

**PRIVATIZATION AND THE PROVISION OF URBAN WATER AND
SANITATION IN AFRICA, ASIA AND LATIN AMERICA**

BY
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Executive summary

Although private sector participation was probably the most vigorously promoted policy agenda in the water sector during the 1990s, it was and remains very controversial. This working paper re-examines the strategy of increasing private sector participation in the context of the recent water and sanitation targets. It looks first at the continuing debates, then at some of the key practical issues, and finally at the changing nature and extent of private sector participation in the water sector, all with an emphasis on those parts of the world where the water and sanitation targets imply that major improvements must be made. The conclusion is that promoting private sector participation – at least as it has been pursued to date – is not going to help ensure that the water and sanitation targets are met, and may detract attention from the more important changes that are needed, as well as the locations where these changes must be made.

There is general agreement that the rate at which public utilities have been extending access to water and sanitation in deprived areas has been too slow, and that public utilities are often inefficient and at times corrupt. The notion that increasing private sector involvement is the way to address these problems is contentious, however. There is room for genuine disagreement over whether the best response to a failing public utility is to bring in the private sector, or whether it is better to reform the public utility and its regulation, or to encourage civil society and community groups to play a greater role. But what makes the conflict between privatization and its alternatives so contentious is that while the debate is ostensibly about matters of high public interest, the different positions are also associated with less-elevated vested interests, such as the profits of water operators and the jobs of public sector workers.

There are a number of reasons why this paper is pessimistic about the role that privatization can be expected to play in achieving the water and sanitation targets that were agreed upon at the Millennium Summit and the World Summit for Sustainable Development of reducing by half the number of people without sustainable access to safe drinking water and basic sanitation between 2000 and 2015. Many of the underlying obstacles to service provision in the settlements to be targeted, including severe income poverty, disputed land tenure, public financial crises, and political corruption and cronyism, can persist whether the water and sanitation utilities are publicly or privately operated. There is little evidence that private operators are interested in investing in the economically deprived settlements and neighbourhoods where those without adequate water and sanitation actually live. Moreover, private sector participation can bring its own problems, especially if it is imposed from the outside.

The private versus public debate is often polemical. Proponents of privatization will claim that public utilities are inherently inefficient, overstaffed, manipulated by politicians to serve short-term political ends, unresponsive to consumer demands, and – particularly in low-income settings – inclined to provide subsidized services to the urban middle class and leave the urban and rural poor unserved. Opponents will claim that private operators put private profits above the public interest, exploit their monopoly positions, ignore the public health consequences of inadequate water and sanitation, and manipulate politicians to help achieve their economic ends. Unfortunately, such arguments not only ignore the variety of roles private enterprises can play in water and sanitation utilities, and the variety of contexts in which they play these roles, but more importantly, a focus on the roles of the private and public sector tends to detract attention from those problems that have nothing to do with privatization, however defined. Moreover, in debating the purported strengths and weaknesses

of private and public sector actors, it is easy to lose sight of how the process of privatization is actually unfolding.

Despite its prominence in recent debates and policies in the water sector, increasing private sector participation has achieved neither the scale nor the benefits anticipated. Only around five per cent of the world's population is currently estimated to be served by formal private providers. Privatization in water and sanitation provision increased significantly in Africa, Asia and Latin America during the 1990s, but has since declined. Within these regions, private sector participation and investment in the water sector is concentrated in those countries with larger economies and populations and higher levels of urbanization, that is, Latin America and South East Asia, with mostly short-term initiatives in Africa and elsewhere in Asia. The private water and sewerage market is also dominated by a small number of multinational water companies. The level of foreign private finance has been low, with most finance coming from the public sector, multilateral loans and user charges. Low-income groups are often too poor and risky to represent attractive customers, and the settlements most in need of improvements in water and sanitation – especially peripheral and untenured settlements – tend to be those most likely to be excluded from contracts. Although there have been a few pilot initiatives by private operators designed specifically to serve low-income areas, most of these have had to be tailored to their locations, and are not easily replicable. Moreover, among the “pro-poor” measures commonly recommended to private utilities, many are equally relevant to public utilities.

Experience suggests that the lowest-income groups, with the least access to water and sanitation services, receive the fewest benefits from private provision. This is not because of some inherent contradiction between private profits and the public good. It is because, as they are currently regulated, neither publicly nor privately operated utilities are well suited to serving the majority of low-income households who currently lack adequate water or sanitation. This is not to say that local governments should not choose to involve private companies in water and sanitation provision. But it does imply that privatization should not be promoted internationally, as if it provides a key to achieving the water and sanitation targets within the Millennium Development Goals.

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INTRODUCTION

Private sector participation was promoted heavily in the 1990s as a means of achieving greater efficiency and coverage in the water and sanitation sector. It can be situated broadly within the set of “neoliberal” reforms, which emphasize the roles of free markets and the private sector in economic development, and advocate a limited facilitating and regulatory role for the state. In the water sector, neoliberal reformers have emphasized the economic aspects of water resources and their management. The reforms themselves have often been driven by multilateral financial institutions, with the support of bilateral development agencies. In effect, they were accepted by a large part of the development establishment, even in the face of considerable resistance.

Private sector participation in water and sanitation provision increased significantly in many countries in Latin America, Asia and Africa during the 1990s. Increasing private sector participation in water and sanitation utilities has been the most controversial approach to improving provision in recent years. Private sector participation presents both obstacles to and opportunities for improving water and sanitation provision in low-income urban areas, with the outcomes largely depending on how it is implemented in different local contexts. Under the right circumstances, private sector participation can improve efficiency and increase the financial resources available for improving water and sanitation services. However, it can also direct finance to urban centres and neighbourhoods that are already comparatively well served, lead to significant tariff increases, further polarize the politics of water and sanitation, and create new regulatory problems.

It should be noted at the outset that few of the people identified through the water and sanitation targets are likely to be served in the foreseeable future by the conventional water and sewerage networks that the private water companies (and most public utilities) are used to operating. The recent Global Water Supply and Sanitation Assessment estimated that 1.1 billion poor people still lack reasonable access to improved drinking water supplies and 2.4 billion lack reasonable access to improved sanitation.¹ More than 80 per cent of these 1.1 and 2.4 billion “unserved” live in rural areas. As indicated in a recent UN–Habitat report (for which an earlier version of this paper was submitted as a background paper), the number of urban dwellers without adequate water and sanitation services is probably far higher than these figures imply.² But even the unserved urban dwellers tend to live in the smaller, low-income towns and cities, or low-income areas neighbourhoods within large cities, which the large water companies have shown little interest in serving. In short, to the extent that the privatization debate focuses on large cities with substantial middle classes, it is not very relevant to the water and sanitation targets.

This working paper aims to explore the privatization debate, cover the key issues arising from practice, outline current trends in the sector and, lastly, gauge the extent of private sector provision of water and sanitation services in the South. Section 1 reviews the polemic debate surrounding private sector participation in water and sanitation services, with particular reference to arguments mobilized for and against its implementation in the South. Section 2 covers some of the key issues arising from the implementation of private provision, including its implications for low-income groups. Section 3 gives an overview of recent trends in private sector participation, including regional developments in Africa, Asia and Latin America, and the final section brings together the key points by way of conclusion.

A note on definitions

While terms such as “private sector participation”, “privatization” and “Public–Private Partnership” (PPP) are in common use, there is sufficient ambiguity to justify noting some of the different ways in which they are used in the literature. At the end of this section, there is a brief note on how the terms will be used for the remainder of the paper.

Generally speaking, the term “private sector” is used to refer to formal and profit-making enterprises, but can also denote any organization that is not public (i.e. government-owned and managed). In the context of private sector participation in the water sector, the focus is almost entirely on formal water companies, usually large, commercial and multinational.³ However, small-scale and/or informal operators are increasingly being recognized and described as private enterprises.⁴ Furthermore, civil society organizations are also sometimes viewed as part of the private sector where they engage in the provision of water and sanitation services, often on a small scale and to low-income settlements.⁵ Informal operators and civil society organizations are both very different types of organization from large water companies, typically play very different roles, and often operate on very different principles (most civil society organizations, for example, have no shareholders and operate on a not-for-profit basis). Similarly, “private sector participation” could also be used to cover a wide range of arrangements but, in the water sector, usually refers to the involvement of formal private companies in a contractual agreement with a public agency.

The term “privatization” is widely used in the literature, but can be used to refer to two rather different things. On the one hand, “privatization” is sometimes used as a generic term to refer to increasing private sector involvement; and on the other hand, it is used to refer specifically to the model of divestiture or “full privatization” wherein the water system is transferred to private ownership (see section 2.1.7).

The term “Public–Private Partnership” (PPP) is also widely used, but is rarely defined. It is sometimes used to refer to the range of situations where a public agency works with one or more private enterprises to provide goods or services. Alternatively, it can be used to refer to the narrower range of situations where the public and private parties agree to engage in a long-term relationship and invest in a common enterprise. In the water and sanitation sector, it actually tends to be used to refer to contractual arrangements wherein private companies assume greater responsibility and/or risk, especially through concession contracts (see section 2.1.5).⁶ In such cases, the use of the term partnership may be meant to imply that the parties involved have mutually shared objectives and working arrangements that go beyond the fulfilment of any contractual agreement.⁷

In an attempt to provide more precise terminology, Bakker uses the wider term “marketization” to signify the introduction of the logic of the market into water resources management and/or water supply, a process which *includes* “privatization” (the shift in ownership and control from the public to private companies with private capital) and “commercialization” (a reworking of water management institutions along commercial lines, but not necessarily with private sector involvement).⁸ This last concept is referred to elsewhere as “corporatization”.⁹ As this extended terminology indicates, just as some private sector enterprises do not really conform to the conventional firm envisaged in discussions of private sector participation and markets, there are times when the behaviour of public utilities does seem to conform, at least to a degree.

For the purposes of this working paper, “privatization” refers to processes that increase the participation of formal private enterprises in water and sanitation provision, but do not necessarily involve the transfer of assets to the private sector. Unless otherwise noted, references to “private sector participation” also refer to formal private enterprises operating

for or with water utilities. The term “Public–Private Partnership” is not used in this paper, on the grounds that it can imply shared objectives that do not exist. Small-scale and informal operators and civil society organizations are not given much attention because they are not considered to be within the private sector scope of this paper – it is not that they are considered unimportant.

1. PUBLIC VERSUS PRIVATE PROVISION: CONTINUING DEBATES

The degree of private sector participation in different utility sectors, of which the water and sanitation sector is just one, has increased significantly since the 1980s, especially so between 1990 and 2000. The expansion of private sector involvement in water and sanitation provision has been more controversial than in other utility sectors, and this is especially so in the South, where there are concerns that private sector involvement has been undertaken in response to Northern pressure rather than through a locally driven political process. This section will summarize the debate and the issues arising from private sector participation in water and sanitation services, with a focus on urban centres in low- and middle-income countries where services are often absent or inadequate.

1.1 Background of public and private management of water and sanitation services

Over the course of the nineteenth century, water and sanitation emerged as a major public issue in the industrializing cities of Europe and North America. The first water and sanitation services were, in fact, provided by the private sector, but restricted to the wealthier social groups who were able and willing to pay for them. At the time, these cities comprised large numbers of poor urban dwellers who lived in overcrowded conditions with no sanitation. The resulting environmental diseases, such as cholera and typhoid, led to high urban death rates, which, moreover, affected *all* urban groups and not just those actually living in squalid conditions. Although private participation was also widely debated in the nineteenth century, and the free market viewpoint was very prevalent in many of the countries undergoing sanitary reform, governments became convinced that water was important for both public health and national economic development. For these and other reasons, governments increasingly assumed the task of installing and managing piped water and water-borne sewerage systems, with the goal of universal provision.

During the twentieth century, these efforts were institutionalized in cities around the world, and water and sewerage services have been managed almost exclusively by the public sector. However, provision in Africa, Asia and Latin America significantly lagged behind progress in the North. The 1980s were designated the International Drinking Water and Sanitation Decade, in an attempt to prioritize and accelerate provision throughout the South. By the end of the Decade, while the targets set were still far from met, a new consensus appeared to be emerging among a number of international actors within the water sector. Despite the experiences of the previous century, private sector participation in water and sanitation again started to be promoted to address deficiencies in water and sanitation infrastructure and services in the South.

The move back towards private provision can be explained as a result of the shift away from statist and towards neoliberal (free market) policies in the North from the late 1970s. While statist ideology holds that society's needs and problems are best addressed by the state through the political process, the neoliberal doctrine believes that social functions and economic development should be undertaken by business, with the state playing a facilitating and regulatory role without direct engagement. The neoliberal agenda was simultaneously adopted by the North-dominated international financial institutions (primarily the World Bank Group and the International Monetary Fund), which, using their leverage as creditors, aggressively promoted neoliberal reforms to governments of indebted low- and middle-income countries, often through structural adjustment policies that advocated the reduction of state spending and avoidance of substantial state investment.¹⁰

Neoliberal ideas had a profound influence on international development and policy debates in the water sector in the 1990s. The 1992 “Dublin Principles” illustrate this new perspective, and are reproduced in Box 1. These four principles apply four development dicta of the 1990s to the water sector: care for the environment, increased participation of non-governmental stakeholders, sensitivity to gender issues, and increased role of markets. In this sense, they are unexceptional, even if, as in the broader development arena, it remains far from clear how such principles are to be combined and implemented, and whether they are really supported by a broad-based consensus. What is striking, however, is that the need to treat water as a finite and vulnerable resource is explicit in the first principle, while the need to ensure adequate water and sanitation provision is embedded in a principle relating to the treatment of water as an economic good. In the wake of Dublin, many international organizations realigned their position in the water sector, and a series of new water sector organizations and institutions emerged.¹¹ The World Bank came to play a central role in developing and promoting new approaches consistent with its interpretation of the Dublin Principles, and in particular the treatment of water as an economic good. International financial institutions packaged reforms in the water sector with wider neoliberal policies, often through Structural Adjustment Programmes. The way was thus opened for the privatization of water utilities in cities in Latin America, Asia and Africa.

Box 1: The Dublin Principles

1. Freshwater is a finite and vulnerable resource, essential to sustain life, development and the environment

Since water sustains life, effective management of water resources demands a holistic approach, linking social and economic development with protection of natural ecosystems. Effective management links land and water uses across the whole of a catchment area or aquifer.

2. Water development and management should be based on a participatory approach, involving users, planners and policy makers at all levels

The participatory approach involves raising awareness of the importance of water among policy makers and the general public. It means that decisions are taken at the lowest appropriate level, with full public consultation, and with the involvement of the users in the planning and implementation of projects.

3. Women play a central part in the provision, management and safeguarding of water

The pivotal role of women as providers and users of water, and guardians of the living environment has seldom been reflected in institutional arrangements for the development and management of water resources. Acceptance and implementation of this principle requires positive policies to address women’s specific needs and to equip and empower women to participate at all levels in water resources programmes, including decision-making and implementation, in ways defined by them.

4. Water has an economic value in all its competing uses and should be recognized as an economic good

Within this principle, it is vital to recognize first the basic right of all human beings to have access to clean water and sanitation at an affordable price. Past failure to recognize the economic value of water has led to wasteful and environmentally damaging uses of the resource. Managing water as an economic good is an important way of achieving efficient and equitable use, and of encouraging conservation and protection of water resources.

