative modes of delivery, the full system of infrastructure provision, and the projected financial and nonfinancial costs and benefits over the project lifecycle.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Basic human need and economic good. - Huge externalities on health, education, environment, gender balance. - Necessity of a global view considering all segments of water provision (integrated water resource management, IWRM). - Wide disparities in initial conditions across countries / regions. - Governments very often inherit a situation where private small-scale providers cater for large portion of population (the poor and the scattered). The issue then becomes how to better integrate these private actors in the chain of service provision.	- Examine where capacities are limited and private sector can add value, while the State remains in charge of the basic regulatory and oversight functions. Governments retain the ultimate responsibility that the public basic needs are met. - Sustainability analysis should address health, environment, economy, socio-culture and technical issues (incl. the choice of technology and the assessment of the current state of infrastructure). How to account for health and environment externalities? What optimal water allocation across different uses? What technical options (centralized vs. decentralized systems, water conservation vs. development of infrastructure)? A thorough analysis by project might not be feasible because of transaction costs associated with relatively small projects. - Political economy of reform: identifying the consequences of choice (notably for different users) in advance would allow balancing the different interests. - Consider full water cycle, including treatment, distribution, collection, transport and end-management of wastes, to ensure sustainability.	- New York: the water conservation scheme. - Counter-ex: the Tiruppur project in India shows that neglecting the life cycle of water can lead to failure of the partnership. - The tools: The Strategic Choice Approach (SIWI). OECD FEASIBLE model PPP for Water Supply and Sanitation, Policy principles and implementation guidelines, Swiss Cooperation and BPD Approaches to Private Participation in Water Services: A Toolkit, PPIAF 2006 Toolkit for pro-poor Municipal PPPs, UNDP

2) Financial sustainability of infrastructure projects

No infrastructure project, regardless of the degree of private involvement, should be embarked upon without assessing the degree to which its costs can be recovered from end-users and, in case of shortfalls, what other sources of finance can be mobilised.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Long-term, irreversible investment. - Transparency issues and complexity due to provision of subsidies and cross-subsidies, the numerous layers of stakeholders and information asymmetry. - Complexity of pricing policy because of conflicting objectives: cost recovery, economic efficiency, equity and affordability. - Issues of affordability, willingness to pay and universal service obligation. - Sustainability issue more crucial even for sanitation: piped sewerage is costly and its benefits are less perceived by individuals. Cost recovery has been very elusive.	- Price setting should allow achieving some level of cost recovery (O&M). Set optimal mix between price cap and rate of return regulation to provide incentives to improve efficiency, to invest and to balance needs of users. Favour water conservation (progressive tariff structure?). Tackle in parallel prices for wastewater treatment and raw water abstraction. - Where low affordability and large infrastructure needs, subsidies remain necessary, especially in rural areas and for sanitation. Clarify subsidy levels, time span, nature (connection / consumption) and the targeting process (mix of precise targeting through household surveys, geographic targeting, self-selection and subsidies to technologies used by poor). The setting of cross-subsidies should allow for changes in the user base. - Consider regulating small-scale operator prices through communication on bulk water prices. - The choice of technology should match technical considerations and affordability. There is a wide range of choices, especially for sanitation: different levels of on site, conventional and simplified sewerage. Diversification of service provision can help ensure financial sustainability while serving pro-poor objective. The issue is to allow for easy upgrading of facilities so that users can climb up the technology scale.	- Senegal has highest tariffs but best performance in 7 African countries. - Zambia devolution trust fund. - Price setting: the Model Company (Chile). - Subsidies: the “water stamps” in Chile. - Output Based Aid can help clarifying subsidies and developing connections. - Adaptation of technology: the uptake of simplified sewerage in Brazil. - Counter-ex: Tiruppur project in India shows impact of cross-subsidisation when user fees decline.

3) Apply tailor-made model of private sector involvement

The allocation of risk between private parties and the public sector will be largely determined by the chosen model of private sector involvement, including the allocation of responsibilities. The selection of a particular model and an associated allocation of risk should be based upon an assessment of the public interest.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- High risk sector. Inadequate risk sharing arrangements are at the heart of past failures. - Very heterogeneous private sector, with different comparative advantages (peri-urban areas and small towns are natural niches for small-scale independent providers) and capacities to bear risks: local providers may help to avoid exchange rate risk. - Wide disparities in initial conditions across countries and regions.	- The menu of PPP models is extending: smaller projects, less risky contracts (lease, management, development of risk-mitigating measures), greenfield contracts for bulk facilities, combination of private and public money, emergence of new actors. But the structure of incentives is changing accordingly: less incentive to extend network to poorer users and to achieve efficiency gains as revenue does not depend on it => Governments need to develop models that are attractive to private sector while fulfilling their development agenda. - Consider a step approach: strengthen commercial functions and information system through service or management contracts first and develop better understanding between the private and public sector. - Build on the comparative advantages of small-scale providers: their capacity to reach out to poor customers in smaller cities and remote areas. Engage them through partnerships with utilities, municipal delegated management models, licensing. Attract the informal operators to official networks rather than formalise directly their activities. Provide some form of recognition of legitimacy of their activities. - What role for different levels of public agencies and for central government when water is a local management issue? What coordination mechanisms across the different models?	- Blending of private sector and public money (Colombia, Malaysia, Peru). - Success of affermage in Senegal vs. lease in Tanzania (where more risk was transferred). - Alternative business models based on the corporate social activities of major users and property developers. - EMOS (Chile) contracted out several activities before divestiture. - The Agua Para Todos Partnership (Cochambamba). - The Mauritania delegated management model in small towns. - Formalising independent operators in Maputo. - Subcontracting (Abidjan, Nairobi, Morocco rural communities). - Franchising (ex?).

