



Private Sector Participation in Water Infrastructure

OECD CHECKLIST FOR PUBLIC ACTION



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Foreword

Recognising the critical importance of infrastructure sectors, including water and sanitation, for growth and sustainable development, the OECD Council approved in March 2007 the OECD Principles for Private Sector Participation in Infrastructure. The Principles are intended to serve as a first step to help governments interested in involving the private sector in the development of infrastructure. The Principles offer a coherent catalogue of policy directions to be assessed as part of a development strategy in light of national circumstances and needs. They were developed in consultation with a broad group of experts from the public and private sector as well as with non-governmental organisations. They build on the lessons learned from the experiences of private sector participation in recent years.

In response to the international community's call for strengthened efforts to ensure adequate provision of water and sanitation services, the OECD launched a specific application of the Principles to the water and sanitation sector. The initiative constitutes one element of a major OECD cross-cutting programme on water policies for affordable services and sustainable resources management. It complements recommendations developed by the OECD on pricing and realistic financing strategies. The work involved the development of a guidance based on the Principles and building an information base of country experiences. The guidance is in the form of a checklist of the main specificities of the water and sanitation sector that bear on private sector participation and of the key policy issues for consideration by governments. It also provides a set of available tools and practices, building on recent country experiences. The focus is mainly on drinking water and sanitation infrastructure in developing and emerging economies where extending service coverage to all constitutes a major challenge, but builds on practices and tools from both OECD and non-OECD countries.

The work was developed through regional consultations: in Africa, through the NEPAD-OECD Africa Investment Initiative Roundtable organised in Lusaka (Zambia) in November 2007; in Asia, through the joint OECD/Asian Development Bank expert meeting organised in Manila (Philippines) in March 2008; and in Latin America, through the joint OECD/Mexican Institute of Water Technology meeting organised in Cuernavaca (Mexico) in September 2008. The World Water Week held in August 2008 in Stockholm (Sweden) provided a further opportunity for consultation with civil society and the broader water expert community. In addition, the work contributed to the discussions in various fora held in 2008: the Viet Nam-Japan-OECD forum on Public-Private Partnerships in Hanoi (Viet Nam), the AFUR Water and Sanitation Sectoral Committee Workshop in Accra (Ghana), the World Water Congress in Montpellier (France) and the 2008 SPECA Economic Forum in Moscow (Russia).

The material for this publication was prepared under the auspices of the OECD Investment Committee by Céline Kauffmann, economist in the Investment Division, headed by Pierre Poret, in the OECD Directorate for Financial and Enterprise Affairs. Other parts of the OECD Secretariat contributed inputs and comments, specifically the Environment Directorate (Brendan Gillespie, Monica Scatasta, Peter Borkey, Xavier Leflaive, Roberto Martin-Hurtado and Alexandre

Martoussevitch). In the Investment Division, Cristina Tébar Less contributed to organising the regional consultation in Latin America, Lahra Liberti is the legal adviser and Pamela Duffin the communication officer. The regional analysis drew on research and statistical work carried out by Edouard Perard, Jenny Dato and Veronica Herrera.

Table of Contents

Executive Summary	7
Introduction	9
An evolving environment	9
Why a checklist for public action?	10
Chapter 1. Definitions, Trends and Concepts	13
The private actors	14
Modalities of participation and risk-sharing	17
Providing a sound regulatory framework	24
Chapter 2. Checklist for Public Action in the Water Sector	33
Deciding on public or private provision of infrastructure services	38
Enhancing the enabling institutional environment	46
Goals, strategies and capacities at all levels	54
Making the public-private co-operation work	62
Encouraging responsible business conduct	76
Chapter 3. Water at a Glance	87
Water availability and access	88
Operational performance of the water sector: a contrasted picture	92
Future investment needs	97
Private sector participation: a recent history	97
Institutional and regulatory frameworks	104
References and websites	111
Annex	119
Advisors and Special Experts	131
List of Boxes	
1.1. 15 years of Public-Private Partnerships for urban water utilities according to World Bank (2009)	18
1.2. Definition of the different contractual arrangements	19
1.3. Regulating the partnerships, key concepts and issues	25
1.4. The Chilean experience of involving the private sector	27
1.5. Regulation and the small-scale providers	28
1.6. Implementing a performance-based contract, the experience of a lease contract for Yerevan	29
1.7. The affermage contract for urban drinking water in Senegal	29

List of Tables

1.1. Categorising small-scale private water supply service providers	15
1.2. Categorising recent market entrants	16
1.3. Typology of contractual arrangements between Government (G) and the Private sector (P)	18
1.4. Arbitral decisions and negotiated settlements in cases related to water operations brought to ICSID	22
1.5. Typology of risks and mitigation mechanisms	23
1.6. Key roles and responsibilities, as derived from the Checklist for Public Action . . .	31
3.1. Countries in <i>Water at a Glance</i>	88
3.2. Selected Available information in <i>Water at a Glance</i>	89
3.3. Millennium Development Goals progress in selected Latin American countries . . .	91
3.4. Millennium Development Goals progress in selected Asian countries	91
3.5. Millennium Development Goals progress in selected African countries	91
3.6. Indicators of operational management	92
3.7. Operational performance indicators in selected Asian countries	93
3.8. Operational performance indicators in selected Latin American countries	94
3.9. Operational performance indicators in selected African countries	95
3.10. Investment needs in selected countries (US\$ million/yr)	97
3.11. Private sector participation in selected Asian countries	98
3.12. Private sector participation in selected Latin American countries (1990-2006) . . .	100
3.13. Private sector participation in selected African countries	103
3.14. Regulatory frameworks in selected Asian countries	105
3.15. Regulatory frameworks in selected Latin American countries	107
3.16. Regulatory frameworks in selected African countries	108

List of Figures

1.1. Private participation in water and sewerage infrastructure projects, 1991-2007 . . .	17
3.1. Access levels in percentage of population in 2004 by region	90
3.2. Number of days per year that firms experience insufficient water supply for production	96

Executive Summary

In the past 20 years, a number of governments have sought to involve the private sector in the development and management of their water systems. Financing the achievement of the Millennium Development Goal (MDG) targets for water and sanitation in developing countries requires substantial investments. Based on the latest estimates, halving the proportion of people without access to drinking water and sanitation by 2015 would entail investments of some USD 72 billion per year. Both additional funding and more efficient use of available resources are necessary. In order to meet the tremendous needs, *Water at a Glance*, an OECD information base developed to support this work, shows that most developing countries have sought to involve the private sector to varying degrees and for various objectives, as a source of financing and/or to improve efficiency in service delivery, reduce costs, contribute to long-term sustainability and favour technology transfer.

Forms of private sector participation vary widely. The private sector players operating in the water and sanitation sector are diverse and fragmented: they include international operators, local and regional actors, private sector firms whose core activity is not water including large users (such as the beverage and mining companies) and the financiers, joint ventures between public and private companies as well as public companies operating abroad as private participants in competitive bidding. In a number of countries, small-scale private providers have helped alleviate the deficiencies of service provision where it has failed to keep pace with rapid population growth and urban migration. Risk-sharing arrangements are becoming increasingly context-specific and covering the overall spectrum from full divestiture to non-financial forms of participation.

A number of experiences involving the private sector have fallen short of expectations. In particular, the expected flow of private investment did not materialise. The main causes were often a poor understanding of the risks and opportunities involved by private sector participation in a complex sector as well as inadequate framework conditions. The specificities of the water and sanitation sector may help explain the difficulties of and constraints on private participation: i) the sector involves high fixed costs coupled with long-term irreversible investments, ii) water is a basic need with important externalities on health, gender equality and environment, which justify government intervention, iii) water and sanitation are managed at the local level, exposing the private sector to sub-sovereign risk, iv) the organisation of the sector is complex, due both to the number of stakeholders and to the segmentation of responsibilities across government tiers and agencies, v) the necessarily long-term relationship exposes the partners to a number of risks, including contractual, regulatory and foreign-exchange risks.

Harnessing more effectively the efforts of the diverse private players requires a focus on aspects that go “beyond money”, and particularly on sound policy and regulatory frameworks, adequate allocation of risks and improved accountability. In particular, while

most countries have increased their efforts to achieve regulatory stability and predictability, regulatory frameworks often remain incomplete. In many countries, the water sector is still characterised by a multiplicity of government agencies responsible for implementation and oversight. There often is an unclear allocation of responsibilities across stakeholders: across public and private partners, but also across different government tiers and agencies. Maintaining the flexibility required to sustain long-term commitments in a constantly changing environment while ensuring regulatory stability also is a great challenge for most countries wishing to attract private participation.

In light of this experience and taking account of the above factors, **a Checklist for Public Action has been developed by the OECD** and its partners to assist governments wishing to engage the private sector in the water sector. It highlights five areas of key importance:

- deciding on the nature and modalities of private sector participation;
- providing a sound institutional and regulatory environment for infrastructure investment;
- ensuring public and institutional support for the project and choice of financing;
- making the co-operation between the public and private sectors work in the public interest; and
- encouraging responsible business conduct.

The Checklist for Public Action makes four general recommendations to governments and provides policy directions and country practices to assist in their implementation

- Clarify the ultimate objectives for service provision and the contributions that the private sector can make. This involves clarifying the roles and responsibilities of the diverse private partners and defining the modalities of their involvement so that the partnership is tailor-made to local specificities and provides the incentives for a sustainable cooperation in the public interest.
- Develop a conducive framework based on high quality regulation and political commitment (including a commitment to fight corruption). The allocation of roles across responsible authorities and coordination mechanisms should be clearly defined to support effective implementation of regulations and contractual provisions. This is valid regardless of the private or public nature of water operators.
- Root the partnerships in strong accountability mechanisms through clear and consistent output-based contractual arrangements, monitoring and relations based on information-sharing and on consultation with stakeholders.
- Private actors also have an important role to play and responsibilities in ensuring the sustainability of partnerships and that their contributions make a difference in improving the lives of millions of people. This involves participating in good faith and with commitment, promoting integrity, communicating with consumers, and effectively managing the social and environmental consequences of their actions.

Introduction

An evolving environment

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. Financing the achievement of the Millennium Development Goal (MDG) targets for water and sanitation in developing countries (i.e. halving the proportion of people without access to drinking water and sanitation by 2015) would require investments of some USD 72 billion per year (18 billion for coverage extension and 54 billion for maintenance).¹ OECD countries also face significant financial challenges to replace ageing water infrastructure and comply with ever-stringent water regulations: France and the UK for instance need to increase spending on water by 20% and Japan and Korea by over 40% to 2030 to maintain current services.² To meet these tremendous needs and expand their infrastructure in a context of tight budgetary constraints, but also in an attempt to improve the efficiency of – often deficient – water systems, many developing and emerging countries have sought the involvement of the private sector.

However, a number of experiences involving the private sector since the 1990s have fallen short of expectations for all parties involved and led in some cases to highly politicised debates and international arbitration. In particular, the expected surge in the flows of private investment did not materialise. The causes were often a poor understanding of the opportunities and risks involved by private sector participation in a complex sector, as well as inadequate framework conditions. This contributed to catalysing public attention on the role for private sector participation in developing and managing water systems, as well as more generally on the conditions under which water services can be provided safely, affordably and sustainably. It also led to rapid changes in the forms of private sector involvement, towards less risky contracts (service, management contracts and greenfield projects), the emergence of new actors (local and regional), and a growing recognition of alternative small-scale and very often informal private providers.

Past difficulties have contributed to revealing the complexities of the water sector:

- i) High fixed costs coupled with long-term irreversible investments and relatively inelastic demand tend to make it a monopolistic sector in which competition is difficult to introduce and regulation plays a central role.
- ii) Water is a basic need. Water quality and access have important externalities affecting health, gender equality and the environment. These justify a public policy interest.
- iii) The responsibility for water and sanitation service provision often rests with local authorities. Nevertheless, the importance of the externalities, of taking into

- account the full water cycle and of optimising economies of scale requires an integrated approach to development and management of water infrastructure and service provision.
- iv) The sector involves numerous stakeholders and suffers from segmentation of responsibilities – notably across government tiers and public agencies.
 - v) Investors in the water and sanitation sector are faced with commercial risk, contractual risk, foreign-exchange risk, sub-sovereign risk, arbitrary political interferences, and complex pricing policies with multiple objectives, such as cost recovery, economic efficiency, environmental objectives, equity and affordability.
 - vi) Long-term relationships, limited competition and irreversibility of infrastructure and technology may expose the sector to risks, particularly of capture by vested interests.

Focusing solely on the private *vs.* public dimension of operators might be misleading for two main reasons. First, the obstacles to water and sanitation infrastructure development are largely unrelated to ownership. To some extent, private sector participation brings to light the tensions that the development of water infrastructure generates, tensions that usually remain hidden when infrastructure is kept in the public sector. In that sense, most recommendations to optimise private sector participation, including the *OECD Principles*, remain relevant tools for facilitating infrastructure development projects regardless of the partners.

Secondly, the “private sector” accommodates a large variety of actors. These include, not only the large networked utilities run by international corporations, but also local and small-scale actors and a continuum of partnerships between private operators, public actors and communities. Most systems are increasingly hybrid and rarely either purely public or purely private. The partnerships are also in effect multi-stakeholder arrangements as they involve, in addition to the “private” entity, different tiers of governments, the consumers and the communities. Consequently, they can hardly be reduced to a face-to-face relationship between a homogenous public entity and a single private actor, but can rather be seen in practice as tripartite partnerships.

Why a Checklist for Public Action?

What is the Checklist for Public Action?

The *Checklist for Public Action* builds on the *OECD Principles for Private Sector Participation in Infrastructure*.³ “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 privatisation or private management of publicly owned infrastructure.” As highlighted by the first principle, the mode of infrastructure service provision can only be chosen locally and through tailor-made models.

The *Checklist for Public Action* defines the main specificities of the water and sanitation sector that bear on the co-operation between the public and the private sector; identifies key policy issues for consideration by governments; and provides a set of available tools and practices, building on recent country experiences. It is intended to help governments and other stakeholders properly assess and manage the implications of private sector participation in the financing, development and management of water and sanitation

infrastructure. It underlines the importance of an appropriate allocation of roles, risks and responsibilities and of establishing the framework conditions necessary to make the best of such co-operation.

The structure of this report is the following:

Chapter 1 describes the scope of the work and defines the key concepts.

Chapter 2 constitutes the core of the *Checklist for Public Action*. It is organised around the 24 OECD *Principles for Private Sector Participation in Infrastructure* in the form of a matrix.

Chapter 3 introduces *Water at a Glance*, the information base developed to support the conceptual work, building on the experience of 30 countries in Africa, Latin America and Asia Pacific.

The document also contains an organised bibliography with relevant references and their web links and, in annexes, the summaries of the regional consultations carried out in support to this work.

Who will find this Checklist for Public Action useful?

The *Checklist for Public Action* is primarily addressed to governments and other tiers of the public sector that are responsible for the provision of drinking water and sanitation services. The *Checklist* may also be of use to other constituencies, such as the private sector, civil society (NGOs, communities, users) and the international donor community, for a better understanding of the issues at stake and as a platform for policy dialogue.

What makes the Checklist different?

The *Checklist for Public Action* does not aim at providing detailed prescriptions or technical advice on implementation of specific aspects of project development, contract formulation or regulation. For this, other tools exist such as the PPIAF *Toolkit on Approaches to Private Participation in Water Services*,⁴ the *Policy Principles and Implementation Guidelines for Public-Private Partnerships for Water Supply and Sanitation* (developed by the Swiss co-operation and implemented by Building Partnerships for Development),⁵ the UNECE technical assistance and guides⁶ and the UNDP *Toolkit for Pro-Poor Municipal PPP*.⁷ These tools are largely complementary to the OECD *Checklist for Public Action* in providing, once the nature and implications of private sector participation fully understood, guidance on the specific steps to design the partnerships.

The *Checklist for Public Action* draws on a wide corpus of material from governments, international organisations, NGOs and 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, as well as on practices from OECD countries.

The diversity of the private actors operating in the water and sanitation sector is recognised throughout this *Checklist for Public Action*. There is no need to adopt a narrow definition of the private sector as the *Checklist* is well adapted for most partnerships. As such, its rationale remains also largely valid for not-for-profit systems (NGOs and community-based organisations), although the motivations may differ.

Notes

1. Hutton & Bartram (2008), *Global Costs of Attaining the MDG for Water Supply and Sanitation*.
2. OECD (2006), *Infrastructure to 2030: Telecom, Land Transport, Water and Electricity*.
3. Complete text available at: www.oecd.org/daf/investment/ppp.
4. <http://rru.worldbank.org/Toolkits/WaterSanitation>.
5. www.partnershipsforwater.net.
6. www.unece.org/ceci/ppp.html.
7. www.margraf-publishers.com/UNDP/PPPUE/.

Chapter 1

Definitions, Trends and Concepts

The *Checklist* aims to assist governments and their partners in facilitating the development and management of infrastructure with a view to increasing sustainable access to safe and reliable drinking water and proper sanitation facilities. The focus, therefore, is mainly on developing and emerging countries, where extending the relevant infrastructure constitutes a major challenge. High-income countries also face substantial investment needs in order to maintain and replace ageing networks¹ but the issues and conditions differ depending on the level of development. These differences are most notable in the areas of institutional and regulatory framework development and level of access to water and sanitation. Nevertheless, the practices of OECD countries are presented when relevant, as they provide useful insights on issues at stake and possible policy responses.

This work focuses on access to drinking water and sanitation. It does not tackle other key water uses such as irrigation or hydroelectricity. However, it complements other dimensions of the OECD Water Programme, including work on economic instruments for sustainable agricultural water use.² For the purpose of this work, water and sanitation infrastructures include upstream facilities, as well as distribution and sewerage networks. As traditionally defined, water delivery systems involve six components:³ 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, outside the sewerage network, is highly segmented and involves many different actors around the initial provision of facilities, waste removal and transport and waste treatment.

Among the components of the water cycle, upstream activities, such as extraction and water treatment and the downstream activity of wastewater treatment involve significant private sector activity, generally in the form of Build, Operate and Transfer (BOT) contracts. These activities may appear more attractive to the private sector as they can be more easily ring-fenced (notably in terms of revenue) and their specific outputs are more easily defined. Direct services to users also involve some private sector participation in the form of concession, lease or management contracts. However, public ownership and management of the main networks remain the norm in many countries. The development and management of water networks are perceived as much more risky by private operators. In such activities, the private contractors have to rely more or less, depending on the contractual arrangements, on tariffs as the basis for their revenue. Moreover, they are in direct contact with the general public and are operating in an area that is very sensitive for policy makers. Finally, significant private participation has also developed in most developing countries for service delivery in the poorer and isolated areas in the form of small-scale, often informal, operators.

The private actors

The water and sanitation market is fragmented and accommodates a large variety of different agents: international investors, local and regional actors, private sector firms whose core activity is not water but is an important user of water (such as beverage, mining

and construction companies), joint ventures between public and private companies as well as public companies operating abroad as private participants in competitive bidding. In addition, in most developing countries, where the progress of conventional public service provision has barely kept pace with rapid population growth and migration to urban areas, small-scale local actors have made up for the deficiencies in public service provision. They provide water and sanitation service to large sections of population (notably to the poorest and isolated). Table 1.1 lists the activities of small-scale private service providers depending on their link with the formal system.

Even among official private operators, the landscape of service provision has become more diversified in the last 10 years. According to the World Bank, during 1990-97, five operators accounted for 53% of projects awarded (Suez, Veolia, Thames, Agbar and Saur).⁴ Five years later, their share had dropped to 23% (over 2003-2005). The new players come from diverse backgrounds: they are water construction or engineering companies, industrial conglomerates seeking to diversify, local companies expanding and going

Table 1.1. Categorising small-scale private water supply 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.
Organisation	Private company or individual, community organisation or neighbourhood association.	Sole proprietor, cooperative, private land and housing developer, water user association, community-based organisation.
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 Marikina, Manila and Bantay Meanchey.	Registered operators in Guatemala city. Unregistered operators in Kampala and Cebu city. Private land and housing developers and home owners 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 – or 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.
Organisation	Individual, enterprise, self-help group.	Neighbourhood association, microenterprise, community based organisations.
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. Franchisers of public bathing facilities in Delhi.	Development of own water points for profit in Kampala. Private baths with independent source of water in Lima. Private owner of well or borehole selling bulk water to public or private mobile vendors in Lima and Karachi.
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.
Organisation	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 (Chennai). Carters, street vendors purchasing water from tankers / kiosks, and delivering water by the can (Dakar, Dar-es-Salaam). Bottlers and vendors of tap water in Nairobi.	Trucks purchasing water from private wells or untreated sources, registered or not and distributing to storage tanks or individual households in Lima and Kathmandu. Carters, street vendors obtaining water from private wells or untreated sources and delivering water by the can in Nairobi and Mombasa. Bottlers and vendors of purified water in Manila and Shanghai.

Source: Kariuki and Schwartz (2005), *Small-Scale Service Providers of Water Supply and Electricity*.

regional or forming joint ventures with international operators (see Table 1.2). According to World Bank (2009),⁵ by 2007, 40% of the population served by the private sector was receiving services from developing countries' operators.

Also, concerns about water resources scarcity and the consequences of climate change in some areas are supporting the development of new technologies such as wastewater reclamation and re-use, desalination plants and advanced filtration membranes. While

Table 1.2. **Categorising 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 by concerns over resource scarcity that drive innovations in desalination and reuse technologies.	Wastewater treatment plants: China Desalination projects in arid, coastal countries (GE, Siemens). Trading companies offering water treatment systems, developing integrated services (Hyflux).
	Multi-utility spreading to water to enjoy economies of scale and cross-subsidisation of different parts of their business.	RUS & CES (Russia), NWS Holdings (China), JUSCO (India), Ranhill & YTL (Malaysia), Davao Light & Power (Philippines).
	Property developers financing and building onsite (including close loop) systems for public buildings and single or multi-family complexes.	Minimal water extraction and discharge in the case of the Payne Rd residential subdivision (The Gap, Brisbane).
	Big users, such as beverage and mining companies increasingly concerned about water supply and costs, and their acceptance by local communities in a context of increased competition across uses.	Nestlé, Coke Penoles (Mexico)
Financial companies including water services in portfolio	Banks and financial groups in buying water service companies.	Consortio Financiero (Chile), CITIC* (China).
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* (South Africa) winning jointly with Vitens Evides International* (Netherlands) the management contract for Accra (Ghana). ONEP* (Morocco) winning the affermage contract in Cameroon.
	Privatisation of former public utilities	Divestiture of EMOS (Chile) Partial privatisation of SABESP* (Brazil) through share trading on the New York and Sao Paulo Stock exchanges.
Joint ventures with foreign operators	To benefit from foreign investors know-how, while mitigating the foreign exchange risk and facilitating local insertion. Various combinations exist: local private actor and foreign private operator; local public authority and foreign private operator; local private actor with foreign public operator.	Combining public and private capacities: Saltillo (Mexico) – SIMAS is a mixed company constituted by the municipality and Agbar. Combining local and international private actors: Manila Water – consortium of Ayala Corporation (Philippines), United Utilities Pacific Holdings, (subsidiary of United Utilities PLC, UK), Mitsubishi Corporation (Japan), IFC (World bank Group), BPI Capital Corporation (Philippines).
Graduation of small-scale water operators	Official recognition of the role of small-scale operators through their insertion in the institutional and policy framework.	Mauritania delegated management model in small towns.
	Association of local operators to have their voice heard and share information and practices.	APWO (Uganda)

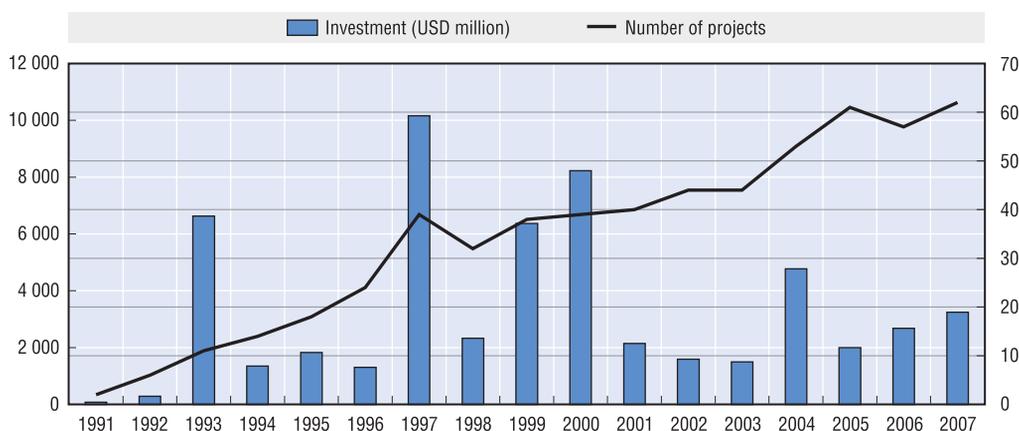
Note: These companies are publicly controlled. That they have started competing in market shows that the frontier between public and private operators has become increasingly blurred.

Source: OECD Investment Division, based on OECD (2006), *Opportunities and Challenges Arising from the Increasing Role of New Private Water Operators in Developing and Emerging Economies*.

these technologies can be adopted by public and private operators alike, they constitute important opportunities for businesses to get involved in the water sector. Global Water Intelligence⁶ foresees a tripling of water re-use capacity between 2008 and 2016 (from 20 to 60 million m³/d) and a doubling of desalination capacity (52 to 107 million m³/d). It is expected to translate into respectively some \$64 billion and \$47.5 billion worth of transactions in desalination plants and water re-use projects.

The changes in the private sector landscape accompany a trend among “traditional” international players towards shorter, less risky arrangements involving lower or no investment obligations (Figure 1.1). Today, Suez, the most active international company in concessions during the first phase of private sector involvement, is largely withdrawing from developing countries (except China). By contrast, by 2005, Veolia became the most active international operator, mostly through development of local partnerships. Agbar is also increasingly participating in developing countries’ water sector through joint ownership with local governments. Other international players, such as Severn Trent, are concentrating on management and service contracts, with no capital expenditure obligations. The changes in the private sector landscape are leading to new partnership arrangements and new challenges for policy makers, including the regulation of more dispersed activities, the prospects of more limited in-flows of finance and a stronger focus on operational efficiency and service quality (see Box 1.1).

Figure 1.1. **Private participation in water and sewerage infrastructure projects, 1991-2007**



Source: World Bank PPI Database: <http://ppi.worldbank.org/>.

Modalities of participation and risk-sharing

Private sector participation is broadly defined to include non-financial forms that involve managing infrastructure services. However, to differentiate from traditional public procurement, participation is defined as involving some transfer of risk to the private partner. A wide range of risk sharing arrangements is available to policy makers and forms a quasi continuum between cases where the public sector assumes most of the risk to cases where there is significant risk transfer to the private sector. Table 1.3 provides a typology of the main categories of contractual arrangements and their consequences for risk-sharing. Box 1.2 gives the definitions of these contractual arrangements.