SOURCE: WMO (1992), *International Conference on Water and the Environment: Development Issues for the 21st Century: The Dublin Statement and Report of the Conference*, World Meteorological Organization, Geneva.

At the Millennium Summit in September 2000, the states of the United Nations agreed on a set of Millennium Development Goals. One of the specific targets identified was to halve the proportion of people without sustainable access to safe drinking water by 2015. At the World

Summit on Sustainable Development in September 2002, another relevant target was set: halving the proportion of people without access to basic sanitation by 2015.¹²

1.2 The arguments for public or private provision of water and sanitation

In debating whether water and sanitation should be provided by the public sector, the private sector or through collaborative arrangements, numerous attempts have been made to argue that, given the innate characteristics of water and sanitation systems, one or the other form of provision is inherently superior. When the appropriate roles of the private and public sectors are being debated, the case for a more active public sector role is strengthened by evidence of important public benefits, while the case for a greater private sector role is strengthened by evidence of important private benefits. Thus, proponents of more private sector involvement in water provisioning are inclined to emphasize the relatively high prices that even low-income households are willing to pay for water, while proponents of public provisioning are inclined to emphasize the public health burdens of inadequate provision.

Moreover, dwelling on the public–private dichotomy can divert attention from the important roles often played by non-governmental organizations and community-based organizations, and lumps together very diverse actors and agencies in both the private sector (e.g. informal vendors and multinational corporations) and the public sector (e.g. public utilities, regulators, local authorities and national ministries). A large public utility, for example, has far more in common with a large private utility than either has in common with neighbourhood water associations or small-scale water vendors.

In practice, shifting international opinions regarding the appropriate roles of the public and private sectors in water and sanitation provision respond to broad political trends far more closely than they respond to evidence emerging from experiences in the water and sanitation sector. This is unfortunate. Politically driven shifts in international opinion are a poor basis for addressing local water and sanitation problems. Nevertheless, the conceptual debates have thrown up a number of interesting issues. They have not come up with any clear guidance on the most appropriate roles for the public and private sectors let alone the many organizations and actors that do not fall neatly into this sectoral divide. They have, however, identified concerns that need to be addressed if water and sanitation provision is to be improved. The arguments mobilized for public sector provision (public goods, natural monopolies, human rights) and for private sector provision (economic goods, state failure) are presented and discussed as follows.

1.2.1 *Public goods*

A “public good” is defined as something that is:

- non-rivalrous: that one person’s use does not deprive others from using it;
- non-excludable: if one person consumes, it is impossible to restrict others from consuming; and
- non-rejectable: individuals cannot abstain from consumption even if they wish.¹³

Private enterprises supplying market demands fail to provide these types of good because, once they are produced, they benefit the public at large and cannot be sold to or used up by individuals. It is often argued that since such goods will not be provided by the private sector, they must be subsidized and provided by the public sector.

Urban water, drainage and sanitation networks are not pure public goods, but they can provide important public benefits, including some public protection from infectious diseases. Such public benefits dominate in the cases of drainage and sanitation. When people dispose of their wastewater or human waste inappropriately, it is other people who bear the burden, and once a drainage or sanitation system is in place, it is uneconomic to exclude people who are not willing to pay. Thus, some combination of regulation, subsidized provision or obligatory fees is likely to be necessary to achieve adequate provision. Water provision clearly provides private benefits to the receiving household, and it is technically possible to charge people for water on the basis of how much they choose to use. However, if people are unwilling or unable to purchase enough water (or good enough quality water) to protect their own health, and contract infectious diseases as a result, then the health of others is also put at risk. To a first approximation, the public benefits of water provision only really become significant where the private benefits are insufficient to finance adequate provision. This is more likely to arise in low-income areas or when people are unaware of the private health benefits.

The case for public sector management is strengthened by evidence of important public benefits. It can be very misleading, however, to argue the case for more or less private sector involvement on the basis of abstract arguments about the extent to which water, drainage and sanitation provide public versus private benefits. The public benefits of having adequate water, drainage and sanitation provision do not necessarily imply that they should be provided by the public sector. Depending on the local circumstances, it may be more appropriate to rely on regulated private provision, and perhaps to use public funds to pay for additional private provision. Alternatively, even if people are willing to pay the full cost of adequate provision, there may be other reasons that make it appropriate for the water and sanitation utility to be publicly owned (rather than, for example, to be owned by a foreign corporation). Moreover, whether water, drainage and sanitation services are to be provided by the public or private operators (or, for that matter, by community-based organizations or non-governmental organizations), it is critical for governments to have reliable information on their public benefits and of how much people are willing to pay for the services. An otherwise sensible decision to create a private concession for water provision (for reasons of efficiency, for example) can go seriously wrong if it is based on an overestimation of how much low-income households are willing to pay for water services. Yet, when claims concerning willingness to pay and public health get bound up with heated debates over whether or not to privatize water or sanitation, it can become very difficult to ensure that these claims are not being exaggerated, particularly when they are based on evidence provided by parties actively engaged in the debates. Thus, for example, it is unfortunate that the World Bank funded most of the (seemingly rigorous) studies demonstrating that even low-income residents are willing to pay a high price for adequate water provision, since the World Bank had a reputation for promoting private sector participation before most of the studies were initiated.

1.2.2 Natural monopolies

In comparison with firms operating in a competitive market, monopolists have an incentive to overprice and underproduce, thereby realizing “excess” profits (i.e. profits greater than the normal rate in competitive markets). In most circumstances, overpricing and underproduction go together, since it is by restricting production that the typical monopolist achieves higher prices (if a firm in a competitive market restricts production, it simply reduces its market share and has no effect on the market price). Natural monopolies can be said to exist if total costs are lower when a single enterprise produces the entire output for a given market than when any collection of two or more enterprises divide the production amongst themselves. The most common explanation for natural monopolies are increasing returns to scale: the

larger the producer the lower its average costs. Economics suggests that natural monopolies will generally require some form of public regulation to prevent overpricing, and this has at times been used to justify public ownership and operation. As noted, as early as the mid-nineteenth century, an alternative means of avoiding monopoly pricing, at least in principle, is to have private operators competing for the right to sell water to the market, and to award this right to the firm offering to sell this water at the lowest price. As this example indicates, while natural monopolies are an issue, public ownership and operation is by no means the only response.

1.2.3 Human rights

The privatization of water services has generated much controversy, due to its quality as an essential human need. In such arguments, water is often defined as a “social good”, which is something to which people have a right, regardless of ability to pay.¹⁴ The right of access to clean water and sanitation at an affordable price is acknowledged in the Dublin Principles, as well as in a number of other international statements in the water sector.

In international legislation, surprisingly, until recently the right to water was only specifically articulated in the Convention on the Rights of the Child. However, in 2002, the United Nations Committee on Economic, Cultural and Social Rights (under the UN High Commissioner on Human Rights) issued a General Comment declaring that water is not merely an economic commodity but a “public commodity” and a “social and cultural good”, and that access to water is a human right:

“The human right to water entitles everyone to sufficient, affordable, physically accessible, safe and acceptable water for personal and domestic uses.”¹⁵

Countries that have ratified the United Nations International Covenant on Economic, Social and Cultural Rights are now required to “...take the necessary steps towards the progressive achievement of the right of everyone to an adequate standard of living, including access to water and sanitation.”

Recognition that adequate water and sanitation are human rights does not, in itself, imply that the public sector must be the provider of these services, and, indeed, the General Comment does not rule out a central role for private enterprises. Nevertheless, it is noteworthy that the final version of the statement, arising from a debate between representatives from public sector, private sector and independent institutions, omitted opinions on privatization because the members of the Committee agreed “not to politicize the issue”, although it is reported that they were unable to agree because some human rights representatives were strongly opposed to privatization.¹⁶

The view that human rights are violated by privatization is often based on the assumption that privatization is accompanied by full cost recovery through user fees. (This interpretation is consistent with the emphasis given to cost recovery in many attempts to promote private sector participation, although cost recovery is not inherent to private sector provision, since private operators may be subsidized.) More generally, private sector operation of basic water and sanitation services on a profit-making basis is probably the most controversial and sensitive issue in the privatization debate. Many people find it ethically unacceptable for water prices to be adjusted to cover the profits of private operators when, for part of the population, this interferes with their capacity to meet basic needs. Objections are heightened when the profits accrue to multinational corporations based in the wealthiest countries, while the prices are paid by people living in poor countries.¹⁷

In effect, however, the key issues centre on how privatization is implemented, to what extent and in what context. There is no inherent conceptual contradiction between private sector participation and the achievement of human rights, but contradictions will arise in particular circumstances. A human rights perspective provides universal principles that can be applied when private sector participation is being debated, even if it does not support universal conclusions. As described in section 2, even among the standard forms of private sector participation, there is sufficient variation to make generalizations extremely difficult. In effect, only through a critical examination of private sector participation can it be determined whether private sector participation is helping or hindering the realization of a state's obligations to the achievement of human rights. Since human rights have an international dimension, at least some of these obligations extend beyond the borders of the countries where there is inadequate access to water and sanitation, to, for example, donors that are promoting private sector participation in recipient countries.

The language of human rights is very different from the language of economics that is typically used to justify increased private sector participation. At very least, the recognition of water and sanitation as human rights implies that, whether or not water is considered an economic good, economic values as conventionally measured do not provide a sufficient basis for judging water sector policies and practices.¹⁸ More generally, a human rights approach tends to emphasize legal frameworks and issues of discrimination, participation and accountability, where a narrow economic approach tends to emphasize institutional structures and issues of choice, efficiency and mutual gain.

1.2.4 *Economic goods*

The Dublin Principles reinforced the reconceptualization of water as an “economic good”, which can be loosely defined as a good that can command a price in a market.¹⁹ Considering water as an economic good to be managed by market forces is deemed to bring efficiency and highest value use. When the public sector provides scarce consumables for free (or at subsidized prices), they are inclined to be overused: people have an incentive to consume them even when the benefits they receive are less than the costs of providing more of the good. However, the goods that most economists argue are efficiently supplied by private enterprises operating in a competitive market are not just scarce: their full costs of production are borne by the producer, and their full benefits accrue to the purchaser. Economics suggests that such goods should generally be priced at their “marginal cost”, that is, the cost of providing an additional unit of the good, taking into account the opportunity cost of not providing it to another purchaser. This is also the price that economic theory indicates will result, given a free and competitive market.

The claim that water is an economic good has been used to justify a shift from treating water as a public service, which would ideally be provided free of charge, to a good for which users should pay.²⁰ This argument is often extended to support full cost recovery of water and sanitation infrastructure and services from users on the grounds that only then will provision be economically sustainable. Cost recovery is deemed preferable on an *individual* basis, that is, households should pay the full costs of their water and sanitation provision (i.e. installation, consumption, and operation and maintenance). Subsidies – either from the state or through cross-subsidies between different types of consumer – are opposed because they distort the true cost of service provision.²¹

Politically, however, this can be contentious, as many low-income users are unlikely to be able or willing to pay the full costs. Moreover, urban water, drainage and sanitation services are not ideal goods for private provision, any more than they are “pure” public goods. Water

is clearly prone to overuse. Indeed, as environmentalists often point out, withdrawing water from natural water sources often imposes environmental costs over and above those borne by the water utility. But the economics of water, drainage and sanitation pricing are by no means straightforward. Even for water, the “right” economic price is hard to define, estimate and charge. Even if the price of water is clearly too low, economic pricing requires meters, which are expensive and are difficult to maintain if water pressures fluctuate. Moreover, as indicated earlier, cost-based pricing ignores the public benefits of water, sanitation and drainage.

In debating the appropriate role of the private and public sectors, recognizing water as an economic good can seem to support a strong private sector role. This is not strictly correct, and depends on how the term “economic good” – which is not widely used in economics – is interpreted. If “economic goods” are taken to mean the sort of goods idealized in economic theories of perfect markets, then the case for private provision of economic goods is strong; but urban water services are not economic goods in this sense (and, in any case, water utilities rarely operate in a competitive market). Alternatively, if economic goods are simply taken to be goods that have an economic value, and to which economic principles apply, then this would also apply to public goods, and is largely irrelevant to the case for private provisioning. In any case, water is not always and everywhere an economic good in this sense, but only in specific circumstances.

In short, while economic issues are central to defining appropriate roles for the public and private sectors, these issues are merely confused by semantic debates over whether or not water is an economic good. Historically, many public water utilities have undoubtedly been under pressure to keep water prices low, even when this is leading to excessive water use among connected households (and, in some cases, removing a potentially important source of finance for expanding the water network to unconnected households). Commercial pressures can undoubtedly play a positive role in driving efficiency improvements. However, privately run utilities also respond to political pressures, and may have little incentive to improve efficiency (it depends on the nature of their contract and how it is regulated). Even if a privately operated utility is more likely to favour high water prices, this is not the same as taking the environmental costs of water withdrawals into account (which depends on how and from where water is withdrawn, and not just how much is withdrawn). Moreover, a privately run utility that succeeds in improving efficiency may end up reducing prices, increasing water demands, and thereby increasing the pressure on water resources. Like drainage and sanitation, water provision raises a number of economic and governance issues that cannot simply be resolved by bringing in private operators, any more than they were resolved in the past by bringing in public operators.

Given the heated debate about whether or not water is an economic good and should be privatized, one might expect the same arguments to be applied to sanitation. This is not the case, however. In the policy arena, sanitation is still often regarded as a service that is *unsuitable* for private provision:

“Sanitation is often a municipal function, and reforming service delivery is linked to a wider process of municipal reform [...] many governments decide to omit sanitation from private sector transactions because they feel the sub-sector is not suitable for such a reform.”²²

This presumably reflects the fact that, while the private benefits from water are usually sufficient to create a considerable demand for water (sufficient in most situations to cover the full costs of providing enough water to achieve at least minimal public health standards, along with a good profit margin), the same cannot be said of sanitation. Users are less willing to pay for safe sanitation, yet its provision is highly desirable from a public health perspective. Thus,

while both water and sanitation provide public benefits, the practical consequences of ignoring the public benefits of sanitation are more evident.

Various attempts have been made to label as least some parts or types of sanitary facilities private – based on whether users can generally be expected to pay for safe facilities. Thus, a distinction is sometimes made between on-plot sanitation (private) and networked sewerage systems (public).²³ On the one hand, in the case of on-plot sanitation, households are expected to pay for the infrastructure (increasingly the full costs, indicating a shift away from subsidies), although their acquisition of sanitation facilities confers benefits on wider society.²⁴ On the other hand, as noted above, sewerage networks are often treated as a public service that requires subsidization, even though they may provide some private benefits. This distinction is reinforced by an organizational difference: while it is comparatively difficult to organize centralized payments for and quality control of on-plot sanitation, this is comparatively easy for sewerage networks.

As indicated above, whether something is more or less like an ideal public or economic good does not really determine the appropriate roles for the private and public sector. In practice, a wide range of interrelated factors come into play, including the public awareness of the benefits of good sanitation, the existence and acceptance of sanitary laws, the ability and willingness of different resident groups to pay for sanitation, the political power of those adversely affected by poor sanitation, the quality of local governance, the state of public finance, and the interests of private operators. Nevertheless, this is one reason why the provision of sanitation, whose benefits are more clearly public, more often stays in public hands.