4) Preserve fiscal discipline and transparency

Fiscal discipline and transparency must be safeguarded, and the potential public finance implications of sharing responsibilities for infrastructure with the private sector fully understood.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Provision of subsidies and guarantees that constitute long-term expenditures and contingent liabilities on budget (key feature of Asian model of privatisation that worsened the effect of crisis). - Local management involves sub-sovereign entities (municipalities, utilities). - High transaction costs (numerous transactions, actors and models).	- Determine what bears on budget (subsidies, extension of network, guarantees, oversight and coordination) and transaction costs. - Trade-off between guarantees to attract private sector and resulting contingent liabilities bearing on fiscal accounts. For the sake of fiscal transparency and sustainability, disclose future costs of private sector participation and incorporate them in medium-term budgetary projections and debt sustainability analysis. - Issue of capacity, transparency and accountability of sub-sovereign entities.	- Output Based Aid can help externalise and clarify subsidies. - Tools: IMF recommendations: Government Guarantees and fiscal risk, IMF, 2005.

B- Enhancing the enabling institutional environment

5) Enabling environment

A sound and enabling environment for infrastructure investment, which implies high standards of public and corporate governance, transparency and the rule of law, including protection of property and contractual rights, is essential to attract the participation of the private sector.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- The water and sanitation sector presents high contractual, foreign-exchange and sub-sovereign risks. - Important political interferences. - The quality of water and sanitation governance does not relate only to purely sectoral issues, but also to land tenure, housing security, decentralisation policy, environmental rights. - The impediments arising from business environment differ across private actors. Informality is a way to escape a burdensome business environment.	- Public sector remains the enabler. - Examine the key elements of business environment that bear on water and sanitation: local governance, institutional setting, policies and political will. - Ensure consistency across central and municipal government regarding private sector participation - Develop some regulatory elements to frame the activities of informal operators: build on the burgeoning oversight and regulation by local communities. - All tiers of government and public agencies should respect their commitments (i.e. timely payments of water bills and subsidies).	- Water Dialogues are developing in South Africa, Uganda, Brazil, Philippines to identify the key bottlenecks. - Maputo and Bamako licensing of operators by communities. - Counter-ex: Ambiguities of the South African institutions between the central and municipal levels. Political disincentive to continuity of reforms in Mexico: mayors are not allowed to run for a 2nd mandate. - Tools: On consistent and clear institutional framework, see UNCITRAL Legislative guide on privately financed infrastructure projects.

6) Fight against corruption

Infrastructure projects should be free from corruption at all levels and in all project phases. Public authorities should take effective measures to ensure public and private sector integrity and accountability and establish appropriate procedures to deter, detect and sanction corruption.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Large financial flows are at stake (large scale construction). - Opacity and asymmetry of information. - Monopolistic sector with little cost-recovery. - Importance of informal sector. - Number of stakeholders and complexity of organisation. Numerous transactions. - High demand and human need dimension generate high power leverage. As a consequence, water is probably a more corrupt sector than sanitation. - Political involvements in projects, through subsidies.	- Consider sending strong political signal: adhere to international anti-corruption conventions (OECD and UN Conventions), induce institutional reforms (procurement, judiciary), set a structure of disincentives, strengthen monitoring and enforcement. - Reduce incentives: address corruption explicitly in the PPP framework, disclose information, define performance targets and outputs, introduce opportunities for challenges and reviews, and allow for private sector to benefit from contract (rather than by perverting it). Reduce incidence of transaction, gain from each transaction and increase probability of detection and penalty. - Be aware and mitigate potential negative impacts of the fight against corruption: the costs related to proliferation of controls and institutions and the impacts on the poorest. Tackle corruption in an open, inclusive and equitable manner by suggesting alternatives so as to avoid negative consequences of removing illegal connections, closing below standards facilities.	- Community-driven development programmes: Kecamatan Development Project, Indonesia. - Transparency programmes in Veracruz, Mexico. Cf. Global Compact - OBA schemes. - Cf. Scheme on occurrence of corruption and PACTIV (political leadership / accountability / capacity / transparency / Implementation / Voice) in Plummer and Cross (2006).