Box 1.1. 15 years of Public-Private Partnerships for urban water utilities according to World Bank (2009)

According to a recent World Bank study analysing the performance of some 65 large PPP water projects – management contracts, concessions and leases for water utilities – implemented during the past 15 years in 32 developing and emerging countries, the most consistent contribution of private operators has been to improve operational efficiency and service quality. For instance, many of the private operators reviewed by the World Bank succeeded in reducing water losses, notably in Western Africa, Brazil, Colombia, Morocco, and Eastern Manila. In some cases, however, such as in Guayaquil, Maputo and Western Manila, no notable progress was achieved and non-revenue water remained at very high levels (above 50%). The study also finds that the introduction of a private operator may markedly improve bill collection rates. Finally, evidence shows that water PPPs have often helped substantially improve service quality, especially by reducing water rationing. This was especially the case in Colombia and in Western Africa.

By contrast, earlier expectations for increased private finance have proved unrealistic. The bulk of private investments has been concentrated on a few projects (notably in Chile). The study underlines that the population served by private water operators in developing and emerging countries has increased steadily, from 96 million in 2000 to some 160 million by the end of 2007 (notably thanks to expansion in Algeria, China, Malaysia, and Russia), and that more than 24 million have gained access to piped water through private operators. However, many concessions failed to invest the amount of private funding they had originally committed, and did not meet their original contractual targets for coverage. By contrast, concessions combining private and public financing (such as in Colombia, Guayaquil in Ecuador, and Cordoba and Salta in Argentina) and leases/affermages, where most of the investment was directly financed by the public partner proved more successful at expanding access.

Source: World Bank (2009), *Public-Private Partnerships for Urban Water Utilities*.

Table 1.3. Typology of contractual arrangements between Government (G) and the Private sector (P)

	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
Source of remuneration of operator	Municipality	Municipality: fee is fixed or based on performance.	Operator collects user fees. <i>Lease</i> : fee paid by municipality <i>Affermage</i> : revenue shared.	Users	Municipality	Users	Users
Occurrence 1991-2007 (World Bank PPI Database)	Not part of scope	Together: 135 of 608 projects		236 of 608 projects	209 of 608 projects	Not a separate category	28 of 608 projects
Examples	Mexico City, Chennai	Johannesburg, Amman	Cartagena, Côte d'Ivoire, Senegal	Gabon, Jakarta, Manila	China, India, Malaysia, Mexico, Morocco	Cartagena, Netherlands, Chongqing Sino French Water Supply	England, Chile

Note: Maintenance may lead to considerable amounts of investments on the part of the responsible partner.

Source: OECD Investment Division, based on Budds and McGranahan (2003), *Are the Debates on Water Privatization Missing the Point? Experiences from Africa, Asia and Latin America*, World Bank PPI Database and local sources.

Box 1.2. 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.

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. More and more countries resort to this type of contractual arrangement to facilitate transfer of know-how and to develop greater understanding of the implications of involving the private sector as part of a gradual approach to the private sector participation.

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. An affermage contract is currently underway for the provision of urban water in Senegal. A lease was signed in Yerevan, Armenia, in 2006.

Under a **concession**, the private operator is also responsible for asset replacement and network expansion. The level of risk transferred to private sector is therefore higher and compounded by the nature of retribution of the operator, mainly based on user charges. Concession was the predominant contractual arrangements adopted in Latin America in the 1990's. **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. BOTs for treatment plants constitute the bulk of the new contracts currently developed with the private sector in water, particularly in China. **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 (build-operate-train-transfer)** is another variation of BOT whereby the private operator commits to train the public sector to allow a smoother transfer. It was used in several projects in South Africa. Other permutations of the activities for which the private sector takes responsibilities exist and typically involve design, build, operate, maintain and finance.

Box 1.2. Definition of the different contractual arrangements (cont.)

In a **joint venture**, a new company is formed that joins two or more parties – private or/and public. This is for instance the case of the Chongqing Sino French Water Supply (the drinking water supplier and network manager in Northern Chongqing, China), formed at 60% by Sino French Water Development (a Suez Environment subsidiary) and at 40% by the Chongqing Water Holding Group (a state-owned enterprise). With a **public limited company**, a commercial company is formed but owned by local, provincial and national government. The Dutch Water Supply Act spread the methodology in the water sector of the Netherlands. In **water co-operatives**, customers are members of board, but they are uncommon in large cities. They constitute a common form of rural water provision in Chile. With **divestiture**, ownership of the existing assets and responsibility for future upkeep and expansion are transferred to the private sector. Very few countries have adopted complete divestiture with the notable exceptions of Chile and the UK.

Source: OECD Investment Division, based on OECD (2004), *Privatisation in Sub-Saharan Africa: Where do we stand?*

Allocating risk across partners is a key element of success in the co-operation between the responsible public authorities and the private sector. As developed in OECD (2008),⁷ risk allocation determines the value for money, notably the efficiency gains achieved through partnership with the private sector, compared to traditional public procurement. Good risk allocation is driven by an assessment of the party best able to manage it (the party best able to influence the probability of occurrence or of dealing with its consequences). It is traditionally agreed that the private sector is best suited to assume the commercial risk while the public sector is better able to assume the legal, regulatory and political risks. Simply allocating risks is, however, not enough to ensure that the parties will effectively bear their responsibilities *ex post*. This implies that the relevant incentives and monitoring mechanisms are in place.

As pointed out by the Camdessus panel,⁸ the water and sanitation sector involves important specific risks that tend to make the co-operation with the private sector more complicated and deter commercial financing. In addition, the combination of these risks in effect amplifies the different risks. In particular the political sensitivity of the sector contributes to increasing the foreign-exchange and sub-sovereign risks.

- Water and sanitation projects are usually capital intensive. They involve high initial investment, long payback periods and low rates of return.⁹ The resulting infrastructure is fixed, very specific and cannot be used for other purposes or removed from the country. Part of it (the distribution network) is hidden underground creating important uncertainties as regards the real state of systems and implying substantial maintenance costs.¹⁰ This profile generates high *contractual risk* especially in a context of poor initial information and weak regulatory environment. It may also expose governments to risk of capture by specific interest, including by the private operator.
- The revenues come mainly from user fees or government subsidies in local currency, exposing the investor to high *foreign exchange risk* if funding is in foreign currency. This is a true constraint for international investors, but also for national operators in the context of poorly developed local financial markets.
- The *commercial risk* is essentially related to the variations in demand and revenues from the sales of water and sanitation services. It is becoming important in some OECD

countries, where water consumption tends to decline under strong pressures to use water more efficiently. It may also be serious in developing and emerging countries where tariff affordability and bill collection rates are low and the revenue flows are not easily ring-fenced. As highlighted in OECD (2009),¹¹ if private finance can help bridge the financing gap by meeting the upfront costs of capital expenditure, it still needs repayment, either through a fee paid by the Government for the services rendered or through users' charges. In any case, tariffs, taxes and transfers (3 Ts) constitute the ultimate sources of revenues.

- Management of the projects is mainly local, exposing the investors to the often weak management and financial capacities of the sub-sovereign entities (*sub-sovereign risk*), but also to the potential inconsistencies across multi-level government policy.
- As a basic need, water has important social and political repercussions. On the one hand, this justifies public involvement in the form of regulation aimed at protecting users from possible abuse of a monopolistic position on the part of service providers. On the other, such public involvement may take the form of *political interference*. This has often materialised in incapacity to adjust tariffs even when justified by the evolution of costs, potentially leading to a deterioration of service quality.

Another measure of risks for the parties to an infrastructure project is the number of investment disputes brought before international arbitration. The total number of treaty-based investor-State dispute cases increased by 35 in 2007, reaching a total of 290 (among which 182 were filed with ICSID¹² and 80 under arbitration rules of UNCITRAL) and affecting some 73 countries (57 developing or transition countries).¹³ A third of disputes concern infrastructure sectors. A quarter of these relate to the water sector. Argentina accounted for 46 claims, of which 8 were brought to ICSID in relation to water. The overall number of water-related cases remains relatively limited when compared to the number of infrastructure projects that are developed every year (the World Bank reports 584 water infrastructure projects with private sector participation between 1991 and 2007). However, international arbitration represents only one aspect of dispute resolution. Many disputes are of pure contractual nature and are dealt with by national courts or are settled out of court.

It is too early to draw definitive conclusions from the jurisprudence in the area of water related disputes brought to ICSID, as a majority of cases are still pending (see Table 1.4 on the 11 cases of water-related dispute filed with ICSID). Some interesting features however emerge:¹⁴

- First, in a significant number of cases, the disputes have related, at least in part, to tariff adjustments. This is the case in the disputes over the concessions in the provinces of Tucuman, Mendoza, Santa Fe and Buenos Aires in Argentina, and for the city of Cochabamba in Bolivia.
- Secondly, the parties have tended to settle water disputes before a final award is rendered and to discontinue international arbitration: of the 11 cases reported by ICSID, 3 were settled by the parties and the proceedings for a fourth one, involving a concession contract for the Province of Mendoza (Argentina), have been suspended since April 2006.
- Finally, of the 3 awards already rendered, 2 involved pecuniary damages of respectively USD 105 million and USD 165 million (but are still under annulment proceedings). They constitute important potential liabilities for the country, but remain significantly below the requested compensation. In the last case, opposing Biwater to Tanzania, a final award was rendered that recognized expropriation, unreasonable and discriminatory conduct and violation of the fair and equitable treatment standard but dismissed the

Table 1.4. **Arbitral decisions and negotiated settlements in cases related to water operations brought to ICSID**

Claimant	Respondent	Subject matter	Date registered	Nature of claim	Outcome of proceeding
Compañía de Aguas del Aconquija and Vivendi	Argentina	Water and sewer services concession for the province of Tucuman.	February 1997. Annulment in July 2002. Resubmission to a new Tribunal in October 2003. Annulment proceeding registered in December 2007.	Claimants alleged contract breaches, expropriation and violation of fair and equitable treatment under the France/Argentina BIT. Argentina resisted the claim and contested the jurisdiction.	Award rendered in November 2000: claims dismissed based on lack of jurisdiction. Award rendered in August 2007: the tribunal recognises violation of the BIT (expropriation) and requires compensation of USD 105 million. Annulment proceeding is pending.
Azurix Corp.	Argentina	Water and sewer services concession for the province of Buenos Aires.	October 2001 Argentina request for annulment registered in December 2006.	Claimant alleged breach of the investor protection provision of the US/Argentina BIT. Argentina contested the jurisdiction.	Award in July 2006: the tribunal recognises breach of fair and equitable treatment, of investment protection and expropriation. Compensation of USD 165, 240, 753 plus interests. Annulment proceeding is pending.
Aguas del Tunari	Bolivia	Water and sewer services concession for the City of Cochabamba.	February 2002	Bolivian authorities rescinded the contract in the face of violent public protest. Claimant alleged breach of the investor protection provision of the Netherlands/Bolivia BIT.	Settlement agreed by the parties and proceeding discontinued at their request (March 2006).
JacobsGibb Limited	Jordan	Waterway construction project.	September 2002	N.A.	Settlement agreed by the parties and proceeding discontinued at their request (October 2004).
Aguas Cordobesas, Suez, Sociedad General de Aguas de Barcelona	Argentina	Water services concession.	July 2003	N.A.	Settlement agreed by the parties and proceeding discontinued at their request (January 2007).
Suez, Sociedad General de Aguas de Barcelona and Interagua Servicios Integrales de Agua	Argentina	Concession for water distribution and waste water treatment in the Province of Santa Fe.	July 2003	Series of alleged acts and omissions by Argentina, including failure to apply previously agreed adjustments to the tariff calculation and adjustment mechanisms. ICSID arbitration provided for under France/Argentina BIT and Spain/Argentina BIT.	Decision on jurisdiction in May 2006. Award pending.
Suez, Sociedad General de Aguas de Barcelona S.A. and Vivendi Universal	Argentina	Water and sewer services concession for the Province of Buenos Aires.	July 2003	Series of alleged acts and omissions by Argentina, including failure to apply previously agreed adjustments to the tariff calculation and adjustment mechanisms. ICSID arbitration provided for under France/Argentina BIT, Spain/Argentina BIT and UK/Argentina BIT.	Decision on jurisdiction in August 2006. Award pending.
Azurix Corp.	Argentina	Water and sewer services concession.	December 2003	N.A.	Pending
SAUR International	Argentina	Water and sewer services concession for the Province of Mendoza.	January 2004	N.A.	Decision on jurisdiction in February 2006. Following a request by the parties, the Tribunal suspended the proceedings in April 2006.
Biwater Gauff Limited	Tanzania	Lease contract for water and sewerage services in Dar-es-Salaam and the surrounding areas.	November 2005	Both parties alleged breach of contract. Claimant alleged breach of obligations to grant fair and equitable treatment, full protection and security to investors and to guarantee the unrestricted transfer of funds, agreed under the UK/Tanzania BIT.	Award rendered in July 2008: Arbitration recognises violations of the fair and equitable treatment standard; unreasonable and discriminatory conduct; expropriation. However, Biwater's claims for damages are dismissed as tribunal recognises that ill-management of operation brought the company on the verge of collapse.
Impregilo S.p.A	Argentina	Water services concession.	July 2007	N.A.	Pending

Source: OECD Investment Division, based on OECD (2006), *Investor-to-State Dispute Settlement in Infrastructure Projects*; *Investment Arbitration Reporter* (Volume 1, No. 6, 2008) and ICSID website (<http://icsid.worldbank.org/>).

claims for damages on the grounds that ill-management of operation had brought the company on the verge of collapse.

New developments in the area of guarantees and risk mitigation mechanisms can help to enhance the attractiveness of the water sector and make commercial financing of sub-sovereign entities a viable option. Table 1.5 highlights the water related risks, some of the actions that governments can take to mitigate the risks, as well as the available risk mitigation instruments. The guarantees that are designed to shield the private sector from specific risks may also, however, constitute contingent liabilities on national budgets. Their use should carefully be assessed against the need to safeguard fiscal discipline and transparency. In any case, mitigating the risks of the water sector crucially depends on the establishment of an enabling environment that includes high quality regulatory framework.

Table 1.5. **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, including careful design of tariffs structure and appropriate due diligence. Partial Credit Guarantee (PCG): covers different events causing non payment, incl. commercial risk. Offered by multilateral – IFC – and some bilateral donors. 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.	Tariff: see OECD Water Programme. PCG: Johannesburg, Mexico PIDG (Private Infrastructure Development Group) related Emerging Africa Infrastructure Fund (long-term financing + provision of guarantees) & GuarantCo (PCG on debt in local currency issued by private 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	Appropriate allocation of roles and responsibilities across responsible public authorities, capacity building and coordination mechanisms (see next section). Bilateral investment treaty, dispute resolution mechanisms embedded in contract (<i>i.e.</i> the Convention on the Settlement of Investment Disputes between States and Nationals of other States – ICSID) Political Risk Insurance (PRI): 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 local currency (joint ventures with local partners, split-currency revenue arrangements: costs in local currency, repatriation of profits in foreign currency). Development of local capital market.	156 States have signed the ICSID convention. However, Bolivia became 1st country to denounce the convention in May 2007. Long term currency swap contract ADB/Philippines for loans in local currency. IFC & EBRD have created municipal finance units and provide loans and PCG to sub-sovereign entities. IADB & MIGA provide PRG & PRI for municipal concession projects. Asian Bond Market Initiative: guarantee facility for debt in local currency.
Regulatory, legal and contractual: Weak or arbitrary regulator Weak legal framework Contract enforcement	Development of a sound regulatory framework (see next section). Partial Risk Guarantee (PRG): covers breach of contract, changes in law, license requirements, obstruction in the process of arbitration and non-payment of termination amount. Offered by multilaterals and some bilateral donors. Output Based Aid (OBA): financing is freed once the output is delivered.	Regional infrastructure guarantee facility for West Africa (WB/MIGA/AFD/BOAD): combines PRG + PRI + guarantees for political risks to promote small and medium infrastructure project. Output Based Aid schemes are being developed in several Eastern African countries. The pilot case was in Kenya.
Reputational: Local sensitivities and needs Credibility/creditworthiness	Participation in good faith and with commitment. Communication, participation in awareness campaigns, improvement of service quality. Rating.	Mexico: most sub-national entities have been rated by rating agencies to build credibility and trust. Connection of local and international credit rating agencies to lower costs of rating.

Source: OECD Investment Division, based on UNEP Finance Initiative (2006), *Financing Water: Risks and Opportunities*; Winpenny (2005), *Guaranteeing Development? The Impact of Financial Guarantees*; and Matsukawa and Habeck (2007), *Review of Risk Mitigation Instruments for Infrastructure Financing and Recent Trends and Developments*.

Providing a sound regulatory framework

Competition

Direct competition, potentially a strong driver for efficiency and cost reduction, is limited in the water sector owing to important economies of scale and significant sunk costs. However, exceptions can be found in non-networked segments of provision, such as tank supply and on-site sewage treatment. Competition for the market, through competitive bidding, can also be undermined by a limited number of bidders (the average number of firms participating in auctions is estimated around 3.6 in the water and sanitation sector¹⁵), renegotiations¹⁶ and competitive advantage acquired from inside knowledge of the infrastructure by incumbents. Contrary to other infrastructure sectors – such as energy – unbundling of the water value chain has been limited so far. The central role of quality in a sector of vital importance and the existence of large economies of scope¹⁷ have contributed to maintaining an integrated approach.

Governments can take steps to strengthen competition for the market, especially at times of contract renegotiations by limiting restrictions on entry (discrimination with respect to size and/or ownership for instance) ensuring a level playing field for international and domestic companies, state-owned and private businesses, and small / larger scale actors; and by limiting the competitive advantage acquired through inside knowledge through better information flow (notably on asset conditions and customer base). Competitive pressures can also be exerted through benchmarking – defined as the process of comparing performance between organisations.¹⁸ Benchmarking, however, is more effective for comparison across operational efficiency measures (provided the parties agree on a shared methodology), rather than costs as these include some important site-specific components that may be difficult to measure.

Specific issues arise in frontier areas, where the network is underdeveloped and the gap is filled by small-scale providers or community-based organisations. In such situations, the issue of integration of the overall system is key, especially where there is overlap between the lease area and the activities of third parties. Governments are tempted to grant monopoly in areas of activity to ensure enough revenue to the operator. Exclusivity clauses are usually designed to take advantage of economies of scale and may also save the cost of extensive oversight that more decentralised activities might require. However, they need to be assessed against efforts to extend the network and effectively connect the unconnected as they may provide, in effect, a strong monopoly power to the incumbent, while depriving the population living in frontier areas of formal alternatives.

Regulation

Regulation can be defined by the decisions and instruments implemented within the framework of public actions, directly or indirectly, to improve social welfare. It includes laws and regulations but also administrative formalities, code of conduct, etc.¹⁹ Regulation is a key issue in monopolistic sectors, where competitive pressures are limited, contracts are incomplete, the partnership is multi-stakeholder (with distinct incentives and requirements across stakeholders) and the relationships are long-term and thereby need to adapt to changes. Appropriate regulation is also all the more necessary in the water sector given the need to preserve the well-being of users and environmental sustainability, from water extraction to wastewater discharge (see Box 1.3 for a discussion of some key concepts and issues).

Box 1.3. **Regulating the partnerships, key concepts and issues**

Leaving aside self-regulation, there are mainly four regulatory models: 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. Even in OECD countries, the empirical evidence suggests the existence of a broad continuum of regulatory models. Transition from one to another is also possible as institutional and human resource capacities are building up. In any case, the proper establishment of regulatory functions goes beyond the institutional setting and involves an appropriate allocation of responsibilities across responsible public authorities and its clear understanding and adherence by all.

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 markets, monitoring of the sector and consumer protection. Setting the right incentives for private sector and preventing rent-seeking behaviour are the key elements of economic regulation in a sector where competition is limited. Regulating prices is mainly guided by tradeoffs among the five following basic goals: 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. 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.

Box 1.3. Regulating the partnerships, key concepts and issues (cont.)

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. It is also worth noting that prices are not the only regulatory instruments available to support the efforts of policy makers to balance the different sustainability dimensions*. Economic regulation also includes the use of subsidies, supervision of commercial contracts and granting of operating licenses. Specific instruments for environmental regulation include abstraction licenses, pollution control, development of standards (on sewerage discharge, water quality).

Note: See OECD (2009), Pricing Water Resources and Water and Sanitation Services.

Source: OECD Investment Division, based on Eberhard (2007), *Infrastructure Regulation in Developing Countries: An Exploration of Hybrid and Transitional Models*, OECD (2007), *The Regulation of Public Services in OECD Countries: An Overview of Water, Waste Management and Public Transport*, Kessides (2004), *Reforming Infrastructure: Privatisation, Regulation and Competition* and OECD (2006), *Concessions*.

When badly designed, however, regulation may have unintended consequences on the provision of water and sanitation services (notably for the poor) by, for instance, limiting technological options or strengthening the monopoly power of the incumbent utility. Regulatory quality is defined by the OECD as referring to a regulatory framework in which regulations and regulatory regimes are efficient in terms of cost, effective in terms of having a clear regulatory and policy purpose, transparent and accountable.²⁰ Principles of good regulation include: i) to serve clearly identified policy goals, and be effective in achieving those goals; ii) to have a sound legal and empirical basis; iii) to produce benefits that justify costs, considering the distribution of effects across society and taking economic, environmental and social effects into account; iv) to minimise costs and market distortions; v) to promote innovation through market incentives and goal-based approaches; vi) to be clear, simple, and practical for users; vii) to be consistent with other regulations and policies; and viii) to be compatible as far as possible with competition, trade and investment-facilitating principles at domestic and international levels.²¹

Although considered for a long time as mainly relevant for delegated management, it is today widely acknowledged that high quality regulation is equally critical to enhance transparency, efficiency and equity of publicly managed water services.²² In the past 15 years, many developing countries have developed separate regulatory systems for their water infrastructure sector. According to *Water at a Glance* (see Chapter 3), most Latin American countries and 7 of the 13 African countries under review have established regulatory bodies since the 1990s (see Box 1.4 for a discussion of the key elements of a high-quality regulatory framework in Chile).

This development in turn raises important challenges, such as i) how to increase transparency and accountability of the regulatory authorities and ensure their credibility, especially in a context of recent structural reforms, low institutional capacity and important asymmetries of information; ii) how to define the space for regulation, its interface with contractual arrangements and policy making in order to adequately manage the flexibility required to sustain long-term commitments in a constantly changing environment; and iii) how to extend effective oversight and regulatory functions to a fragmented sector, notably how to reach out to the small-scale providers and the big users when national regulatory tools are often ill-suited to decentralised activities (see Box 1.5).

Box 1.4. The Chilean experience of involving the private sector

The success of Chile in improving the efficiency of its water and sanitation systems can be attributed to three main factors: the condition of the water sector before the incorporation of private sector, the stability of water and sanitation policy and a high-quality regulatory framework. This involved:

- clear separation of roles across the different bodies in charge of regulation and supervision, and from the activities of service provision;
- a regulation geared towards ensuring efficiency of operation and investment, including through an appropriate definition of level of service provision, at regional rather than municipal level to take into account economies of scale and scope;
- a strong focus on sustainable and affordable access (notably through a pro-poor subsidy scheme);
- a monitoring process that includes inspection of operators and considerable penalties in case of default, and
- an innovative mechanism to deal with disputes arising between the regulatory authority and the operators (notably on tariffs adjustment) through expert panels.

Source: Magaly Espinosa, "Superintendencia de Servicios Sanitarios", OECD Global Forum on Sustainable Development, December 2008.

The elements of the multi-stakeholder partnership

Contractual arrangements with the private sector are typically long-term and as such not likely to cover all aspects of the complex relationship between the private sector and the public sector. Moreover, developing countries are particularly prone to shocks – such as currency devaluation – that are difficult to foresee in the contract. Many past difficulties have also arisen from disputes over the real state of water systems and the quality of baseline data. In such situations, no contract can be comprehensive enough to eliminate all elements of uncertainty. However, mechanisms exist that may help reduce this uncertainty or deal with its consequences. They include:

- Adopting performance-based contractual arrangements with performance targets defined in terms of improvement rates rather than absolute levels and updating the baseline data used to develop the business plan before the contract starts (see Box 1.6).
- Monitoring of performance combined with incentives to comply (such as penalties and rewards as in the cases of Chile – Box 1.4 – and Senegal – Box 1.7).
- Providing for clauses and mechanisms to frame the discussions on future issues as well as formal dispute resolution mechanisms (see Boxes 1.4 and 1.7).

The legal and institutional framework should facilitate the enforcement of the contract and the functioning of the partnership. In any case, good faith and the willingness of the parties to co-operate and find solutions will remain crucial. In that context, starting the discussion early when challenges arise and before conflicts escalate may help. The case of the affermage contract in Senegal shows the importance of a financial model based on consensus and of mechanisms that constitute solid grounds for a continual dialogue between the stakeholders (Box 1.7). A stepped approach to private sector participation as adopted for instance by Chile²³ and Armenia²⁴ might help build understanding among the partners.

Box 1.5. Regulation and the small-scale providers

The traditional regulatory tools are ill-suited to reach out to small-scale, often informal, private operators. Nevertheless, while small-scale providers show a very good understanding and 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.

Small-scale operators fill the gap of service provision where the main operators fail to reach the poorest or isolated segments of the population. They are present both in rural and urban areas. In Mauritania, for instance, small-scale private actors operate in small towns where low densities and limited economies of scale are preventing the involvement of larger operators. In the early 1990s, the country pioneered the delegation of water service delivery in municipalities below 20000 inhabitants. Consequently, 365 small cities are today delegating the management of the provision of water services to independent private providers. In Mozambique, small-scale providers operate on the fringes of the activity area of a bigger provider, typically in peri-urban areas, as is the case in the suburbs of Maputo. In the Mauritanian case, the issue is one of professionalising the private actors. The Mozambican case raises the challenge of regulating the interface between formal and informal providers and questions the perenity of the small-scale operators over the long run.

Economic regulation of alternative providers rarely extends beyond abstraction licensing and tanker truck registration. 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. For instance the banning of a specific technology may lead to the bankruptcy of small providers and deprive the users of access in a context where the main utility may not be in a position to fill the gap in the short term. In that context, it is imperative to assess the relative costs and benefits of implementing different regulatory measures, including their potential adverse impact and the mitigation/compensation strategies available. Monitoring the activities and results may allow a better understanding of the dynamics at work and provide more of a solid ground to redefine policies. Involving the customers through complaint-handling mechanisms can also be a source of information and a powerful safeguard. Offering some form of legal recognition and protection for small-scale private operators could improve their access to finance and provide an incentive to go formal. This can be difficult when the private actors operate illegally in the lease area of the main utility and/or they face the risk of expropriation because the property rights are not well established.

Source: OECD Investment Division, based on Building Partnerships for Development, Franceys (2006), Regulating Public and Private Partnerships for the Poor, and the NEPAD/OECD Investment Initiative Lusaka Roundtable (2007).

Partnerships involving the private sector for the provision of public services are not merely face-to-face relationships between a monolithic public authority and a private actor. They involve the consumers and the communities, different layers of government and public agencies and diverse private players.