1.2.5 State failure and private sector efficiency

The argument for private provision is also often linked to a broader claim that private enterprises are generally more efficient than public enterprises. In particular during the early 1990s, when privately run utilities were rare in low- and middle-income countries, it was simply assumed that the private sector would be more efficient, due to the commercial incentives that would encourage private operators to seek the highest possible efficiency in order to maximize commercial returns (as it will pay for inefficiency and non-paying customers out of its profits).²⁵ Proponents of this view claim that the private sector will benefit all service users, and in particular the poor, who will be connected to the system as paying customers. It is worth remembering, however, that just as state failures are now being used to justify private provision, private failures were once used to justify *public* provision. Also, while many urban water and sanitation services in the South are highly deficient, there are also some very well run public utilities, frequently cited examples of which include São Paulo and Porto Alegre (Brazil), Santa Cruz (Bolivia) and Durban (South Africa). Finally, this argument ignores the fact that not all private operators make profits from being efficient (i.e. if the contract allows the costs of inefficiencies to be transferred to the public sector, or is poorly regulated), while some publicly operated utilities do face commercial incentives (see Public Water PLCs, below).

Furthermore, the position favouring private provision is also supported by the more specific observation that public water and sanitation utilities have failed to supply services of adequate quality and coverage:

“Publicly run utilities in developing countries have been singularly unsuccessful in providing reliable water supply and sanitation.”²⁶

On the one hand, this failure is often attributed to a lack of government capacity which, when applied to utilities, leads to a “downward spiral” of weak performance and low payment levels for poor services. Despite large amounts of international aid and multilateral loans since the 1950s, public authorities concentrated on central urban areas, leaving peripheries and rural areas unserved.²⁷ It is also argued that government-run utilities are often subject to political “interference” and/or corruption, especially at the local level. All these factors are claimed to affect the low-income groups most negatively, as it is always these groups that remain unserved.

On the other hand, the precarious state of public water and sewerage utilities is frequently attributed in part to the public sector’s lack of funds and/or access to finance to carry out the necessary improvement and expansion. Without adequate funding, water service providers are caught in a vicious circle of decreasing revenues and worsening service standards. Over and above any inherent inefficiencies, so the argument goes, public sector financial crises result in badly managed public utilities.

In many low- and middle-income countries, public sectors have been affected by indebtedness and other financial problems at least since the 1980s. The public sector – especially local and municipal level governments – often does not have access to sources of commercial finance, as it lacks such requisites as assets and creditworthiness.²⁸ Emerging markets often do not have high enough credit ratings for lenders to invest (the usual requirement is a rating of BBB or higher), and some even have credit ratings that are too low to obtain insurance to guarantee investment, making access to finance impossible.²⁹ Although governments have access to development assistance funding from multilateral financial institutions, these frequently carry conditions that require the implementation of water policy reforms, often including privatization.

Moreover, the limited role that development assistance can play is often used as further justification for involving the private sector. Former UK Minister for International Development, Clare Short, emphasized that available development assistance is nowhere near enough to meet the amount needed to improve water and sanitation provision in the South, and stressed that the gap in needed funding could *only* be filled by the private sector.³⁰ Unfortunately, the fact that public and development assistance resources will not finance the needed improvements does not imply that private finance will. Moreover, as described below, when privatization takes place under extreme financial pressures, the privatization process too can end up being poorly managed.

All these factors are claimed to most negatively affect low-income groups, as it is always these groups that remain unserved. When low-income groups lack adequate water and sanitation provision, they are often forced to purchase water from informal vendors, often paying per-unit prices that are up to 100 times higher than piped water from the formal utility.³¹ Some argue that the exorbitant prices paid by the poor show that their ability to pay is often underestimated, and that they would be able and willing to pay cost-based prices charged by the private sector, for a much higher quality service.³² In this account, the currently high levels of non-payment for existing public service provision by low-income groups are associated with the fact that the services are poor rather than that the prices are high.³³ A number of willingness to pay studies lead to similar conclusions.³⁴

In this debate, three points are worth remembering. First, although the poor do pay high prices for water in some cases, these high prices are often either for *small* quantities that are only used for drinking (supplemented by other cheaper or free sources, such as shallow wells, for other uses, like washing) or only apply for short periods, when water is particularly scarce. Second, many informal water and sanitation entrepreneurs provide a fairly efficient and

reliable service in difficult circumstances.³⁵ Third, high water payments can put pressure on already very low incomes and, even if low-income households are willing to pay, this does not imply that they are not suffering as a result.

2. PRIVATE SECTOR PARTICIPATION IN PRACTICE: KEY ISSUES

Despite claims regarding the ability of the private sector to provide more efficient and higher quality services and expand provision to unserved areas, the available literature suggests that, in practice, these gains have only been realized to a limited extent. This section will outline the main private sector contractual arrangements and examine some of the key issues arising from the implementation of privatization in the water sector, including those relating to low-income groups, drawing on evidence from field studies.

2.1 Forms of private sector participation in water and sanitation utilities

Urban water and sanitation utilities are virtually never sold off to private enterprises to use as they see fit. Only in exceptional cases are private companies granted ownership of a utility's assets indefinitely. There are several models of private sector participation, with numerous variations, depending on the legal and regulatory frameworks, the nature of the company and the type of contract. In all of these models, regardless of the level of private sector involvement, the public sector role and the regulatory environment are critical. Moreover, while this section focuses on the different contractual arrangements through which private enterprises can participate in water and sanitation utilities, it should be kept in mind that the timing, phasing, contractual details and regulatory procedures for private sector involvement can be at least as important as the model selected.

Brief descriptions of typical forms of private sector involvement water and sanitation utilities are provided below. They are ordered in terms of the extent of private sector responsibility, as summarized in table 1. Moving from left to right across the table, the level of responsibility allocated to the private sector increases. Two further options, which are also summarized briefly in the text but do not fit within this schema, are when the public sector or co-operative owns all or part of the utility but sets up as a private company, and when a private company runs more than one utility.

Table 1: Allocation of key responsibilities for private participation options

Increasing private participation →							
	Service contract	Management contract	Affermage	Lease	Concession	BOT-type	Divestiture
Asset ownership	Public	Public	Public	Public	Public	Private / public	Private
Capital investment	Public	Public	Public	Public	Private	Private	Private
Commercial risk	Public	Public	Shared	Shared	Private	Private	Private
Operations/ maintenance	Private / public	Private	Private	Private	Private	Private	Private
Contract duration	1–2 years	3–5 years	8–15 years	8–15 years	25–30 years	20–30 years	Indefinite

SOURCE: Adapted from Walter Stottman (2000), "The role of the private sector in the provision of water and wastewater services in urban areas" in Juha Uitto and Asit Biswas, *Water for Urban Areas*, United Nations University Press, Tokyo.

2.1.1 Service contract

Service contracts are usually short-term agreements whereby a private contractor takes responsibility for a specific task, such as installing meters, repairing pipes or collecting bills. Payment is usually a fixed or per-unit fee agreed in advance. This type of contract allocates the least responsibility to the private sector, as it is only responsible for specific tasks.

Examples can be found in: Mexico City, Chennai (India).

2.1.2 Management contract

Under a management contract, the government transfers the responsibility for the operation and maintenance of the water and/or sewerage network to a private company. The public sector retains responsibility for investment and expansion. Sometimes, the public sector will choose to keep control of certain management aspects, such as billing and revenue collection. Payment is either fixed or performance-related. Management contracts are often used in countries and cities in which the private sector considers it too risky to invest. They are sometimes also used as “entry points” for private companies that wish to “test the water” before committing themselves further, and can lead on to concession contracts.

Examples can be found in: Johannesburg (South Africa), Monagas state (Venezuela), Gaza (Palestine).

2.1.3 Affermage contract

This type of contract is similar to a management contract, but the private operator takes responsibility for all operation and maintenance functions (technical and commercial). Although the contractor collects the tariff revenue, and pays the contractor an agreed-upon affermage fee for each unit of water produced and distributed. There is a risk of commercial loss to the contractor if its operation and maintenance costs are higher than the affermage fee. On the other hand, the contractor does not need to be directly concerned with the water tariff, provided the government can guarantee that the fund will cover the affermage fee.

Examples can be found in: Côte d’Ivoire, Guinea, Senegal.

2.1.4 Lease contract

The lease contract is similar to the affermage contract. The difference is that the revenue is determined solely by tariffs. The contractor collects tariffs in the same way as the affermage contract, pays the lease fee to the public sector, and retains the difference.

Examples can be found in: Central African Republic, Stutterheim (South Africa).

2.1.5 Concession contract

Under concession contracts, the private contractor manages the whole utility at its own commercial risk. It is also required to invest in the maintenance and expansion of the system. The key difference is that the company takes commercial risk in operational and investment activities, although many studies point to the fact that risks are minimized as much as possible, both in the contracts and in subsequent renegotiations once the contract is underway. Such contracts have terms of between 25 and 30 years, to allow the operator to recoup expended capital, and, at the end of the contract, the assets are transferred back to the state or

a further concession is granted. The role of the government in concession contracts is predominantly regulatory.

Examples can be found in: Nelspruit (South Africa), Casablanca (Morocco), Jakarta (Indonesia), Buenos Aires (Argentina).

2.1.6 BOT (Build, Own, Transfer)-type contract³⁶

These contracts are similar to concession contracts, with the difference that the private contractor is responsible for constructing the infrastructure from scratch. Therefore, they are usually used for “greenfield” projects, usually for water purification and sewage treatment plants, rather than distribution networks (as the latter rarely have to be built from scratch). The private partner then manages the infrastructure, with the government purchasing the supply. At the end of the contract, the assets may either remain indefinitely with the private company or be transferred back to the government, sometimes at a pre-determined fee.

Examples can be found in: China, India, Malaysia, rural water supply networks in South Africa.

2.1.7 Divestiture

Under the divestiture model, the government transfers the water business to the private company, including the assets (infrastructure), on a permanent basis. This model has only been adopted in a small number of cases. In England and Wales,³⁷ full divestiture was implemented in 1989, whereby the regional water authorities were converted into public limited companies with the sale of 100 per cent of the shares to the private sector and the general public. However, these private water companies are run under strict commercial rules and are subject to additional regulations than other public limited companies, for instance, they are very unlikely to be allowed to file for bankruptcy.³⁸ The government only maintains a regulatory role, which, in England, is very strong. In Chile, partial divestiture was carried out for five regional water authorities in 1998, in which a controlling stake of shares in the newly created companies were sold to the private sector (which were mostly acquired by multinational water companies), and the rest remained with the government. Assets were also divested to the companies.³⁹

Examples can be found in: England, Chile.

2.1.8 Joint ventures, public water PLCs and co-operative models

A joint venture is not a contract but, rather, an arrangement whereby a private company forms a company with the public sector, with the participation of private investors, which then takes a contract for utility management.

Examples can be found in: Barranquilla and Cartagena (Colombia), Havana (Cuba).

Similarly, the public water PLC model is an arrangement whereby a public limited company (PLC) is formed, subject to the same rules and regulations as other PLCs, and run on a commercial profit-making basis, but whose shares are wholly owned by local, provincial and national government, and are non-tradable. This model then combines operation in accordance with business principles, with a degree of public control through government shareholding.⁴⁰

Examples can be found in: the Netherlands.

Water co-operatives are set up as limited companies, and domestic customers are members who elect the administrative board, which, in turn, appoints the general manager and approves tariffs. Customers also elect a separate supervisory board that monitors the performance of the administrative board. The co-operative model, however, is uncommon in larger cities.

Examples can be found in: Santa Cruz, Tarija and Trinidad (Bolivia), rural water supply in villages and small towns in Chile.

2.1.9 Multi-utility contract

This is an arrangement whereby a private company runs more than one different utility. This practice is more common among other utilities (notably gas, electricity and telecommunications) than with water. In the few cases in which water had been bundled with another utility, this has been done with electricity. There are two advantages to bundling water and electricity: first, the combination of the two utilities can help overcome the problems associated with small-scale utilities (and, for this reason, most instances are in small countries); and second, the greater revenue from electricity can offset the higher costs of water.⁴¹ Combining utilities can potentially also make it easier to apply sanctions (e.g. by cutting off electricity supplies) to ensure payment, and saves on billing costs.

Examples can be found in: Gabon, Mali, Morocco (water and electricity).

2.2 Public sector drivers to involve private enterprises

Drivers for engaging the private sector in water and sanitation can be internal or external, or a combination of both. Finance is usually the paramount consideration driving governments to involve the private sector. The failure of public utilities to deliver efficient and adequate water and sanitation services may be a concern. Arguments and evidence favouring private sector participation may be influential. Political shifts can make a difference. But public sector decisions to radically increase the involvement of private enterprises almost always relate to the need for finance, even when undertaken by pro-private sector governments. For example, in Brazil, corruption in state pension funds left these depleted, and the state looking for sources of income to boost them to their proper levels.

The most immediate external driver in indebted low-income countries is conditionality from multinational financial institutions, especially the World Bank, and, in particular, in relation to loans. This has been the case since the implementation of structural adjustment policies from the 1980s, under which the reduction of state spending and avoidance of substantial state investment was aggressively promoted. While policies of bilateral development agencies are not so forceful, many, such as those of the United Kingdom and United States, promote private-sector participation in their recipient countries, making privatization a central concern of development policy during the 1990s.

Financial pressures can also interfere with reforms that may be needed prior to significant private sector involvement (or even in the absence of private sector involvement). For example, the World Bank has recommended improvements to the Dar es Salaam water utility (DAWASA), in order to attract a private sector operator. However, the World Bank is not willing to grant further financial assistance until a private operator is in place (to manage both DAWASA and Tanzania's development loan for its renovation); but without financial assistance, the Tanzanian government is not in a position to provide the resources required to undertake the improvements that would attract a private operator.⁴²

More generally, while extreme financial pressures may convince a government of the need to involve the private sector, they are not conducive to well-conceived and consultative processes of privatization. Applying pressure by withholding development finance is inevitably perceived by some as a means of pursuing the interests of donor countries' own private sectors rather than those of the recipients.⁴³ The fact that some donors are promoting private sector participation in countries where they have not traditionally been active amplifies these concerns.

2.3 Private sector drivers to engage in the water sector

The private sector has its own criteria regarding what it considers to be viable commercial opportunities, and these criteria have little to do with water and sanitation targets as defined in the international development community. Companies' strategies must be consistent with the demands of their funders and market conditions.

The most important aspect for private companies and their financial partners is the potential profit or rate of return. A key consideration is *scale*. Bankers and multinational water companies are looking for large-scale projects, with contract values of US\$ 100 million upwards, in middle- to high-income cities with at least one million inhabitants. By way of comparison, the usual water project size is between US\$ 10–50 million.⁴⁴ Project opportunities must also have acceptable levels of financial and political risk. Ideally, companies are looking for BOT-type projects or large concessions, as these can provide the highest returns, while management and lease/affermage contracts are less attractive. Companies will avoid locations with weak economies and/or unstable governments. Smaller urban centres are unlikely to be attractive unless they are high-income areas, such as Ribeirão Preto in São Paulo state, Brazil, or if they can be bundled with other locations or simultaneously served with a number of utility services. The multinational company Veolia states that the requirements of low risk and profitability limits investment to “big cities where the GDP per capita is not too low”.⁴⁵

The selection of attractive locations by private operators is termed “cherry picking”, and occurs at all scales: regions (those with large or growing economies), countries (those with larger economies and larger populations), cities (those with larger, denser and wealthier populations), and neighbourhoods (those which are more affluent and preferably already connected to utilities). This is not to say that companies will not engage in poorer countries, cities or neighbourhoods; they will do so, at a price that is high enough to outweigh the potential risks, and backed by a series of safety clauses in contracts.