7) Create a competitive environment

The benefits of private sector participation in infrastructure are enhanced by efforts to create a competitive environment, including by subjecting activities to appropriate commercial pressures, dismantling unnecessary barriers to entry and implementing and enforcing adequate competition laws.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Little possibility for direct (horizontal) competition owing to inelastic demand and supply, high fixed costs, high transport costs and economies of scale. Also vertical integration justified by internalisation of externalities and cross-subsidisation. Instead there are opportunities for competition for market (through concession) and benchmark competition. - Competition is easier in new areas (small towns, peri-urban): for network extension, new household connections. - Competition for market has been circumvented through renegotiations and hidden monopolies through share-holding (very concentrated sector). According to Guasch (2004), in Latin America, renegotiations affected 75% of water contracts (10% in electricity), after 1.7 years (2.3 with electricity). 66% of renegotiations were initiated by operator and 10% by both parties. Consequences: delays (70%) and reduction (62%) of investments, tariff increases (62%) and increase in number of cost components allowing pass-through (59%).	- Show strong political leadership: transparency and early signalling of policy. - Develop technical expertise: careful review of bidding and consideration of history of practices elsewhere. - Be aware of the trade-offs in contract award: risk borne by investors vs. probability of renegotiations and length of contract (which provides incentive to invest in maintenance) vs. more frequent competitive tendering. - Exclusivity awarded to enable cross-subsidies and attract investors can have counter-productive consequences. Opening market and encouraging alternative providers, where network and household connections expansion is slow, can help speed up provision to the poor at better price. - Ensure that small-scale providers are not excluded from the market while avoiding cartelisation among them. - Develop benchmark competition by comparing performance across water providers and releasing the information to the public. - Encourage corporatisation and commercialisation of public water providers to foster competition among public and with private providers.	- Examples of benchmarking: competition with the best performing company (England), with a model company (Chile), within city competition (Manila, Jakarta: coexistence of 2 vertically integrated utilities, operating separate networks). - Cf. OECD/DAFFE/COMP(2004)20.

8) Facilitate access to financial market

Access to capital markets to fund operations is essential to private sector participants. Restrictions in access to local markets and obstacles to international capital movements should, taking into account macroeconomic policy considerations, be phased out.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Specific needs owing to long-term, stable but low return investments and local (municipal) management. - The water and sanitation sector presents high contractual, foreign-exchange, sub-sovereign and political risks. It has led to the development and adoption of different guarantee schemes.	- Take stock of the financing tools and guarantee schemes available and used elsewhere. Assess what can be adapted locally, taking into account the costs associated with risk mitigation tools. - The needs can be very different across private actors. Facilitate access of local SMEs to financing.	- Guaranteed municipal bonds (Mexico, Johannesburg 2004, India: $2.9bn in 10yrs) - Sub-sovereign facilities in local currency. - Infrastructure funds based on pension funds (PAIDF South Africa). - Pooled financing (India: Greater Bangalore Water Supply project, Pooled Fund in Tamil Nadu). - Community participation (India). - Public money as leverage (Zambia Devolution Trust Fund).

C- Goals, strategies and capacities at all levels

9) Consultation with stakeholders

Public authorities should ensure adequate consultation with end-users and other stakeholders including prior to the initiation of an infrastructure project.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- The water and sanitation sector involves a multi-stakeholder partnership (users, sector employees, State, communities, donors, private sector). - Specific vital good with important externalities, highly politicised.	- Involve the employees in the reform process. - Develop consumer trust through awareness/information campaigns - Involve users in regulatory decision making (through water customer committees for instance) for better monitoring. - Water and, even more, sanitation, are segmented sectors. There is a need to develop strong partnerships and coordination mechanisms.	- Senegal preparatory phase. - Phnom Penn workforce incentive model, vs. imposed change in management model in the case of SONEL (electricity company of Cameroon). - Development of Water Watch Group (NWASCO, Zambia). - Sector Wide Approach to Planning (Uganda).

10) Empower authorities responsible for privately-operated infrastructure projects

Authorities responsible for privately-operated infrastructure projects should have the capacity to manage the commercial processes involved and to partner on an equal basis with their private sector counterparts.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Decentralised systems (transport costly compared to unit value) and local management. - Recent decentralisation process not linked with the water sector reforms and not yet followed by devolution of financial means and building of capacities. - High political interferences in multi-layer system.	- Decide over the optimal level of decentralisation taking account of the trade-off between capacities, economies of scale, resource management, coordination on one hand and proximity, community empowerment, efficiency on the other. - Decide over the institutional setting for devolution, notably the regulation / oversight of independent providers. - Encourage training: from central government to sub-sovereign entities, across municipalities (through forums). Be aware that capacity building takes time and commitment. - Empowerment means also consistency across public agencies/administrations: tax authority might prevent tariffs from falling by raising indirect tax.	- Decentralisation: Chile (13 regional companies) vs. Colombia (1380 municipal providers). Opposite trends in Europe (regionalisation) and developing world (decentralisation). - Bolivia 1994 Popular Participation Law vs. South Africa Municipal Finance Management Act and System Act - ANEPA (Mauritania), responsible for supervising 350 independent operators and ensuring regulation in small towns. - Integrated Sanitation budget line in Uganda to empower districts in the area of sanitation. - Training of local capacities (South Africa).