Their complexity is compounded in the case of water by the local nature of the service and institutional fragmentation. In many cases, the search for more efficient, accountable and flexible provision of public services has been a driving force behind a greater devolution of powers to local entities. In effect, oversight responsibilities for water resource management and service provision are split horizontally between different Ministries, and

Box 1.6. **Implementing a performance-based contract, the experience of a lease contract for Yerevan**

The lease signed in December 2005 with Veolia for the water services in Yerevan (Armenia) is considered generally a well-designed and balanced performance-based contract that meets most of the international standards. It, however, raised a certain number of challenges that are typical of the difficulties that might be encountered in the water sector. First, there were changes in baseline information between the tender and the starting date of the contract, such as the increase by 35% of local employees' salaries between the tender and the start of the contract. Then a clear definition of the base year data for performance indicators was lacking, which resulted in a disagreement between the operator and the Public Services Regulatory Commission over which data and what methodology should be used in measuring the indicator of continuity of service. Finally, there were difficulties with measuring performance indicators. This led the OECD to offer the following two main recommendations:

- All the data collected during the tender process and used for calculating key indicators in the business plan should be updated before the contract starting date, particularly if time has elapsed between the starting date and the tender preparation.
- In case of uncertainties or difficulties to obtain reliable data at the start of the contract, it is preferable to set annual performance targets as a percentage of improvement (calculated on the basis of a baseline to be defined) rather than as fixed numbers (in order to avoid recalculating a fixed figure each year) (this is particularly relevant for the indicator on the continuity of service).

Source: "Promoting the Use of Performance-Based Contracts between Water Utilities and Municipalities" in EECOA Case Study No. 1: Yerevan Water Supply Company Lease Contract.

Box 1.7. **The affermage contract for urban drinking water in Senegal**

The reform of the water sector in Senegal led to the development of a tripartite partnership in 1995 between the State, SONES (asset holding public company) and SDE (private sector operator). SONES is a public company in charge of asset management, investment and debt servicing linked to the State by a 30-year concession contract. SDE is a private company, selected by tender, under an affermage and performance contract with SONES and the State that defines the efficiency objectives (e.g. unaccounted for water, with associated penalties) and specifies the investment obligations of the two parties.

The success of the Senegalese model, which allowed an increase in coverage from 2.8 million people in 1995 to 5 million today, can be attributed to several factors, including appropriate risk-sharing across the partners, great commitment on the part of public authorities, autonomy of SONES and regular dialogue between the stakeholders. In addition, transparency and accountability were ensured through several mechanisms:

- Regulation through a financial model of the sector shared by all involved parties.
- SDE is under a performance contract based on 18 criteria. Progress is reviewed every 6 months and failures incur fines.
- All technical and financial information of the sector are available to all stakeholders.
- Civil society is involved in the regulation of the sector.

Source: Agence Française de Développement and Mouhamed Fadel Ndaw, Coordinator PEPAM, OECD Global Forum on Sustainable Development, December 2008.

vertically between national, regional and local authorities. While institutional arrangements vary greatly across countries, common understanding of the respective roles and responsibilities, including across different levels of government is a precondition for a respectful co-operation. Effective implementation of policies at local level also calls for an assignment of responsibilities that is commensurate with human and financial capacities and a strengthening of co-ordination mechanisms across government levels – through consultative fora and inter-ministerial committees – to ensure policy coherence.

In such multi-stakeholder partnerships, transparency and accountability constitute critical elements. They involve information sharing between the private and the public sectors and inclusive dialogue for better consideration of population and community expectations. Strengthening an informed involvement of civil society (users, communities and NGOs) is likely to facilitate the task of regulation and strengthen accountability mechanisms by allowing better information flows and greater adequacy of services to needs. Countries have employed different ways of engaging consumers in the water sector. In Senegal, this took the form of membership in the administrative board of the water company. In Zambia, consumers participate in the regulatory board through a Water Watch Group. Mexico established State-Citizen Water Councils. Bangalore developed the use of citizen report cards to provide agencies with qualitative and quantitative information about gaps in service delivery, and to measure the level of awareness about citizens' rights and responsibilities.

Engaging consumers remains however a challenge in many countries. Effective engagement requires that the consumers are able to make an informed opinion – implying that the relevant information is available and that they have capacity to assess that information –, and that they have a voice and the capacity to influence decision making. Different levels of engagement exist,²⁵ ranging from a low level of citizen influence on policy making through provision of information to consultation and active participation. Strengthening government-citizen relations requires embedding them in an effective framework of legal rights, institutions and their responsibilities, evaluation mechanisms and capacities that provide for a setting in which the relations can evolve and strengthen.

Table 1.6 offers a delineation of roles across partners (public sector, private sector, users and donors) as identified in the *Checklist for Public Action*.

Table 1.6. **Key roles and responsibilities, as derived from the Checklist for Public Action**

Government – all levels – and regulatory bodies	Private sector	Users/NGOs/Communities	Donors/IFIs
<i>Framework Conditions</i>			
<p>Establish the enabling environment: the institutional, regulatory and legal frameworks.</p> <p>Build, with the involvement of users, the general consensus on the definition of the desired service provision.</p> <p>Responsible for overall policy and objectives setting, incl. consistency across main programmes, cross-border agreements. Review and adapt policy instruments and objectives as conditions change.</p> <p>Implement and enforce policy framework.</p>	<p>Comply with service quality and environmental standards and agreed tariffs.</p> <p>Respect and support local efforts to develop adequate regulation.</p>	<p>Advocate for weaker communities</p> <p>Represent users in regulatory decisions, in stakeholders' dialogue.</p>	<p>Contribute to co-ordination of efforts</p> <p>Promote adoption of internationally agreed standards (such as anti-corruption conventions, ISO norms and ILO principles).</p>
<i>Operations</i>			
<p>Contract design and bidding process, in accordance with overall institutional and regulatory settings.</p> <p>Accountability to users.</p> <p>Consumer protection, representation and involvement in regulatory decision making.</p> <p>Manage local water resources.</p> <p>Regulation of water quality, environmental regulation, economic regulation to oversee monopolistic market.</p>	<p>Based on contracts: service delivery and operation; technical planning; customer relations (incl. complaints analysis); revenue collection; maintenance, infrastructure development; market analysis, site assessment, customer survey, mapping of the poor.</p>	<p>Build bridges between formal and informal providers, users and other stakeholders.</p>	
<i>Capacity Development</i>			
<p>Political will and commitment: fight against corruption, objectives in terms of universal service and services to the poor, commitment to financial sustainability of the sector.</p> <p>If a decentralisation process is underway: allocate roles across public agencies, devolve responsibilities, build capacities in line with responsibilities, and establish co-ordination mechanisms.</p> <p>Create capacity and space for dialogue between the different stakeholders, including involving communities in discussions on service level, technology choice, prices.</p> <p>Help develop consumer trust and knowledge through information campaigns.</p>	<p>Population awareness raising through targeted communication, participation in local action.</p> <p>Proposition of pro-poor and environmental-friendly technologies.</p>	<p>Support development and capacity building of user associations (eventually together with government programmes).</p> <p>Raise awareness on hygiene, water conservation, pollution.</p>	<p>Support capacity building (of users, government, practitioners), incl. support for project design, to develop better understanding of the key elements of a PPP, to promote informed involvement of civil society, to assist regulators and governments in tariff setting and adjustments, to facilitate access to funding.</p>
<i>Monitoring</i>			
<p>Support and contribute to collect and monitor information on the sector.</p> <p>Supervision and enforcement of contractual arrangements. Control of compliance with standards, approval of tariff levels and their periodic & extraordinary revisions, collection and provision of information on quality of services.</p> <p>Develop outreach to small-scale informal providers.</p> <p>First conflict mediation instance.</p>	<p>Reporting of economic, environmental and social performance.</p> <p>Impact evaluation on environment and of consequences for the poor of the technology choices, tariff setting and investment planning.</p>	<p>Participate in monitoring of quality of services and contribute to accountability of officials and providers.</p>	<p>Collect and share experience across countries.</p>
<i>Financing</i>			
<p>Organise, plan, cost and formulate tariff policy and funding. If necessary, subsidies should be allocated in a stable, transparent and targeted way.</p> <p>Contribute to funding.</p>	<p>Financing obligations as defined by contract.</p> <p>Support sustainability of the sector through efficient management.</p>	<p>Users should pay for services received and contribute to maintenance of water systems.</p>	<p>Contribute to funding, incl. through risk mitigation schemes that leverage additional funds.</p>

Notes

1. OECD (2006), *Infrastructure to 2030: Telecom, Land Transport, Water and Electricity*.
2. See www.oecd.org/water.
3. Kessides (2004), *Reforming Infrastructure, Privatisation, Regulation and Competition*.
4. World Bank Water Week, 2007: www.worldbank.org/water.
5. World Bank (2009), *Public-Private Partnerships for Urban Water Utilities*.
6. In Reuters, quoting *Global Water Market 2008: Opportunities in Scarcity and Environmental Regulation*.
7. OECD (2008), *Public-Private Partnerships: In Pursuit of Risk Sharing and Value-For-Money*.
8. Winpenny (2003), *Financing Water for All: Report of the World Panel on Financing Water Infrastructure*.
9. Estimated by the African Development Bank (2006) between 5 and 10% (compared to 17-25% in the power sector and 25-30% in telecommunications).
10. Hutton & Bartram (2008) estimate the costs of maintenance of existing systems to reach the water and sanitation-related MDGs at three times the spending required on new coverage.
11. OECD (2009). *Managing Water for All: an OECD perspective on pricing and financing*.
12. The international arbitration institution devoted to investor-State dispute settlement established under the Convention on the Settlement of Investment Disputes between States and Nationals of Other States.
13. www.unctad.org/ia.
14. More general issues of relationships between contract-claims and treaty-claims and the relevance of non-investment international commitments in the interpretation of investment treaties are under consideration by the OECD Investment Committee.
15. World Bank Policy Research Working Paper (2008), "(Un)bundling Public-Private Partnership Contracts in the Water Sector: Competition in Auctions and Economies of Scale in Operation".
16. According to Guasch (2004), in Latin America, renegotiations affected 75% of water contracts (against 10% in electricity), after 1.7 years (compared to 2.3 years in electricity).
17. Although recent publications highlight the diseconomies of scale attached to large systems and the potential of decentralised models that require less transport of water and may have greater flexibility to adapt to new challenges such as raised by climate change (see OECD (2009). *Alternative ways of providing water and sanitation: emerging options and their policy implications*).
18. Countries have adopted different benchmarking options. In England and Wales, competition is organised across companies serving different areas and involves rewards for the best performers. In Chile, competition involves a (theoretical) model company. In the Philippines and Indonesia, the capital cities (Manila, Jakarta) were split in two service areas to allow for direct comparison and competition. In Senegal, the contract involves 18 indicators against which the company's performance is assessed. In addition, both the asset holding company and the private company share investment obligations, allowing direct comparison of reported costs.
19. OECD (2006), *Regulatory Reform: Experience from OECD Countries*.
20. OECD (2006), *Background Document on Regulatory Reform in OECD Countries*.
21. OECD (1995), *OECD Recommendation on Improving the Quality of Government Regulation*.
22. Michael Rouse (2007), *Institutional governance and regulation of water services: The essential elements*.
23. Chile contracted out several activities before divesting the majority of shares of EMOS (now Aguas Andinas, the Santiago water company) between 1998 and 2001.
24. The Armenian government first sought a 4-year management contract for the urban water of Yerevan, before awarding a 10 year lease contract. See ADB (2008), *Yerevan water supply: Going private gradually*.
25. OECD (2001), *Handbook on Information, Consultation and Public Participation in Policy-Making*.

Chapter 2

Checklist for Public Action in the Water Sector

Organised around the 24 OECD *Principles for Private Sector Participation in Infrastructure*, this *Checklist for Public Action* aims to help governments wishing to engage the private sector in the development and management of water and sanitation infrastructure. For each *Principle*, the *Checklist* lists the key specificities of the water and sanitation sector; the corresponding issues for governments; and some available tools and country practices. It highlights five areas of key importance for consideration by governments: 1. Deciding on the nature and modalities of potential private sector involvement; 2. Providing a sound institutional and regulatory environment for infrastructure investment; 3. Ensuring public and institutional support; 4. Making the co-operation between the public and private sectors work in the public interest; 5. Encouraging responsible business conduct.

Four main messages emerge from the application of the *Principles* to the water sector.

1. Clarify the ultimate objectives for service provision and the opportunities and risks involved in private sector participation.

The choice (**principle 1**) between different modes of service provision is a means to an end: ensuring access to sustainable and affordable services. It should follow an initial consensus on the service provision desired by society, an assessment of where and how private partners can add value and determination of the modalities of their participation. Quantitative tools exist, such as the Public Sector Comparator, which combined with qualitative analysis, can help governments better define the costs (including contingent liabilities) and benefits associated with private sector participation and can support policy dialogue on this issue. In some countries, the private actors are already catering for sections of the population on an informal basis or with little visibility – including the small-scale operators and the big users. The issue for governments is not only to decide upon private sector involvement. They also need to consider ways to ensure greater insertion of existing private activities into the formal chain of service provision and include them in the oversight mechanisms.

In order to reach the objectives, a wide range of risk sharing arrangements is available to policy makers, from the public sector assuming most of the risk to significant risk transfer to the private sector. Tailor-made models of private sector participation should take account of local specificities and make the best of private partners' strengths (**principle 3**). An appropriate risk allocation should be driven by an assessment of the party best able to manage risk (the party best able to influence the probability of occurrence or to deal with its consequences), so as to ensure value for money and the sustainability of the partnership (**principles 2-4**). The success of a model can be assessed only in the long run when sustainability and adaptation to changes can be proved.

2. Develop a conducive framework based on high-quality regulation, political commitment (including to fight corruption) and an adequate allocation of roles and responsibilities.

Private participation in the water sector does not exclude a role for government. Indeed, the government has the essential responsibilities of establishing adequate policy

and regulatory frameworks, institutions and contractual arrangements and overseeing their functioning (**principle 17**). It has the ultimate responsibility of meeting population's basic needs (**principle 5**). This is valid regardless of the private or public nature of service providers.

In that context, strong political commitment remains critical, notably in the fight against corruption (**principle 6**) and in addressing lack of access to water and sanitation and service affordability. A major lesson from past experience is the need to clarify the different roles for the public sector: political function, administration, regulation and operation of service delivery. A second important challenge is to ensure policy coherence. Water and sanitation infrastructure development is indeed closely related and dependant on other policies such as urban development, energy policy, etc. In particular, such infrastructure development should very often be addressed as part of an integrated urban planning programme that tackles housing, property right tenure and, where relevant, relocation.

In addition, water is a segmented sector, with oversight responsibilities for resource management and service provision often split horizontally between different Ministries, and vertically across national, regional and local authorities. This may raise important capacity challenges and also generate issues of consistency across government levels. Careful allocation of roles and responsibilities is needed across different authorities, taking into account existing capacity gaps, and based on resources allocated in line with duties and distributed in a predictable way (**principle 10**). Preserving consistency across government policies also involves strengthening co-ordination mechanisms across government levels (**principle 12**) and building common understanding across levels of government on the objectives, means and resources for water provision (**principle 11**). Regular monitoring and performance assessment can also help define capacity building needs and contribute to a better understanding of objectives.

3. Root the partnerships in strong accountability mechanisms, through clear and consistent contractual arrangements, monitoring and relations based on information-sharing and consultation with stakeholders.

Contractual arrangements with the private sector in the water sector are typically long-term and as such not likely to cover all aspects of the complex relationship between the private sector and the public sector. Many past difficulties have also arisen from dispute over the real state of water systems and the quality of baseline data. No contract can be comprehensive enough to eliminate all elements of uncertainty.

Mechanisms exist that may help reduce the uncertainty that comes with long-term incomplete contracts or deal with its consequences. They include: adopting performance-based contractual arrangements (**principle 16**); providing for clauses and mechanisms to frame the discussions on future issues as well as formal dispute resolution mechanisms (**principle 19**); strengthening competitive pressure (**principle 7-15**) and promote information sharing (**principle 14**). Monitoring processes can also contribute to reducing uncertainties when they are focused on a small number of key indicators that are clear and easy to measure. In any case, good faith and willingness of the parties to co-operate and find solutions will remain crucial. In that context, starting the discussion early when challenges arise and before conflicts escalate can help diffuse the tensions (**principle 18**). Engaging the private actors to formulate their requirements and constraints can promote mutual understanding and better appropriateness of contracts (**principle 13**).

Past experiences have shown that partnerships should not be viewed as simply a bilateral relationship between the public and the private sector as they generate strong interest from consumers and communities. Greater involvement of civil society (NGOs, consumer groups) may contribute to developing a feeling of ownership on the part of the users and the communities, to better protection of consumer rights and to monitoring service provision (**principle 9**). Public consultation should be developed according to the principles of clear focus, representation and transparency. It requires time and resources and, therefore, should be organised strategically at important stages of policy-making and preferably start at the early stage of the projects. It may also require providing adequate training.

4. Private actors also have an important role to play and responsibilities in ensuring the sustainability of partnerships and that their contribution can make a difference in improving the lives of millions of people.

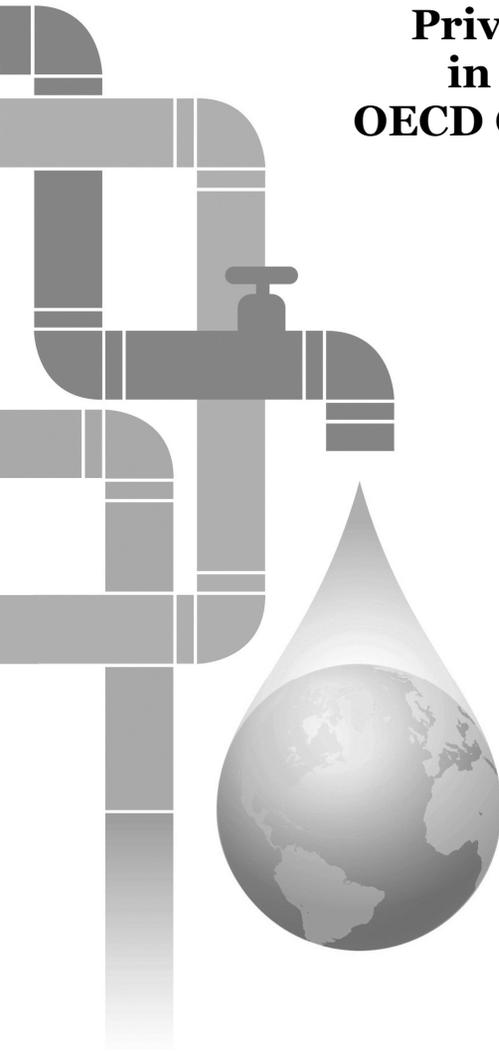
Water, as a vital good involving important economic, social, environmental and political repercussions, requires strong commitment on the part of the private partners to responsible business conduct (**principle 20**) and to participate in infrastructure projects in good faith (**principle 21**).

Businesses have a critical role to play to promote integrity (**principle 22**) by engaging in timely, reliable and relevant information disclosure on activities, structure, financial situation and performance (including participating with good faith and commitment in due diligence processes) and supporting the development of a high quality regulatory framework while avoiding undue involvement in local politics. Showing a strong anti-corruption commitment also involves going beyond communication on anti-corruption policies and internal management systems to the staff. A new corporate culture that provides incentives to stop corrupt practices should be established.

Companies also have an important role to play in evaluating the social and environmental impacts of their activities (**principle 24**), mitigating the potential negative impacts and contributing to the country's development goals. They can contribute to the assessment and discussion of the consequences for the poor of technology choices, tariff setting policy, and planned investments. They can also evaluate the impacts of activities on the environment and continuously seek to improve environmental performance. The difficulty lies with the set of indicators that are chosen to support their evaluations of social and environmental impacts. Following internationally-agreed guidelines such as the Global Reporting Initiative can facilitate the monitoring and comparison across companies. In addition, if private actors have a role to play in terms of local capacity building and the transfer and diffusion of technologies and know-how, this should take place in the context of national discussions on appropriate levels of service and technology, as technology choices may lock-in country service provision profiles for years.

Finally, being responsive to clients' claims (**principle 23**) and providing transparent and effective procedures to address complaints can contribute to building mutual understanding and improving service provision.

Private Sector Participation in Water Infrastructure: OECD Checklist for Public Action



Principles 1-4

Deciding on public or private provision of infrastructure services

1. Informed and calculated choice.
2. Financial sustainability of infrastructure projects.
3. Apply tailor-made model of private sector involvement.
4. Preserve fiscal discipline and transparency.

Principles 5-8

Enhancing the enabling institutional environment

5. Enabling environment.
6. Fight against corruption.
7. Create a competitive environment.
8. Facilitate access to financial market.

Principles 9-12

Goals, strategies and capacities at all levels

9. Consultation with stakeholders.
10. Empower authorities responsible for privately-operated infrastructure projects.
11. Clear and broadly understood objectives and strategies.
12. Mechanisms for cross-jurisdictional co-operation.

Principles 13-19 Making the public-private co-operation work

13. Establish communication and consultation with private sector.
14. Full disclosure of project related information.
15. Fair, non-discriminatory and transparent awarding of contracts.
16. Output/performance based contracts.
17. Competent, well resourced and independent regulatory bodies.
18. Allowing for good faith, transparent and non-discriminatory renegotiations.
19. Setting dispute resolution mechanisms.

Principles 20-24 Encouraging responsible business conduct

20. Responsible business conduct.
21. Good faith and commitment.
22. Fight against corruption.
23. Communication with the consumers.
24. Awareness and responsibility for the social consequences of actions.

Deciding on public or private provision of infrastructure services

Principle 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 non-financial costs and benefits over the project lifecycle.

Sector-specific features

Basic human need and economic good.

Major resource and input for business.

Important externalities on health, education, environment, gender balance.

Important data and information deficits.

Combination of some large and small-scale projects.

Necessity of a global view considering all segments of water provision.

Wide disparities in initial conditions across countries / regions.

In most developing countries, private small-scale providers already cater for large portion of population (the poor and the scattered), often on an informal basis.

Considerations for governments

The choice between different modes of service provision is a means to an end: **ensuring sustainable access**. It should follow an initial consensus on the definition of service provision (level, location, development) desired by society, an assessment of where and how private sector can add value and the definition of the modalities of the participation (financing, service management). Governments remain in charge of the regulatory and oversight functions and of the ultimate responsibility to meet population's basic needs.

Sustainability analysis should address health, environment, economy, socio-culture and technical issues (including the choice of technology and the assessment of the current state of infra-structure). This analysis should consider the full water cycle, including treatment, distribution, collection, transport and end-management of wastes, water allocation across different uses and technical options (centralised vs. decentralised systems, water conservation vs. development of infrastructure).

Tools, such as the public sector comparator, that provide a **quantitative appraisal** can be useful when used in conjunction with qualitative analysis and baseline information is clearly disclosed, to better define the costs and benefits associated with private sector participation and forge a consensus among the stakeholders on the key elements required for an affordable and beneficial partnership.

A thorough analysis by project might not be feasible because of associated transaction costs (including time and capacity development).

Abbreviated or group appraisal and standardisation of contracts might help alleviate costs, especially for smaller projects.

Early identification of the consequences of choice (notably for different users) facilitates **balancing the different interests**.

Better **integrate the private actors** that already contribute – including the small-scale operators and the big users – in the chain of service provision.

Tools and practices

PPP for Water Supply and Sanitation,

Swiss Co-operation and BPD:
www.partnershipsforwater.net

Approaches to Private Participation in Water Services:

A Toolkit, PPIAF 2006:
rru.worldbank.org/Toolkits/WaterSanitation

Toolkit for pro-poor Municipal PPPs, UNDP:
www.margraf-publishers.com/UNDP/PPPUE

Public Sector Comparator (in Partnerships Victoria Guidelines):
www.partnerships.vic.gov.au

Deciding on public or private provision of infrastructure services

Principle 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.

Sector-specific features

Long-term, irreversible investment.

Lack of transparency and complexity due to provision of subsidies and cross-subsidies, numerous layers of stakeholders and information asymmetry.

Complexity of pricing policy with potentially conflicting objectives: cost recovery, economic efficiency, equity and affordability.

The economic, social and environmental benefits of adequate access to water are not fully recognised. Consequently, water prices rarely reflect costs.

Sustainability is even more crucial for sanitation: piped sewerage is costly and its benefits even less perceived by individuals.

Considerations for governments

Consider an **iterative assessment** of service levels, technical options and expenditures on one side and future demand, tariffs and affordability and willingness to pay on the other (at least for projects above a critical size). Consider carefully the optimal level of service provision to capitalise on economies of scale and scope.

Price setting should allow achieving **“sustainable” cost recovery**. The rules should be clear and predictable. 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. Consider also the alternative tools available to achieve the objectives of equity and water conservation. Tackle in parallel prices for wastewater treatment and raw water abstraction.

Where affordability is low and infrastructure needs large, subsidies remain necessary, especially in rural areas and for sanitation.

Clarify subsidy levels, time span, nature (connection / consumption) and the targeting process (depending on local settings, consider appropriate mix of targeting through household surveys, geographic targeting, self-selection and subsidies to technologies used by the poor). When envisaged, the setting of cross-subsidies should allow for changes in the user base.

Be aware that the **choice of technology** will lock-in the profile of service provision for years. It 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 may help ensure financial sustainability while serving pro-poor objective. Allow for easy upgrading of facilities so that users can climb up the technology scale.

Tools and practices

OECD FEASIBLE model:

www.oecd.org/document/56/0,3343,fr_2649_34335_33719928_1_1_1_1,00.html

Pricing water resources and water and sanitation services,

OECD (2009):

www.oecd.org/water

DANCEE toolkit for assessing willingness to pay, affordability and political acceptability:

www.miljoestyrelsen.dk/udgiv/publications/2002/87-7972-228-8/pdf/87-7972-217-2.pdf

Chile subsidy programme:

www.gpoba.org/docs/07ch2.pdf

Adaptation of technology in Brazil and Bolivia,

see Trémolet (2006):

<http://siteresources.worldbank.org/INTWSS/Resources/WN11.pdf>.

Deciding on public or private provision of infrastructure services

Principle 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.

Sector-specific features

High risk sector (cumulates commercial, political, contractual, legal, regulatory and reputational risks). Inadequate risk sharing arrangements are at the heart of past disputes.

Very heterogeneous private sector, with different comparative advantages and capacities to bear risks.

Wide disparities in initial conditions across countries and regions that generate different needs and risk allocation structure.

Public interest has various aspects: access (including for disadvantaged groups), environmental sustainability, health and safety, community choice and organisation. The various aspects may not be easy to reconcile (consumer interest may vary widely across connected and unconnected).

Considerations for governments

The menu of contracts is extensive, allowing for diverse risk sharing across parties:

smaller projects, reduced risk transfer (lease, management), greenfield contracts for bulk facilities and joint ventures. The structure of incentives changes accordingly. Risk allocation should be driven by an assessment of the party best able to manage it so as to ensure value for money and sustainability of partnerships. Success of a model can only be assessed in the long run when sustainability and adaptation to changes can be proved. The bidding process cannot achieve alone the relevant risk allocation, which is shaped by the dynamics of the relationship.

Build on the **strengths of respective private actors**. Tap on small-scale providers' capacity to reach out to poor customers in smaller cities, peri-urban and remote areas. Examine how joint ventures between international companies and local actors can help alleviate the foreign exchange risk and support technology transfer. Examine the opportunities in innovative decentralised approaches to water and sanitation services to complement traditional centralised systems and adapt to the new challenges raised by climate change (their use should be assessed against the loss of economies of scale they may induce).

If private sector participation is envisaged, **consider a stepped approach**: strengthen commercial functions and information system through service or management contracts first and develop greater understanding between the private and public sector for a more motivated choice. Provided that competition is preserved, such an approach can facilitate transfer of know-how, help develop a better understanding of the state of water systems and help strengthen public sector performance.