While water provision is comparatively straightforward and cost-effective, sewerage is both more complex and more expensive. User demand is also much higher for water than sewerage. Therefore, water provision is inherently more attractive to private companies than sewerage provision, unless it is either subsidized or backed up by government regulations that require people to connect and pay specified fees.

2.4 The bidding process and renegotiation

The first phase in most of the significant private sector participation initiatives starts with the development of a strategy that defines the direction of the restructuring exercise, typically with the help of an advisory team. Time constraints usually lead to a focus on the core technical, financial and legal issues necessary to create the basis for private sector participation, with issues specifically related to the improvement of water and sanitation provision in deprived areas treated secondarily, if at all.

The bidding process for large contracts typically starts with the government making the decision to privatize, and then instructing its team of legal, financial and technical consultants to develop the bid documents, prescribing how potential bidders should present their offers. Most contracts are now tendered through competitive bidding, in order to promote transparency. First, governments issue an “expression of interest”, and interested private companies fulfilling the required criteria are shortlisted and invited to bid for the contract. The pre-qualifying operators assemble, and their teams start doing their own assessments of the local context (e.g. state of the utilities, current tariffs, extent of coverage, nature of government). If they decide to proceed, they then submit bids in accordance with the bid documents, based on models and estimations of both the current situation and expected targets. In line with the bid documents, bids rarely focus specifically on addressing the obstacles to improving services in low-income areas.

The bid documents need to be delicately balanced, in order to both guarantee the needs of the government and the users and present an attractive opportunity to the potential bidder. The attractiveness of the opportunity will also depend on location specific factors, including size and state of existing infrastructure. In cases where this balance has not been achieved, tenders have attracted no bids (e.g. Lima, Peru and Caracas, Venezuela), or only one bid (e.g. Cartagena, Colombia and Guayaquil, Ecuador). In Zimbabwe, two different companies withdrew from the process after having been selected, as they were unable to reach agreement with the government.

Once the private operator is in place, it carries out more detailed assessments to assess the situation of the infrastructure and services. Companies may well find that they had underestimated the quality and/or coverage of the utility. In these cases, companies usually try to renegotiate relevant terms of the contract. Companies may also submit bids with a view to underbidding the competition, even if the financial viability of the bid is doubtful – a practice known as “dive bidding”. Given the substantial costs to the private company of preparing a bid (US\$ 3–5 million for a large concession), this is an attractive strategy, as long as renegotiation is possible at an early stage. Some operators start to renegotiate their terms very early on into the contract as, for example, was the case in Manila. Manila Water won a bid for one of the city’s two concessions (East Manila), with a tariff less than half that of the nearest competitor: 26 per cent of existing tariffs as opposed to a 57 per cent bid by Maynilad Water Services, which won the other contract (West Manila).⁴⁶ Manila Water’s tariff should have been flagged by the government’s consultants (hired from international institutions, including the International Finance Corporation) as unfeasible, and rejected on that basis. As things transpired, once in operation, neither company was able to provide the service for the tariff levels they had quoted. Both set out to renegotiate with the regulator at an early stage and, despite initial resistance, tariff increases were approved (saving Maynilad Water Services from bankruptcy), implying that the costs of dive bidding were actually passed on to customers. This practice raises important questions about what to do if private operators fail to meet their contractual commitments:

“The bidding process is not rocket science. [...] The regulatory office should be under no obligation – whether real or imagined – to bail out companies if they suffer the financial consequences of unsustainable bids they have intentionally made.”⁴⁷

Instead, with several companies now employing this strategy, companies have started to collaborate on projects, rather than compete. They do this by agreeing to submit a joint bid for a project, dividing the functions between them (according to expertise and ability), and then bidding for the next contract in the same way. In this way, companies are content to settle for an acceptable percentage of a project (on financially viable terms), in the knowledge that they

will also gain a similar share of the next contract.⁴⁸ These are all sound financial strategies, but undermine the purpose of competitive bidding, and are not necessarily in the best interests of the utility customers.

Such strategies are more common when the bidding process is poorly organized. They are far more likely to arise when the privatization process is being rushed, the government is unfamiliar with the sorts of contracts being negotiated, the public utility is poorly run, the companies are unfamiliar with local conditions, and local governance is weak; in short, the sorts of conditions likely to hold where water and sanitation services are in greatest need of improvement. The difficulties involved in orchestrating a competitive bidding process that can provide the basis for efficient utility management also tend to divert attention from the need for consultation with local stakeholders and other mechanisms that might ensure that private participation works to the advantage of deprived groups. In the end, those who pay for these shortcomings are almost always the users.

2.5 Finance and financial risk

Finance is usually the paramount consideration driving governments to involve the private sector, even when undertaken by pro-private sector governments. The levels of annual investment needed for financing new water and sanitation infrastructure *alone* in low- and middle-income countries between 2002 and 2025 have been estimated at over US\$ 13 billion for drinking water supply, US\$ 17 billion for sanitation and US\$ 70 billion for wastewater treatment.⁴⁹ The contribution from international development finance represents just a fraction of the needed resources. Between 1996 and 2001, the flows of international aid and multilateral development finance to the water sector in low- and middle-income countries were US\$ 3.3 billion and US\$ 1.85 billion per year, respectively. Moreover, only a small share of these resources (about US\$ 125 million) are allocated to countries with severe deficiencies in water and sanitation, and both sources have shown a general decline since the mid-1990s.⁵⁰

It is clear, therefore, that there is a huge gap in needed investments. Despite the expectations of some that the gap in funding will be filled by foreign private finance, it is difficult to see how this can meet the required investments. The notion that the private sector will provide extensive financing was refuted by the Chief Executive of Saur:

“[The false] belief that any business must be good business and that the private sector has unlimited funds [...] The scale of the need far outreaches the financial and risk-taking capacities of the private sector.”⁵¹

The level of private finance has been disappointing, even in projects involving private sector participation. The majority of finance for investment in water and sewerage services in the cities of low- and middle-income countries continues to come from the public sector (through local and national tax revenue), multilateral development loans and users (through users' own outlays and water bills).⁵² In the mid-1990s, the proportions of finance from different sources for the water and sanitation sector in low- and middle-income countries were estimated to be: 65–70 per cent from the domestic public sector; 5 per cent from the domestic private sector; 10–15 per cent from international donors; and 10–15 per cent from international private companies.⁵³ Multilateral development finance is also much less significant and has fallen over the last few years. In any case, the private sector is only required to invest in BOT-type, concession and joint venture projects, while service, management, lease and affermage contracts carry no investment obligations. Therefore, in regions where non-investment contracts dominate, such as sub-Saharan Africa, virtually all investment is still coming from

the public sector, almost entirely through development loans, with the government bearing the risk.

In the water and sanitation sector in low- and middle-income countries, international private investment and commercial bank lending have never been large, and have also generally declined since their peak between 1996 and 1997.⁵⁴ When the international private sector is involved, a large share of finance is still derived from equity finance, as opposed to investment from companies themselves. This is partly because even large water companies are unable to fund the whole project themselves, and need to obtain other sources of finance.

Most loan finance has come from international financial institution development loans rather than loans from commercial banks, as these often consider water and sanitation projects too risky and insufficiently profitable. Most loans have been financed on a limited recourse basis – that is, with project cash flows as collateral, as opposed to the assets of the parent company.⁵⁵ Multilateral finance can be in the form of either loans or equity, whereby the development institution invests as a shareholder, as in the La Paz (Bolivia) concession. Although it is more expensive because shareholders require higher rates of return, private companies need to obtain a proportion of their finance from equity finance because they can rarely fund the whole project from debt finance (loans or bonds), as banks will only take a certain level of risk depending on how they perceive individual projects. Equity finance also reduces the risk to the company and helps to attract lenders, but confidence needs to be generated before investors will buy shares, however. In some cases, governments receive development loans that they use to pay the private companies for non-investment contracts (the governments thereby assume the risk for the loan). In other cases, non-concessionary loans are given directly to private companies by international financial institutions. The corporate-financing option, in which project finance comes from the company's own turnover, meaning that it assumes the risk for its investment, is little used in the water sector. This is partly because many water projects are too small for project finance, which typically needs projects of US\$ 10–100 million (with acceptable project revenues and returns to equity).⁵⁶ Unfortunately, statistics on investment in projects involving private sector participation do not distinguish between different sources of finance, and can even give the false impression that all investment is privately financed.

In some concession contracts, investment in services is largely financed through consumption and/or connection charges. In Buenos Aires, for example, connection fees for unconnected households were replaced with a Universal Service and Environmental Improvement fee payable by all users, which provided most of the financing for the network extension.⁵⁷ Such measures have been criticized, because the costs of borrowing and/or investment are passed on to users, which contradicts the rationale of engaging the private sector to invest in the system and then make its return based on that investment.⁵⁸ It is also important to note that flows of private finance to governments resulting from the involvement of the private sector (for the use of assets and the like) are *not necessarily* invested in the water sector, and can be used however governments choose.

Given the high levels of uncertainty in most water and sewerage ventures, especially in politically unstable settings, companies are anxious to protect themselves as much as possible from financial risk. Where possible, governments want the private operator to take the risk for finance and investment, but companies – in particular multinationals, which have their own financial experts – are very wary of taking undue risks, and will not commit themselves where they consider the risks to be too high to justify the expected returns. Companies employ four main strategies for avoiding and/or minimizing risk. First, multinational corporations always form subsidiaries (usually consortia), partly to relieve the parent company of liability and partly because governments often insist on consortia involving local companies.⁵⁹ Many of

the consortia created do not have strong enough balance sheets to raise debt and equity finance, and/or local bond and equity markets are often too weak to attract the scale of investment needed.⁶⁰ Second, private operators may initially take on low-risk contracts (such as management or lease contracts), in order to “test the water” and see whether it is feasible to undertake investment in the future, as in Côte d’Ivoire and Guinea. This implies that there is little private investment in regions where non-investment contracts dominate. Moreover, this can result in the government delaying public sector investments, in the hope that the private sector will eventually bring its own finance. Third, companies can take insurance against different types of risk (such as currency risk or political risk). For example, the Guayaquil water concession (Ecuador) is insured against political risk with a guarantee from the Multilateral Investment Guarantee Agency (MIGA, the World Bank’s insurance division).⁶¹ Fourth, when companies do accept some level of risk, they ensure that provisions are written into contracts for mitigating the impacts through sovereign guarantees (although these are often not forthcoming, as governments also want to assume as little risk as possible). For instance, measures protecting companies from local currency devaluation are often written into contracts, as with Aguas Argentinas’ contract in Buenos Aires.

2.6 Pricing and tariffs

Water and sanitation charges usually rise shortly before or soon after privatization, in some cases substantially, as in Guinea. While this is often unpopular, higher tariffs may reflect the very low prices of the past and the need for substantial investment to meet the contracted targets.⁶² It is sometimes claimed, on the other hand, that the higher prices are needed to secure the profits of the private sector and investors. Such allegations have been made in relation to Buenos Aires and Côte d’Ivoire.⁶³ There is no doubt that profits do need to be covered in order to attract private sector operators and investors. There is also no doubt that even disregarding profits, prices often need to be increased in order to cover costs (and most advocates of private sector participation would argue that the profits are usually less than the savings achieved through efficiency improvements).

Cost recovery through user fees can be problematic when the full cost exceeds low-income groups’ ability to pay. Where regulators are responsible for pricing, they can decide how best to ensure access for low-income groups without compromising operators’ required returns. Many accept that services for low-income users need to be subsidized, either directly through payments to the utility for providing the services or indirectly through payments to the low-income users themselves so that they can pay for the services.⁶⁴

Economists are generally leery of subsidies, particularly when there are no positive externalities associated with the consumption of the subsidized good (public goods are goods whose positive externalities are so large that everyone benefits equally, regardless of who purchases the good). In the case of most goods, they are inclined to argue that if someone’s unwillingness or inability to pay reflects poverty (rather than their neglect of positive externalities), then it is more efficient to give the “subsidy” to the person to spend on what they choose than to give it to a utility to provide them with a service. Nevertheless, water subsidies and cross-subsidies are common, and can be incorporated into water tariff structures through, for example, rising block tariffs, social or welfare tariffs, banded charges or lifeline tariffs.

Rising block tariffs are one of the most common tariff structures. They comprise a lower tariff for the first designated volume, and increasing per-unit rates for subsequent volumetric blocks, with the more expensive blocks financing the initial blocks (see table 2 for an example). The first block is often meant to represent a volume of water that is judged

adequate to fulfil basic needs. Rising block tariffs are comparatively simple, and social, economic and financial objectives can be pursued simultaneously by adjusting the size of the blocks and the rates applied to them. However, this does require meters and, in practice, it is rarely possible to reconcile the different objectives; it is often the middle- and upper-income residents who end up being subsidized, as they still fall in the first block, while the lowest-income residents fail to get a subsidy because they fail to get connections.

Social or welfare tariffs set lower charges for low-income households, often at a flat rate rather than metered, which are financed through cross-subsidies from higher-income households. They tend to be used where meters have not been installed. The main disadvantage is that low-income groups are unable to reduce their expenditure on water by using water economically. This structure is used in El Alto (Bolivia).

Banded charges fix tariffs according to socioeconomic status of the geographical zone, with poorer neighbourhoods being cross-subsidized by richer ones. The banded zoning system is uncommon because it is complex to set up (as it requires information about socioeconomic status across the city). A variation has been adopted in Cartagena, Colombia, where the charge band is determined by using the material of house construction as an indicator of socioeconomic status (see table 2). Households pay a standing charge, which also varies according to socioeconomic level, and consumption charges based on a block tariff structure, the lowest block of which is greatly subsidized to be affordable to the poorest households.

Table 2: Tariff structure for water and sanitation in Cartagena, Colombia

Socio-economic level	Number of households	Standing charge (Colombian pesos) ⁶⁵	0–20m ³ (Colombian pesos)	21–40m ³ (Colombian pesos)	41m ³ + (Colombian pesos)
1 (poorest)	24,154	2,187	271	884	884
2	31,297	3,713	349	884	884
3	29,423	4,952	590	884	884
4	7,755	7,143	704	884	884
5	6,910	14,134	1,061	1,061	1,061
6 (richest)	5,359	22,707	1,061	1,061	1,061

SOURCE: Adapted from Nickson, Andrew (2001), “Establishing and implementing a joint venture: water and sanitation services in Cartagena, Colombia”, GHK Working Paper No 442 03.

Lifeline tariffs provide a limited initial volume of water free of charge. This was introduced in South Africa in 2001 for the first 6,000 litres per household per month (regardless of income). However, if it is allowed to inhibit the utility from providing new connections, it can actually harm the unserved households that are most in need.

The allocation of subsidies through welfare is used in Chile. Chile has adopted a pioneering system of direct targeted subsidies, whereby the government gives rebates to low-income consumers based on their water bills, determined by means testing. In this way, governments effectively pay part of the water charges of low-income consumers, meaning that poverty is addressed through the government welfare system rather than the water service, and the utility regards all households as fully paying consumers.⁶⁶ However, there are two context specific reasons for which this model works well in Chile: first because of its high level of existing coverage, and second because of the availability of a comprehensive social survey, through which low-income households can be identified relatively easily.⁶⁷ For this reason, the model may be difficult to replicate elsewhere, as means testing requires more effort on the part of the government (unlike incorporating subsidies into tariffs), and is more complex to implement.