11) Clear and broadly understood objectives and strategies

Strategies for private sector participation in infrastructure need to be understood, and objectives shared, throughout all levels of government and in all relevant parts of the public administration.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Segmented sector: responsibility often diluted across different public agencies and unclear allocation of responsibilities. Many management levels. - Important bearing on social policies (education, health, gender, settlements…) - Water and sanitation governance issues are not purely sectoral, they relate to land tenure, housing security, decentralisation policy, environmental rights - Water governance and reforms involve many objectives that may contradict each other (social equity, economic efficiency, environmental conservation…). Past experiences show too high expectations: reduction in prices, network extension… - Some unavoidable objectives: universal service obligation (i.e. pro-poor strategies)	- Central government should remain in charge of overall policy, objectives and of institutional setting (allocating the role of different public agencies, defining the role of regulatory body). The enforcement of policy framework should be delegated to the local levels. - The objectives in terms of universal service and services to the poor should be clarified. - Ensure consistency across the main development programs and with general policy. Infrastructure development is closely linked with legalisation of informal settlements. Sanitation in particular has to be addressed as part of an integrated urban programme that tackles housing, tenure and relocation. - Channel efforts of the many involved actors towards main development programme (including NGOs, donors, private actors).	- Setting of a steering committee across the different ministries in charge of water to ensure coordination (Ethiopia). - Sector Wide Approach to Planning (Uganda).

12) Mechanisms for cross-jurisdictional cooperation

Mechanisms for cross-jurisdictional co-operation, including at the regional level, may have to be established.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Due to the high cost of transporting water (relative to its unit value), large regional networks are not as common as in the electricity sector. Water systems tend to be decentralized and operated under local jurisdiction. - Scarcity of resource, uneven distribution and necessity to take into account the complete resource life-cycle, regardless of location. - Importance of cross-border management of water issues. - Mechanisms to enforce poverty reduction across municipalities (cross-subsidisation).	- Implement Integrated Water Resource Management (IWRM). - Develop regional cooperation.	- On IWRM, see Global Water Partnership. GWP reports 5 good performers of IWRM in Africa (Burkina, Namibia, South Africa, Uganda and Zimbabwe). - Setting up of institutions to manage jointly water resources: Nile Basin Initiative…

D- Making the public-private co-operation work

13) Establish communication and consultation with private sector

To optimise the involvement of the private sector, public authorities should communicate clearly the objectives of their infrastructure policies and they should put in place mechanisms for consultations between the public and private partners regarding these objectives as well as individual projects.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Multi-stakeholder dialogue: local management, multiplicity of private actors. - Sensitive issues.	- The State should behave as a platform for discussion, between the public and private sector, but also across private providers to link the segments. - The communication channels may differ across actors, depending on the existence of business association for instance and whether the sector is informal. The key issue is to determine which actors are legitimate interlocutors. - Promote association of independent providers, remaining careful of preserving competition.	- Development of a municipal sanitation platform in Durban (South Africa) to coordinate the activities and avoid erratic demand. - Association of small private providers and communication with the public national provider (Uganda).

14) Full disclosure of project related information

There should be full disclosure of all project-relevant information between public authorities and their private partners, including the state of pre-existing infrastructure, performance standards and penalties in the case of non-compliance. The principle of due diligence must be upheld.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Water and sanitation facilities are mainly underground and difficult to appraise. In the past, underestimated state of disarray of infrastructure has led to many renegotiations and failures. - The flow of information is made difficult by multi-jurisdictions dimension. - Asymmetry of information and limited reversibility in the short run. - Disclosure of information is key because of a high incidence of corruption, to facilitate a better understanding of all parts and make public policy clear in a sensitive area.	- Develop reliable data. - Set monitoring mechanisms. - Invest time and capacity in the due diligence process.	- e-dissemination

15) Fair, non-discriminatory and transparent awarding of contracts

The awarding of infrastructure contracts or concessions should be designed to guarantee procedural fairness, non-discrimination and transparency.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Important in concentrated sector and where civil society is active. - Most of past failures in Latin America can be linked to flawed bidding process. - The contract design is a key element of success. High incidence of concession renegotiation can be attributed to flawed contract design.	In the contract award process: - Clarity and transparency of rules of game for all stakeholders. - Maximise the opportunity for competition. - Minimize opportunities for collusion and for future renegotiations by carefully selecting the award criteria (tariffs, investments…) and the characteristics of process (number of operators and their coordination). In the design of contract: - Be aware of the trade-off between a complete contract and its flexibility. - In setting the deal characteristics, be aware of the consequences on incentives for private sector: duration (trade-off private sector commitment vs. competition and risk borne by the private actor / by government), investment vs. performance obligations, allocation of risks, cost of capital determination, valuation of concession assets, pro-poor objectives. - Provide for regulatory elements (price cap vs. rate of return, guidelines for adjustment in tariffs, social tariffs) and dispute settlement principles (performance bond, contingencies for renegotiation, recourse to international arbitration) in the contract.	- Tools: Kessides (2004) for a discussion of different types of regulation and their respective merits. OECD (2006). Concessions