Consider carefully **the roles for different levels of government** and the co-ordination mechanisms across different actors.

Tools and practices

Blending of private sector and public money (Colombia, Malaysia, Peru).

Affermage in Senegal (risk allocation and incentive setting): www.afd.fr/jahia/Jahia/lang/en/home/publications/documentsdetravail/pid/1378

Alternative ways of providing water and sanitation: emerging options and their policy implications. OECD (2009): www.oecd.org/water

Involving the small-scale: Mauritania delegated management model in small towns, contracts between public utility and small-scale providers in Ho Chi Minh City, see Building Partnerships for Development: www.bpd-waterandsanitation.org

Partnership communities and private sector: the Agua Para Todos Partnership (Bolivia): www.bpdws.org/web/w/www_134_en.aspx

Stepped approach: EMOS (Chile) contracted out several activities before divestiture. Yerevan water supply going private gradually, see ADB (2008): www.adb.org/Documents/Reports/Yerevan-Water-Supply

Deciding on public or private provision of infrastructure services

Principle 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.

Sector-specific features

Payments of fees, subsidies and guarantees that constitute long-term expenditures and contingent liabilities on budget.

Owing to the essential nature of water, government is expected to act as the provider of last resort if operator fails to deliver.

Local management involves sub-national entities (municipalities, utilities).

High transaction costs (numerous transactions, actors and models).

Considerations for governments

Determine what bears on budget: subsidies, extension of network, guarantees, oversight and co-ordination and transaction costs. 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.

Guarantees to attract private sector result in contingent liabilities bearing on fiscal accounts. Consider **adopting clear rules on disclosure of guarantees** (monitoring of the diverse guarantees provided through a register of guarantees, integration of estimated cost in annual budget).

Clarify the **fiscal relationships of governments** with sub-national entities. Clarify the legal basis for sub-sovereign financing.

Encourage building of **capacity, transparency and accountability of sub-national entities**, using incentive mechanisms (linking central transfers to quality of reporting for instance) and information sharing (publication of financial and management information). Encourage monitoring by civil society.

Third party oversight, *e.g.* by parliamentary bodies, may help safeguard the integrity of the process.

Tools and practices

OECD Best Practices for Budget Transparency:
www.oecd.org/gov/budget

IMF recommendations:
Government Guarantees and fiscal risk, IMF, 2005:
www.imf.org/external/np/pp/eng/2005/040105c.pdf

Recommendations by the Camdessus Panel (2003) the Gurría Task Force (2006)

on financing water for all:
www.financingwaterforall.org

Output Based Aid can help clarifying subsidies:
www.gpoba.org

Credit rating of Mexico City: development of a municipal bond market without the backup of sovereign guarantees.

Enhancing the enabling institutional environment

Principle 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.

Sector-specific features

The water and sanitation sector presents high contractual, foreign-exchange and sub-sovereign risks. It generates important political interest and substantial involvement from the international community (international financial institutions and donors).

The quality of water and sanitation governance does not relate only to purely sectoral issues, but also to land tenure, housing security, decentralisation policy, and environmental rights.

Planning and implementation horizons for water and sanitation require long-term consistent policies that extend beyond political horizons and may be made difficult by political instability.

Small-scale business is particularly affected by a burdensome business environment, poor infrastructure and underdeveloped financial systems. The poor bear disproportionately the consequences of poor business environment (in their activity and in their access to basic services).

Considerations for governments

The public sector remains the enabler: the quality of the business climate and of corporate governance depends on a wide range of legislation, administrative and policy practices and on policy coherence.

Clarify and separate between different State roles: political function, administration and operation of service delivery.

With water and sanitation being largely local issues, be mindful of **consistency across central and municipal government** and of institutional continuity.

All tiers of government and public agencies should **respect their commitments** (*i.e.* timely payments of water bills and subsidies).

Better integration of small-scale private actors in the chain of service provision may require some form of official recognition of the legitimacy of their activities. Consider building on the burgeoning oversight by local communities and governments to frame their activities.

Tools and practices

OECD Policy Framework for Investment:

www.oecd.org/daf/investment/pfi

OECD Principles of Corporate Governance:

www.oecd.org/daf/corporate/principles

OECD Guidelines on Corporate Governance of State-owned Enterprises:

www.oecd.org/daf/corporate-affairs/soe

OECD Principles of Regulatory Reform:

www.oecd.org/document/27/0,3343,en_2649_33735_2753254_1_1_1_1,00.html

UNCITRAL Legislative guide:

www.uncitral.org/uncitral/en/uncitral_texts/procurement_infrastructure/2001Guide_PFI.html

Water Dialogues are developing in South Africa, Uganda, Brazil, and Philippines to identify the key bottlenecks:

www.waterdialogues.org

Maputo and Bamako licensing of operators by communities, see Building Partnerships for Development: www.bpd-waterandsanitation.org

Reform of general concession law in Russia:

www.oecd.org/daf/investment/russia

Enhancing the enabling institutional environment

Principle 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.

Sector-specific features

Large-scale constructions involve large financial flows.

Numerous transactions and stakeholders in service provision.

Complexity of organisation, including patchwork of public agencies and administrative rules.

Important political involvement in projects.

Monopolistic sector with limited cost-recovery constitute strong incentives for collusion.

Opacity and asymmetry of information.

High demand and human need dimension. Water rationing and interruptions provide important corruption opportunities.

Importance of informal sector.

Considerations for governments

Develop a **holistic approach to corruption**: supply as well as demand side, small-scale and large, public and private, financiers and providers. Involve the users to report on service quality and behaviours.

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 and strengthen monitoring and enforcement.

Reduce incentives: address corruption explicitly in the cooperation framework, define performance targets and outputs, develop reporting and information disclosure (including on cases of corruption), introduce opportunities for challenges and reviews, and allow for a mutually beneficial cooperation. Reduce incidence of transaction, gain from each transaction and increase probability of detection and penalty. Establish credible threats.

Encourage communication on anti-corruption policies throughout levels of government and training programmes to the staff.

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-standard facilities.

Tools and practices

OECD Anti-Bribery Convention:

www.oecd.org/daf/nocorruption/convention

United Nations Convention against Corruption:

www.unodc.org/unodc/en/corruption/index.html

Transparency International Global Corruption Report 2008:

www.transparency.org/publications/gcr

Kecamatan Development Project, Indonesia:

Empowerment of community:
www.worldbank.org/id/kdp

Veracruz, Mexico: Political leadership and transparency programmes:

www.unglobalcompact.org/docs/issues_doc/7.7/case_stories/BAC_2D.2.pdf

Public Utility Board in

Singapore: Development of codes of conduct and staff training:
www.pub.gov.sg

Enhancing the enabling institutional environment

Principle 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.

Sector-specific features

Limited possibility for direct competition owing to inelastic demand and supply, high fixed costs, high transport costs and economies of scale. Vertical integration often justified by internalisation of externalities and cross-subsidisation.

Some opportunities for competition for the market (through competitive bidding) and benchmark competition. However, competition for the market can be circumvented through strategic renegotiations and monopolies hidden by complex share-holding arrangements.

Limited competition in post-contract phase, once the operator is selected and acquires a competitive advantage owing to inside knowledge of the sector. Consequently, opportunities for competition essentially lie at the frontier: for network extension, new household connections in small towns and peri-urban areas.

Considerations for governments

Show strong political leadership: transparency and early signaling of policy will help **level the playing field**. 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**. Consider opening market and encouraging alternative providers, where network and household connections expansion is slow, to 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.

Consider **streamlining the operational practices and legal form** under which the public water providers operate to level the playing field with private competitors and develop benchmarking. Administration and regulation procedures should be consistent across the whole sector to encourage fair comparison and competition.

Tools and practices

OECD Global Forum on Competition:
www.oecd.org/daf/competition

OECD Guidelines on Corporate Governance of State-owned Enterprises:
www.oecd.org/daf/corporate-affairs/soe

Benchmark competition:

- with the best performing company with associated reward (England, OFWAT: www.ofwat.gov.uk),
- with a model company (Chile: www.oecd.org/dataoecd/4/58/2083795.pdf & www.siss.cl),
- across city zones (Manila, Jakarta),
- against performance set in a contract (Senegal: www.afd.fr).

Public information systems:

- across utilities (PERPAMSI, Indonesia: www.perpamsi.org),
- across municipalities (Kostra, Norway: www.ssb.no/kostra and Canada: www.nationalbenchmarking.ca).

Enhancing the enabling institutional environment

Principle 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.

Sector-specific features

Specific needs owing to long-term, stable but low return investments and sub-national management.

Perceived as a high-risk sector by investors and lenders (cumulates commercial, political, contractual, legal, regulatory and reputational risks).

The water and sanitation sector presents high contractual, foreign-exchange, sub-sovereign and political risks.

Uncertainty of revenue streams (unstable tariffs policies and difficult bill collection).

Some small-scale projects may not generate interest from the banking sector owing to high transaction costs and to limited credit worthiness of small-scale operators.

Considerations for governments

Improve financial status of sub-national entities: support and facilitate the drafting of long-term strategy and the development of stable revenue streams as prerequisites to attract long-term financing.

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.

Facilitate access of local small-scale business to financing: facilitate assistance to overcome the challenge of preparing bankable projects, support linkages with bigger operators and promote a more SME friendly banking and financial system.

Tools and practices

Recommendations by the Camdessus Panel (2003) the Gurría Task Force (2006) on financing water for all:
www.financingwaterforall.org

OECD Financial Planning Tool for Water Utilities:
www.oecd.org/dataoecd/14/23/39859631.doc

Sub-national tools:

- Guaranteed municipal bonds (Johannesburg 2004, India: \$2.9bn in 10yrs).
- Development of credit rating of sub-sovereign entities and connection of local and international credit rating agencies to lower costs (Mexico).
- ADB Sub-sovereign facilities in local currency:
www.adb.org/Documents/Policies/Local-Currency-Loan-Product/local-currency-loan-product.pdf
- PPIAF Sub-National Development Technical Assistance Programme (www.ppiaf.org/snta)
- Cities Alliance Municipal Finance Task Force (www.mftf.org)

Matching supply and demand for long-term instruments, the potential of infrastructure funds based on pension funds:

OECD/IOPS Global Forum on Private Pensions: www.oecd.org/daf/fin
Pan African Infrastructure Development Fund: www.harith.co.za

Blending financing sources:
Zambia Devolution Trust Fund, Colombia, Malaysia, Peru.

Public/Private Developers:
InfraCo (www.infraco.com)
IFC Ventures (<http://ifcventuresinc.com>)

Revolving mutual funds (US):
www.epa.gov

Goals, strategies and capacities at all levels

Principle 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.

Sector-specific features

Water and sanitation are segmented sectors that involve multiple stakeholders (users, sector employees, different layers of government and public agencies, communities, donors, private sector, NGOs and environmental associations).

Water is a human need with important externalities. Its management is highly politicised.

The sector may involve the construction of particularly large physical infrastructure with potentially important impact on local communities (dams) and of facilities that may generate local controversies (treatment plants).

Labour intensive sector.

Important cross-jurisdictional and cross-country dimension.

Important vertical and horizontal co-ordination dimension across levels of government.

Considerations for governments

Facilitate **clear understanding of roles and responsibilities of all stakeholders**, notably through the creation of capacity and space for dialogue. Develop co-ordination mechanisms. Consider ways of meaningfully involving weaker communities.

Involve the employees and their representatives in project development.

Develop consumer trust and awareness through information campaigns on public policies and disclosure on key project information and expected outcomes. Communicate on the reasons for unpopular decisions or actions.

Public consultation should be developed according to the principles of **clear focus, representation and transparency** and follow published standard procedures. It requires time and resources and should therefore be organised strategically at important stages of policy making and preferably start at the early stage of the projects. Consultation should involve explicit feedback from the public authority.

Consider **greater involvement of civil society** (NGOs, consumer groups) in protecting consumer rights, monitoring service provision and determining model of utility management. Consider providing adequate training.

Tools and practices

Aarhus Convention:
www.unece.org/env/pp/

AccountAbility: Partnership Governance and Accountability Framework: www.accountability21.net

OECD handbook on information, consultation and public participation in policy-making:
www.oecd.org/gov

Releasing key project information: a project summary template
Partnerships Victoria Disclosure Policy:
www.partnerships.vic.gov.au

ILO Declaration on Fundamental Principles and Rights at Work:
www.ilo.org/declaration

PPIAF toolkit on labour issues in infrastructure reform:
www.ppiaf.org/LaborToolkit/toolkit.html

WaterAid / TearFund Advocacy Guide: www.wateraid.org/documents/psp_advocacy_guide_tf_and_wa.pdf

Providing space for dialogue:
Water dialogues in South Africa, Uganda, Brazil, and Philippines:
www.waterdialogues.org

Consumer consultation:
membership in administrative board of water company (Senegal), in regulatory board (Water Watch Group, Zambia), in consumer consultative committee (UK). Establishment of State-Citizen Water Councils in Mexico.

Phnom Penn workforce incentive model:
www.adb.org/water/actions/CAM/PPWSA.asp

Goals, strategies and capacities at all levels

Principle 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.

Sector-specific features

Decentralised systems (transport costly compared to unit value) and local management. The search for more efficient, accountable and flexible provision of public services has been a driving force behind a greater devolution of powers to local entities. However, the recent decentralisation process has not always been followed by building of human and financial capacities.

Important consequences of the decentralised nature of water management for capacity building, monitoring and performance management.

Importance of horizontal co-operation across municipalities to achieve economies of scale.

High political interferences in multi-layer system.

Considerations for governments

When considering sub-national assignment of responsibility, **be cautious of potential trade-off** between capacities, economies of scale and costs, resource management, co-ordination on one hand and proximity, community empowerment, accountability, efficiency on the other.

Consider **careful allocation of roles and responsibilities** across different authorities – including to the PPP unit when relevant – taking into account existing capacity gaps. Allocation of resources should be predictable and commensurate with responsibilities.

Encourage training: from central government to sub-national entities, across municipalities (notably through forums, internet platforms, exchange of staff to share practices). Focus training on the key elements of partnership (respective roles and responsibilities of parties throughout the project, tariff setting and adjustments, performance monitoring, handling disputes and informing and communicating with the public). Introduce performance management mechanisms to help building capacities. Be aware that capacity building takes time and commitment.

Preserve consistency across government policies: reduction of overlapping responsibilities, strengthening of co-ordination mechanisms across government levels (through consultative fora, inter-ministerial committees), coherence across different policy areas (tax policy should not contradict tariff policy for instance).

Monitor and evaluate performance.

Developing performance indicators for local governments can facilitate exchange of information and promote good practices.

Tools and practices

The Water Boards in the Netherlands, see OECD Territorial Review. Competitive cities in the global economy: <http://publications.oecd.org/acrobatebook/0407011E.PDF>.

Bolivia 1994 Popular Participation Law, see Asian Development Bank: www.adb.org/participation/toolkit-methods-approaches.asp.

Reform of the institutional setting in Mauritania, regarding supervision and regulation of 350 small independent operators in small towns.

Integrated Sanitation budget line in Uganda to empower districts in the area of sanitation, see OECD (2009). Financing strategies for water supply and sanitation: www.oecd.org/water.

Training support structures: South Africa Treasury and PPP unit (www.ppp.gov.za), UK Public Private partnerships Programme of Local Government Association (www.4ps.gov.uk), Partnerships UK (www.partnershipsuk.org.uk), Partnerships Victoria in Australia (www.partnerships.vic.gov.au).

Information sharing and learning: Kostra, Norway (www.ssb.no/kostra).

Goals, strategies and capacities at all levels

Principle 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.

Sector-specific features

Segmented sector: oversight responsibilities for water resource management and service provision are split horizontally between different Ministries, and vertically between national, regional and local authorities. Consequently, responsibility is often diluted and allocation of responsibilities is unclear.

Important bearing on social (education, health, gender, settlements) and environmental policies.

Water and sanitation governance issues are not purely sectoral, they relate to land tenure, housing security, decentralisation policy, and environmental rights.

Water governance and reforms involve many objectives that may seem difficult to reconcile (service obligation, social equity, economic efficiency, resource preservation).

Considerations for governments

Institutional arrangements vary greatly across countries. In that context, consider **strengthening common understanding across levels of government** of respective responsibilities for overall policy and objectives setting and for the enforcement of policy framework. This involves clear definition of objectives, means and resources to achieve the objectives and of compliance mechanisms.

The objectives in terms of universal service and services to the poor should be clarified, as well as the expectations in terms of network extension, prices and level of services.

Ensure consistency across the main development programs and with general policy. Water and sanitation infrastructure development in particular has to be addressed as part of an integrated urban programme that tackles housing, tenure and relocation (when relevant). This can be done through multi-annual planning for water strategies and enhanced inter-ministerial co-ordination on water issues.

Involve different levels of government in **structured negotiations** over planning process, implementation and monitoring.

Channel efforts of the many involved actors towards **main development programme** (including NGOs, donors, diverse private actors).

Tools and practices

Setting of a steering committee across the different ministries in charge of water to ensure co-ordination in Ethiopia.

Sector Wide Approach to Planning in Uganda.

Singapore: on line codes of practice (www.pub.gov.sg)

OECD Promoting Pro-Poor Growth: Infrastructure: www.oecd.org/dac/poverty

Goals, strategies and capacities at all levels

Principle 12

Mechanisms for cross-jurisdictional co-operation.

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

Sector-specific features

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.

Importance of cross-border management of water issues owing to scarcity of resource, uneven distribution, and the widespread consequences of mismanagement of resource (such as pollution, for instance).

Spatial and functional organisation of river basins and watersheds does not necessarily correspond to administrative boundaries.

Mechanisms to enforce poverty reduction across municipalities (cross-subsidisation).

Considerations for governments

Adopt and implement the principles of Integrated Water Resource Management (IWRM) that promote a holistic approach to management of water resources.

Enhance inter-municipal co-operation and develop specific incentives.

Consider tools for vertical collaboration (between central government and sub-national levels such as municipalities), such as contracts.

Develop regional co-operation. Consider trans-border agreements.

Envisage dispute settlement mechanisms to frame resolution of conflicts that cross-jurisdictional co-operation may trigger.

Tools and practices

On IWRM, see Global Water Partnership: www.gwpforum.org

Coordination across municipalities:

Inter-communalité in France, see www.intercommunalites.com and OECD Economic survey of France 2007: www.oecd.org/eco/surveys

Common legislative framework for municipalities in Portugal, see OECD Territorial review of Portugal (2008): <http://publications.oecd.org/acrobatebook/0408041E.PDF>

Water Boards in the Netherlands (see OECD Territorial Review. Competitive cities in the global economy: <http://publications.oecd.org/acrobatebook/0407011E.PDF>).

Contract as a tool for vertical collaboration and cross-border regional governance,

see OECD Territorial Review 2006: <http://publications.oecd.org/acrobatebook/0406041E.PDF>

Nile Basin Initiative:

Setting up of regional institutions to manage jointly water resources: www.nilebasin.org.

Making the public-private co-operation work

Principle 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.

Sector-specific features

Contracts cannot be fully comprehensive:

- long-term arrangements,
- shock-prone environment (currency devaluation),
- uncertainty on the quality of baseline data (on the real state of water systems, the customer base and the revenue flows).

Multi-stakeholder dialogue: multi-level responsible public authorities, multiplicity of private actors, key role of users and communities.

Important social, political and environmental repercussions.

Considerations for governments

The basis for the relations between the responsible public authorities and the private operator is the formalised contractual arrangement. The non-contractual relations are important elements of the communication between the public and private actors but need formalization if they predominate.

Consider including in contract **clauses and mechanisms to frame the discussions on future issues** (including on dealing with the consequences of inadequate information) as well as formal dispute resolution mechanisms. Starting the discussion early when challenges arise and before conflicts escalate may help.

Consider developing **one-stop shops for private operators to ensure coordinated communication of responsible public authorities.** This may involve the development of a dedicated website to inform the private sector and perform basic tasks (licensing for instance).

Create **capacity and space for dialogue between the public and private sector.** The communication channels may differ across actors, depending on the existence of business association for instance and whether the sector is informal. Determine which actors are legitimate interlocutors. Promote association of independent providers, remaining careful of preventing cartelisation.

Engage the private actors to formulate their requirements and constraints for **mutual understanding and better appropriateness** of contracts.

Promote dialogue across operators to encourage sharing of good practices and capacity building.

Tools and practices

Global Water Operators Partnerships Alliance:
www.unsgab.org/hapi/wops

Municipal sanitation platform in Durban coordinating private activities:
www.bpdwaterandsanitation.org/web/w/www_37_en.aspx

The affermage contract for the urban water of Senegal includes a performance contract between SONES (asset holding company) and SDE (private operator) that brings the partners together every 6 months for review.

Efforts by responsible public authorities to reach out to small-scale providers: First National Conference on Small Scale Water Service Providers conducted in August 2007 in the Philippines and subsequent formation of National Waterworks Association of the Philippines (NAWASAP), see annual report of the National Water Resources Board:
www.nwrp.gov.ph/Uploads/annualreport2007.pdf

APWO of Uganda: Association of small private providers that aims to coordinate action and generate a common voice:
www.oecd.org/dataoecd/50/25/37787617.ppt

Making the public-private co-operation work

Principle 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.

Sector-specific features

Water and sanitation facilities are mainly underground and difficult to appraise. In the past, underestimated state of disarray of infrastructure has led to many controversies.

Asymmetry of information and limited reversibility of infrastructure projects in the short run.

The flow of information is made difficult by multi-jurisdictions dimension.

Importance of information disclosure to fight corruption, facilitate a better understanding of all parts and make public policy clear in a sensitive area.

Considerations for governments

Invest time and capacity in the due diligence process.

When information gaps have been identified, **concentrate on improving data quality overtime**. Involve all stakeholders in data improvement strategy.

Provided the uncertainty on the state of infrastructure, consider **updating the baseline data used to develop the business plan before the contract starts**.

Adopting performance-based contractual arrangements with performance targets defined in terms of improvement rates rather than absolute level can help reduce data requirement. Consider **focusing the monitoring on a limited set of key indicators** (for which there is agreement on computing methodology).

Clarify expectations and constraints faced by the partners.

Tools and practices

OECD Principles of Corporate Governance on disclosure and transparency expected from the corporation:
www.oecd.org/daf/corporate/principles

OECD Guidelines for Performance Based Contracts between Municipalities and Water Utilities: www.oecd.org/env/water/performancebasedcontracts.
The challenges of implementing performance-based contract in Yerevan (Armenia):
www.oecd.org/dataoecd/25/22/40572658.pdf

IWA set of monitoring indicators

Partnerships Victoria Practitioners' Guide.
Sections on confidentiality and disclosure:
www.partnerships.vic.gov.au

Best practices in procurement and contract publishing requirements from the Victorian Government Purchasing Board:
www.vgpb.vic.gov.au/

Making the public-private co-operation work

Principle 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.

Sector-specific features

Contract design and bidding process are key elements of success of projects.

Importance of the credibility of the deal, of the responsible public authorities and of the reputation of the private actor for a sustainable cooperation.

The sector involves long-term relationships that need to be grounded in sound contractual arrangements and processes.

The consequences of rigged contract awarding may be important (higher prices and lower investment levels) and may fall disproportionately on the poor.

Considerations for governments

In the contract award process:

- **Ensure clarity and transparency of rules of game** for all stakeholders, including clearly communicated evaluation criteria.
- **Maximise the opportunity for competition.** Minimize opportunities for collusion and for future renegotiations by carefully selecting the characteristics of process (number of operators and their co-ordination) and the award criteria.
- **Favour simple award criteria** to help readability of bids and focus on quantity, quality and prices of services to be provided.

Bid evaluation is a critical element to assess financial and technical capacity of parties to deliver the project. Past track record can be an indication of performance but should not be too narrowly defined as to exclude smaller firms or limit excessively competition. Consider writing an evaluation report describing the financial propositions of bidders, service delivery propositions, construction proposals, potential risks to government, technical and financial capacities of parties, flexibility of proposal to accommodate changes.

In the design of contract:

- Be aware of the tensions between detailed 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, permanent review panels and permanent dispute panels) in the contract.
- **Check that the contract and related documents and processes are consistent with the legal framework.** If the law requires changes that will affect the contract, it should be done before the contract enters into force.

Tools and practices

Kessides (2004) for a discussion of different types of regulation and their respective merits:
<http://go.worldbank.org/IG9W1RPX70>

OECD (2006).

Concessions:

www.oecd.org/dataoecd/36/6/35967639.pdf

Partnerships Victoria:

www.partnerships.vic.gov.au

Making the public-private co-operation work

Principle 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.

Sector-specific features

Infrastructure gaps remain substantial and level of access low in most developing countries.

Operational performance of the water sector remains heterogeneous and weak across countries, but also within countries.

High level of public money allocated to infrastructure development and subsidies requires accountability.

Focus on output (such as people provided with access) rather than inputs would allow to dispassionate the debate on ownership of operators.

Considerations for governments

The contract should **define precisely the scope of the project** (objectives to be achieved, rights, obligations and responsibilities of all parties), set non-contradictory targets and avoid over-regulation (combination of performance targets and investment obligation for instance) and contradiction with the regulatory framework.

Set realistic deadlines, as the results might not materialise in the very short-term. The contract should specify the framework for negotiations; include clauses and mechanisms to frame discussions on future issues and formal dispute resolution procedures.

Regulate and monitor outputs rather than inputs. Avoid strict technical service specifications as it restricts options and might disadvantage the poor. Relaxing some technical standards (*i.e.* pipe diameters, gradient and depth) may allow the development of cheaper, pro-poor systems and provide a pragmatic and more effective approach to achieve the MDGs, should they reflect users' demand.

Develop monitoring processes and promote reporting of economic, environmental, and social performance. Improve data availability and quality over time.

Identify and focus on a small number of key indicators (clear, easy to measure) to lower the cost of information provision. These will typically include indicators of progress in outcomes, of service quality, of efficiency and of financial performance. Targets can be specified in terms of tangible improvements if uncertainty exists over actual levels. Definition and methodology to compute the indicators should be agreed between the parties.

Assessment and monitoring of performance can build on feedback from civil society (users, NGO and communities).

Tools and practices

OECD Guidelines for Performance Based Contracts between Municipalities and Water Utilities:

www.oecd.org/env/water/performancebasedcontracts

The use of performance-based contract in Yerevan (Armenia): www.oecd.org/dataoecd/25/22/40572658.pdf

Performance targets embedded in the affermage contract for the urban water of Senegal (in terms of leakage reduction, improvement in bill collection): www.afd.fr

Output Based Aid schemes in Kenya: www.wsp.org/UserFiles/file/67200752513_MicrofinancePolicyNoteAf.pdf

Investment plans and service level, see OECD (2009).

Managing water for all: an OECD perspective on pricing and financing.

Simplified sewerage in Latin America: www.irc.nl/page/8193

Global Reporting Initiative: www.globalreporting.org

Citizen report cards in Bangalore: www.swedishwaterhouse.se/swh/resources/20051010171233_Community_Voice_as_an_Aid_to_Acc_Thampi.pdf

Making the public-private co-operation work

Principle 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.

Sector-specific features

Monopolistic sector, long-term incomplete contracts and multi-stakeholders dialogue. High occurrence of renegotiations.