Connection charges are also often unaffordable for low-income groups, especially when they reflect true costs. Such costs will be significantly higher where networks are extended into unplanned and peripheral settlements.⁶⁸ Connection charges also place the cost of network expansion on unserved households, while those which obtained connections before privatization usually paid nothing. In Buenos Aires, the charges for new connections (approximately US\$ 400 for water and US\$ 600 for sewerage)⁶⁹ were unaffordable to lower-income households and, for this reason, were completely restructured to a universal fee applicable to all users that represents the costs of extending the system and meeting environmental standards. However, it is reported that the new charge has slowed the rate of new connections and has led private operators to offer “fast-track” connections on payment of an additional fee, with households not paying this fee not being connected.⁷⁰

2.7 Competition and monopoly power

In the market economy, competition is regarded as the means by which prices are determined, inefficient firms are driven out of business, and efficient and innovative firms that respond to consumer demands are given the rewards that allow them to expand. Without competition, most of the benefits of private sector participation are lost.

However, competition is difficult to introduce into the water sector because piped water and sanitation networks approximate natural monopolies. Multiple networks competing for the same consumers will have higher infrastructure costs than a single network. A “natural” outcome of market competition would, therefore, be for one network owner to buy out its competitors and become a monopolist. For some networked services, such as telecommunications and energy, attempts have been made to “unbundle” the system and develop a regulatory system that promotes competition where feasible (e.g. regulations preventing firms from excluding competitors, by purposefully adopting technologies that their competitors cannot “connect to”). For water and sewerage networks, however, unbundling has proved difficult, and competition is generally restricted to “competition for the market” rather than competition within the market. Competition can be introduced by disaggregating utilities vertically (different functions) and horizontally (different areas), but neither is ideal because they reduce economies of scale and do not necessarily create the basis for competition. Contracts have been split horizontally in Mexico City, Manila and Jakarta, for example, but while this may stimulate competition over future contracts, the utilities cannot compete for customers.

The extent to which network monopolies prevent competition should not be exaggerated. As in the case of concessions, potential operators can be made to compete for the right to supply a given market for a specified period, and be required to specify the prices they will charge. This requires public sector involvement, but at least in principle this form of competition can eliminate excess profits.⁷¹ Similarly, the extent to which urban water and sanitation provision are natural monopolies should not be exaggerated, and even limited competition within an urban area can be an important means of preventing the abuse of monopoly powers. In particular, purposeful measures designed to create exclusive monopolies should not be confused with the existence of a natural monopoly. With a true natural monopoly, concession contracts would not have to grant exclusivity to the concession holder: it would emerge “naturally”. In practice, alternatives to piped water supplies (e.g. wells) and alternatives to formal utilities (e.g. informal vendors) can fill gaps in a utility’s services, and also force the utility to compete more actively for customers.

Also, network monopolists do not actually have the same unambiguous incentive to restrict production as other monopolists, and when pricing and investment behaviour are only lightly

regulated this may work to the advantage of residents who are not yet connected. While a conventional monopolist raises prices by restricting output, a network monopolist with a marketable product (e.g. water) can adopt a dual strategy of raising prices for existing users while expanding output by extending the network to new users at a low connection fee. Excess profits from existing users can, again in principle, provide the finance necessary to expand the network rapidly. Such pricing and investment strategies may lead to more rapid improvements in water provision than the more common public utility practice of charging low water prices but not investing in expansion. Indeed, it has been argued that where underinvestment is the most critical problem, unregulated private monopolies could be beneficial.⁷²

If the monopolization of individual networks is nevertheless a concern, so is the level of concentration in the industry internationally. A small number of multinational corporations are involved in a large share of the more significant private sector participation initiatives (see table 7). Local companies in low- and middle-income countries rarely have the capacity to compete except as minority partners in international consortia.

There are a number of possible barriers to the local private sector. In some cases, they are prevented from participating, as in Kathmandu (Nepal). Local companies were not allowed to bid, although they were encouraged to form consortia with international companies, presumably on the grounds that the government was seeking international finance and expertise.⁷³ This is a legitimate concern, as few local operators have the scale, resources and experience to manage a utility of any significant size. This is reflected by the experience of Riberão Preto, a medium-sized city in Brazil, where the local company that won the original bid had an annual turnover that was far too small to secure the loans it needed to execute the contract. Also, in Uganda, small-scale private contractors used to construct village level water supply networks built sub-standard infrastructure, mainly because most of them were specially created to access funding available for these projects, and had never undertaken such work before.⁷⁴ This is less of a concern with BOT-type and concession contracts, as it is not in contractors' interest to build low quality infrastructure, because they will often want to continue to manage it beyond the initial contract period.

2.8 Other regulatory issues

Regulation is often seen as a way of controlling the private company, to ensure that it does not abuse its market power, especially when it has a degree of monopoly control. The role of the regulator is to act as a referee between the operator, the consumers and the relevant government bodies, in order to determine what is "reasonable". The functions of a regulatory system are therefore usually wider than just protecting against market abuse, and comprise:

- ensuring that users receive an adequate level of service at a reasonable price, and protecting them from abuse by firms with substantial market power;
- ensuring that investors receive a reasonable return on capital, and protecting them from arbitrary action by government; and
- monitoring and ensuring that other conditions and standards are met: that the operator complies with the conditions and provisions of the contract, setting or regulating prices, and regulating environmental standards.⁷⁵

The information necessary for effective regulation is often difficult to obtain, frequently leading to situations of "information asymmetry", where the company is far better informed than the regulator. The difficult task of balancing the rights and interests of the different parties can be like "walking a tightrope".⁷⁶ Tariffs are a particularly sensitive area for

regulators. Keeping services affordable for lower-income groups (often for social and political reasons, so that services are affordable and governments do not make themselves unpopular through raising prices) is not always consistent with keeping utility prices high enough to provide private operators with reasonable returns (as operators should be able to charge fair prices for good services), but it is difficult to assess what is affordable to households or sufficiently profitable for private operators. Tariffs may be set by the government (rather than by the regulator), but even so, information asymmetry can complicate the regulatory tasks.

In order to be objective and fair, the regulator should be independent and strong enough to withstand pressures from both government and the private operator.⁷⁷ An independent regulator should have an “arm’s length relationship” with operators, government authorities and consumers. Some recommend that regulators should be autonomous organizations with (adequate) designated funding and independent salaries, in order to avoid co-optation and corruption.⁷⁸ However, cases have arisen in which the regulator is accused of being biased in favour of the private operator. For instance, in Manila, the regulator approved tariff increases for the two operators earlier than set out in the terms of their contracts, a decision that is being legally challenged by a citizens’ group on the grounds that its actions were against regulatory procedures and unfairly favoured the concessionaires.⁷⁹ Although the regulator in Buenos Aires is independent, the government still overruled its refusal to grant an unscheduled price increase to Aguas Argentinas.⁸⁰

The following measures have been suggested to avoid some of these problems:

- transparent decision-making processes;
- provision for appealing the regulator’s decisions;
- use of external auditors or watchdogs; and
- mechanisms for the removal of the regulator in the event of poor performance.⁸¹

The degree of power and discretion that governments will want to give to regulators depends on the role that they are expected to play. Therefore, some will set up a rigid and/or restricted regulatory framework, while others will want to give the regulator more responsibility, and use more flexible mechanisms to ensure that the regulator acts in accordance with its mandate. Some experts recommend a low degree of regulation, especially when a large share of the population does not yet have access to the networks.⁸² Deregulation of tariffs can provide an incentive for investment in expanding the networks. If rules controlling market entry – especially for small-scale and/or informal service providers – are relaxed, these will be able to legally provide services to lower-income groups, who do not have access to the networks, and, in some cases, provide market competition. Similarly, flexible prices and quality standards can, in some circumstances, allow provision to the poor and/or unserved population to be improved more rapidly, especially when the existing standards set by contracts imply costs that are unaffordable to low-income groups. When a low degree of regulation is accompanied by inadequate monitoring and enforcement, however, an imbalance of power is likely to result, and can cause severe problems.

It is widely agreed that the regulator should be in place before the contract is implemented, although this is not always the case. Firstly, it is important for the privatization process itself, because investors will want to see that firm rules are in place, especially regarding protection from political risk.⁸³ Secondly, an independent regulator can ensure the fairness of the contract bidding and award process. Thirdly, the regulator should be party to contract negotiations to ensure the inclusion of pro-poor measures, such as provision for low-cost technologies, alternative payment mechanisms, and pro-poor tariff structures and/or subsidies.⁸⁴ Insecure land tenure can become a barrier to the provision of services to informal

neighbourhoods by private operators. Aguas Cordobesas in Córdoba (Argentina) argued that no mention was made in the contract of the need to provide services to settlements without legal titles, indicating that this and similar issues need to be considered prior to the contract being drawn up and explicitly addressed in the contract documents.⁸⁵ In order to build their capacity on pro-poor measures, regulators could also engage more with local communities and their representatives.

All regulators also need to be accountable for their actions and be “regulated” from a higher level. This is particularly the case where regulators have been established recently or have a poor record. A mechanism needs to be in place to ensure that the regulator does not stray from its mandate or become inefficient, or even be co-opted or engage in corruption.⁸⁶ Regulatory bodies are often staffed by former public utility employees. Since private sector participation is often brought in to salvage “failing” public utilities, this raises the question of whether former utility staff are necessarily more capable of regulating the system than they were at running it.⁸⁷

Especially in countries where the need for improving water provision is the greatest, national and local governments typically have far less experience in negotiating contracts and addressing regulatory issues than the companies they must negotiate with. Given this imbalance, it is far more difficult than it might otherwise be to set in place effective regulatory structures. Moreover, while private monopolies raise a number of regulatory issues, so do public sector monopolies. Efficient and equitable regulation may involve different challenges when there is more private sector participation, but regulatory questions merge with governance issues, and are critical whatever form the urban water and sanitation system takes. Regulation therefore need not be restricted to privately operated utilities. Indeed, it is now often argued that regulatory systems should be developed for public utilities. This raises important issues of sequencing. For much of the 1990s, the conventional wisdom in international development circles was that privatization was the priority and would provide the basis for second order improvements. If, however, a good regulatory environment is necessary for privatization to succeed, and can also improve public sector operations, the more obvious sequencing is to concentrate first on regulatory improvement – which is closely related to issues of governance – and let privatization proceed if and when it can proceed smoothly and with local support.

There is also a danger that the international promotion of private sector participation is undermining democracy and the capacity of local polities to resolve their own water and sanitation issues. While it may be a problem when water and sanitation utilities are manipulated to serve short-term political interests, it is also a problem when the regulation of utilities (public or private) is *not* grounded in sound long-term political agreements. Active external promotion of private sector participation can undermine the basis for local political resolution. Moreover, there is a serious imbalance of power when indebted governments are negotiating with international financial institutions and multinational water companies. This imbalance not only makes it difficult for the local government to negotiate a “fair deal”, but effectively overrides local political processes. Whether or not the local political processes are considered equitable or efficient, the decision to circumvent local politics is not one that international agencies should take lightly, as it may have negative repercussions well beyond the water and sanitation sector.

2.9 Private sector provision to low-income groups

Much attention has been paid to serving low-income groups under private sector operation of water and sanitation services. Much policy literature suggests that the private sector, through

external funding, greater efficiency and customer service, will extend and improve services to low-income groups. Poor groups, in turn, represent a large and untapped market for the private sector, as they are willing to pay for better services (household connections, more reliable and better quality supply). Practical experiences, however, provide little evidence to support either of these claims. Indeed, there is little evidence either that the private sector is interested in serving low-income groups, or that they are any better off under private provision.

A number of multinational water companies have asserted that low-income populations do not represent an attractive market, because they are too poor to be profitable and represent too great a financial risk. The chief executive of Saur said that there was little scope for users in the South to be able to pay prices that represent the levels of investment needed, that the goal of connections for all users was “unrealistic”, and that public sector subsidies and soft loans were essential for meeting these needs, in line with practices used in the North.⁸⁸ The view that low-income groups do not represent an attractive market, because they are too poor to be profitable and/or represent too great a financial risk, is echoed by other multinational water companies. For instance, representatives of Veolia stated that profits depend on “sufficient and assured revenues from the users of the service”, which are unlikely to include poor groups.⁸⁹ Similarly, Biwater’s negotiations in Zimbabwe broke down, on the grounds that local consumers could not afford tariffs that were sufficient to generate an adequate commercial return, leading the manager to state:

“From a social point of view these kinds of projects are viable, but unfortunately from a private sector point of view they are not.”⁹⁰

This view is not just restricted to the private sector; for instance, a research/consultancy report on Aguas Argentinas states:

“The challenge for the new private operator, *although it is not in their obvious commercial interests*, is to bring forward their attempts to meet the needs of the low-income groups.”⁹¹

Indeed, experiences in which the private operator has attempted to serve low-income groups have seldom been successful from a commercial perspective. The poor cannot afford high connection charges, and, once connected, often consume too little water to cover costs, let alone to generate an adequate return for the operator. This is illustrated by the La Paz concession, which was designed to be pro-poor, but only three years into the contract, was operating at a loss due to lack of demand for new connections and low domestic water consumption.⁹² In Buenos Aires, one of Latin America’s wealthiest cities, the city’s largest operator, Aguas Argentinas, renegotiated its contract in 2001 to cover the company’s losses incurred by connecting consumers who could not afford to pay the infrastructure charges.⁹³ In Uganda, the poorest communities were not even able to access a rural water provision scheme because they could not afford the contribution of 10 per cent of the total costs.⁹⁴

Evidence suggests that private operators often take active measures to avoid taking on the responsibility for extending services to low-income settlements. Often, the least profitable areas are excluded from the service area in the contract. In both Cartagena and La Paz, low-income settlements on the city periphery were excluded, as they were considered to be outside the cities’ limits.⁹⁵ Similarly, when the Côte d’Ivoire contract was renegotiated, more sparsely populated rural areas were excluded.⁹⁶ Operators may also exclude poor households that are within the contract area, on the grounds that they do not own their house and/or have legal land tenure. In Córdoba and Buenos Aires city and province, although the contracts stipulated almost universal coverage, the companies argued that this did not include residents of informal settlements without land titles, and considered therefore that it had no legal

requirement to serve them.⁹⁷ An assessment of the Buenos Aires contracts and local land laws called into question the legal grounds on which untenured households were being excluded, noting that both the contracts and the laws contained clauses that could be taken to *guarantee* the rights of informal settlers to services.⁹⁸ After persisting, some informal settlements, assisted by local mayors and civil society organizations, did obtain provision from the private operators.

In order to overcome such issues, some development agencies, and studies funded by them, argue that private sector participation must be made more “pro-poor”.⁹⁹ Various proposals have been put forward to help ensure that private sector participation is more pro-poor. These include:

- devoting more resources to consultation and participation, at all stages in the privatization process;
- providing more information relating to current conditions in low-income areas, obstacles to improvement, and targets for the future;
- giving more weight to pro-poor measures when evaluating bids (this could be made explicit in the tender documents);
- addressing the tenure problems that inhibit connections in low-income areas;
- reducing connection costs, even if this requires higher unit rates; and
- building indicators of coverage (or lack of access, such as the price charged by vendors) into the contract, so that the operator’s profit depends on them.