16) Output/performance based contracts

The formal agreement between authorities and private sector participants should be specified in terms of verifiable infrastructure services to be provided to the public on the basis of output or performance based specifications. It should contain provision regarding responsibilities and risk allocation in the case of unforeseen events.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Important where infrastructure gaps are substantial and level of access low. - Important where subsidies exist.	- Set non-contradictory targets and avoid over-regulation (combination of performance targets and investment obligation for instance). - Avoid strict technical service specifications as it restricts options and might disadvantage the poor. Relaxing standards regarding pipe diameters, gradient and depth can allow the development of cheaper, pro-poor sewerage systems. - Set monitoring processes. - The timing is important: the results might not materialise in the very short-term.	- Output Based Aid schemes in Mozambique, Kenya. - Senegal has performance targets embedded in contract (leakage reduction, improvement in bill collection). - Simplified sewerage in Brazil.

17) Competent, well resourced and independent regulatory bodies

Regulation of infrastructure services needs to be entrusted to specialised public authorities that are competent, well-resourced and shielded from undue influence by the parties to infrastructure contracts.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Monopolistic sector, incomplete contracts and multi-stakeholders dialogue. High occurrence of renegotiations. - Necessity of a holistic approach to preserve well-being of users, environment, from water extraction to wastewater discharge. - Quality issues very prominent (quality of water, pollution). - Key importance of maintenance in a capital intensive sector. - Main challenges: asymmetry of information, building up of credibility for only recently established bodies, importance of small-scale, informal providers for which national regulatory tools are often ill-suited.	- The regulatory body needs to be set up prior to reform, enjoy stability to build-up credibility. It should allow for flexibility to adapt roles and responsibilities to initial conditions and to evolve with country development. - There is a trade-off between independence and accountability of regulatory bodies. Key elements are predictability, transparency, consistency, capacity. Disclose information on decisions and procedures, submit to judicial reviews, which also help to protect against excessive political influence. - The key activities of the regulatory bodies should be regulation of water quality, environmental regulation, economic regulation to oversee monopolistic market, monitoring of sector and consumer representation. - There is a trade-off between centralised and decentralised regulation. Decentralisation allows for proximity. However, the water and sanitation sector requires strong coordination notably to ensure IWRM. The decision will be very different in small and poor countries (with limited capacities) and in highly populated countries. Similarly, a multi-sector agency can help share fixed costs, limited capacities and build expertise in cross-cutting issues. It can also better resist political interference. But it loses specific sector capacity. - Regulating small providers requires some form of	- NWASCO (Zambia): regulation of the dominant operators and compromise with independent network schemes. - Attempt by CRA (Mozambique) to develop regulatory tools for independent operators. - PURC (Ghana): price regulation of small-scale through regulator setting resale price for standposts and water tankers. MOU with tanker operator association. - Regional regulatory initiatives to help capacity building, sharing of information, harmonisation: South Asian Forum for Infrastructure regulation, African Forum for Utility Regulators. - PERPAMSI (Indonesia): benchmarks and reports on 29 indicators and make information available on website. - Tools: Building Partnership for development and Franceys (2006) for specific recommendations on how to regulate small-scale operators. Kessides (2004) for precise measures to balance independence and accountability of regulatory bodies. PPIAF toolkit on Evaluating Infrastructure Regulatory Systems.

	official recognition (through licensing and sub-contracting arrangements for instance). Simplify opaque layers of regulation, inform on regulatory principles and lines of responsibility. Develop better monitoring of sector. Some regulation of prices is possible through sharing information on bulk water price of utilities. Be aware of the costs of a comprehensive regulation and its impact on small-scale activities. Regulation and oversight of decentralised systems (notably of condominial sewers) might be best provided by NGOs, communities and local governments.	

18) Allowing for good faith, transparent and non-discriminatory renegotiations

Occasional renegotiations are inevitable in long-term partnerships, but they should be conducted in good faith, in a transparent and non-discriminatory manner.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Long-term, complex contracts that cannot be complete. - Limited information on the state of the assets. - Occurrence of external shocks.	Discourage opportunistic renegotiations: - Trade-off risk borne by investors and probability of renegotiations: less renegotiations when award based on higher transfer fee vs. lowest tariff and rate of return vs. price cap. - Less renegotiation when a credible regulatory framework is in place (prior to reforms): existence of regulatory body and regulatory framework embedded in law (rather than decree or contract). - Less renegotiation when regulation by objectives (on performance indicators) vs. by means (investments) as give flexibility (notably in terms of technology and strategies) to reach the objectives. For similar reasons avoid multiplicity of criteria (potentially contradictory and leverage for renegotiation) and using criteria likely to be modified soon (tariffs). - Avoid making renegotiations too easy and allowing possibility to default cheaply. Use of performance bonds[16], step-in rights[17] and renegotiation fees can reduce incentive to renegotiate. - Develop credible and realistic cahier des charges and avoid changes in policy orientation (adding additional provisions – such as delivery to the poor - after award).	- See Guasch (2004) and OECD (2006).