Necessity of a holistic approach to preserve well being of users, while safeguarding environment, from water extraction to wastewater discharge.

Quality issues are very prominent (quality of water, pollution).

Complexity of pricing policy with potentially conflicting objectives: cost recovery, economic efficiency, equity and affordability.

Key importance of maintenance in a capital-intensive sector.

Challenges magnified by asymmetry of information, limited credibility of recently established regulatory bodies, importance of small-scale informal providers for which national regulatory tools are often ill-suited and diversity of private actors in a decentralised setting.

Considerations for governments

There should be a **clear separation between commercial and regulatory functions** of the State. Regulatory bodies should follow principles of good regulation, in particular: clarity, practicality and focus (on water quality, environmental regulation, economic regulation to oversee monopolistic market, monitoring and consumer representation).

Establishing the regulatory body prior to reform can support building-up stability and credibility.

Resource capacity should be commensurate with mandate. Roles and responsibilities may evolve as capacity and credibility develop. Consider alternatives such as market-based instruments, information approaches, self-regulation, regulation by contract and contracting out of specific functions that may complement actions of regulatory bodies. Efforts must be made to ensure consistency with other regulations and policies.

Predictability, transparency, consistency and clarity of rules foster both independence of decision and accountability of regulatory bodies. It involves: adopting clear rules for decision making (*i.e.* on tariffs setting and review), disclosing information on decisions and procedures, specifying recourse mechanisms, submitting to judicial reviews and introducing review clauses. Reporting obligation towards a publicly elected parliament may strengthen accountability. Regulatory impact analysis can help assess the likely benefits, costs and effects of regulations. Effective enforcement involves **credible and applicable sanction mechanism**.

Decentralisation may improve responsiveness to local necessities but may generate co-ordination problems. Similarly, a multi-sector agency can help share fixed costs, limited capacities; build expertise in cross-cutting issues; and better resist capture by specific interests but may lose sector-related capacity. The decision will depend on country capacities and size. In any case, consider **strengthening co-ordination among regulatory authorities and levels of government** and reducing overlapping of responsibilities.

Acknowledge diversity of private actors and identify the challenges they raise for regulation.

A comprehensive regulation may be costly and have adverse impact on small-scale and decentralised activities. Administrative simplification involves reducing number and forms of procedures and better information on regulatory principles and lines of responsibility. A number of tools exist depending on contexts: one-stop shops, on-line licensing and business services. Regulation and oversight of decentralised systems might be best provided by local communities and governments. Engagement strategies of small-scale entrepreneurs include licensing, municipal delegated management models and partnerships with utilities.

Tools and practices

OECD Guiding Principles for Regulatory Quality and Performance:

www.oecd.org/dataoecd/19/51/37318586.pdf

OECD Key issues and recommendations on consumer protection:

www.oecd.org/dataoecd/53/0/14636760.pdf

OECD Guidelines on Corporate Governance of State-owned Enterprises:

www.oecd.org/daf/corporateaffairs/soe

World Bank Handbook

for evaluating infrastructure regulatory systems:

<http://rru.worldbank.org/Toolkits/InfrastructureRegulation>

The Guaranteed Standards Scheme, see OFWAT, UK:

www.ofwat.gov.uk

Smart Regulation in Canada:

training, public consultation, monitoring and review:

www.regulation.gc.ca

On-line business services:

Canada: www.bizpal.ca

UK: www.businesslink.gov.uk

Regulation of small-scale providers:

Incentive package developed by

NWASCO, Zambia: www.nwasco.org.zm

Regulation of prices and MOU with tanker operator association by PURC, Ghana: www.purc.com.gh.

Regulatory impact analysis in Ireland: www.betterregulation.ie

Regional regulatory initiatives

to promote capacity building and harmonisation through development of guidelines and sharing of good practices: South Asian Forum for Infrastructure Regulation (<http://safirasia.org>),

African Forum for Utility Regulators (www.afurnet.org).

Making the public-private co-operation work

Principle 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.

Sector-specific features

Long-term, complex contracts that cannot be comprehensive and cover all potential events.

Uncertainty on the quality of baseline data (on the real state of water systems, the customer base and the revenue flows).

Occurrence of important external shocks – exchange rate devaluation, increased price of inputs – has put stress on several partnerships in the past.

Over the long run, legitimate changes in policies and objectives.

Considerations for governments

The constantly changing environment that countries face (due to external and internal factors such as population growth, migration to urban areas, evolution of poverty, institutional development), and the long-term commitment to a specific technology that infrastructure projects represent call for **building some flexibility to adapt to new conditions into contractual arrangements**. It may involve including rights to modify specifications (at a cost) in the contract. In any case, providing for clear rules to frame the discussions on future issues in contractual arrangements will help to manage the flexibility and avoid conflict escalation.

Some basic principles can help avoid unnecessary renegotiations:

- **Be aware of the trade-off** between the risk borne by investors and the probability of renegotiations: less renegotiation 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 is by objectives (on performance indicators) rather than by means (investments) as it gives more 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, step-in rights, renegotiation fees and contractual stipulations specifying under what circumstances revisions shall be considered can limit the occurrence of renegotiations and improve their efficiency.
- **Develop credible and realistic terms of reference** and contract specifications and avoid changes in policy orientation (adding additional provisions – such as delivery to the poor – after award).

Tools and practices

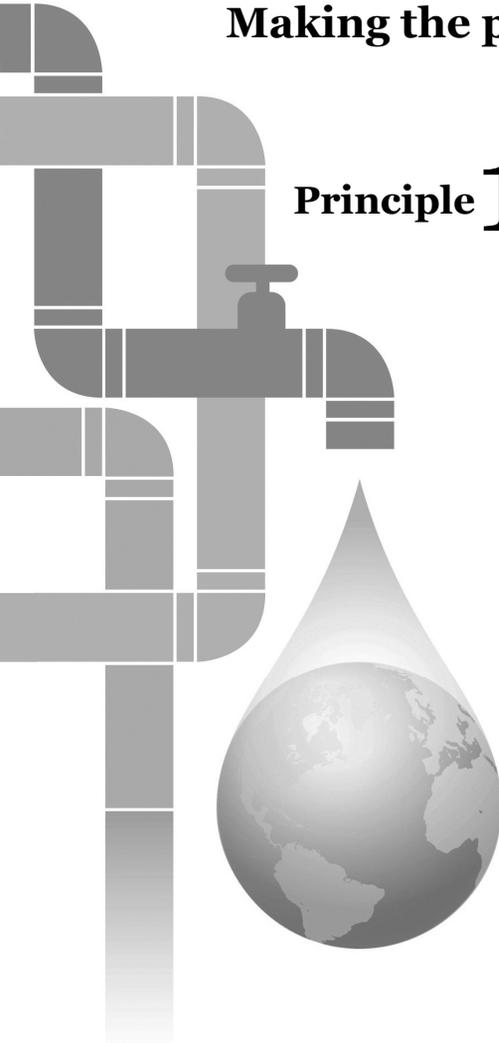
OECD (2006). Concessions:

www.oecd.org/dataoecd/36/6/35967639.pdf

Variation clauses under the UK Private Finance Initiative:

www.hm-treasury.gov.uk/documents/public_private_partnerships

Making the public-private co-operation work



Principle 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.

Sector-specific features

There have been some cases of high profile disputes with foreign investors related to water and sanitation projects in recent years.

Highly politicised disputes that generate social unrest and may threaten the political power.

Disputes are amplified in context of weak institutional, regulatory and legal framework, where contract enforcement is an issue.

The poor pay disproportionately the consequences of delayed investments and inaction that may arise from long-lasting disputes.

Considerations for governments

Consider including in contract **clauses and mechanisms to frame the discussions on future issues** (including on dealing with the consequences of inadequate information), as well as **dispute resolution mechanisms** (performance bond, contingencies for renegotiation, recourse to international arbitration). Clarify remedies available to private investors in case of dispute.

Anticipate disputes and prefer amicable settlements to arbitration. This can be encouraged by creating contractual disputes panels, which meet and discuss the contract regularly. Starting the discussion early when challenges arise and before conflicts escalate may help.

Bilateral investment treaties allow foreign investors to have access to international arbitration (through the International Centre for Settlement of Investment Disputes - ICSID - for instance) even though the contract may provide for local courts jurisdiction. **Inform local authorities of international obligations and of national consequences of breach of international obligations.**

Be aware of **trade-offs between detailed contracts and flexibility** to adapt to changing environment.

Tools and practices

World Bank Alternative Dispute Resolution Manual:

<http://rru.worldbank.org/Toolkits/AlternativeDisputeResolution>

The lease contract for Yerevan water identifies the major conflict resolution mechanisms (including recourse to a facilitator with a substantive knowledge in water management who proposes solutions and arbitration by the London Court of International Arbitration):
www.oecd.org/dataoecd/25/22/40572658.pdf

Expert panels (Chile):

www.ppiaf.org/documents/gridlines/22RegDisp.pdf

ICSID cases and documents:

www.worldbank.org/icsid

Encouraging responsible business conduct

Principle 20

Responsible business conduct.

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

Sector-specific features

Water is a basic human need, with important economic, social, environmental and political repercussions.

Important interaction with users.

Water and sanitation are key elements of development policies and generate important political interest.

Labour intensive industry.

Responsible business conduct is of particular importance in weak governance environment (where the needs are usually greatest).

Diversity of private actors involved and of the key issues in terms of business conduct: large, concentrated operators have significant negotiating power, especially in weak governance zones; small-scale operators may enjoy limited knowledge of standards; the water activities of big users may escape public scrutiny as being a side (even if sometimes substantial) share of their activities; financial groups may overlook the specificities of water as a basic need and environmental good in risk assessment.

Considerations for governments

Support the use of principles and standards of responsible business conduct as reflected in intergovernmental instruments such as the OECD *Guidelines for Multinational Enterprises* and the ILO *Tripartite Declaration of Principles Concerning Multinational Enterprises and Social Policy*.

Governments can be supported in their efforts through **appropriate partnerships with business organisations** to strengthen the institutional and regulatory framework, especially in weak governance zones.

Consider providing **capacity building to small-scale operators**.

Tools and practices

OECD Guidelines for Multinational Enterprises:
www.oecd.org/daf/investment/guidelines

OECD Risk Awareness Tool for Multinational Enterprises in Weak Governance Zones:
www.oecd.org/daf/investment/wgz

ILO MNE Declaration:
www.ilo.org/public/english/employment/multi/index.htm

UN Global Compact Principles:
www.unglobalcompact.org/AboutTheGC/TheTenPrinciples

UN Principles for Responsible Investment (UN PRI) and the water specific set of principles:
www.unpri.org

Equator Principles:
www.equator-principles.com

Aquafed Code of Ethics:
www.aquafed.org/pdf/AquaFed_Code_of_Ethics_2005-07-11.pdf

SNS REAAL Water Fund (assessment of project bankability includes sustainability analysis):
www.snsam.nl/index.asp?NID=7636

Encouraging responsible business conduct

Principle 21

Good faith and commitment.

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

Sector-specific features

Long-term partnerships in a vital sector.

Important information asymmetry and little reversibility over the short-run increase the risk of capture of responsible public authorities by specific interest.

Very specific knowledge and technology.

Important political and social repercussions of failures.

The private sector faces an important reputational risk.

Considerations for governments

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 made aware of dispute resolution mechanisms provided for in the contract and of the existence of any investment protection agreement. In case of dispute, consider first alternative dispute resolution mechanisms, such as conciliation and mediation.

In any case, good faith and goodwill of the parties to co-operate and find mutually beneficial solutions will remain crucial.

Tools and practices

OECD Principles of Corporate Governance:

www.oecd.org/daf/corporate/principles

OECD Guidelines for Multinational Enterprises:

www.oecd.org/daf/investment/guidelines

OECD Policy Framework for Investment (chapter 7):

www.oecd.org/daf/investment/pfi

Encouraging responsible business conduct

Principle 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.

Sector-specific features

Multi-stakeholder projects, multi-layer administration and important information asymmetry.

Monopolistic sector with limited competition and in some cases low tariffs that do not allow for cost-recovery constitute strong incentives for collusion.

Some large-scale constructions involve large financial flows.

High demand and human need dimension. Water rationing and interruptions provide important corruption opportunities.

Importance of informal sector.

Greater needs are in countries where governance is weak and local governments lack capacity.

Considerations for governments

Promote public commitment by business to integrity and to abstain from improper involvement in local political activities. Encourage joint public campaigns to promote integrity.

Promote greater transparency around transactions through competitive bidding and publication of contracts.

Encourage companies to communicate on anti-corruption policies and internal management systems to the staff, including through training programmes.

Encourage integrity throughout the supply chain through transparent sub-contracting mechanisms and communication on anti-corruption policies to sub-contractors.

Encourage companies to limit incentives: particular attention to activities where contacts with consumers are high (connections, repairs), appropriate remuneration of staff.

Staff and consumers should be given opportunities to report on reprehensible behaviours. Consider whistle-blower protection.

Credible threats such as forgoing recourse to international arbitration if corruption is proved – see ICSID award in World Duty Free Company Limited v Kenya case – or including anti-bribery provisions in financial institutions due diligence requirements (disclosure of past violations of corruption laws, adoption of anti-bribery programmes) can provide strong incentives to refrain from corrupt practices.

Tools and practices

OECD Anti-Bribery Convention:
www.oecd.org/daf/nocorruption/convention

OECD Guidelines for Multinational Enterprises:
www.oecd.org/daf/investment/guidelines

OECD Risk Awareness Tool for Multinational enterprises in Weak Governance Zones:
www.oecd.org/daf/investment/wgz

Transparency International Integrity Pact:
www.transparency.org/global_priorities/public_contracting/integrity_pacts.

TI Business Principles for Countering Bribery:
www.transparency.org/global_priorities/private_sector/business_principles.

World Bank Institute Business Fighting Corruption website and guide for collective action:
<http://info.worldbank.org/etools/antic>

Pact for Promoting Integrity and Fighting Corruption in Brazil:
www.unglobalcompact.org/docs/issues_doc/7.7/case_stories/BAC_2D.1.pdf

ICC Rules of Conduct and Recommendations for Combating Extortion and Bribery:
www.iccwbo.org/policy/anticorruption

Agreements based on TI Business Principles in Colombia (www.waterintegritynetwork.net) and Argentina (www.transparency.org).

OPIC requirements to allocate funding:
www.opic.gov/pubs/handbooks/guides/documents/opicanticorruptionhandbook0906.pdf

Coalitions to fight corruption:
CIPE (www.cipe.org/programs/corruption),
WIN (www.waterintegritynetwork.net).

Encouraging responsible business conduct

Principle 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.

Sector-specific features

Ultimate objective for infrastructure development and management is universal access and sustainable use of water resources.

Consequences for health of better water and sanitation practices are important.

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.

Considerations for governments

Engage companies in the 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 the rational for price increases (when relevant) and other major changes in service delivery and be in line with service quality and users needs.

Tools and practices

OECD Key issues and recommendations on consumer protection:

www.oecd.org/dataoecd/53/0/14636760.pdf

OECD handbook on information, consultation and public participation in policy-making: www.oecd.org/gov

OECD Recommendation on Common Approaches to the Environment and Officially Supported Export Credits:
www.oecd.org/dataoecd/26/33/21684464.pdf

SDE in Senegal launches surveys to assess consumers' satisfaction and provides free phone number for customers' information.

Encouraging responsible business conduct

Principle 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.

Sector-specific features

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 system management (maintenance), treatment of effluents.

Considerations for governments

Promote assessment and discussions of the consequences for the poor of the technology choices, tariff setting policy, investment planning.

Engage private actors in initiatives aimed at mapping the location of the poor and better understanding of demand.

Promote contribution to sustainable development by evaluating the full impact of activities on environment and continuously seeking to improve environmental performance. Favour the 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, and of ISO/TC 224 guidelines for service activities relating to drinking water and wastewater systems.

Promote awareness on the consequences for employees of transfer of ownership: share information before and after transfer on measures affecting the employees and cooperate with the employee representatives to forge the common values of the company.

Promote reporting of economic, environmental, and social performance. Encourage companies to engage with their financiers over the environmental and social consequences of their decisions and actions.

Tools and practices

Global Reporting Initiative:
www.globalreporting.org

ILO Declaration on Fundamental Principles and Rights at Work:
www.ilo.org/declaration

Norms ISO: www.iso.org

United Nations Guidelines for Consumer Protection:
www.un.org/esa/sustdev/sdissues/consumption/cpp1225.htm

The CEO Water Mandate:
www.unglobalcompact.org/Issues/Environment/Water_sustainability/index.html

The Manila Water sustainability report:
www.manilawater.com/files/MWCSusDev07.pdf

The Guaranteed Standards Scheme, OFWAT, UK:
www.ofwat.gov.uk

UK Protection of Employment Regulations (TUPE):
www.berr.gov.uk/employment/trade-unionrights/tupe/page16289.html

Pro-poor strategies in Manila (Manila Water) and Soweto (JOWAM).

Management of resource scarcity: Namibia and Singapore reduction in unaccounted for water and reused water technology.

Chapter 3

Water at a Glance

In order to support the conceptual work on private sector participation in water and sanitation infrastructure, a systematic review of country experiences has been carried out based on a common framework. It involves some 30 countries in Africa, Latin America and Asia/Pacific (Table 3.1) in several “dimensions” (Table 3.2). The resulting OECD *Water at a Glance* information base provides the basis for this section on regional trends and practices. A word of caution is necessary regarding the quality of data and particularly of time series. Changes in monitoring methods within countries and heterogeneity across country methodology may considerably alter the reliability of data and make comparisons over time and across countries difficult. Setting aside the potential measurement problems of absolute levels, broad trends still emerge from the information collected for *Water at a Glance*. The available data is also qualified and supported by qualitative information that allows for a better understanding of specific contexts.

Table 3.1. **Countries in *Water at a Glance***

Africa	Asia/Pacific	Latin America
Burkina Faso	Bangladesh	Argentina
Ethiopia	Cambodia	Bolivia
Ghana	China	Brazil
Kenya	India	Chile
Mali	Indonesia	Colombia
Mauritania	Malaysia	Honduras
Nigeria	Nepal	Mexico
Senegal	Philippines	Peru
South Africa	Singapore	
Tanzania	Thailand	
Uganda	Viet Nam	
Zambia		

Water availability and access

Wide disparity in water resources, both across and within countries

According to FAO data and analysis, Latin America is well endowed with water resources. The region receives 30% of the world's precipitation and generates 33% of the world's water resources, while representing 15% of the world's total land surface and hosting 10% of the world's population. However, some regions, usually the most populated areas, experience some water scarcity.

Asia is also relatively well endowed with water resources, compared to its surface: with 22% of world precipitation and 28% of its water resources while accounting for 15% of land surface. However, the continent hosts 53% of world population and experiences great disparity in the distribution of water resources and water use conditions across countries and regions. Among the countries under review, India and China are close to experiencing

Table 3.2. **Selected Available information in Water at a Glance**

Indicators	Sub-indicators	Source
Demography	Total and urban population (2005, 2015)	Un Population division
	Total and urban population growth (2005-15)	
	Population density (2005-15)	
Water resources	Water scarcity	FAO Aquastat
	Over withdrawal	
	Foreign dependency ratio	
	Water uses (Agriculture, Domestic and Industry)	
Access to water and sanitation	Improved drinking water coverage in urban/rural Areas (1990, 2004)	Various sources incl. WHO/Unicef Joint Monitoring programme
	Household connection in urban/rural areas (1990, 2004)	
	Improved sanitation coverage in urban/rural areas (1990, 2004)	
	On track to water/sanitation MDG?	
Water management	Percentage of wastewater treated	Various sources
	Average domestic consumption of water	
	Continuous water supply	
	Average hours of access to tap water	
	Estimate of unaccounted for water/non revenue water	
	Operating cost coverage ratio	
	Billing collection rate	
	Staff per 1000 connections	
	Water institutional & policy framework	
Regulatory agency: year of introduction, independence and activities		
Dispute resolution mechanisms		
Corporatisation of local operators		
Decentralisation and devolution of means and responsibilities		
Private sector participation	Presence of private operators	Various sources
	Population served by the private sector	
	Location, sector, type of contract	
	Year of introduction of private sector participation	
	Past disputes	
Investment needs	Investment needs to reach the water and sanitation MDGs	Various sources, incl. OECD and World Bank PPI database
	Investments gap (water and sanitation MDG)	
	ODA to the water sector	
	Private investment	

water scarcity, with available water close to FAO's threshold of 2 000 m³/inhabitant/year. Urbanisation, waste disposal in rivers, in addition to arsenic contamination in countries such as Nepal and Bangladesh, also contribute heavily to deteriorating water quality and to constraints in the supply of safe water. China has responded to the water quality challenge by strengthening standards and increasing inspections. In this context, the Beijing Institute of Public and Environmental Affairs launched in 2006 an online database recording the pollution by 2 500 enterprises.¹ This practice, however, remains uncommon among Asian countries.

Renewable water resources for the whole of Africa amount to less than 9% of global renewable resources (for 22% of the world's emerged landmass and 14% of the world's population). Moreover, accounting for the likely impact of climate change, demographic pressures and economic development, UNEP estimates that by 2025 some 25 African countries could be subject to water stress and water scarcity, compared to 17 in 2003-07. Water availability and quality are further affected by industrial pollution, poor sanitation and sewage practices, inefficient resource allocation and wastage. For example, over 50% of the water supply is unaccounted for in most African cities. However, the disparity of resource endowment across countries is very important: Africa hosts both some of the driest countries in the world (in Northern and Southern Africa), and some of the best endowed (Central Africa accounts for 48% of Africa's water resources with only 18% of its

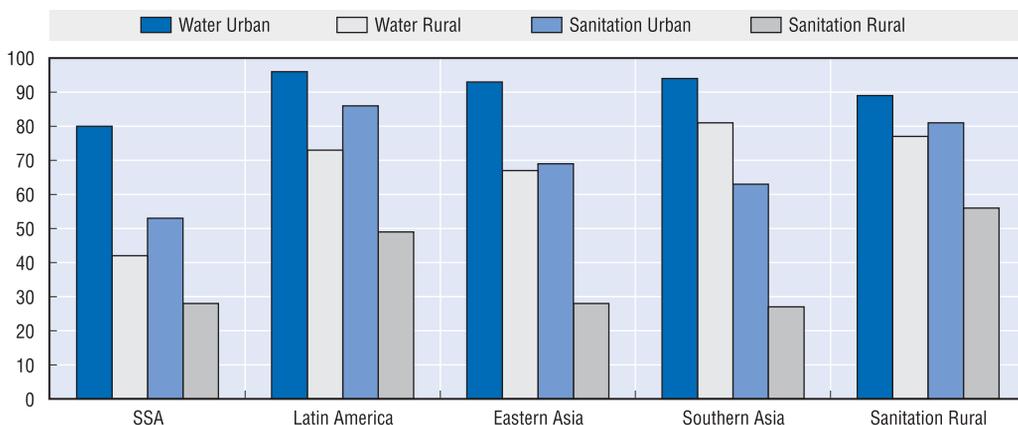
area, with DRC alone representing 23% of internal renewable water resources in Africa). In addition, with total annual water withdrawal of 215 km³ (barely 5.5% of the renewable water resources on the continent and less than 6% of world withdrawals), African resources are only marginally exploited under managed conditions.

The challenge of increasing access: less than a quarter of the reviewed countries are expected to fully meet the water and sanitation Millennium Development Goals (MDGs)

Sub-Saharan Africa, Asia and Latin America display diverse levels of access to water and sanitation (Figure 3.1). However, similar patterns emerge. Globally, water coverage in rural areas still lags far behind the coverage in urban areas. Similarly, sanitation, and more specifically rural sanitation coverage, is very limited and essentially absent in some areas. The dramatic situation of sanitation has major consequences for health and gender equality. The volume of sewage already represents the main source of water pollution. If urban areas display much higher coverage rates, cities and peri-urban areas infrastructure still face a great stress because of combined pressure of population growth and migration from rural areas that have led in some instances to deterioration in coverage rates. The negative consequences of improper sanitation are also much more acute in slums where poor and overstretched infrastructure is compounded by high population density.

Since the 1990s, Latin America has made considerable progress in improving access to drinking water. From 83% in 1990, the region's total drinking water access increased to 91% by 2004. Consequently, the region has already met the drinking water related target of the MDGs. However, the rural sector, with an access level at 73% in 2004, suffers from much lower access than its urban counterpart (where access stands at 96% in 2004) and is not likely to meet the MDG target of 80% by 2015. Progress in increasing sanitation coverage has also been far less successful. Overall, sanitation coverage has increased from 68% in 1990 to 77% in 2004. However, statistics mask the very low level of rural sanitation, which remains below 50%, and which would need to increase to 68% by 2015 to meet the MDG. This is reflected in Table 3.3, where no country (except Mexico) is expected to reach the MDG target for water in rural areas and only Argentina is on track to reach the MDG target for sanitation in both urban and rural areas.

Figure 3.1. Access levels in percentage of population in 2004 by region



Source: WHO/UNICEF Joint Monitoring programme.

Asia is a highly heterogeneous continent. Malaysia, Singapore, Viet Nam and Thailand present outstanding performance with quasi universal access to water and sanitation services. Elsewhere, access to drinking water in urban areas remains high (especially in China, India and Nepal), but rural access and especially access to sanitation lags far behind. In terms of progress towards MDGs (Table 3.4), India, Malaysia, Singapore, Viet Nam and Thailand are either on track or have already achieved the water and sanitation targets. Several Asian countries however, are not expected to meet their water and sanitation MDG targets by 2015, and some, including China, Indonesia and Philippines, are regressing in areas such as urban water supply. The decline can be largely attributed to rapid urbanization and the subsequent development of informal peri-urban settlements.

Sub-Saharan Africa has the lowest drinking water and sanitation coverage in the world, with over 322 million people without access to safe drinking water and 463 million without access to improved sanitation. Sub-Saharan Africa has made progress recently in improving population access to drinking water and sanitation: from 49% in 1990 to 56% in 2004 for safe drinking water, and from 32% in 1990 to 37% in 2004 for improved sanitation facilities. However, progress remains highly inadequate in relation to needs. Consequently, the sub-continent is not likely to achieve the MDG targets of 75% for drinking water and 66% for sanitation by 2015. As shown in Table 3.5, only four of the nine countries surveyed are likely to fully meet the MDG water target and just two the sanitation target.

Most importantly, and despite the progress, the dynamics appear highly unfavourable. In contrast to other developing regions, Sub-Saharan Africa continues to see a substantial

Table 3.3. Millennium Development Goals progress in selected Latin American countries

	Argentina	Bolivia	Brazil	Chile	Colombia	Honduras	Mexico	Peru
On track to water MDG?	Yes (urban) Possible (rural)	Yes (urban) No (rural)	Yes (urban) No (rural)	Yes (urban) No (rural)	Yes (urban) No (rural)	Likely (urban) No (rural)	Yes	No
On track to sanitation MDG?	Yes	No	No	Yes in urban. No in rural	Yes (urban) No (rural)	No but rapid progress	Yes (urban) No (rural)	No

Source: OECD, *Water at a Glance*, based on various sources, incl. UNDP (2006).