In some cases, specific measures are being implemented to improve provision to unserved low-income areas by private operators. These are based on mechanisms that “make more of the poor profitable”, through voluntary labour, collective provision of materials, cross-subsidies, appropriate technology and alternative payment arrangements.¹⁰⁰ Such cases are used to exemplify successful pro-poor approaches by private operators. It is worth noting, however, that such initiatives are not common practice, and most of the locations that follow are pilot projects from a multi-agency initiative (Business Partners for Development) to develop provision to low-income settlements through public–private–civil society partnerships.

In Villa Zemira in Buenos Aires province, the private company provided the materials and the residents provided the labour for installation. In La Paz and El Alto, families also contributed labour to install water and sanitation connections, in order to reduce costs although, if the cost of the free labour were calculated, the cost would actually be higher than paying for the installation of the conventional system.¹⁰¹ In La Paz and El Alto, low-cost condominial sewerage and yard connections were provided to poor households instead of conventional networks. However, the narrow diameter pipes frequently become blocked and the shallowly laid pipes often resurface and break, leading to criticism that this infrastructure is “a poor quality solution for poor people”.¹⁰² Similarly, in South Africa, historical disparities between racial groups make it politically unacceptable to provide inferior services to low-income black communities. Therefore, opposition arose to the installation of standpipes in such areas, despite research that shows that the health benefits are greatest from yard or household connections, and also to a sanitation plan based on pit latrines for low-income areas of Johannesburg, despite inappropriate physical conditions and potential health risks.¹⁰³

In at least two cases, Buenos Aires and Cartagena, private operators have sought out innovative ways of providing formal connections to low-income residents, at least in part to address the problems posed by illegal connections.¹⁰⁴ Generally, one would expect the risk of

illegal connections to reduce operators' incentives to extend the water network into settlements where these are likely to be a problem, even when the extension would be financially viable on the basis of legal connections alone. If, however, the network is being extended, then the threat of illegal connections may convince the operator to facilitate legal connections, so as to avoid water losses. Again, much depends on the local circumstances.

In low-income settlements, companies often prefer to use alternative payment arrangements. While in Buenos Aires, one community managed to negotiate individual bills, despite resistance from the operator, in Cartagena, the community is being billed collectively through ten communal meters, in order to develop a "payment culture" for the eventual installation of household connections.¹⁰⁵ In South Africa, pre-payment cards were introduced for standpipes, which was a controversial measure, as it secured payment to the operator without addressing affordability. The lifeline free water policy was received with hostility by private operators. The operator in Nelspruit argued that its contract did not include the provision of free water, and continued its policy of disconnection for non-paying households. The company did concede following a local campaign, but suspended its plans for water expansion to peri-urban areas.¹⁰⁶

While it is encouraging that some private operators are considering ways of addressing the needs of lower-income users, there are few such initiatives. Moreover, some of the factors that have led private operators to take innovative measures to connect low-income settlements have been location specific and difficult to replicate. The experiences outlined above suggest that the private sector has both little incentive to expand services to the poor and is rarely able to provide them with good services. However, it should be reiterated that the areas with the greatest shares of low-income people with inadequate access to water and sanitation are unlikely to be those served by the formal private sector, in urban or rural areas.

3. THE CHANGING GLOBAL SCALE AND NATURE OF PRIVATE SECTOR PARTICIPATION IN THE WATER SECTOR

This section will start by describing recent and current trends in the water and sanitation sector in Africa, Asia and Latin America, and will then outline the current scale and nature of private sector participation in these regions.

3.1 Trends in the water and sanitation sector

In the utilities sector, private sector participation is concentrated in energy and telecommunications, while water and sanitation services have seen comparatively little privatization, especially in low-income countries.¹⁰⁷ The water sector has been the least attractive to private investment, and the sums invested have been the smallest, representing only 5.4 per cent of all private commitments to infrastructure during the 1990s.¹⁰⁸ The percentage of the world's population currently estimated to be served by formal private water providers is still only around 5 per cent, although there are significant regional differences.¹⁰⁹ In much of Africa, Asia and Latin America, a much higher proportion of households are served by informal and/or small-scale private water providers, and the share can rise as high as 70–80 per cent in some poorly served African cities, such as Bamako (Mali), Conraky (Guinea), Cotonou (Benin) and Dar es Salaam (Tanzania).¹¹⁰

Prior to 1990, there were just a handful of large private initiatives in water and sanitation infrastructure and services. Privatization in the water and sanitation sector accelerated sharply in 1990 and peaked in 1997, after which it has started to decline.¹¹¹ Table 3 shows the pattern of investment in water and sanitation infrastructure projects with private participation. The investment figures in this and subsequent tables are not based on private investment (or private finance) alone, and should not be interpreted as additional to the investment that would have occurred in the absence of private sector participation. Indeed, given the importance often accorded to using private sector participation to attract private sector finance, it is surprisingly difficult to obtain statistics that would help discern the role of private sector finance to date.¹¹²

Table 3: Water and sewerage projects with private sector participation in developing countries, 1990–2001*

Year	Number of projects**	Investment (2001 US\$ billions)
1990	0	0
1991	2	0.1
1992	4	2.0
1993	9	7.9
1994	13	0.5
1995	20	1.8
1996	18	1.9
1997	25	9.3
1998	19	2.4
1999	35	6.9
2000	25	4.8
2001	17	2.3

SOURCE: PPIAF (2003), *Private Participation in Infrastructure: Trends in Developing Countries 1990–2001*, Private Participation in Infrastructure Advisory Facility, World Bank, Washington DC.

* These figures come from the World Bank Private Participation in Infrastructure (PPI) database. Investment refers to total investment, not private investment alone. Also, many small projects are omitted.

** Figures estimated from graph.

After a period of rapid growth, private sector participation in water and sanitation began to slow in 1997. Following the Asian financial crisis and crises in Latin American economies, investors have been less confident about investing in these regions and in the South in general.¹¹³ In the water sector specifically, lenders and operators alike have realized that the water and sewerage sector is both more complex and less profitable than originally anticipated. Experiences of failed contracts, such as those in Cochabamba (Bolivia) and Tucumán (Argentina), although generally viewed as isolated events, have also made investors and water companies more cautious. There is also a feeling that there are fewer projects available that are “bankable”. Many of the most attractive locations were either privatized during the 1990s or show few signs of preparing to engage with the private sector. While there are still many viable locations, especially for concessions, the early expectations of continuous rapid growth in private sector participation are being revised downwards.

There are strong regional and national concentrations of private sector participation in the water and sewerage sector. Among low- and middle-income countries, the greatest number of projects, and the greatest proportion of investments, are concentrated in Latin America and East Asia, as shown in table 4.

Table 4: Water and sewerage projects with private sector participation in low- and middle-income regions, 1990–2001*

Region	Number of countries with private participation	Number of projects	Investment (2001 US\$ billions)	Cumulative investment (%)
East Asia and Pacific	7	51	15.3	38
Europe and Central Asia	12	37	3.3	8
Latin America and Caribbean	15	100	20.7	52
Middle East and North Africa	3	4	0.1	0
South Asia	1	1	0.2	1
Sub-Saharan Africa	5	10	0.2	1

SOURCE: PPIAF (2003), *Private Participation in Infrastructure: Trends in Developing Countries 1990–2001*, Private Participation in Infrastructure Advisory Facility, World Bank, Washington DC.

* These figures come from the World Bank PPI database. Investment refers to total investment, not private investment alone. Also, many small projects are omitted.

In the period 1990 to 1997, six countries within Latin America and East Asia – Argentina, the Philippines, Malaysia, Chile, Brazil, Mexico – and China dominated in terms of total investment and number of projects, as shown in table 5. Other countries with high and growing levels of investment are Chile, Indonesia, India and Pakistan. Generally speaking, the countries in which investment is concentrated represent those with the largest economies and populations in their regions, and are also characterized by high percentages of urban population. These all relate to key attributes that make them attractive to the private sector. There are relatively few private sector water and sanitation projects in low-income countries, especially in sub-Saharan Africa.⁶⁶ More recently, some multinational water companies are concentrating on the United States and China as targets for market expansion.

Table 5: Investment in water and sewerage projects in selected low- and middle-income countries, 1990–2001*

	Number of projects	Total investment (2001 US\$ billions)
Argentina	2	9.6
Philippines	2	6.4
Malaysia	6 ^α	6.1
Chile	8 ^β	4.2
Brazil	32	3.1
Mexico	21	0.6 ^α
China	24	0.5 ^α

SOURCE: PPIAF (2003), *Private Participation in Infrastructure: Trends in Developing Countries 1990–2001*, Private Participation in Infrastructure Advisory Facility, World Bank, Washington DC.

* These figures come from the World Bank PPI database. Investment refers to total investment, not private investment alone. Also, many small projects are omitted.

α Figures for 1997 (1997 US\$) [Silva, Gisele, Nicola Tynan and Yesim Yilmaz (1998), “Private participation in the water and sanitation sector – recent trends”, Private Sector Viewpoint Note No 147, PPIAF, World Bank, Washington DC].

β Figure from Hall, David and Emanuele Lobina (2003) “Water Privatisation in Latin America, 2002”, Public Services International Research Unit, University of Greenwich, June.

However, there is only a weak relationship between number of projects and amount of investment, principally because the majority of projects only entail operation and maintenance, with no investment.¹¹⁴ With a few exceptions in South Africa, there are almost no investment contracts in sub-Saharan Africa, because the region is perceived as too risky, and this is exacerbated by the fact that previous projects there have encountered problems, as, for instance, in Mozambique.¹¹⁵ As of 1998, there were also no large-scale contracts in South Asia, however several BOT-type contracts are in place for water/wastewater treatment plants (e.g. Tirupur, India), and there is keen interest in some of the larger South Asian cities.¹¹⁶

Investment trends are reflected in choice and distribution of different types of contract, as illustrated in table 6. Regional data indicate that there is a predominance of concession contracts in Latin America and South East Asia, BOT-type contracts in South Asia, and lease and management contracts in sub-Saharan Africa.¹¹⁷ Since 1998, there have been no new large-scale contracts in South Asia, apart from the BOT-type contracts described above. It is not uncommon for water to be privatized separately from sanitation, and for sanitation to remain the responsibility of the public sector, as in Córdoba (Argentina). In some cases, this is because public sewerage systems are highly deficient, as in Jakarta (Indonesia) and Mozambique. Many management and lease contracts are water-only, whereas most of the large concessions comprise water supply and sewerage, usually at the behest of governments. A small number of sanitation-only contracts exist, as in Malaysia, but these are uncommon, unless they are BOT-type projects for wastewater/sewerage treatment plants.

Table 6: Contract types for water and sewerage projects in low- and middle-income countries, 1990–2001*

	Projects		Total investment	
	Number	%	2001 US\$ billions	%
Concession	90	44	27.6	69
BOT-type	56	28	6.8	17
Management/lease/afermage	41	20	n/a	n/a
Divestiture	16	8	5.6	14

SOURCE: PPIAF (2003), *Private Participation in Infrastructure: Trends in Developing Countries 1990–2001*, Private Participation in Infrastructure Advisory Facility, World Bank, Washington DC.

* These figures come from the World Bank PPI database. Investment refers to total investment, not private investment alone. Also, many small projects are omitted.

In a number of cases, water and sanitation projects have been bundled to create larger projects of a scale or scope that is financially viable for the private operator. This can involve either multiple locations (e.g. more than one city or town) or multiple utilities (e.g. electricity as well as water and sanitation). For instance, in Guinea, a contract was given for the capital, Conraky, and 16 other towns. In a number of other countries, national or regional utilities have been or are being privatized to serve the whole area, such as Venezuela (Monagas and Zulia states) and Argentina (La Rioja, Corrientes and Salta provinces). This is being developed on a national scale in several African countries (Burkina Faso, Chad, Ghana, the Gambia), and also Paraguay, Puerto Rico and Trinidad and Tobago. In the case of different utilities, water has only been bundled with electricity, and this has been done in several countries in sub-Saharan Africa (Burundi, Cape Verde, Gabon, the Gambia, Guinea Bissau, Chad and Mali), but very rarely elsewhere.¹¹⁸ Furthermore, although some of the water multinationals, especially Veolia, operate in other utility sectors, they do not appear to be bundling utilities themselves in the same location.

The water and sanitation sector, both worldwide and in the South, is dominated by a very small number of multinational water companies, namely Suez, Veolia, Thames Water and Saur. Together, these four companies control over 80 per cent of the privatized water and sewerage market.¹¹⁹ Suez and Veolia alone control over 50 per cent of the market, and also own many water-related subsidiaries, such as water and sewerage pipe manufacturers. Table 7 gives data on the main multinational companies active in the water and sewerage sector.

Table 7: Dominant private operators in the water and sewerage sector

	Number of projects 1990–2001*	Investment (2001 US\$ billions) 1990–2001*	Water sales (Euros billions) 2002**	Worldwide customers (millions) 2002**
Suez (France) ^α	44	18.1	10.0	115
Veolia (France) ^β	25	3.1	13.6	110
Thames Water (Germany)	13	3.3	2.7	37
Aguas de Barcelona (Spain)	14	10.6	n/a	n/a
SAUR International (France) [†]	5	38	2.5	36
Benpres Holdings (Philippines)	2	4.4	n/a	n/a
Anglian Water (UK)	n/a	n/a	0.9	5
Biwater/Cascal (UK)	n/a	n/a	0.2	7
International Water (UK)	n/a	n/a	0.1	10
Canal de Isabel II (Spain) ^γ	n/a	n/a	n/a	12
Triple A (Colombia)	n/a	n/a	n/a	9

SOURCES: PPIAF (2003), *Private Participation in Infrastructure: Trends in Developing Countries 1990–2001*, Private Participation in Infrastructure Advisory Facility, World Bank, Washington DC (number of projects and investment); and Hall, David (2002), “The water multinationals 2002 – financial and other problems”, Public Services International Research Unit, University of Greenwich (water sales and worldwide customers).

* These figures come from the World Bank PPI database. Investment refers to total investment, not private investment alone. Also, many small projects are omitted. The figures include projects with participation of 15 per cent or more, therefore some figures double-count projects shared between different operators.

** These figures are based on figures from company annual reports.

† These figures are for 1997 [Silva, Gisele, Nicola Tynan and Yesim Yilmaz (1998), “Private participation in the water and sanitation sector – recent trends”, Private Sector Viewpoint Note No 147, PPIAF, World Bank, Washington DC].

^α Formerly known as Suez Lyonnaise des Eaux and Ondeo.

^β Formerly known as Générale des Eaux and Vivendi.

^γ Canal de Isabel II is a wholly municipal company owned by Madrid City Council

3.2 The extent of private sector participation in the sector in the South¹²⁰

3.2.1 Sub-Saharan Africa

The cities of sub-Saharan Africa typically have very large poor urban populations, most of whom rely on informal water and sanitation provision. Many cities also have poor, limited and underfunded public water and sewerage networks, such as DAWASA in Dar es Salaam (Tanzania), which has received no new investment for some 30 years.¹²¹ In a context of debt and poverty, governments lack funds for improvements. Public sectors tend to be characterized by weak institutional – and thus regulatory – capacity. Most countries have been under substantial donor pressure to privatize in order to access loans or debt relief. For example, the privatization in Mozambique was connected to the World Bank/International Monetary Fund debt relief for Heavily Indebted Poor Countries (HIPC) initiative.