[16] Bank guarantees that indemnify the public party if the private sector fails to fulfill its obligations.
[17] Step-in rights allow government to take over the operation of a concession when the concessionaire is not performing according to specified standards.

19) Setting dispute resolution mechanisms

Dispute resolution mechanisms should be in place through which disputes arising at any point in the lifetime of an infrastructure project can be handled in a timely and impartial manner.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Disputes are particularly common in water and sanitation. - Highly politicised disputes that generate social unrest and may threaten the political power. - Weak institutional, regulatory and legal framework: contract enforcement is an issue.	- Embed dispute resolution mechanisms in contractual arrangements (performance bond, contingencies for renegotiation, recourse to international arbitration). Clarify remedies available to private investors in case of dispute. Allow for progressive approach (exhaust diplomatic means first). - Bilateral investment treaties allow foreign investors to have access to international arbitration (i.e. ICSID) even though the contract may provide for local courts jurisdiction. Need for government to make local authorities aware of international obligations and of national consequences of breach of international obligations. - Be aware of trade-offs between complete contracts and flexibility to adapt to changing environment; and between systematic recourse to external independent referees and transaction costs.	- Senegal (contractual arrangement provides goo framework for dealing with issues). - Expert panels (Chile).

E- Encouraging responsible business conduct

20) Responsible business conduct

Private sector participants in infrastructure should observe commonly agreed principles and standards for responsible business conduct.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Water is a basic human need. - Important economic, social, environmental and political repercussions. - Water and sanitation are key elements of development policies, which generate important political interventions. - Labour intensive industry? - Dimension all the more important in weak governance environment (where usually the needs are greatest).	- Key elements of business conduct differ across private actors: a concentrated international investor sector runs the risk of collusion. Small-scale operators may enjoy limited knowledge of standards. Financial groups may overlook the specificities of water as a basic need in financial optimisation. - Support the use of principles and standards of responsible business conduct as promoted by intergovernmental instruments such as the OECD Guidelines for Multinational enterprises. - The public sector should consider providing capacity building to small-scale operators. - Promote business awareness of the consequences for the employees generated by changes in management: share information and cooperate with the employee representatives to forge the common values of the company and mitigate any adverse effect of the change.	- Training of independent private operators in Uganda by the national public water company. - Tools: UNPRI (water specific set of principles) OECD Guidelines for Multinational enterprises OECD Risk Awareness Tool for Multinational enterprises in Weak Governance Zones

21) Good faith and commitment

Private enterprises should participate in infrastructure projects in good faith and with a commitment to fulfill their commitments.

Key water and sanitation specificities	Issues for governments	Tools and good practices
-Important information asymmetry and little reversibility over the short-run, leading to strategic renegotiations. In Latin America, frequent, politicised and strategic renegotiations have led to widespread population distrust (Latin American barometer). - Very specific knowledge and technology. - Important political and social repercussions of failures. - important reputational risk.	- The government should clearly communicate its expectations: • In terms of local capacity building and transfer and diffusion of technologies and know-how. • In terms of timely, reliable and relevant information disclosure on activities, structure, financial situation and performance (including participating with good faith and commitment to due diligence processes). - Private enterprises should be aware of dispute resolution mechanisms provided for in the contract and of the existence of any investment protection agreement. - In case of dispute, conciliation and mediation should be used first (alternative dispute resolution mechanisms).	- Case of Aguas del Aconquija (Tucuman, Argentina): ICSID dismissed the claims of private company on ground that claimants should have first pursued their case before the local tribunal.

22) Fight against corruption

Private sector participants, their subcontractors and representatives should not resort to bribery and other irregular practices to obtain contracts, gain control over assets or win favours, nor should they accept to be party to such practices in the course of their infrastructure operations.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Transparency issue: multi-stakeholder dimension and important information asymmetry. - Greater needs are in countries where governance is weak and local governments lack capacity. - Sector where competition is limited and bargaining power strong.	- Promote public commitment by business to integrity, which includes to abstain from improper involvement in local political activities. - Encourage companies to communicate the commitment to the staff, including through training programmes. Addressing corruption includes to control activities where contacts with the consumers are high (connections, repairs) and to limit incentives (through appropriate remuneration of staff). - Consumers should be given opportunities to report on reprehensible behaviours. - Encourage companies to get involved in local actions to promote integrity.	- Coalitions to fight corruption (CIPE – WIN: Water integrity network). - Transparency International Business Principles for Countering Bribery led to Anti-corruption Agreements in Colombia, Argentina (2005). - (TI) Integrity Pact, Pakistan. - Private Sector Pact for Promoting Integrity and Fighting Corruption (Brazil). - Tools: OECD Guidelines for Multinational enterprises. OECD Risk Awareness Tool for Multinational enterprises in Weak Governance Zones.