Table 3.4. Millennium Development Goals progress in selected Asian countries

	Bangladesh	China	India	Indonesia	Malaysia	Nepal	Philippines	Singapore	Thailand	Viet Nam
On track to water-MDG?	No	No	Yes	No	Yes	Yes	No	Yes	Yes	Yes
On track to sanitation-MDG?	No	No	No	No	Yes	No	Yes (urban) No (rural)	Yes	Yes	On track

Source: OECD, *Water at a Glance*, based on various sources, incl. Asian Development Bank (2007), UNDP (2006).

Table 3.5. Millennium Development Goals progress in selected African countries

	Burkina Faso	Ghana	Kenya	Mauritania	Mozambique	Senegal	South Africa	Uganda	Zambia
On track to water-MDG?	Yes (urban) No overall	No	Likely	No	No	Likely	Yes, quasi universal service by 2008	Likely but low initial target	No
On track to sanitation-MDG?	Yes (urban) No overall	No	No	No	No	No	Yes, but not the universal service target by 2010	Likely but low initial target	No

Source: OECD, *Water at a Glance*, based on AfDB, EUWI, WSP (2006) and UNDP (2006).

increase in the absolute number of unserved people. Some 60 million between 1990 and 2004 joined the pool of people without safe access to drinking water and a further estimated 47 million people are expected by 2015. Similarly, the perspective is of a further increase of 91 million people without access to sanitation services by 2015. Even if the MDGs are reached by 2015, the backlog of unserved people is estimated at some 234 million people for drinking water and 317 million for sanitation.

Operational performance of the water sector: a contrasted picture

Just connecting people to water and sanitation is not enough. Sustainable access requires efficient operation and maintenance of water sector networks and utilities. In order to allow for a better understanding of the state of operational management of water systems in the selected countries, *Water at a Glance* identifies five operational management indicators as defined in Table 3.6.

Table 3.6. **Indicators of operational management**

Continuous water supply (Average hours of access to tap water in hours/day)	Indicator of both availability and quality of water.
Estimate of unaccounted for water (Amount of water lost through pipes)	Unaccounted for water indicates the quality and level of maintenance of water networks. 15-20% is considered good practice in OECD countries.
Operating cost coverage ratio (Total annual operational revenues divided by total annual operating cost)	It measures the extent to which consumer tariffs and additional fees or subsidies contribute to overall operations and minor maintenance costs. A ratio below 1 implies that incoming fees do not meet costs, which indicates an unsustainable system.
Billing collection rate (Income as a percentage of billed revenue)	It indicates the level of bill recovery. A low percentage reflects low willingness or capacity to pay or discontent with the service and may lead to a cycle of under-funding and deterioration in operations and maintenance.
Staff per 1 000 connections (Number of water utility employees per 1 000 connections)	Crude indicator of labour productivity. It gives a rough estimate of the efficiency of network management: the higher the number, the lower the productivity. The international standard is about 2 per 1 000 (depending on local conditions).

Asia: some outstanding performance with pockets of inefficiencies

Based on these indicators, Singapore and the Phnom Penh Water Supply Water Authority in Cambodia rank highest in Asia. They display continuous water supply and outstanding performance in terms of reduction of water losses with levels at 4.5 and 6% respectively, to be compared with the OECD good practice of 15-20% and in stark contrast with levels over 40% in Bangladesh, Indonesia, Malaysia and the Philippines. The staff ratio is below 5 in the two instances.

Performance may vary widely across regions and cities, especially in countries such as China and India. Several cities in China, Phnom Penh and Banteay Meanchey in Cambodia, Bangkok and 88% of Manila receive continuous water supply, which is the case of only 24% of Sihanoukville (Cambodia). China and India also demonstrate very diverse performance in terms of water losses across their territories: from the good performance of 13% in Jamshedpur and Mumbai to almost half of water lost in Bangalore. The staff ratio also varies significantly within countries: parts of Bangladesh, Cambodia, and India may employ over 15 staff per 1000 connections.

Globally, the selected Asian countries report a good level of billing collection (quasi universal in Cambodia, China, Jakarta, Manila and Singapore), above the average ratio of other developing regions. However, there are causes for concern in India, where two thirds

Table 3.7. **Operational performance indicators in selected Asian countries**

	Continuous water supply	Estimate of unaccounted for water	Operating cost coverage ratio	Billing collection rate	Staff per 1 000 connections
Bangladesh	Mostly up to 4 h/d 24 h/d in Chittagong and Dhaka (2005)	40% to 50%	1.18. Overall 70% in Chittagong, 130% in Dhaka, lower elsewhere (2005)	83% in Chittagong, 86% in Dhaka (2005)	22.1 in Chittagong, 9.9 in Dhaka (2005)
Cambodia	24 h/d in Phnom Penh and Banteay Meanchey. 25% of Sihanoukville (2003)	6% in Phnom Penh (2003)	Full cost recovery of the Phnom Penh Water Supply Authority	100% in Phnom Penh, Sihanoukville (2003)	Overall 10-15, 4 in Phnom Penh, 19.7 in Sihanoukville (2003)
China	24 h/d in many cities	38% in Henan, 18% in Chengdu	1.09 (2005)	98% (2005)	12 in Henan (2005)
India	1/4 000 utilities meet 24 h/d. 4-5 h/d in Bangalore, Chennai and Mumbai	From: Jamshedpur (12.8%), Mumbai (13.6%), Jabalpur (14.3%), Chennai (17.0%). To Nashik (59.6%), Amritsar (57.4%), Nagpur (51.9%), Bangalore (45.1%)	1/3 of the utilities recover their costs including Chennai, Mumbai, Jamshedpur, Nagpur, Visakhapatnam, Bangalore, Coimbatore	68% (2005)	Overall about 10, 5.2 in Bangalore, 13.3 Chennai, 17.2 Mumbai
Indonesia	92% of Jakarta	40% to 50%; PDAMs at 36%	1.39 (2004); 80% in Jakarta (2003)	97% in West Jakarta	3.6 in West Jakarta. Higher in smaller towns
Malaysia	24 h/d, except during drought	45% in Selangor (2002)	0.66 in Selangor (2002)	N/A	N/A
Nepal	4 days/week in Kathmandu	37% for NWSC in Kathmandu (2001)	0.96 for NWSC in Kathmandu (2001)	70% for NWSC Kathmandu (2001)	N/A
Philippines	No and low water pressure. 88% of Manila (2003)	48% in Manila (2004)	1.34 (2004), 1 in Manila (2003)	98% Manila (2003)	4 in Manila (2003). Higher in smaller systems
Singapore	Yes	4.5%	N/A	99%	2.5
Thailand	Yes in Bangkok	No formally published data	0.7 in Bangkok	N/A	4.8 in Bangkok
Viet Nam	20.2 h/d	37%	N/A	95%	12

Source: OECD, *Water at a Glance*, based on various sources.

of utilities do not recover their costs and billing collection is below 70%, potentially signalling issues of financial sustainability in the long run.

Latin America: some financial sustainability issues

In Latin America, higher performers include Chile, Brazil and Argentina. Honduras, Peru, and Bolivia present lower performance, in particular with regards to continuous water supply, operating cost coverage ratios and billing collection ratios. Here again, important variation is noticeable both across countries and within a respective country. For instance, great variation in continuity of water within countries exists, depending on the state of the municipal infrastructure, the local administration of services and the availability of water. This within-country variation is particularly noticeable in Mexico and Brazil.

The amount of water lost through pipes varies across selected countries but remains high overall, from 34% in Chile, to some 40% in Brazil, 42-44% in Mexico, 45% in Peru, and almost 50% in Colombia. These losses are considerably above the 15-20% considered good practice in OECD countries. They are also far from the losses registered by the good performers in Asia and Africa – Singapore and Phnom Penh with rates of 4.5 and 6%, respectively, and Windhoek, Namibia, where unaccounted for water fell to 10% in 2006.

Operating cost coverage ratios also vary widely, depending on local conditions and practices. In Peru, 6 out of 46 operators have a negative operating margin. In southern Mexico, cities such as Oaxaca suffer from ratios as low as 14.9%. In Argentina, Chaco registers 110.5%, while Catamarca, a more developed province, registers 75.9%. In Bolivia, La Paz and El Alto register 70% while the water operator in Santa Cruz de la Sierra City enjoys a ratio of 142%. Some caution is in order, however, when evaluating the operating cost coverage ratio. Higher ratios may indicate a higher level of financial health for the operator, but may not necessarily reflect a more efficient and updated network infrastructure. In some cases, it may hide a lack of re-investment into infrastructure² that may cause sustainability issues over the longer run.

Extremely low billing collection rates are found in Honduras and Peru, while higher rates are found in Chile, Brazil and Mexico. However, in Mexico, this indicator varies across large cities from quasi 100% in Monterrey and Campeche, to 57% in Veracruz and 42% in Tepic. Similar contrasts can be found in Colombia.

Table 3.8. Operational performance indicators in selected Latin American countries

	Continuous water supply	Estimate of unaccounted for water	Operating cost coverage ratio	Billing collection rate	Staff per 1 000 connections
Argentina	Overall 24 h/d. Regional rationing in dry periods	31% Buenos Aires, 50% Catamarca, 45% Chaco, 40% Tucuman (2006)	96% Buenos Aires, 75.9% Catamarca, 110.5% Chaco, 97.2% Tucuman (2006)	86% Buenos Aires, 57.2% Catamarca, 75.9% Chaco, 71.8% Tucuman (2006)	2.7 Buenos Aires, 2.2 Tucuman (2002), 2.7 Trelew (2005)
Bolivia	No. Cercado 15 h/d. 24 h/d in La Paz and El Alto	28% La Paz and El Alto, 29% Santa Cruz de la Sierra City, 21% Sucre (2005)	79% La Paz and El Alto; 142% Santa Cruz de la Sierra City; 79% Sucre (2005)	66% Santa Cruz de la Sierra City (2005)	1.7 La Paz and El Alto, 2.9 Sucre (all 2005)
Brazil	Regional rationing in dry periods	39.8% national avg, 32% in Sao Paulo, 44% in Porte Alegre (2006)	158% Porte Alegre, 188% Sao Paulo (2006)	93% Sao Paulo, 89% Porte Alegre (2006)	2.62 in Sao Paulo (2006), (3.7) state utilities, (5.8) municipal utilities, (6.4) private utilities (2000)
Chile	Yes	34% national avg (2006), 28% Santiago (2005)	164% Santiago (2006)	116% Santiago (2006)	1.03 Santiago (2006), 2 to 3 elsewhere (2006)
Colombia	No. 2/3 households in large urban areas. No continuity in smaller municipalities. 24 h/d in Cartagena (2005)	49% national avg, 45% Los Patios, 38% Puerto Carreno (2003), 41% Cartagena (2005)	162% in Los Patios (2003), 169% in Puerto Carreno (2003), 145% in Maicao (2005), 108% in Barrancas (2005)	50% in Los Patios, 79% in Puerto Carreno (all 2003), 99% in Cartagena (2005)	4.4 Los Patios (2003), 9.1 Puerto Carreno (2003), 2.3 Cartagena (2005), 4.85 Barrancas (2005)
Honduras	No	< 40%	NA	NA but low	NA
Mexico	No. 55% of users have intermittent access (2000). Cancun 12 h/d (2005)	42-44% national avg.	110% Aguascalientes, 90.83% Monterrey, 223.3% Toluca, 59.3% Hermosillo, 14.9% Oaxaca	81.1% national avg, 70% Tijuana, 99% Monterrey.	5.1 Mexico City, 5.3 Toluca, 3.7 Monterrey, 3.1 Tijuana, 2.8 Aguascalientes, 6.6 Oaxaca
Peru	No. 17 h/d on avg. in 2005. 37% of operators provide less than 12 h/d, 37% between 12 and 20 h/d and 26% over 20 h/d	45% national avg, 30% Tacna, 57% Loreto, 41% Lima (2005)	89% Loreto, 141% Huancayo, 126% Lima (2005)	NA	1.4 in Lima, 3.1 in Loreto

Source: OECD, *Water at a Glance*, based on various sources.

In Brazil, the World Bank found that the staff ratio in 2000 was lower for state utilities (3.7) than for municipal utilities (5.8) and privately operated utilities (6.4). In Colombia, Puerto Carreno has a particularly high ratio (9.1), in contrast to more efficient labour ratios such as those of Riochacha (2.9) and Cartagena (2.3). In Mexico, major cities, such as Acapulco (12.4) and Oaxaca (6.6), contrast greatly with Monterrey (3.7) and Tijuana (3.9). In Chile, the ratio is generally low, from 2-3 in most of the country, to a low of 1.03 in Santiago.

Finally, it should be noted that the amount and quality of available data vary greatly across countries. In many countries, such as in Argentina and Mexico, operators self report their performance indicators and very little external auditing occurs. Chile is a notable exception, where privately contracted external auditors carry out data gathering and monitoring functions.

Africa: a contrasted continent

In Africa, South Africa stands out as the best performer; especially in terms of continuity of water service (98% of population has continuous access to the water supply). However, countries such as Senegal and Uganda present outstanding performance compared to the rest of the continent, especially in capital cities. Overall, operational performance varies substantially across Africa, as shown by the diversity of situations highlighted in Table 3.9. For instance, the continuity of water supply varies widely across countries and from one municipality to another. Water supply is continuous in Dakar (Senegal) and in Nyeri (Kenya). In Uganda and Zambia, water supply is, respectively, available on average about 22 and 15 hours per day. In Nigeria, the number of hours of service per day ranges between 4 in Abakaliki and 16 in Osogbo. The number of employees per thousand connections also varies widely, with extreme situations in Ghana and Nigeria.

Table 3.9. **Operational performance indicators in selected African countries**

	Continuous water supply	Estimate of unaccounted for water	Operating cost coverage ratio	Billing collection rate	Staff per 1 000 connections
Burkina Faso	No	15% (2005)	135% (2005)	72% (2005)	9.7 (2005)
Ethiopia	12 h/d	30 to 35% (2006)	80% on average (2006)	NA	6.7 in Adama, 11.5 in Awassa, 28 in Dire Dawa, 16.9 in Harar (2002)
Ghana	No	50% to 60% (2006)	NA	NA	60 (2006)
Kenya	Not everywhere. 24 h/d in Nyeri, 19 h/d in Mombasa	50% (2004)	120% in Nyeri, 94% in Mombasa, 57% in Nakuru (2000)	54% in Nairobi (2007)	7.3 in Mombasa, 10.8 in Nyeri (2000)
Mali	No	32% for EDM (2005)	135% for EDM (2005)	94% for EDM (2005)	5.9 for EDM (2005)
Nigeria	No, 4 to 16 h/d (4 in Abakaliki, 16 in Osogbo)	Up to 83% (2004)	50% in Maiduguri, 19% in Abakaliki, 77% in Kastina (2003)	As low as 43% (2004)	Up to 48 (2004)
Senegal	Yes in Dakar	20% (2003)	158% for SDE (2003)	98% (2005)	3.2 (2005)
South Africa	Yes for 98% of population	31% on avg, 19.2% in Cape Town, 29% in Johannesburg (2006)	87% in Cape Town, 92% in Johannesburg (2006)	83% in Cape Town, 76% in Johannesburg (2006)	1.6 in Cape Town, 1.2 in Johannesburg (2006)
Tanzania	No	Range from 28% to 86% (2006)	Between 100 and 110% (2005)	60% to 80% (2005)	14 (2005)
Uganda	22 h/d	31% (2007)	141% (2005)	90% (2006)	7 (2007)
Zambia	15 h/d on average. 15 h/d in Lusaka (2006)	47% on avg, 51% in Lusaka (2006)	102% on avg, 102% in Lusaka (2006)	84% on avg, 83% in Lusaka (2006)	From 8 to 18. 13 in Lusaka. (2006)

Source: OECD, *Water at a Glance*, based on various sources.

Unaccounted for water is especially high in Sub-Saharan countries. In the extreme cases of Nigeria and Tanzania, up to 83 and 86% of water is lost through leaks and thefts, respectively. In contrast, Burkina Faso, Senegal and South Africa perform relatively well, with levels of unaccounted for water in line with high income economies.

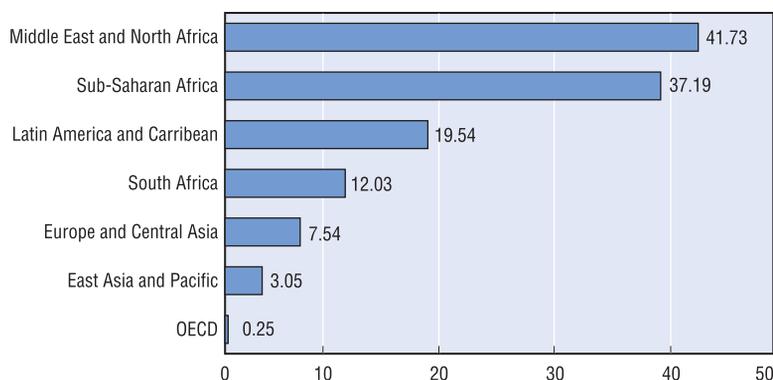
The sustainability of financing to water systems is far from assured in Ethiopia, Nigeria, South Africa and Zambia with operational revenues that cover less than or around 80% of the operating costs. Financial difficulties are compounded, in the case of Nigeria, by a billing collection rate as low as 43%. In contrast, Senegal and Uganda present cases where cost recovery (beyond operation and maintenance) is implemented and more than 90% of water bills are collected (up to 98% in Senegal), even though poverty levels are high and affordability limited. These two countries, therefore, present very promising practices, where progress is anchored in sustainable financing. Interestingly, one is based on a public – corporatised and autonomous – company (Uganda) and the second one on an affermage contract with a private company (Senegal).

Water for business

In addition to these performance indicators, a useful gauge of how the continuity of water supply impacts business is found in the World Bank Enterprise Surveys in the form of the average number of days per year that firms experience insufficient water supply for production. These indicators remind us that water is not only a domestic issue, but also affects businesses with strong consequences for investment.

As illustrated in Figure 3.2, firms working in Sub-Saharan Africa experience insufficient water supply for more than 10% of the year on average, which compares to less than 4% of the year in Latin America and South Asia. The contrast is even greater with Europe and Central Asia and East Asia, where the percentage is lower than 2. Disparities among countries are also important: in Tanzania, Mauritania and Kenya firms experience insufficient water supply for production some 85 to 104 days per year. By contrast, estimates are around 11 days per year in Burkina Faso and Senegal and around 5 in South Africa. Among the selected Asian countries for which information is available, Thailand, Indonesia and Cambodia provide a particularly good water environment for business with less or around 3 days of water failures per year. In Latin America, this indicator varies from virtually 0 in Chile and Brazil to 49 days in Mexico.

Figure 3.2. Number of days per year that firms experience insufficient water supply for production



Source: World Bank Enterprise Surveys (2002-2006).

Future investment needs

Investment needs to reach MDGs are presented in Table 3.10. These needs are substantial for all countries under review. For reference, total investment needs to reach the MDGs in the 9 African countries of *Water at a Glance* are estimated at \$884 million per year for water and at \$655 million for sanitation. By comparison, Official Development Assistance for water and sanitation to these countries stood at \$347 million in 2005.

Table 3.10. **Investment needs in selected countries (US\$ million/yr)**

	Annual investment needs to reach the water-MDG	Annual investment needs to reach the sanitation-MDG
Burkina Faso (2006)	70 (rural); 18 (urban)	16.6 (rural); 11.65 (urban)
Ghana (2005)	46 (rural); 81 (urban)	25 (rural)
Kenya (2006)	63 (rural); 75 (urban)	34 (rural); 65 (urban)
Mauritania (2006)	14.6 (rural); 42.1 (urban)	1.9 (rural); 6.7 (urban)
Mozambique (2006)	36 (rural); 53 (urban)	3 (rural); 17 (urban)
Senegal (2004)	32.8 (rural); 24 (urban)	22 (rural); 45.7 (urban)
South Africa (2007)	219	253
Uganda (2006)	73 (rural); 20 (urban)	103 (rural); 49 (urban)
Zambia (2006)	17.2 (rural)	2.3 (rural)
Cambodia (2007)	70.7 (capital investments)	50.1 (capital investment)
India (2007)	4 400/year on 2007-2012, 5 250/year on 2013-2015	N/A
Indonesia (2007)	450	N/A
Philippines (2007)	141.55	N/A
Argentina (2005)	80	141
Bolivia (2005)	16	17
Brazil (2005)	362	586
Chile (2005)	35	56
Colombia (2005)	80	86
Honduras (2005)	303	22
Mexico (2005)	227	227
Peru (2005)	39	44

Source: OECD, *Water at a Glance*, based on various sources, including AfDB, EUWI, WSP and UNDP (2006), Asian Development Bank (2007) and Banco Mundial (2005), *Revisión del Gasto Público en Infraestructura*.

Private sector participation: a recent history

To meet the tremendous financing needs and improve the efficiency of their water systems, many countries have sought the involvement of the private sector. While public financing and management remain dominant in the countries under review – with the notable exception of Chile –, most countries have had some experience involving the private sector, either through BOT for the development and management of treatment plants or through PPP arrangements for the management of water services.

Asia: a thriving but highly localised market

Private sector participation has existed in Asia's water sector since at least 1992, and has increased more significantly over the last decade. However, the extent of private sector participation across Asian countries varies widely. India resorts mainly to BOTs and service contracts and is reluctant to shift more risks to the private sector. In contrast, the Philippines and Indonesia have both engaged in among the biggest concession contracts ever awarded in the water sector. Today, the impetus for big concessions in water networks has stalled across Asia. As noted below, in China private sector participation remains dynamic but is highly localised, involving BOT arrangements for water treatment facilities.

Private sector participation was formally introduced in Cambodia from 1997-98. As of 2005, there were some 35 small-scale privately owned piped-water supply systems licensed through the Ministry of Industry, Mine and Energy in the urban water supply sector, co-existing with some 12 public systems. In addition, empirical evidence suggests there are some 300 piped-water systems in rural Cambodia, mostly in the form of family businesses, operating in towns of less than 1000 households. The capital city is serviced by the government owned water supply utility, the Phnom Penh Water Supply Authority (PPWSA), which gained autonomy in 1986. The outstanding performance of PPWSA – in the area of non revenue water (from 72% to 6%), water supply coverage (100% of the inner city), and billing collection rates (100%) – constitutes one important success story in Asia.

China's private participation involvement in the water sector has grown significantly over the last 10 years. Just in 2006, the country claimed two thirds of the new private participation in water infrastructure contracts reported to the World Bank.³ Chinese firms are rapidly gaining market shares and, according to OECD (2007), accounted for two third of population served by private sector (37% local companies, 19% expatriate Chinese companies). Private activities include mostly BOT for water and sewage treatment plants, and more recently, a growing trend towards municipal joint ventures, which combine municipal utility and the private corporation. Transfer-own-transfer (TOT) contracts, a variation of BOTs where the vendor sells an existing facility to an operator for a period of time, can also be found, primarily in China.

Private sector participation in water systems began in Thailand in 1992 when the government established East Water as a subsidiary of Provincial Waterworks Authority (PWA) and leased all water supply utilities to East Water for 30 years. Two years later,

Table 3.11. **Private sector participation in selected Asian countries**

	Private operators	Year of introduction (large scale)	% of population served for drinking water		Contract
			Small Scale	Large Scale	
Bangladesh	Only small scale		14% (Dhaka)		
Cambodia	Widespread in secondary cities. 32 private water utilities.	1997	50% (Ky Cham)		Concession, DBO & DBL
China	Very strong activity in BOT for water and sewage treatment plants	1993		8%	BOT, TOT & Joint venture
India	Limited, but expanding				Service contract & BOT: Service contract in Chennai (1992/95). BOT in Tirupur (stressed), Panjim, New Delhi and Bombay, success and expansion of JUSCO (subsidiary of Tata Steel) in Jamshedpur
Indonesia	4 main private sector initiatives	1997	44% (Jakarta) ³	5%	Concession, Joint venture & BOT: 2 Jakarta concessions, a private operator in Batam and a joint venture in Bali.
Malaysia	Yes			64%	BOT & Concession
Nepal	Limited to small-scale		5-7% (Kathmandu)		
Philippines	Yes	1997	30% (Manila) ⁴	13%	Concession & DBO: 2 Manila concessions
Singapore	Yes (linked to PUB)	2002			BOT in desalination and NEWater
Thailand	Yes	1992	10% (Sawee)	2%	Concession & BOT
Viet Nam	Yes	1996	19% (Ho Chi Minh)		BOT & BOO

Source: OECD, *Water at a Glance*.

Thames International was awarded a 25-year concession contract to finance, build, and operate a water treatment facility at Pathum Thani. In 1997, East Water became the first water company in Asia to be listed on a stock exchange (51% held by private portfolio investors). In 1999, PWA extended its private sector involvement and awarded the first incentive-based leakage reduction contract to Thames International. Private participation was then extended to include BOT contracts in the suburbs of Bangkok.

Probably the best performing utility in Asia, Singapore's Public Utilities Board (PUB), is an autonomous public company that started engaging private firms in technological advancement programs, including NEWater⁴ and desalinisation, in response to water scarcity concerns. In 2002, Singapore's Hyflux (70%) and Suez Ondeo (30%) gained a 20-year BOT contract to build Singapore's first desalination plant. Four NEWater Factories were developed up to 2007, among which the fourth one, the Ulu Pandan NEWater Project, was developed by PUB as a DBOO (Design-Build-Own Operate) and involved the private sector in operating and maintaining the assets.

The private sector is widely involved in the water and sanitation sector of Malaysia. It participates in source development, water production and leakage repair. In 1994, sewerage utilities were privatised. The consortium, Indah Water Konsortium (IWK), operates and maintains sewage treatment plants. IWK has been a successful initiative, and extended its coverage to serve over 14 million people by 2001 (from less than 4 million in 1994). In 2005, Malaysia passed a law making water services a responsibility of both State and Federal government. An asset holding company, Pengurusan Aset Air Berhad, was established, as well as a regulator Suruhanjaya Perkhidmatan Air (SPAN).

In 1997, Manila (Philippines) awarded the largest water supply private sector contract at the time. The Metropolitan Waterworks and Sewerage System (MWSS) was divided into two concessions: Manila Water for the East Zone and Maynilad Water for the West Zone. With this deal, Maynilad inherited more debt, including foreign debt obligations, than Manila Water. It was consequently severely impacted by the 1997 Asian crisis, which compromised its ability to repay foreign debt and ultimately led to its contract cancellation in 2002. In December 2006, Maynilad was rebid and DMCI-Metro Pacific Consortium, an all Filipino private consortium, won the right to continue operating the West Zone concession. Not burdened by similar debt obligations, Manila Water survived the crisis.

Following similar arrangements, private sector participation was introduced in Jakarta's water supply in the form of two concession contracts in 1997. PT Thames Pam Jaya was awarded the East Jakarta concession, and Palyja the West Jakarta concession. Within three months, the economic crisis severely impacted the country, limiting the ability of both companies to meet their contractual obligations including capital investments.

Latin America: towards the development of a local market

Latin America has had a long history of private participation in the water sector, dating back to the late 19th century. However, after years of centralisation and State management in the mid 20th century, many countries started reconsidering private sector involvement in the 1980s and 1990s. Today, Chile is the regional leader in terms of depth of contractual commitments, scope of private participation and industry performance. Argentina also began a large private investment program in the 1990s, but today many

contracts have been cancelled or are unstable. Brazil, Colombia and Mexico have committed to smaller-scale and local forms of private investment through municipal contracts. Finally, Peru, Bolivia and Honduras are countries with relatively less developed water infrastructures and are late comers to private participation in the sector.