Fourteen countries have adopted some form of privatization (see table 8), and a further 10 are proposing it.¹²² Most contracts were set up in the late 1990s or early 2000s. Contracts are dominated by French multinational corporations, especially Saur, which received about 20 per cent of its revenue for 2001 from sub-Saharan Africa. Francophone countries have implemented more private contracts, possibly due to their links with France and French

multinational corporations.¹²³ The precarious situations of many water utilities and public sectors in sub-Saharan African cities are reflected by the number of cases in which companies and governments have been unable to reach agreements in contract negotiations, such as Nairobi (Kenya) and Gweru (Zimbabwe), and processes of privatization encountering problems, as in Mozambique, or breaking down, as in Fort Beaufort (South Africa) and Djibouti.¹²⁴

Sub-Saharan African countries have, in general, been unable to attract companies that are willing to invest in the region, as it is regarded as too risky. This is reflected by several factors. First, most contracts in the region are management and lease contracts, which are short term and do not involve investment responsibility. There are few BOT-type and concession contracts, with the exception of South Africa. Second, contracts are being drawn up in US dollars to protect companies from local currency devaluation. Third, water utilities are commonly bundled with electricity in order to create more attractive commercial opportunities, in fact most cases are in this region. Fourth, two multinational companies, Saur and Biwater, have stated that African countries do not represent attractive investments, due to the very poor state of water utilities and because most consumers cannot afford tariffs that are high enough to generate adequate returns.¹²⁵

South Africa has a considerably higher per capita income than most other countries in sub-Saharan Africa, and does not reflect the same privatization trends. It has more private sector contracts, and most of these are concessions. There has also been much greater and more successful opposition to water privatization, especially from unions and other civil society organizations. The government has responded to developments, notably the 2000 cholera epidemic,¹²⁶ by significant changes of policy; but it has also not taken loans from multilateral financial institutions, and has thus not been subject to the conditions they impose.

The most noteworthy policy response was the declaration of a lifeline of free water for all South Africans in October 2000, following a severe cholera epidemic that year in several provinces and cities, including Johannesburg, that was the worst in South Africa's history. It was linked by many to government policies of full cost recovery for water and the ensuing lack of access to water of sufficient quantity and quality by the poor, including the residents of the district where cholera first appeared (who were too poor to pay the registration fee to join their local low-cost water scheme). The lifeline is deemed to reflect subsistence needs, and is set at 25 litres per person per day, and provided as 6,000 litres per household per month (regardless of income). This is being enforced despite practical difficulties and opposition from multilateral financial institutions and private operators; for instance, the operator in Nelspruit initially argued that its contract did not include the provision of free water, and continued its policy of disconnection for non-paying households.

Table 8: Private sector contracts underway in sub-Saharan Africa

Country	Region/city	Service(s) ¹²⁷	Type of contract	Date and term
Burkina Faso	Nationwide	W	Service	2001, 5 years
Cape Verde	Nationwide	W E	Lease	1999, 50 years
C. African Republic	Urban areas	W	Lease	1991, 15 years
Chad	Nationwide	W E	Management	2000, 30 years
Côte d'Ivoire	Abidjan and other towns	W	Affermage	1987, 20 years*
Gabon	n/a	W E	Concession	1997, 20 years
Guinea	Conraky and 16 towns	W	Affermage	1989, 11 years
Mali	n/a	W E	Lease	2000, 20 years
Mozambique	Maputo	W	Lease	1999, 15 years
Mozambique	Matola, Beira, Quelimane, Nampula, Pemba, Dondo	W	6 x management	1999, 5 years
Niger	Nationwide	W E	Lease	2001, 10 years
Rep. of Congo (Brazzaville)	n/a	W	n/a	2002, n/a
Senegal	Nationwide	W	Affermage	1996, 10 years
South Africa	Johannesburg	W S	Management	2001, 5 years
South Africa	Nelspruit	W	Concession	1999, 30 years
South Africa	Dolphin Coast	W	Concession	1999, 30 years
South Africa	Queenstown	W	Concession	1992, 25 years
South Africa	Stutterheim	W	Lease	1993, 10 years
South Africa	E. Cape, KwaZulu Natal, Mpumalanga, N. province	W rural	BOTT	n/a
Uganda	Kampala	W	Management	2002, 2 years

SOURCES: Compiled from data provided by the Public Services International Research Unit, University of Greenwich; also Bayliss, Kate (2002), "Water privatisation in SSA: progress, problems and policy implications", Public Services International Research Unit, University of Greenwich, December; Brook Cowen, Penelope (1999), "Lessons from the Guinea water lease", Private Sector Viewpoint Note No 78, PPIAF, World Bank, Washington DC; and Ricketson, Chris (no date) "Private sector participation in the water services of five cities in Mozambique", Halcrow Management Sciences Limited.

* This is an extended term after the original contract commenced in 1960.

** Note that different sources refer to the Maputo contract as a concession, lease or affermage contract.

3.2.2 Middle East and North Africa

Privatization in the Middle East and North Africa is limited in comparison with other regions. In many cases, water is still under public control (e.g. Tunis, Tunisia), and the public agencies are being criticized by international agencies for using subsidies and not implementing full cost recovery. There are a number of short-term management contracts in place, and only three concessions, all in Morocco (see table 9). Most greenfield projects are build-only, although there are several BOT contracts (e.g. desalination plants in Israel). The dominant companies are Suez and Veolia, while Saur has little involvement despite its significant involvement in sub-Saharan Africa. Difficulties have arisen with awarding BOT contracts in Egypt and Oman, and there has been opposition to privatization in Egypt.

Table 9: Private sector contracts underway in the Middle East and North Africa

Country	Region/city	Service(s)	Type of contract*	Date and term
Jordan	Amman	W S	Management style concession	1999, 4 years
Morocco	Casablanca	W E	Concession	1997, 30 years
Morocco	Rabat	W S E	Concession	1999, 30 years
Morocco	Tangiers and Tetouan	W S E	Concession	2001, 25 years
Palestine	Gaza	W S	Management	1996, 4 years
Palestine	Bethlehem and Hebron	W	Management	1999, 4 years

SOURCES: Compiled from data provided by the Public Services International Research Unit, University of Greenwich; and Hall, David, Kate Bayliss and Emanuele Lobina (2002), "Water in the Middle East and North Africa: trends in investment and privatisation", Public Services International Research Unit, University of Greenwich, October.

* Only management and concession contracts are listed. Other contracts in place include BOT, IWPP (Independent Water and Power Producers – which supply and sell power and water for desalination plants) and regular build-only projects, for infrastructure works.

3.2.3 South Asia

Private sector participation in the water and sanitation sector in South Asia has been limited, and restricted to the sub-contracting of core services under service contracts, with a small number of BOT-type contracts for the construction of new facilities, all in India (see table 10). There is, however, interest in possible contracts for the major urban centres, in particular Chennai and Bangalore (India), Karachi (Pakistan) and Kathmandu (Nepal).¹²⁸

In the region, some privatization plans and initial processes have run into problems, almost before they have started. In India, a contract for Hyderabad was rejected by all bidders as economically unfeasible,¹²⁹ and in Kathmandu the bidding process for a proposed ten-year lease contract was rescheduled when two of the three shortlisted companies withdrew their bids.¹³⁰ These experiences may indicate a lack of confidence on the part of the international private sector in becoming involved in South Asia. Furthermore, in Pune (India), in 1998, the municipal corporation attempted to implement private construction and management contracts, but cancelled them due to loss of political support; while in Karachi, local NGOs successfully prevented plans for private sector participation in the water and sewerage board.¹³¹

Table 10: Private sector contracts underway in South Asia

Country	Region/city	Service(s)	Type of contract	Date and term
India	Chennai	S plants (14)	Service	1992, 3 years
India	Tirupur	W network	BOT	n/a
India	Panjim	W plant	BOT	n/a
India	New Delhi	W plant	BOT	2001, 10 years
India	Bombay	W plant	BOT	n/a

SOURCES: Compiled from data provided by the Public Services International Research Unit, University of Greenwich; and Orwin, Alexander (1999), "The privatisation of water and wastewater utilities: an international survey", Environment Probe, Toronto, Canada.

3.2.4 South East Asia and China

This has been one of the regions with the greatest concentration of private sector participation and investment in the water and sanitation sector, in particular in the Philippines, Malaysia and China (see table 11). China not only has rapidly growing private sector participation but

is also currently seen as a good market opportunity. The region has attracted a high number of BOT-type and concession contracts.

Attempts have been made to introduce competition by dividing cities into more than one zone, as in Jakarta (Indonesia) and Manila (Philippines), which were both divided into two zones and contracts given to different operators. Some projects have been criticized for nepotism and corruption: in Jakarta, the two concession contracts were awarded to consortia that included companies belonging to the son and business associate of the former president (although this has since been reversed); and in Manila, the contracts were awarded to international consortia whose local partners were companies belonging to the country's two richest families.¹³² An uncommon feature of the region is that three countries, Indonesia Malaysia and Thailand, have privatized sewerage separately from water in some instances.

Table 11: Private sector contracts underway in South East Asia and China

Country	Region/city	Service(s)	Type of contract	Date and term
China	Shanghai, Chengdu, Sanya, Lianjiang	W plants	BOT	1995–2001, 22–30 years
China	Hexian	W	Management	n/a, 20 years
China	Tianjin	W S	Management	2001, 20 years
China	Macao	W treatment	Concession	1985, n/a
China	Zhongshan, Baoding, Nanchang, Siping, Tanzhou, Zhengzhou, Shenyang, Hong Kong	W	Long-term water contracts	n/a
Indonesia	Jakarta (East and West)	W	2 concessions	1998, 25 years
Indonesia	Medan City, Semarang, Batam	W	3 BOTs	25 years
Indonesia	Pontianak, Manado, Malang	W	3 concessions	n/a
Indonesia	Serang	W	n/a	n/a
Indonesia	Sidoarjo	S treatment	BOO	25 years
Indonesia	Tangerang	W	Concession	25 years
Malaysia	Kalantan	W	Concession	25 years
Malaysia	Nationwide	S	BOT	n/a
Malaysia	Johor state	W	Concession	1999, 30 years
Philippines	Manila (East and West)	W S	2 concessions	1997
Philippines	Subic Bay and Olopango	W S	Concession	n/a
Singapore	Nationwide	W	n/a	n/a
Thailand	Chiang Mai	S	BOT	2000
Thailand	Pathum Thani	n/a	BO	n/a
Thailand	n/a	W	Management	1999, 5 years
Vietnam	Ho Chi Minh City	W	Concession	25 years
Vietnam	Hanoi	W	n/a	1995

SOURCE: Compiled from data provided by the Public Services International Research Unit, University of Greenwich.

3.2.5 Latin America and the Caribbean

Latin America has awarded more privatization contracts in the water and sanitation sector than any other region, and most countries have either implemented or considered privatization in at least some of their cities (see table 12). The extent of privatization in the region can be attributed to three key factors. First, Latin America contains many cities with sufficiently large populations, and sufficiently large middle classes, to attract private operators. Second, the indebtedness, precarious public finances and poor conditions of many public water utilities provide the justification for change. Third, neoliberal policies have been adopted to a

greater extent than in other regions, in part because of conditions imposed by international financial institutions within loan (re)negotiations and structural adjustment programmes. Most large concessions in Latin American cities have been financed at least in part by multilateral loans. International Financial Institutions even hold stakes in some contracts (e.g. Buenos Aires, Argentina, La Paz, Bolivia, and Paraná state, Brazil).

Latin America is characterized by a relatively large number of long-term investment contracts, predominantly concessions. The market is dominated by Suez, first, and then Veolia, but with the participation of a wider range of international companies (French, British, Spanish, Portuguese, Italian, United States) than in other regions. The local private sector also appears to be more consolidated than in other regions, either within consortia with multinational companies (e.g. Andrade Gutierrez construction company, Brazil) or, less commonly, independently (e.g. Latin Aguas, Argentina). A particular feature of the region is that it includes several innovative contractual arrangements, such as joint ventures and co-operatives (see section 2.1.8). It is also worth noting that Latin America also has some very well-run public water utilities (e.g. Porto Alegre and São Paulo, Brazil, Cali, Colombia and the co-operative in Santa Cruz, Bolivia).

Latin America has also seen a number of initiatives to improve services for low-income groups through private sector participation in the water and sanitation sector (e.g. Buenos Aires, La Paz and El Alto, and Cartagena, Colombia). The La Paz and El Alto concession was explicitly designed to expand service to the poor, and contains a number of innovative contractual obligations designed to achieve this.¹³³ These include: contract stipulations that all new connections must be in-house, defined quality parameters, low-cost technology e.g. “condominial” sewerage,¹³⁴ training and access to microcredit for installing connections, and a participatory approach that involves liaison with neighbourhood organizations and sanitary education. It also includes a “social tariff”, in which the first 30m³ per household per month are priced at a greatly reduced rate.¹³⁵

Privatization has often not run smoothly in Latin American countries, and a number of contracts have experienced problems. Tariff increases following privatization have been widespread and controversial. In Buenos Aires, considerable price increases were introduced before privatization, to make the concession more attractive to bidders. Once in operation, Aguas Argentinas negotiated four “ordinary” and “extraordinary” price rises between 1994 and 2001.¹³⁶

Argentina’s financial crisis in December 2001 had significant implications for the water concessions underway in the country. In the contracts, prices were indexed to the US dollar as a measure to protect the multinational companies against local currency devaluations. However, this became untenable when the Argentine peso devalued by about 70 per cent. The provisional government tried to reverse this through a new law, and renegotiate contracts, to which the companies objected. Aguas Argentinas responded by suspending a number of its contractual obligations, including the planned investments renegotiated in January of the same year.¹³⁷

Four large contracts in Latin America have been terminated prematurely: Buenos Aires province and Tucumán (Argentina), Cochabamba (Bolivia), and Trinidad and Tobago. In all cases, governments terminated the operators’ contracts due to poor performance, and service provision has reverted to the public sector. The most notable privatization failure was the termination in 1999 of the concession in Cochabamba, Bolivia’s second city (population 500,000). Primarily motivated by tariff increases of up to 200 per cent in some cases,¹³⁸ and the imposition of an exclusivity clause on access to water resources, the situation provoked protests that turned violent. The utility is now being run by the public sector, and the former

private operator is claiming compensation from the Bolivian government.¹³⁹ The event sent jitters through the water industry.

In addition, other countries have experienced strong opposition to water privatization. Anti-privatization campaigns, often led by trade unions, successfully prevented private sector participation in water and sanitation utilities in Rio de Janeiro, Brazil, Paraguay and Uruguay, and opposition continues in these locations.