23) Communication with the consumers

Private sector participants should contribute to strategies for communicating and consulting with the general public, including vis à vis consumers, affected communities and corporate stakeholders, with a view to developing mutual acceptance and understanding of the objectives of the parties involved.

Key water and sanitation specificities	Issues for governments	Tools and good practices
- Water is a basic need and generates high social unrest if not perceived to be delivered adequately. - Consumer trust is a key element of reform, notably in support to pricing policy. Current trends show that in some places, the confidence in private sector is deteriorating (Latin American privatisation barometer). - Consequences for health of better water and sanitation practices are important.	- Engage companies in the existing monitoring and communication process when put in place by the public agency/regulator. - Encourage companies to be responsive to clients' claims and provide transparent and effective procedures to address consumer complaints. - Involve companies in the awareness campaigns (to promote hygiene for instance). - Encourage companies to communicate to consumers on price increases and other major changes in service delivery and be in line with service quality and users needs.	- Tools: OECD handbook on information, consultation and public participation in policy-making.

24) Awareness and responsibility for the social consequences of actions

Private sector participants in the provision of vital services to communities need to be mindful of the consequences of their actions for those communities and work, together with public authorities, to avoid and mitigate socially unacceptable outcomes.

Key water and sanitation specificities	Issues for governments	Tools and good practices
Important economic, social, environmental and political repercussions: - Consequences for the poor: tariff setting, design of new investments, choice of technology, connection policy, water quality. - Consequences for the environment: water conservation and management (maintenance), treatment of effluents.	- Promote discussions on the consequences for the poor and environment of the technology choices, tariff setting policy, investment planning. - Promote contribution to sustainable development by evaluating the full impact of activities on environment and continuously seeking to improve environmental performance. Favour adoption of basic principles of water demand management, such as water conservation, adoption of metering (for efficiency, water conservation and greater empowerment of consumers), reduction of leaks through improved maintenance and technical measures and re-use of water, when water scarcity calls for it. - Promote adoption of environmental management standards, such as ISO 14001.	- JOWAM in Soweto (BOTT: build, operate, train and transfer). - City of Windhoek (Namibia) managed to reduce unaccounted-for water to 10.3% In 2006 thanks to its water demand management programme. - Tools: The CEO Water Mandate.

OECD, Directorate for Financial and Enterprise Affairs, Investment Division

Supporting documents

Authors	Title	Description
Overview of trends		
Asit Biswas and Cecilia Tortajada	Water pricing and public private partnership, 2005	Trends and issues of PPP
Patricia Clarke Annez	Urban infrastructure finance from private operators: what have we learned from recent past experience? World Bank Policy Research Paper 4045, 2006	Risks associated with private sector financing
Antonio Estache	PPI partnerships versus PPI divorces in LDCs, World Bank Policy Research Paper 3470, 2005	Concept paper: debate private vs. public
Michel Kerf and Ada Karina Izaguirre	Revival of private participation in developing country infrastructure, Gridlines Note n°16, PPIAF, 2007	Trends in private sector participation
Bill Kingdom, Roland Liemberger and Philippe Marin	The challenge of reducing non-revenue water in developing countries, Water supply and sanitation sector board discussion paper n°8, PPIAF, 2006	Performance-based service contracting
James Leigland and William Butterfield	Reform, private capital needed to develop infrastructure in Africa, Gridlines Note n°8, PPIAF, 2006	Trends in private sector participation
Philippe Marin and Ada Karina Izaguirre	Private participation in water Gridlines Note n°14, PPIAF, 2006	Trends in private sector participation
Gordon Mcgranahan and David Satterthwaite	Governance and getting the private sector to provide better water and sanitation services to the urban poor, IIED, 2006	Debate private vs. public
OECD CCNM/ENV(2000)36	Global trends in urban water supply and waste water financing and management: changing roles for the public and private sector.	Principles for private sector participation in W&S Matrix allocating responsibilities across government levels.
OECD	Privatisation in Sub-Saharan Africa. Where do we stand? OECD Development Centre Study, 2004.	Type of contracts
OECD ENV/EPOC/GF/SD(2006)1	Opportunities and challenges arising from the increasing role of new private water operators in developing and emerging economies.	Typology of recent market entrants. Regional trends
OECD ENV/EPOC/GF/SD(2006)3	Assessing the long term outlook for current business models in the construction and provision of water infrastructure and services.	Private sector participation trends New York water conservation programme Decentralised systems