Private investment in the selected Latin American countries has occurred in both water and sanitation network utilities as well as treatment plants. The predominantly favoured contractual arrangements have been concession, BOT and its variants, and, in the case of Chile, divestiture. Colombia, and to a much lesser extent Mexico, have engaged in management and lease contracts. BOTs are typically seen in Mexico and Brazil. Concessions abound in Argentina, Brazil, Chile, and Colombia. In the case of Chile, the country sold the majority of shares in the largest public water companies through divestiture arrangements between 1998 and 2001. However, Chile did not transfer directly complete asset ownership. It adopted a stepped approach with EMOS first contracting out several activities before divestiture. This allowed the development of a better understanding of the implications of involving the private sector and the building of mutual confidence. After 2001, Chile began to transfer operation rights to the private sector through 30-year concessions.

While high profile cancellations have occurred in Cochabamba and El/Alto, Bolivia and in Tucuman and Buenos Aires, Argentina, the majority of contracts across the region remain active. The high profile cancellations have had two main consequences. They have

Table 3.12. **Private sector participation in selected Latin American countries (1990-2006)**

	Investment years	Contract type	Current contracts	Terminated contracts	Sector and format	Key examples
Argentina	1991 (Corrientes) 2000 (Catamarca)	Concession (18)	approx. 11	6 cancelled 1 concluded	Mostly large scale. Provincial level. Utility (18)	Corrientes, Formosa, Tucuman, Santa Fe, Mendoza, Catamarca, Salta, Santiago del Estero; Buenos Aires Metropolitan area
Bolivia	1997; 1999	Concession (2)	0	2 cancelled	Limited Utility (2)	La Paz/El Alto and Cochabamba
Brazil	1994-2004	Concession (39), BOT (10)	approx. 48	1 cancelled 2 concluded	Mostly small scale and local. Utility (41) Treatment plants (11)	In Rio de Janeiro state: Santo Antonio de Padua, Nova Friburgo and Guapimir. In Sao Paulo state: Serrana, Tambau and Mirassol
Chile	1993-2005	Concession (10), Divestiture (7)	19	1 cancelled	Mostly large scale, regional Utility (17) Treatment plants (3)	All 53 urban providers are privately operated or owned, serving majority of 15 federal regions.
Colombia	1994-2006	Concession (27), Management & Lease (22)	approx. 45	3 cancelled	Mostly local Utility (45)	Concessions: Barranquilla, Barrancas, Tunja, Riochacha, San Marcos; M&L: Cartagena, Santa Maria; BOT treatment plant in Bogota
Honduras	2001	Concession (1), Management & Lease (1)	2	0	Limited Utility (1)	San Pedro Sula (concession); Aguas de Puerto Cortes (M&L, mixed capital)
Mexico	1993-2001; 2004 (treatment plants)	Concession (19), BOT (3), Management & Lease (2)	approx. 27	4 cancelled 2 concluded	Limited and local contracts for utility (5) Numerous treatment plant (20);	Concessions: Aguascalientes, Cancun, Saltillo (mixed capital); M&L: D.F. and Puebla
Peru	2001; 2005	BOT, concession	2	0	Limited and local: BOT for treatment plant (1), concession (1)	Agua Azul in Lima, Chillo River Basin (BOT, treatment plant) and EMFAPA Tumbes (concession)

Source: OECD, *Water at a Glance*.

contributed to slowing foreign investment in water and sanitation in the region, in contrast to investment trends through the 1990s. They have also brought to light some of the tensions that investors in the water and sanitation sector have had to face in recent years, in particular the strong impact of currency crises and the difficult trade-offs underpinning tariffs setting. In the province of Tucuman, Argentina, conflict arose in 1995 when the concessionaire increased water tariffs by 106%,⁵ igniting a province-wide campaign led by consumers to withhold water tariff payment. By 1998, the international company pulled out of the province.

Contracts in Aguascalientes and Cancun in Mexico, and throughout Argentina were shaken by severe national economic crises in 1995 and 2001, respectively. These crises sparked currency devaluations in each country, increasing the costs of water utility operations and decreasing consumer's ability to pay their water tariffs. Under these conditions, politicians were hesitant to permit tariff increases, and water operators were left with unserviceable debt. In the case of the Aguascalientes and Cancun concessions, the Mexican national bank, Banobras, aided the private concessionaires with their debt. In the case of Buenos Aires, after a presidential transfer of power, the private concession was cancelled and replaced with a public operator in 2006.

In the more extreme cases of Cochabamba and El Alto/La Paz, Bolivia, contracts were ended prematurely in 2000 and 2006, respectively. Resistance to the contracts emerged when the government passed Law 2030, which to some seemed to give monopoly power over water resources to the company. In order to begin recouping massive initial investments, the private operator, *Aguas de Tunari*, imposed a 35% water tariff increase before the beginning of the concession, leading consumers to pay 35% more for the same poor quality service.⁶ Organized resistance eventually led to massive protests, a general strike, and civilians and police officers being wounded in confrontations in 2000 and 2005. After the ensuing cancellations, public and political will turned against involving private water operators, in particular, international companies.

While currently few new water utility contracts involving international investment are being signed in the region, private domestic investment continues in many countries. In Colombia, many new deals involve public – private partnerships (e.g. in Cartagena) which have been adapted to the local culture and context. Colombia's innovative approach includes contracting small local entrepreneurs, opting for contracts jointly controlled by the municipality, international and private local shareholders and involving cross-subsidy programs for the poor. In Chile, 57% of private participation is owned by domestic capital in companies such as CORFO, Grupo Luksic and Grupo Solari.⁷ In Mexico, the Cancun concession is majority owned by the domestic construction and infrastructure company, Grupo Mexicano de Desarrollo.

Another promising trend is constituted by the various developing private/public arrangements, such as those found in Saltillo, Mexico and Agua de Puerto Cortes, Honduras. In these “mixed concession” arrangements, the private company shares commercial risk and ownership for the life of the concession with a public company. For example, in 2001, the town council of Saltillo approved the joining of the municipality of Saltillo with a private company, *Aguas de Barcelona (AGBAR)*, which bought 49% of the shares in the newly formed mixed capital company, *SIMAS*. In essence, the municipality maintained majority ownership and control of the resource, but the administration and execution of projects were delegated to the private sector. Such arrangements may help

generate necessary capital investment while diffusing commercial and political risk between private companies and governments.

The contractual arrangements adopted in Salta, Argentina, is another such example of a balanced risk sharing between the public and private sector. In this contract, the province financed some of the infrastructure through public grants, recognising the difficulty of providing all necessary infrastructure updates and maintenance through tariff revenue. The contract was considered successful thanks to good co-ordination across government levels and ministries, practical measures to extend service to the poor and a flexible contract.⁸ The concession also survived a severe economic crisis in 2001, demonstrating that domestic companies may be more flexible when economic crisis hit because they typically generate less short-term debt from international lenders than their multi-national counterparts. Domestic companies also may have greater incentives to work closely with the community, building working alliances with local agencies that will provide greater co-ordination, flexibility and contractual patience during times of economic instability.⁹

SABESP, a NYSE listed joint venture for Sao Paulo's water utility in Brazil, constitutes another innovative contractual arrangement. A publicly owned and corporatized company, SABESP is known to be one of the most financially healthy operators in the region, perhaps in part because it taps into the capital market directly and borrows from commercial banks. Distributing risk among various public and private actors, including both domestic and international investors, may contribute to more sustainable contractual arrangements, in particular during periods of hyperinflation, commodity busts and economic crises.

Africa: thriving small-scale and contrasted experience with the international private sector

The first involvement of an international water provider in Sub-Saharan Africa took place in Côte d'Ivoire in 1960 (renewed in 1987). Guinea followed in 1989 with a ten year lease. The two experiences were relatively successful and led Senegal to adopt an innovative affermage contract. To date the Senegal 10-year contract remains a success and was further extended in 2006. By contrast, agreements in Gambia and Uganda were not as successful. The Gambian lease contract was terminated after two years of operations in 1995 and the Ugandan management contract was brought to an early termination in 2004. Other contracts were terminated early in the Central African Republic (Bangui), Kenya (Nairobi), Mali, South Africa (Nkonkobe) and Tanzania (Dar es Salaam). In total, since 1990, some 16 countries in Sub-Saharan Africa have sought to involve the private sector in the development of their water infrastructure.

A wide range of contracts have been awarded in Africa: service contract, management contract, affermage, lease, concession and BOT. Nevertheless, contrary to the trends in Latin America and in Asia, where the concession model has been in the past the main vector for private sector involvement, only two concession contracts have been signed so far in Africa, one of which was terminated early. BOT, shorter term contracts and lower-risk contracts (management/lease) are more common than elsewhere, reflecting the perception of high risk.

The success of the affermage contract in Senegal is due to an appropriate institutional framework, suitable incentives and the major role of the government,

which has inspired confidence in its partners. The private firm Sénégalaise des Eaux (SDE), owned by the French group SAUR, has an incentive to upgrade the supply network as greater revenue derives from increased water consumption. The stakeholders have also established a good dialogue, with contracts reviewed every six months by a committee that monitors SDE's performance. The review is based on 18 criteria spelled out in the contract between SDE and its public counterpart, the Société Nationale des Eaux du Sénégal (Sones), which is responsible for investment plans and supervision of them. Achievement of each of the main targets is rewarded and failure incurs fines. This system has made SDE more efficient and the firm increased its customers by 69%

Table 3.13. **Private sector participation in selected African countries**

	Private operators	Year of introduction (large scale)	% of population served for drinking water		Contract	Status
			Small scale	Large scale		
Burkina Faso	Limited	2001 and 2002	33% (Bobo Dioulasso), 49% (Ouagadougou)		Service contract and BOT	5-year service contract with ONEA extended for 2 more years
Ghana	Thriving small-scale operators and international (state-owned) operators in Accra	1998 in 2 small towns 2006 in Accra	32% (Kumasi)		5-year Management contracts Accra: Rand Water and Vitens	
Kenya	Limited	1995 (Malindi) and 1999 (Malindi and Nairobi)	60% (Nairobi)		Service and management contracts	Billing and revenue contract for Nairobi suspended in 2001
Mali	Limited to small-scale	2000 (EDM: Electricité du Mali)	63% (Bamako), 69% (Kayes)		Management contract, 20 year concession	Concession terminated early in 2005
Mauritania	Some 365 small-scale operators in small towns	Since 1993	51% (Nouakchott)		Management contracts in small towns (for water only)	Thriving
Mozambique	Yes: Maputo and 4 secondary cities	1999 in Maputo and Matola. 4 smaller cities Beira, Quelimane, Nampula, Pemba	30%	Total 13%. 33% (Maputo), 22% (Beira), 9% (Quelimane), 20% (Nampula), 45% (Pemba)	15-year Lease and 8-year management contracts	
Senegal	Yes	1996	21% (Dakar)	34%	10 year affermage for operating water services	Extended for a further 5 years in 2006
South Africa	Limited but past experience	1992 (Mbombela), 1999 (KwaDukuza), 2001 (Johannesburg), 2002 (Lukhanji)		0,5%	25 yr O&M (Lukhanji), 30 yr concession (KwaDukuza), 30 yr concession (Mbombela), management contract (Johannesburg)	Management contract in Nkonkobe (cancelled), Nelspruit concession (stressed), Management contract for Johannesburg (completed in 2006)
Tanzania	No large scale after termination	2003 (Dar es Salaam and Bagamoyo)	56% (Dar es Salam)		10 year Lease contract for water supply	Lease collapsed in 2005
Uganda	Limited to small-scale after management contracts termination	1998 and 2002 (Kampala)	30% (Kampala)		Management contracts APWO: association of small-scale operators	Management contract terminated in 2004 and not renewed
Zambia	Limited to small towns and big users	From 2001	No small-scale		Management contracts	

Source: OECD, *Water at a Glance*.

between 1996 and 2005, had a volume production/sale ratio of 80.5% (68.2 in 1996), a network efficiency of 80% (the target is 85%) and has had balanced accounts since 2003. The government has played a strong regulatory and co-ordination role and has kept its promises, notably by paying its own bills (making for SDE's 98.3% bill collection rate). The necessary rate increases provided for in the SDE-Sones contract have also been made.

Another successful example of private sector participation on the continent can be found in Namibia, where the private sector has been involved in the development of innovative technology for water provision. Windhoek was one of the first cities in the world to introduce direct recycling of effluent for drinking purposes. In order to attract technical and operating know-how, the City of Windhoek signed a performance-based operation and maintenance contract with Windhoek Goreangab Operating Company (WINGOC: VeoliaWater, Berlinwasser International and WABAG) in 2002 for 20 years. Extensive water-quality monitoring programmes are in place to ensure the required level of water quality after each treatment process, as well as the quality of the water finally supplied to the City of Windhoek.

Local private participation also plays an increasingly important role in Sub-Saharan Africa. Mauritania, for instance, pioneered the delegation of water service delivery in small cities to private providers in the early 1990s. As a consequence, some 365 municipalities below 20 000 inhabitants are today delegating the management of the provision of water services to independent private providers. In 2000, the Association Nationale de l'Eau Potable et de l'Assainissement (ANEPA) was established as the authority responsible for delegating the contracts. Today it manages some 90% of these management contracts. The system is working well and small businesses thrive in small municipalities, despite some shortcomings, notably in the institutional framework: ANEPA is *de facto* both the contractor and the regulator, which is a source of some obvious conflicts of interest.

In a region where the progress of conventional public service provision has barely kept pace with rapid population growth and migration to urban areas, a wealth of small-scale local actors, including some informal ones, have made up for the deficiencies in public service provision. Their strong development reflects their flexibility and their adaption to the diversity of demand. In Ghana, several independent operators manage small piped networks. In Mali, 25 independent suppliers operate water networks in Bamako. In Mozambique, about 350 independent providers operate small networks in Maputo and Matola. The activities of formal and informal small-scale private sector enterprises in the water service sector are also driving innovative institutional settings. In Uganda, 13 local private operators provide services under short-term management contracts. The small-scale operators have established in 2003 an association (APWO-Ug) to support the development of capacities and good practices in the network.

Institutional and regulatory frameworks

The OECD regional consultations¹⁰ have shown that an effective institutional environment with clearly defined roles and responsibilities is critical for successful private sector involvement in water infrastructure development. A sustainable institutional framework, regardless of the ownership of operators, should encompass government support and enforceable policies, political will, transparency, regulation, and

accountability throughout the structure. As of today, however, most countries still struggle with separating roles and responsibilities, consequently impeding the development of an effective institutional framework.

Regulatory framework

For over a decade, most countries in Africa, Asia and Latin America have been developing regulation to address issues related to tariffs, monitoring, enforcement, operations and maintenance, and customer service levels. Their very diverse experiences, as reflected in *Water at a Glance*, support the importance of building on country contexts and on the support of multiple stakeholders to develop a proper regulatory framework. Adopting a progressive approach has also proved helpful for the building of necessary institutional and human resource capacities.

Asia: a limited development of separate regulatory agencies

Most of the selected Asian countries are involved in some form of regulation. However, successful implementation is limited. In Cambodia, weak regulation limits the implementation of well written policies that could potentially benefit the water sector. Manila relies on an independent regulator, but regulation has been constrained by political influence, limited autonomy and an overlapping of regulatory functions across different

Table 3.14. **Regulatory frameworks in selected Asian countries**

	Regulatory Agency	Activities	Independence	Creation
Bangladesh		No		
Cambodia	No. Sectoral responsibility for piped water supply in urban areas is with the Ministry of Industry, Mines and Energy while the Ministry of Rural Development handles rural areas and point sources.			
China		No		
India	No, but creating a regulatory agency has been discussed			
Indonesia	Yes. The Jakarta Water Supply Regulatory Body. Oversees implementation of the 2 concession contracts for Jakarta. <i>www.jakartawater.org</i>	Issue regulatory instruments. Protect consumers' interest through key performance indicators and Water Voice (satisfaction survey, forum meeting, press coverage, information system). Implement automatic tariff adjustment. Supervise the concession agreement to ensure fulfilment of obligations by both Parties. Facilitation and mediation for sustainable co-operation and dispute settlement.	Yes, but limited power	Commenced operation in 2001
Malaysia	Yes, the National Water Services Commission (Suruhanjaya Perkhidmatan Air Negara - SPAN). <i>www.span.gov.my</i>	Implement national policy with regard to water supply and sewerage services. Monitor operators' compliance with laws, standards and contracts. Advise Minister on tariffs. Ensure efficiency, long-term sustainability of sector and achievement of development goals.		2007
Nepal	No effective regulatory system. The government has statutory power to safeguard consumer interests but enforcement has been ineffective because the government is also the service provider.			
Philippines	Yes, MWSS-RO. There is also a regulatory agency for other water supply providers but no budget, manpower to enforce the law. <i>www.mwssro.org.ph</i>	Economic regulation of Metro Manila's water, based on the concession agreement: annual tariff adjustment for inflation, extraordinary price adjustment, and rate negotiation (every 5 years). Monitor operations and customer service performance.	Yes, but proliferation of functions across agencies and political interferences.	1997, by virtue of the concession contracts for Manila
Singapore	Strong regulatory framework but effectively self regulation.			
Thailand		No		
Viet Nam	No. Ministries act as sector regulators.			

Source: OECD, *Water at a Glance*.

public bodies. In Singapore, an independent regulator does not exist, but in 2001, the Public Utilities Board (PUB), an autonomous entity, gained responsibility for the water and sanitation sector. PUB created and successfully implemented an all encompassing strategy and institutional framework which included the management of consumer demand and utility supply, tariffs, customer service, staff satisfaction and regulation. Thailand has considerable private sector participation and has already achieved their water and sanitation MDGs, but their regulation originates from ministries.

Latin America: federal vs. State / province regulation

Many Latin American countries established regulatory frameworks in the early 1990s to oversee the private participation arrangements emerging at the time. Mexico began this process by passing a National Water Law in 1992, Colombia passed a comprehensive sectoral policy in 1994 and Honduras passed a 2003 Water Framework Law and is in the process of adapting to new regulatory roles. Both Peru and Honduras are currently in the process of establishing institutional frameworks for increased private participation. In Latin America, the water and sanitation sector typically contains two forms of institutional oversight: 1) sector wide policy-making and monitoring (e.g. through a federal water commission or board, water law, Minister of Environment) and 2) economic regulation of service provision (e.g. through a national regulatory agency or several sub-national entities). These two functions may be contained in the same agency, or may be spread across various institutions within a country. Typically, private operators are monitored through a regulatory authority which applies rules and regulations that are set either by the same regulatory authority or a hydraulic policy-making authority.

Chile, Colombia, Bolivia, Peru and Honduras have established a federal regulatory authority charged with reviewing and approving tariffs, monitoring and enforcing standards of performance, awarding concessions, and to a varying degree, imposing sanctions for non-compliance by operators. In contrast, the institutional frameworks in Argentina and Brazil relegate the regulation of services to the state/provincial or municipal level. Because of limited administrative, technical and financial resources at the local level, regulation is often fragile and, in many cases, absent.

The sole act of establishing a regulatory agency does not always help to clarify institutional responsibilities. Although a federal regulatory agency was established with a clearly demarcated role in economic regulation in Honduras, Bolivia and Peru, political upheaval and administrative inexperience have constrained the effectiveness of the institutional arrangement. Furthermore, in Honduras, the legal and regulatory framework consists of twenty legal instruments that mandate separate but overlapping roles to many hydraulic agencies. In some regions in Brazil, Mexico and Argentina, the regulatory agency is also the service provider, creating a conflict of interest for regulators.

Although the independence of regulatory agencies is sometimes compromised in countries under study, several countries have made great strides to strengthen the institutional framework governing water infrastructure. In Chile, independent arbitration resolves conflicts between users. In Colombia, the SSPD commissions' studies on consumer satisfaction with water services track progress over time and earmark problem areas. In Mexico, where regulation at the local level is limited, CONAGUA centralizes, tracks and publishes national data on service performance, tariffs, water access and hydraulic works. In Honduras and Peru, experiences with regulatory agencies are relatively recent, but political will has helped to create initial frameworks and important

Table 3.15. **Regulatory frameworks in selected Latin American countries**

	Presence of regulatory agency	Activities	Independence	Date of creation
Argentina	No national-level services regulatory agency. Provincial level regulation: 14 out of 23 provinces have regulatory bodies.	No coherent national regulatory policy. Each province determines level of monitoring, fiscal tariffs setting, and regulatory responsibilities. Usual activities: monitor compliance, water quality, oversees tariff setting, expansion of services, investment, environmental and consumer protection.	No. Weak autonomy <i>vis-à-vis</i> political power and regulated company.	AOSC, 1991 (Corrientes) ETOSS, 1992 (Buenos Aires) ENRESS, 1995 (Santa Fe) EPAS, 1993 (Mendoza)
Bolivia	Superintendencia de Saneamiento Básico (SISAB) www.sisab.gov.bo	Awards/renews concessions & licenses, monitors service provision, reviews and approves tariffs, mediates users and providers complaints. Ensures compliance with standards and laws.	Yes, but volatile political situation.	1999
Brazil	No national-level services regulatory agency, at State or municipal level. Brazilian National Water Agency (ANA) sets and enforces hydraulic policy www.ana.gov.br	No “regulatory culture”, operators are often their own regulators. 14 Brazilian states have established regulatory (multi-sector) agencies for public services that also cover water and sanitation. ANA responsible for enforcing environmental hydraulic policy and demand quota rules.	Political interference. States have weak and limited regulatory practices.	ANA (2000)
Chile	Superintendencia de Servicios Sanitarios (SISS) regulates service providers www.siss.cl	SISS monitors compliance, imposes sanctions, solicits reports, account auditing, tariff setting, controls disposal of liquid industrial effluents The Ministry of Health sets and monitors drinking water quality standards in urban and rural areas	Yes	1990
Colombia	SSPD regulates water service providers; the Water Regulatory Commission (CRA) sets sector policy www.superservicios.gov.co	SSPD supports external auditors who monitor service provision such as quality, infrastructure maintenance, tariff setting. Monitors cross-subsidies. CRA promotes competition among service providers, controls monopolies, defines tariff-setting rules, but does not monitor application of these rules.	No	1991
Honduras	Ente Regulador de los Servicios de Agua Potable y Saneamiento (ERSAPS) www.ersaps.gob.hn	Water quality monitoring, equity based service provision, monitors water user rights, promotes self sufficiency policy for operators, civic participation and sustainable development.	No	2003
Mexico	No economic regulation by federal government. Limited regulation at state level. CONAGUA enforces National Water Law and promotes sectoral policy www.cna.gob.mx	CONAGUA is responsible for user rights permit distribution, hydraulic infrastructure planning and construction, promotion of private participation. It compiles water statistics and operators’ performance based on self-reporting.	No	Local authorities started establishing regulators around 1992 CONAGUA (1989)
Peru	The National Sanitation Services Superintendent (SUNASS) www.sunass.gob.pe	SUNASS sets and approves tariffs at the request of the utilities (different providers have different tariffs), establishes norms, regulates compliance with sectoral law, resolves competing user controversies, handles consumer complaints.	Yes, but fragile.	1992

Source: OECD, *Water at a Glance*.

advances have been made as water policy becomes an increasing concern for these governments.

Africa and the challenge of regulating small-scale, decentralised activities

Over the last 10 years, most African countries also have engaged substantially in setting up regulatory frameworks and regulatory agencies. The roles of these agencies are to examine and approve tariffs, monitor and enforce standards of performance and receive and investigate user’s complaints. Among the 13 African countries under review, 7 have established regulatory agencies. Most of the newly developed regulatory agencies have been given legal and financial autonomy. However, their independence remains fragile because of

important political interference. The remaining 6 countries regulate the sector and private sector involvement either by way of contract, or directly by the relevant Ministry.

Here again, situations and performance vary widely across countries. One of the most successful examples of private sector participation in water, the affermage contract in Senegal, is strictly regulated by contract. Senegal manages to achieve proper delineation of responsibilities through an appropriate design of contract and clear allocation of responsibilities across the three actors involved: 1) the State is in charge of defining the sector policy, of the IWRM, the legal framework and approving tariffs, 2) SONES (Société nationale des Eaux du Sénégal), the State company, is in charge of asset management (existing and new), securing financial resources, public awareness and control O&M quality and efficiency; and 3) SDE (Sénégalaise des Eaux), the private company is in charge of operations and

Table 3.16. **Regulatory frameworks in selected African countries**

	Presence of regulatory agency	Activities	Independence of the regulatory agency	Date of creation
Burkina Faso		No		
Ethiopia		No		
Ghana	Multi-sector utility regulator (Public utilities Regulatory Commission, PURC). It operates along the State Enterprise Commission (SEC), responsible for regulating the national water company (GWCL) through performance contracts. <i>www.purc.com.gh</i>	Provides guidelines for setting water rates, examines and approves. Monitors and enforces standards of performance. Receives, investigates complaints and settles disputes between consumers and utilities. Monitors quality standards.	Yes	PURC: 1997, SEC: 1989.
Kenya	The Water Services Regulatory Board (WSRB).	Oversees water services provision and licenses 7 Water Service Boards in charge of contracting and supervising water providers	Yes, but fragile.	Created in 2002, operational in 2004.
Mali	Commission de Régulation de l'Eau et de l'Energie (CREE)	Promotes and organises competition in the sector. Sets tariffs.	Legal constituted body and financial independence	2000
Mauritania	Autorité de Régulation Multisectorielle (ARE) and Agence Nationale d'Eau Potable et d'Assainissement (ANEPA) for regulation of contracts with small water suppliers. <i>www.are.mr</i>	ANEPA both delegates and regulates	Yes for Autorité de Régulation Multisectorielle. Conflict of interest for ANEPA	2001
Mozambique	Water Regulatory Council (CRA), responsible for regulation of water systems under delegated management. <i>www.cra.org.mz</i>	Regulates only the areas under private management. Price regulation. Consumer protection. Mediation and conciliation of interest.	Yes	1998
Nigeria	Not yet, states and local governments are responsible for provision of water services, while the federal government has jurisdiction over shared water resources. No independent regulation of water service delivery. However, creation of a National Water Commission, an independent regulator for water supply and water resources management, is envisaged.			
Senegal	No. Regulation by contract.			
South Africa	No, regulatory functions undertaken by the Department of Water Affairs and Forestry.			
Tanzania	Energy and Water Utilities Regulatory Authorities (EWURA) <i>www.ewura.com</i>	Reviewing and setting rates and charges. Benchmarking standards. Procurements for major projects. Health, safety and environmental issues.	Yes	2001
Uganda	No, regulation through performance contracts with the public utility.			
Zambia	National Water Supply and Sanitation Council (NWASCO) <i>www.nwasco.org.zm</i>	Advises government & local authorities. Licenses providers. Establishes and enforces standards. Monitors performance of providers. Disseminates information to consumers.	Yes	Created in 1997. Started operations in 2001.

Source: OECD, *Water at a Glance*.

maintenance (with some obligations for asset renewal), for billing and revenue collection and for customer management. Appropriate risk allocation and monitoring mechanisms embedded in the contract have also been important elements of success.

One of the biggest challenges faced by the regulatory bodies in Africa is the development of a comprehensive framework that recognises and oversees the different forms of provision, including the small-scale providers, in a context of low network connection levels. Indeed, many regulatory bodies were established with the objective of overseeing the activities of a monopolistic provider with in certain instances an exclusivity clause for its service area. Including the multitude of small-scale providers in the regulatory framework requires strong political will to acknowledge their activities (with the risk of threatening the monopoly power in place and challenging past agreements) and also the resources and capacity to oversee such a dispersed sector. There is a case for limiting the monopoly power in certain areas – typically in peri-urban areas and where the network is not yet in place – to allow smaller operators who might have a better knowledge of the users and of hydrological constraints to compete for the development of water systems and provision of services. This strategy was adopted in Kenya to foster the development of water connections in the slums around Nairobi. The government of Mozambique, supported by the Water Regulatory Council, is also developing such an approach, having for the first time recognised the role of small-scale providers in their recent water law.

Benchmarking, Competition, and Corporatisation

Corporatisation and development of benchmarking processes have been used by most countries to increase economic and utility efficiency as well as to support greater transparency and accountability in the sector. Different models of benchmarking exist, from systematic reporting and cross-utility comparison on key performance indicators to performance-based contractual arrangements. In Chile, reference points are given by a model company. In Senegal, performance is assessed against previously agreed benchmarks. In Manila and Jakarta, the water sector contracts were segmented into East and West Zones and therefore provide opportunities for direct comparison of performance. The benchmarking culture is growing in most countries, although, in many cases, weak regulation and institutional arrangements may limit its effectiveness.

In Singapore, PUB incorporates benchmarking throughout its water sector. In Indonesia, PERPAMSI,¹¹ the Indonesian Water Supply Association, reports on 29 indicators directly through the internet. In 2007, the government of India began transitioning towards a benchmarking culture when the India's Ministry of Urban Development joined the Asian Development Bank in publishing a benchmarking report on service levels in urban water supply operations.¹² This, however, fell short of a benchmarking objective, as it was developed as a one-off exercise. On a different scale, the Southeast Asian Water Utilities Network and the Asian Development Bank evaluated 40 water utilities in urban areas of Southeast Asia and published a data book as component of their benchmarking program (the performance indicators included coverage, non revenue water, tariffs, and operating ratios).¹³

In Brazil, the Sistema Nacional de Informacoes (SNIS) database¹⁴ successfully incorporates benchmarking within its water sector. SNIS compares performance and service levels across utilities for a large audience, including local populations, government, and media. Eventually, the tool began to assist the Federal government in prioritizing water sector investments.

Corporatisation, through higher independence from political processes and greater possibility for benchmarking, may contribute to increasing economic and utility efficiency as well as positively impact transparency and accountability. Most countries under review have been involved in some form of local corporatization. The legal act of corporatisation alone, however, is hardly sufficient to ensure separation of regulation and operations in practice. While Latin American operators are generally corporatized, the functions of operation and regulation are not always separated, creating a conflict of interest in both provision and regulation. Similarly, while in most African countries under review, local operators have been corporatized, many, notably in Kenya, Nigeria and Tanzania, are still characterised by limited independence.

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Annex: Summary reports from regional Consultations

2007 NEPAD-OECD Africa Investment Initiative Roundtable, Lusaka, November 2007

Session 1: The private provision of water and sanitation infrastructure services in Africa: where do we stand?

The OECD work presented in this session builds on the OECD *Principles for Private Sector Participation in Infrastructure* launched in 2007 to provide practical guidance to governments and institutions on how to make the most of private sector participation in water and sanitation. It is part of a broader OECD horizontal project on *Sustainable financing to ensure affordable access to water and sanitation* that addresses the economic basis for sustainable water service provision and sound water management.

The OECD water project relies on a review of specific country experiences of international and local private sector participation in the water and sanitation sector. It involves some 30 developing and emerging countries in Africa, Middle East, Asia and Latin America. The main information collected on African countries in terms of state of the resource, access level, performance of service delivery, institutional environment and trends in private sector participation were presented in a stocktaking paper.

The stocktaking exercise underlines the involvement of the private sector in the water and sanitation sector. Many countries have entered into contract with the international private sector in the last 15 years or are planning to in the coming years. Transactions are undertaken under a wide variety of contracts, but with a trend towards shorter, less risky arrangements involving less investment obligations. In parallel, new actors are emerging, such as local and regional actors, and there is a growing recognition of the small-scale private providers.

The challenges appear daunting, with very low access levels and limited operational performance of the sector leading to substantial investment needs. Limited access to drinking water and sanitation is a major human challenge as well as an impediment to business development. To help solve the internal problems of the water and sanitation sector, African countries have engaged in substantial institutional reforms.

Private sector involvement is one of the options that countries have at their disposal to improve the performance of the sector and increase population's access to water and sanitation services. However, countries need to have adequate tools to assess and manage

the implications of this involvement properly. The OECD *Principles for Private Sector Participation in Infrastructure* as applied to the water and sanitation sector provide such a tool by reviewing within a structured framework the specificities of the water and sanitation sector bearing on the co-operation between the public and the private sector; identifying the pertinent issues for governments; and presenting some country good practices and tools to overcome the difficulties.

Session 2: Applying the Principles to the water and sanitation sector

The discussion on private sector participation in the water and sanitation sector revolved around investment environment conditions and governance conducive to private sector involvement in a way that benefits all stakeholders. Four key points emerged from the debate:

1. Participants stressed that partnerships are multiple across the different stakeholders, including consumers, communities and NGOs. Hence, a **beneficial relationship between the stakeholders in the water and sanitation sector implies careful allocation and understanding of respective roles and responsibilities**. It also involves an understanding of the nature of the partnership and of the appropriate incentives to ensure that partners remain involved. This constitutes a precondition for sustainable co-operation.

Sound allocation of responsibilities requires the separation of the political role, from the role of administration and of operations of service delivery. Some countries have managed to achieve this separation through their contract; others have established regulatory agencies to help better define respective roles. The right allocation and understanding of the respective roles go beyond the setting of institutions.

Participants agreed that the OECD could help clarify the roles and constraints of the different stakeholders. On that matter, some participants stressed that the roles and responsibilities will probably not be found to differ much between private and public operators. Some grey areas will also probably be found (i.e. who communicates the good and bad news?). Respect of commitments remains the main follow-up responsibility of the different stakeholders. Government should support responsible business conduct: by supporting innovations coming from small-scale operators, for example. All tiers of government should also respect timely payments of bills. Institutions, such as AFUR (African Forum for Utility Regulators), that can help bring clarity to the role of specific stakeholders - the regulators in this case, based on benchmarking and peer reviews.

2. Participants underlined that relationships are not static. Partners face a constantly changing environment, which constitutes a major challenge in terms of their long-term contractual arrangements. **Their relationship is dynamic and should allow for the flexibility of adapting to these changing conditions**. In this type of environment, negotiations are necessary and healthy. The contract should facilitate conflict resolution.

3. All participants agreed that **promoting transparency is a critical element in the relationship between the partners and in tackling corruption**. Transparency involves information sharing that would help restore some symmetry in the relationships and greater consideration of population and community expectations. It also requires consistency and predictability of decision making.

Inclusive dialogue, as promoted by the Water Dialogue for instance, is instrumental to develop ownership and relieve conflicts, but takes time. The private sector must be called

upon to make their requirements and constraints clear to improve the design and relevance of contracts. Political leadership is a key element of success. Consumers' involvement has been successfully achieved in Zambia through the Water Watch Group.

Data collection and monitoring require more attention. In this regard, regional sharing of regulatory experiences and benchmarking is particularly useful in the water and sanitation sector.

4. Several participants reminded us that **financial sustainability, coupled with appropriate allocation of risks and costs across the stakeholders**, is a key element of success: in Senegal, a coherent financial model drives price setting. In that specific example, the extension of the network was born by all consumers and urban dwellers agreed to reduced hours of availability.

Session 3: Developing the uptake of financial risk mitigations: what role for donors?

Financing of infrastructure extension remains a key issue. There are notably big challenges in terms of serving the poor. However the participants shared an optimistic assessment. The opportunities exist and some promising avenues lie in Output Based Aid (OBA) schemes, blending financing sources (hybrid schemes bringing together public and private finance) and tapping into domestic sources of funding like social security funds (ex. the recently established Pan-African Infrastructure Fund). Some closing of the gap between small-scale and large scale lending is taking place, but assistance is still needed to overcome the challenge of preparing bankable projects to be able to access finance.

2008 ADB-OECD Expert Meeting, Manila, March 2008

On 5 March 2008, the Asian Development Bank and the OECD held a joint Expert Meeting on: *For a beneficial private sector participation in the water and sanitation sector, lessons learnt from Asian country experience*. The expert meeting aimed to advance the debate on private sector participation in the water and sanitation sector by providing a forum for participants to discuss and better define the key elements of a beneficial partnership. After the NEPAD/OECD Investment Initiative roundtable organised in Lusaka in November 2007, the ADB/OECD expert meeting was the second opportunity to discuss the draft OECD guidance on private sector participation in water and sanitation infrastructure, building on the experience of Asian countries. The meeting brought together high level participants and led to fruitful discussions.

The meeting was organised into 3 sessions:

1. Session 1 provided a broad overview by introducing the application of the OECD *Principles on Private Sector Participation in Infrastructure* to the water and sanitation sector and by sharing past experiences and trends within the sector.
2. Session 2 focused on two main areas highlighted by the OECD *Principles* as crucial for beneficial partnerships. Panel discussion A focused on the development of a conducive institutional and regulatory environment and Panel discussion B discussed the roles and responsibilities of various stakeholders.
3. Session 3 highlighted the access to financing as a major constraint to the development of the sector and to further involvement of the private sector. It aimed to draw attention to the financial innovations that could help lift the constraints on financing and facilitate private capital flows to the water and sanitation sector, based on the experience of the ADB.

The regulatory framework

A sound regulatory framework was highlighted as the key element for a successful partnership and in general for improved governance in the sector. Unpredictability of the regulatory framework and multiplicity of government agencies responsible for implementation and oversight are leading to dilution of responsibilities and unclear reference point for private actors. Remedies include regulatory reform and clearer and better defined allocation of roles across existing government bodies.

Some participants however stressed that regulatory bodies have often been overburdened with too many governance roles. There is a need to refocus regulatory functions around the key activities of: 1) tariff/price setting, 2) subsidies for the poor, 3) efficiency and performance incentives, 4) quality and environmental standards, and 5)

consumer protection. Quality and availability are important elements of regulation that should be jointly considered with tariffs setting. Regulation cannot substitute for appropriate design of contractual arrangements, which remain the basis for the relationship between the public and the private sectors.

Regarding tariffs, several participants highlighted the usefulness of regular rebasing exercises as components of long-term contracts. Given the long-term nature of private water and sanitation contracts, these would give the parties an opportunity to reassess the situation, take stock of present circumstances, and agree on a way forward. It raises the issue of the appropriate capacity on the part of the public partner to develop sound tariff strategies and to participate in the rebasing exercises.

Participants agreed that a good regulatory framework and a robust long-term water policy should apply to the overall sector, regardless of ownership of operators. Standards and requirements set by regulation should notably be the same for all and incentive-based rather than punitive. Some participants however underlined that the involvement of private actors has probably helped raise expectations and put pressure on private operators to provide higher level services than required by minimum standards.

Cambodia and China experiences illustrate how high level political commitment can contribute to driving reform. At the same time, participants agreed on the need to shelter the sector from undue political interferences. They underlined the importance of third party and professional technical advice to bring credibility to regulatory decisions, while stressing that the independence of third party should be strictly respected through appropriate financing.

Information and benchmarking

Participants insisted on benchmarking as a source of information to compare performance of water and sewerage providers, as a strong tool to drive efficiency and as an incentive towards greater transparency. Benchmarking involves developing a set of performance indicators that show how providers fare relative to each indicator i.e. coverage, non-revenue water, average tariff, collection efficiency. The ADB, through its Water Utility Data Books, has regularly conducted benchmarking exercises in the region. Consumer satisfaction surveys are also a good way to assess utility performance as shown in the Manila experience where academia has been a partner to both concessionaires and the government in the conduct of annual public assessment surveys.

Greater availability of information facilitates healthy competition among operators (including across public and private operators). Transparency on contractual arrangements is also necessary so the public will be aware of the goals and objectives in inviting the private sector in the provision of water and sanitation.

Roles and responsibilities

Participants posit that Governments should provide an environment that will allow for viable water and sanitation operators. It involves developing a clear regulatory framework, but also effective implementation of regulations and contractual provisions. In that context, clarifying roles and responsibilities is needed, including disentangling of functions, notably between oversight and service provision. Appropriate allocation of roles and responsibilities goes in tandem with clear identification of risks, rewards, rights and recourse across the various parties.

The service functions should be the responsibility of operators. Some participants pointed out the need to strengthen operators, be they public or private. This is precisely the objective of the WOP (Water Operators Partnership) program, a platform for mutual co-operation among water operators and utilities.

The experience of Manila Water shows that when the regulatory framework establishes effective incentives, the private companies can also contribute to improving substantially level of access and service. However, the participants highlighted the difficult trade-offs that reaching the poor involves. The private sector has to comply with contractual arrangements and is driven by ensuring an adequate return on capital. Where affordability is low, installing new connections may require establishing subsidies, with the risks of misallocation and that the less profitable customers are excluded – in that context, subsidising connections rather than consumption may help reach out to the poor more efficiently in areas where connection rates are low. Furthermore, if there is a clear necessity for private companies to be in line with the development goals set by the government, countries cannot afford to leave the connection and provision for the poor to purely corporate social responsibility actions. This raises the issue of the opportunity to set universal service obligation as a contractual arrangement and of its concrete application through investment programmes.

International financial institutions also have a role to play in assisting governments to package projects for private participation. However, after the Manila and Jakarta contracts packaged with the help of the IFC and with assistance from the World Bank for policy, regulatory and institutional reforms in the late 90's, there have been very few projects in the region involving private sector in water and sanitation.

Financing

Participants agreed that tariff setting was the cornerstone of a sound financing strategy as it determines future revenue streams and therefore both internal investment capacity and ability to contract a loan from financial institutions. The development of sound, bankable proposals remains a key parameter and an area where greater capacity building is needed. A closer collaboration between public and private actors in developing funding proposals could help bridge the capacity gap. But building demand also requires institutional reforms, cultural change and political will, all necessary elements to develop the capacity of utilities.

Serious challenges also persist on the supply side of financing. Some participants stressed the limited capacity on the part of financiers to assess risks and rewards. Participants also agreed on the limits of traditional instruments (on-lending by local governments for instance constrained by political considerations that may lead them to favour shorter-term expansive financing, but fully under their control) and the need to develop innovative forms of financing (involving credit enhancement, bonds linked to contracts). There is an active role to play for ADB in the area of risk mitigation instruments and in terms of financing for low income communities (such as setting up subsidy mechanisms targeting connection fees). New financial instruments launched by ADB include non-sovereign lending (allowing state-owned companies and local governments to borrow), local currency financing (dealing with the currency risk), and multi-tranche financing (allowing for single approvals for large scale projects with interest payments for

disbursed amounts only). However, financial viability of projects remains a major constraint.

The specific case of sanitation was highlighted. In that sector, tariff structures rarely reflect the cost of operating and maintaining the sewerage network and connection costs reach prohibitive levels. At the same time, the Bandung experience has shown the limitation of spreading the connection costs to all – even to the unserved – making it difficult to justify future additional charges for new connections. This urges regulators to look into tariff structures to provide operators incentives for sewerage connections and public authorities to consider subsidies that would target connection fees. Participants pointed out that innovative financing instruments and concessional funds will be necessary to make sanitation and sewerage services viable. More projects – public or private – are needed in the sector if the sanitation related MDG is to be reached.

Call for greater capacity building

Participants stressed the need for greater capacity building in the following specific areas:

- To develop understanding of the key elements of a public/private partnership and the roles and responsibilities of parties throughout the PSP process.
- To develop an informed involvement of civil society, communities and consumer associations.
- To support regulators and governments by professionalising technical capacities to avoid politicisation of tariff setting and adjustments.
- To facilitate access to funding.

IMTA-OECD Expert meeting, Mexico, September 2008

On 4-5 September 2008, the Mexican Institute of Water Technology and the Organisation for Economic Co-operation and Development held a joint Expert Meeting entitled “*For a beneficial private sector participation in the water and sanitation sector, lessons learnt from Latin American country experience*”. The expert meeting aimed to advance the debate on private sector participation in the water and sanitation sector by providing a forum to discuss and better define the key elements of beneficial partnerships. After the NEPAD/OECD Investment Initiative roundtable organised in Lusaka in November 2007 and the ADB/OECD expert meeting held in Manila in March 2008, the IMTA/OECD expert meeting was the third opportunity to discuss the draft OECD guidance on private sector participation in the water and sanitation sector, building on the experience of Latin American countries. The discussions focussed on recent experiences and trends in selected Latin American countries, the conducive institutional and regulatory framework, the respective roles and responsibilities of partners, their contributions in financing the sector and the conditions for improved transparency and accountability. Participants also provided specific comments on the OECD work. The report below summarises the key points made during the discussions.

Recent experiences and trends

Experiences with private participation in the water and sanitation sector have been very diverse in Latin America. Some have been considered to be successful, others not. It is difficult to make a global assessment of these experiences: diversity of local conditions – including financial, macroeconomic, and social –, the size of projects, the state of development of regulatory frameworks, the quality of the institutions, the technical capacity and independence of regulatory bodies etc ... all contribute to explain the outcomes of partnerships with the private sector. In addition, the interconnection of factors and the absence of sound baseline data complicate the identification of specific aspects of the various partnerships and the assessment of performance and outcomes.

The difficulties encountered by some concession contracts with large multinational companies – that led in some cases to cancellations - were due to a range of problems, such as incomplete initial sustainability assessments (including ill-defined objectives and deficient risk assessment), badly designed tender processes and contractual arrangements in a context of adverse macroeconomic conditions and inadequate regulatory frameworks. These difficulties have had and continue to have important repercussions, including ongoing disputes under international arbitration and a redefinition of the modalities of private participation in the sector.

The positive experience of Chile was however highlighted. Participants also mentioned the potential of partnerships with community members, including the cooperation between the users and the municipality in Puerto Cortes (Honduras), the Saltillo mixed concession (Mexico) and the development of urban cooperatives in several countries of the region. Participants also discussed the importance of exploring innovative solutions that build on local initiative and capacity, including the potential merits of franchising, i.e. local businesses using proven management processes and operational standards developed by more experienced companies.

Some participants however pointed out the risks that the new developments of decentralised systems may involve: on the one hand, smaller, decentralised systems may favour greater community involvement and complement traditional forms of provision where coverage is still insufficient; on the other hand, they may lead to significant losses in economies of scale, challenge regulation and control (of water quality for instance), impede the application of cross-subsidies and, in some instances, generate greater risks of corruption.

Private participation in the water and sanitation sector has also triggered important shifts in the focus of public policies, by drawing stronger attention to efficiency of service provision, quality of service, sector organisation, regulation and the need for greater community involvement in planning and definition of objectives.

Finally, participants were of the view that governments should conduct a thorough assessment of the activities that would benefit from private sector participation (considering that public sector provision can also be efficient), clarify objectives for both the public and private sectors, allocate adequately the risks across partners and ensure continuous monitoring and assessment of results. In addition, the chosen model of private participation needs to be coherent with the economic and social context of the country and based on political and social consensus.

Institutional and regulatory framework

In most Latin American countries, the water and sanitation regulatory framework is poor. It is often complex and imported from abroad without adaptation to local needs. It also often lacks a technical basis and does not clearly specify the incentive and sanction mechanisms. Participants highlighted that the lack of an adequate regulatory framework has had significant negative consequences, such as poor performance of service providers (be they public or private).

Participants also highlighted the benefits of a regulation based on law, compared to regulation by contract, in particular when the private sector is involved. Regulation based on law has the advantages of greater public exposure, diffusion and transparency (notably through parliamentary debates). By contrast, contracts may be confined to a smaller group of informed people.

It was widely acknowledged by participants that a sound institutional framework contributes to improving certainty, limiting arbitrary decisions and increasing credibility of the system, and ultimately leads to more efficient service provision. Establishing a high quality regulatory framework requires political will and great technical skills – involving engineers, lawyers and economists. This necessitates time and progressive improvements.

Developing the appropriate institutions also requires establishing a good information system that notably corrects the information asymmetries between the provider and the regulator. Lack of information hampers efficient regulation and prevents policy makers and regulators from setting appropriate and reachable goals for the sector, in turn undermining population's trust in public administration.

Some participants raised the issue of pragmatism: what to do in the short-term with incomplete regulatory frameworks and the subsequent spreading of auto-regulation? Another issue was whether the regulatory framework should be the same for all or differentiated between public and private actors. In general, participants were in favour of a single regulator, regardless of the ownership of the operator. Other participants highlighted the need to align regulation in the water sector with other government priorities, such as resource conservation and health objectives.

Roles and responsibilities

Participants identified governments' excessive handing-over of their responsibilities as a major cause of failure in public-private partnerships. Government should remain the enabler and is, *de facto*, responsible for the bulk of investment in the sector. This involves establishing a high quality institutional and regulatory framework and a commitment that all, including the poor, be provided with adequate water and sanitation services. Some participants also highlighted the role that governments can have in promoting the development of innovative forms of service provision.

There is no ideal allocation of roles across levels of government. It depends, among others, on local conditions, capacities and inherited structures. Separation of roles – between service provision, supervision, regulation and policy making – remains however crucial, as does the existence of co-ordination mechanisms and effective communication channels. Participants expressed the view that capacity building at different levels of government is very important, but that in many countries this has not been put into practice.

The discussion also addressed the specific roles that regulators should play – which include controlling service quality, price setting and review, ensuring the long-term sustainability of water provision and sanitation systems, supervising the operators and communicating with the various stakeholders. Some participants highlighted that while formal channels of communication between the regulator and the operators exist; communicating with users and developing users' awareness of sustainable water use and conservation remain great challenges in the region. Consumers' participation in the regulatory process also remains largely ignored. Some participants considered that, in certain circumstances, the private sector can play an important role in ensuring service coverage to the poor, mentioning the potential of co-operation between the "formal" operator and the local communities in poorly served peri-urban settlements, along the lines developed by microcredit schemes. In this specific case, the operator is in charge of the upstream segment of water provision, i.e. of bringing water to the borders of the peri-urban settlement, while local communities take care of internal distribution of water and of wastewater management. Some participants however questioned the idea that ensuring access for all is the private sector's duty. Others mentioned risks of "cherry picking" practices.

Participants agreed that population buy-in was an important element of the success of policies and initiatives in the water sector. For example, community participation in the planning phase has proved to contribute to generating confidence and greater ownership.

Financing

The water sector is often considered risky for private investment, notably because of its vulnerability to external economic and socio-political shocks, inadequate regulation, lack of institutional continuity and insufficient availability of baseline data. Often, however, the key problem is not lack of financial resources (local financing is considered available), but access to it, at competitive levels. Reasons for this include lack of political will – water is rarely among governments’ top priorities. The effective and efficient use of funding is also an issue, particularly at local levels of government where lack of capacity may hinder the implementation of investment plans.

Participants considered that adequate pricing is a strong driver for investment. A stable revenue stream is necessary to allow and reward investment, but also to support the creditworthiness of operators and ultimately ensure an efficient and sustainable provision of water services. Some participants highlighted the fact that in Latin American countries, banks do not accept the revenue of water operators as collateral for loans and often request State guarantees to ensure creditworthiness.

Low water prices are an illusion for the users, since they generally correspond to low quality of the service and the supplied water, with the subsequent health hazards and the need to purchase bottled drinking water. In some countries, the willingness to pay for water provision and sanitation services is low. Moreover, in some countries, for example, Mexico, large sections of the public sector are exempted by law to pay. In such contexts, increasing prices will not necessarily materialise into improved services, as users may simply refuse to pay their bills. Efforts are therefore needed to change the “water culture”. Pricing policies should also be combined with concrete improvements in access conditions, service quality and bill-collection and public support, which may facilitate public acceptance of higher prices.

Some participants emphasized the importance of public financing for sewerage and to ensure that all, including the poorest sections of population, have access to water services. In particular, participants highlighted that it is important to implement focused subsidy mechanisms targeting low income and vulnerable populations, as is the case in Chile. These mechanisms should be based on precise population targeting methodologies. Some also made calls to be realistic and match the available and affordable technology with the need to extend water services to all, and to focus more on effective coverage (which also includes water quality and the safe disposal of used water). The risk associated with this approach is to generate a perception of discrimination.

Accountability

Participants were of the view that whatever the model of service provision – private, public, mixed, community-based –, there is a need to strengthen efficiency, accountability and transparency. As of today, the public sector generally remains poorly accountable in terms of performance of service provision, and the general framework for transparency and accountability is often inadequate and hardly geared towards the interest of users.

In particular, current instruments to support disclosure of and access to information on water services (and to prevent its capture by specific interests) are weak. One important challenge is to introduce regulatory accountability and improve the control of purchases and contracts with related companies in order to develop better knowledge of the real costs and facilitate the analysis and supervision of the efficiency of operators.

There is little knowledge among government officials of how best to use the available information. Some efforts are however being made to improve access to relevant information. In some countries, for instance, the consumers are involved in cross-checking the information coming from water operators (public and private). In others, internet is used to publish key information and offer users a platform for discussion.

Participants considered corruption to be a great concern in the water sector. Some participants emphasized that in some countries corruption is prevalent throughout society and strongly impacts on the delivery of services. It was suggested that an important step to prevent corruption is to professionalize the water sector. Other suggestions included independent regulation, better access to information, professionalization of the public administration structure, greater control of electoral funding, and greater supervision, notably of decentralised systems. Participants were also of the view that there is not a one-size-fits-all solution to the problems linked to corruption, but that efficient solutions will depend on multiple factors, such as political will, culture, and institutional framework.

OECD draft Checklist for Public Action

Participants provided their views and suggestions on the OECD *Checklist for Public Action*. In general, they considered that it can be a useful tool, to the extent that it builds on lessons learnt from recent experiences with private sector participation in the water sector, especially the identification of the causes for success and failure. Among the suggestions for improvement were: to better prioritise the key issues for consideration by governments; to make the format of the *Checklist* more practical; to better address the potential effects of dispute settlement mechanisms; to clarify the issues raised by the diversity of private actors; to reassert that government priorities should be an efficient provision of services to all and the related conducive framework; and to introduce more elements on innovation.

Advisors and Special Experts

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Private Sector Participation in Water Infrastructure

OECD CHECKLIST FOR PUBLIC ACTION

Many countries have sought the involvement of the private sector to upgrade and develop their water and sanitation infrastructure and improve the efficiency of water systems. However, high capital intensity, large initial outlays, long pay-back periods, immobility of assets and low rates of return generate high risks. These factors, when combined with poor initial information and a weak investment environment, constitute important constraints on private sector participation in water and sanitation infrastructure.

Recognising this, the OECD has developed practical guidance, building on the OECD *Principles for Private Sector Participation in Infrastructure*, to help governments and other stakeholders to assess and manage the implications of involving private actors in the financing, development and management of water and sanitation infrastructure. The resulting *OECD Checklist for Public Action* provides a coherent catalogue of policy directions for consideration by governments, including appropriate allocation of roles, risks and responsibilities, framework conditions and contractual arrangements necessary to make the best of private sector participation and to harness more effectively the capacities of all stakeholders.

The full text of this book is available on line via these links:

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