OECD	Infrastructure to 2030 Vol1: Telecom, Land Transport, Water and Electricity, 2006 Vol2: Mapping policy for electricity, water and transport, 2007	
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Michael Schur, Stephan Von Klaudt and Georgina Dellecha	The role of developing country firms in infrastructure, Gridlines Note n°3, PPIAF, 2006	Trends in private sector participation
Regulation		
Lise Breuil	Renouveler le partenariat public-privé pour les services d'eau dans les pays en développement, Thèse, ENGREF, 2004	Cas Argentine, Colombie, Brésil, Bolivie, Manille, Chili Different water governances
Anton Eberhard	Infrastructure regulation in developing countries. An exploration of hybrid and transitional models. PPIAF, 2007	Forms of regulation, transitional models
Richard Franceys and Esther Gerlach	Regulating Public and Private Partnerships for the Poor, DFID 2006	Regulatory framework
Eric Groom, Jonathan Halpern and David Ehrhardt	Explanatory notes on key topics in the regulation of water and sanitation services. PPIAF, 2006	Regulatory framework
J.Luis Guasch	Granting and renegotiating infrastructure concessions, WBI Development Studies, 2004	Renegotiations
Ioannis Kessides	Reforming infrastructure. Privatization, regulation and competition, World Bank, 2004	Specificities of water infrastructure
OECD DAFFE/COMP(2004)20	Competition and regulation in the water sector	Forms of competition (in OECD countries)
OECD DAF/COMP/GF(2006)6	Global Forum on Competition, Concessions, 2007	Concession design and award. Renegotiations.
Sophie Trémolet	Adapting regulation to the needs of the poor, BPD, 2006	Pro-poor regulation
Financing		
Rachel Cardone	Studies on financial instruments to facilitate investment for water infrastructures, African Development Bank, 2006	Financial innovations
IMF	Government Guarantees and fiscal risk, IMF, 2005.	Guarantees, liabilities and recommendations.
Matsukawa & Habeck	Review of risk mitigation instruments for infrastructure financing and recent trends and developments, PPIAF, 2007	Risk mitigation instruments
UNEP FI	Financing water: risks and opportunities	Description of risks

James Winpenny	Guaranteeing development? The impact of financial guarantees, OECD Development Centre Studies, 2005	Risk sharing, guarantees
Dispute resolution		
Serge Pannatier & Olivier Ducrey	Water concessions & protection of foreign investments under international law, Fresh Water and International Economic Law, Oxford University Press, 2005	Dispute resolution, ICSID, Tucuman case
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UN Global Compact	The CEO water mandate, 2007	
Corruption		
Castalia	Integrity in the provision of infrastructure: the way forward in control of corruption and accountability, 2004	Corruption
Jennifer Davis	Corruption in public service delivery: experience from South Asia's water and sanitation sector, World Development, Vol. 32, N°1, 2004	Corruption
Janelle Plummer and Piers Cross	Tackling corruption in the water and sanitation sector in Africa: Starting the dialogue, 2006	Scheme on occurrence of corruption
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Collignon and Vézina	Les opérateurs indépendants des services de l'approvisionnement en eau potable et de l'assainissement en milieu urbain africain, WSP, 2000	Small-scale operators
Mukami Kariuki and Jordan Schwartz	Small-scale service providers of water supply and electricity, World Bank Policy Research Working Paper, 2005	Statistics on small-scale and definition
Valfrey-Visser, Schaub-Jones, Collignon and Chaponnière	Access through innovation : expanding water service delivery through independent network providers, BPD, 2006	Small-scale operators
Tools		
World Bank, PPIAF	Approaches to Private Participation in Water Services: A Toolkit, 2006	Principles
UNCITRAL	Legislative guide on privately financed infrastructure projects, 2001 Model legislative provisions on privately financed infrastructure projects, 2004	Guidelines for legislative framework

UNDP	Toolkit for pro-poor municipal PPP	Principles
Swiss Cooperation	Public-Private Partnerships for Water Supply and Sanitation, Policy principles and implementation guidelines for sustainable services, 2005	Principles
Country studies		
AMCOW, AfDB, EUWI, WSP and UNDP	Getting Africa on track to reach the MDGs on water and sanitation, a status review of 16 African countries	Benin, Burkina, DRC, Ethiopia, Ghana, Kenya, Madagascar, Malawi, Mauritania, Mozambique, Niger, Rwanda, Senegal Uganda, Zambia
Aymeric Blanc and Cédric Ghesquieres	Secteur de l'eau au Sénégal: un partenariat équilibré entre acteurs publics et privés pour server les plus démunis? AFD 2006	Private sector participation in Senegal
German Development Cooperation	Private Sector Participation in Urban water Supply in Sub-Sahara Africa, 2005	Burkina, Mali, Senegal, Kenya, Tanzania, Uganda and Zambia
Béatrice Hibou and Olivier Vallée	Energie du Mali ou les paradoxes d'un échec retentissant. AFD, 2007	Private sector participation in Mali
Hydroconseil	De la gestion des bornes-fontaines aux petits réseaux indépendants: l'évolution des petits opérateurs privés dans la périphérie de Bamako, 2006.	Small-scale in Mali
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