Table 12: Private sector contracts underway in Latin America and the Caribbean

Country	Region/city	Service(s)	Type of contract	Date and term
Argentina	Buenos Aires city	W S	Concession	1993, 30 years
Argentina	Buenos Aires province	W	Concession	1999, 30 years
Argentina	Córdoba	W	Concession	1997, 30 years
Argentina	Santa Fe province	W S	Concession	1995, 30 years
Argentina	Mendoza province	W S	Concession	1998, 95 years
Argentina	Catamarca province	W	Concession	2000, 30 years
Argentina	Misiones province	W S	BOT	1999, n/a
Argentina	La Rioja, Corrientes, Salta provinces	W S	Concession	1991 30 years
Argentina	Formosa	n/a	n/a	n/a, 30 years
Bolivia	La Paz and El Alto	W S	Concession	1997, 25 years
Brazil	Limeira	W	Concession	1995, 30 years
Brazil	Manaus	W S	Concession	2000, 30 years
Brazil	Rio de Janeiro state	W S	Concession	2000, n/a
Brazil	Curitiba	W S		2001, 30 years
Brazil	Campo Grande	W S	Concession	2000, 30 years
Chile	Santiago Met. and V, X, VI, VIII Regions	W S	Partial privatization	1998, indefinite
Chile	I, VII and IX Regions	W	Concession	2001, 20–25 years
Colombia	Cartagena	W S	Joint venture	1995, 26 years
Colombia	Bogotá	W treatment	Concessions	1998, 20 years
Colombia	Tunja	W	Concession	1996, 30 years
Colombia	Barranquilla, Soledad, Puerto Colombia	W	Joint venture	1992, 30 years B 2001, 20 years S
Colombia	Santa Marta	W	Management	
Colombia	Montería	W	Concession	2000, 20 years
Colombia	Palmira, Río Negro, Buga, Riohacha	W	Joint venture	1998, 20 years (2000 Riohacha)
Cuba	Havana and Varadero	W	Joint venture	2000, 25 years
Dominican Rep.	Santo Domingo (West)	W	Concession	n/a
Ecuador	Guayaquil	W	Concession	2001, 30 years
Ecuador	Samborondón	W S	n/a	2000, n/a
Honduras	San Pedro Sula	W S	Concession	2001, 30 years
Mexico	Puerto Vallarta	S treatment	Service	15 years
Mexico	Cancún	W S	Concession	1999, 25 years
Mexico	Mexico City	W	4 service contracts	1998, n/a
Mexico	Saltillo	W S	Joint venture	2001, 25 years
Mexico	Aguascalientes	W	Concession	n/a
Puerto Rico	Nationwide	W S	Management	1995, 10 years
Puerto Rico	San Juan	W	Service	n/a , 5 years
Uruguay	Punta del Este & towns	W S	n/a	1995, 23 years
Uruguay	Maldonado	W	Concession	n/a , 30 years
Venezuela	Monagas state	W S	n/a	1995, 32 years
Venezuela	Zulia state	W S	Management	2001, n/a

SOURCES: Compiled from data provided by the Public Services International Research Unit, University of Greenwich; and Hall, David and Emanuele Lobina (2003), “Water privatisation in Latin America, 2002”, Public Services International Research Unit, University of Greenwich, June.

4. CONCLUSIONS

Despite its prominence in current debates and policies within the water sector, only around 5 per cent of the world's population is served by the private sector. Privatization has been limited in Africa, Asia and Latin America, both in terms of extent and benefits, although experiences in these regions have been mixed, with outcomes greatly depending on local factors. Recent trends indicate that the rate of privatization has been slowing since the late 1990s, due to a combination of underestimation of risks, overestimation of profits and problems with contracts in some cases. Despite continuing encouragement and financial support from multilateral financial institutions, companies are now more careful about engaging in the water and sanitation sector in low- and even middle-income countries. Indeed, in a number of instances, private operators have withdrawn from projects or had their contracts terminated.

The role of privatization in meeting the Millennium water and sanitation targets, and the global challenge of ensuring that all urban dwellers have adequate access to affordable water and sanitation services, is clearly limited, especially in those urban areas where water and sanitation provision is most deficient. The settlements most in need of improvements in water and sanitation provision tend to be those that are least attractive to private investors and operators. This is reflected in the distinct regional, national and sectoral trends, which indicate that formal private sector participation is concentrated in wealthier and more populous regions, countries, cities and neighbourhoods, while low-income contexts are avoided.

It would be a serious mistake to assume that private sector participation will attract sufficient finance to play a major role in providing adequate water and sanitation to deprived neighbourhoods. Despite the forecasts of some actors in the international development arena, substantial private finance mobilized by the private sector has simply not materialized. The scale of attention to privatization in recent years somewhat obscures the fact that the majority of the population in the South continues to be served by the public sector or small-scale or informal providers, and also that the majority of the funding from the water sector – at least at present and in the foreseeable future – will continue to come from the public sector. Moreover, over-optimistic forecasts of private sector finance can reduce pressure on the public sector to develop more sustainable public sector financing systems.

The polemic debate surrounding privatization has attracted much attention, but is something of a red herring. Many of the arguments mobilized to support the purported innate superiorities and/or benefits of the public or private sectors and/or provision are based on misconceptions. This is further complicated by the classification of very different types of institution under the labels of public or private, and the disregard of those that are not neatly classified as either. These aspects have helped to a certain extent to detract attention from problems that do not necessarily arise because services are provided by the public or private sectors, and overlook important issues that are arising from the privatization process.

What is less obvious from the debates themselves, however, is that the promotion of privatization is not grounded in experiences from the water and sanitation sector itself. The timing of privatization has mirrored that in other infrastructure sectors, where the levels of investment have been far larger. The driving force has been international political changes and policy shifts in the international development arena, and, in particular, those of international financial institutions from the late 1970s onwards. Despite failed experiences of private sector provision of water and sanitation services in the nineteenth century, such institutions have presented private provision as a new solution for failing public utilities and deficiencies in provision, without practical substantiation that such policies were effective.

Similarly, the positions taken regarding privatization are also closely aligned with the underlying interests of some of the actors directly involved or affected, including the market expansion of multinational water companies and the jobs of public sector workers.

More generally, a number of issues addressed in this working paper have relevance beyond the narrow question of whether or not increasing private sector participation is a good thing. Many of the problems that have been encountered with privatization can also arise with public utilities, while many of the strengths of private sector participation can also be achieved by reforming public sector utilities. Privatization has done little to address many of the most critical obstacles to improved provision, as these often have little to do with whether the water and sanitation networks are owned or operated by private companies. Barriers to provision, such as land tenure, still impede service provision in informal settlements, even when these are officially within the service area of the private operator. Private sector involvement does not eliminate, and can heighten, the politicization of water and sanitation provision. Furthermore, private sector involvement does not eliminate corruption; indeed, in the worst case, private sector participation can provide the basis for new forms of corruption.

Making privatization more pro-poor is based on the notion that privatization can benefit low-income groups as long as it includes mechanisms to facilitate access to private services. The measures proposed tend to focus on low-cost technology, flexible payment systems and participation. Such measures, while relevant to private as well as public utilities, do not address the more fundamental reasons why poor groups in low-income countries lack access to basic water and sanitation services – including not just the economics, but also the politics, of service provision. Many of the measures identified could also be applied to public utilities, and could be pursued independently of any privatization process. The public/private divide also runs the risk of obscuring the important role of small-scale private providers, community level organizations and non-governmental organizations, whose roles are particularly relevant in countries like Tanzania, where the public sector has been withdrawing from service provision, but formal private sector participation has not been introduced.¹⁴⁰

In the 1990s, proponents of privatization often considered rapid transitions as necessary, so as to avoid protracted periods of uncertainty and institutional conflict during which the opportunity to implement radical reforms might be lost. Rapid transitions involving radical shifts in responsibilities are inherently risky, however. There is little time for consultation and stakeholder engagement. If radical reforms do not actually address the underlying problems, they can make matters worse. More specifically, if the failings of a public utility reflect governance problems, and these problems are not addressed directly, they are likely to persist and undermine water and sanitation provision, regardless of whether more responsibilities are given to the private sector. Similarly, where the public sector lacks the will or capacity to provide urban water and sanitation, it often also lacks the will or capacity to regulate private provision effectively.

Given the persistent political and institutional obstacles, combined with the lack of market demand for water and sanitation in low-income settings, it is perhaps not surprising that the benefits private sector participation were meant to deliver to poor groups have rarely materialized. The future of privatization therefore seems to be very uncertain.

Notes

- ¹ WHO and UNICEF (2000), *Global Water Supply and Sanitation Assessment 2000 Report*, World Health Organization, UNICEF, Geneva. In the South, populations estimated to be lacking access to improved water supplies and sanitation facilities are: Africa 38 per cent (water) and 40 per cent (sanitation), Asia 19 per cent (water) and 52 per cent (sanitation), and Latin America and the Caribbean 15 per cent (water) and 22 per cent (sanitation).
- ² UN-Habitat (2003), *Water and Sanitation in the World's Cities*, Earthscan, London.
- ³ A company or corporation having operations, subsidiaries or investments in more than two countries.
- ⁴ For example, see: Solo, Tova (1999), "Small-scale entrepreneurs in the urban water and sanitation market", *Environment and Urbanization*, Vol 11, No 1, pages 117-131.
- ⁵ Bennett, Anthony (1998), "Sustainable public/private partnerships for public service delivery", *Natural Resources Forum*, Vol 22, No 3, pages 193-199.
- ⁶ Crosslin, Robert, (1991), "Decision-support methodology for planning and evaluating PPPs", *Journal of Urban Planning and Development*, Vol 117, No 1, pages 15-31.
- ⁷ Bennett, Anthony (1998), "Sustainable public-private partnerships for public service delivery", *Natural Resources Forum*, Vol 22, No 3, pages 193-199.
- ⁸ Bakker, Karen (2003), "A political ecology of water privatization", *Studies in Political Economy*, Issue 70, Spring, pages 35-58.
- ⁹ For example, see: Gutierrez, Eric (2001), "Framework document: a survey of the theoretical issues on private sector participation in water and sanitation", WaterAid and Tearfund.
- ¹⁰ Gutierrez, Eric (2001), "Framework document: a survey of the theoretical issues on private sector participation in water and sanitation", WaterAid and Tearfund.
- ¹¹ Finger, Matthias and Jeremy Allouche (2002), *Water Privatization: Trans-National Corporations and the Re-Regulation of the Water Industry*, Spon Press, London.
- ¹² UNDP (2000), *The Millennium Development Goals: Progress, Reversals and Challenges*, United Nations Development Programme, New York; and United Nations World Summit on Sustainable Development, Johannesburg, South Africa, 26 August-4 September 2002.
- ¹³ Bannock, Graham, R E Baxter and Evan Davis (1987), *The Penguin Dictionary of Economics*, Penguin Books, New York.
- ¹⁴ Rogers, Peter, Ramesh Bhatia and Annette Huber (c1998), "Water as a social and economic good: how to put the principle into practice", Technical Advisory Committee Background Paper No 2, Global Water Partnership, Stockholm.
- ¹⁵ United Nations Economic and Social Council (2002), "Substantive issues arising in the implementation of the international covenant on economic, social and cultural rights", Draft, General Comment No 15, Committee on Economic, Cultural and Social Rights, Geneva, 11-29 November 2002.
- ¹⁶ Capdevila, Gustavo (2002), "UN consecrates water as public good, human right", Inter Press Service, 27 November [Global Policy Forum, New York, www.globalpolicy.org.]
- ¹⁷ Bond, Patrick (1997), "Privatization, participation and protest in the restructuring of municipal services: grounds for opposing World Bank promotion of 'public-private partnerships'", originally presented at the World Bank/NGO Dialogue on Privatization, Washington DC, reproduced for The Water Page, www.thewaterpage.com. This argument is exacerbated by the relatively high rates of return that are reported for water and sanitation concessions in some cities in the South. For instance, Bond reports 30-32 per cent for contracts in South Africa.
- ¹⁸ Johnstone, Nick and Libby Wood (editors) (2001), *Private Firms and Public Water: Realizing Social and Environmental Objectives in Developing Countries*, Edward Elgar, Cheltenham.
- ¹⁹ Bannock, Graham, R E Baxter and Evan Davis (1987), *The Penguin Dictionary of Economics*, Penguin Books, New York.
- ²⁰ Bakker, Karen (2003), "From archipelago to network: urbanization and water privatization in the South", *Geographical Journal* (forthcoming).
- ²¹ Brocklehurst, Clarissa (editor) (2002), *New Designs for Water and Sanitation Transactions: Making Private Sector Participation Work for the Poor*, PPIAF and Water and Sanitation Program, Washington DC.
- ²² Brocklehurst, Clarissa (editor) (2002), *New Designs for Water and Sanitation Transactions: Making Private Sector Participation Work for the Poor*, PPIAF and Water and Sanitation Program, Washington DC, citation from page vi.
- ²³ On-plot refers to non-networked sanitation, such as latrines, septic tanks, cess pits and aqua privies.
- ²⁴ Cairncross, Sandy (no date), "Why promote sanitation?", WELL briefing note, London School of Hygiene and Tropical Medicine.
- ²⁵ Bakker, Karen (2003), "A political ecology of water privatization", *Studies in Political Economy*, Issue 70, Spring, pages 35-58.

- ²⁶ Brocklehurst, Clarissa (editor) (2002), *New Designs for Water and Sanitation Transactions: Making Private Sector Participation Work for the Poor*, PPIAF and Water and Sanitation Program, Washington DC, citation from page 8.
- ²⁷ Winpenny, James (2003), *Financing Water for All: Report of the World Panel on Financing Water Infrastructure*, World Water Council, Third World Water Forum and Global Water Partnership, Marseille, France.
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- ²⁹ Winpenny, James (2003), *Financing Water for All: Report of the World Panel on Financing Water Infrastructure*, World Water Council, Third World Water Forum and Global Water Partnership, Marseille, France.
- ³⁰ Short, Clare (2000), Keynote Address, presented at Infrastructure for Development: Private Solutions and the Poor, London, 31 May-2 June.
- ³¹ See, for example: Collignon, Bernard and Marc Vézina (2000), “Independent water and sanitation providers in African Cities: full report of a ten-country study”, Water and Sanitation Program, Washington DC.
- ³² Gleick, Peter, Gary Wolff, Elizabeth Chalecki and Rachel Reyes (2002), *The New Economy of Water: The Risks and Benefits of Globalization and Privatization of Fresh Water*, Pacific Institute, Oakland (California).
- ³³ DFID (c1999), “Better water services in developing countries, safeguarding the interests of the poor: public-private partnership – the way ahead”, Department for International Development, London.
- ³⁴ See, for example: Serageldin, Ismail (1994), *Water Supply, Sanitation, and Environmental Sustainability: The Financing Challenge*, World Bank, Washington DC.
- ³⁵ See, for example: Solo, Tova (1999), “Small-scale entrepreneurs in the urban water and sanitation market”, *Environment and Urbanization*, Vol 11, No 1, pages 117-131.
- ³⁶ Variations include: Build Own [Operate] [Train] [Transfer] (BOO/BOOT/BOTT).
- ³⁷ The water utility in Wales has since changed status to a non-profit corporation.
- ³⁸ Rees, Judith (1998), “Regulation and private participation in the water and sanitation sector”, Technical Advisory Committee Background Paper No 1, Global Water Partnership, Stockholm.
- ³⁹ Bitrán, Gabriel and Eduardo Valenzuela (2003), “Water services in Chile: comparing private and public performance”, Private Sector Viewpoint Note No 255, PPIAF, World Bank, Washington DC.
- ⁴⁰ Blokland, Maarten, Okke Braadbaart and Klaas Schwartz (editors) (1999), *Private Business, Public Owners: Government Shareholdings in Water Enterprises*, Netherlands Ministry of Housing, Spatial Planning and the Environment, and Water Supply and Sanitation Collaborative Council.
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- ⁴² WaterAid Tanzania (2002), “Water utility reform and private sector participation in Dar es Salaam”, WaterAid and Tearfund.
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- ⁴⁸ Johnstone, David (2002), interview about private sector participation in the water and sanitation industry, Oxford, 5 September.
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- ⁵⁰ International aid refers to soft loans or grants from multilateral and bilateral development agencies, and is usually restricted to smaller projects up to US\$ 10,000. Multilateral development finance refers to loans on near-

market terms for larger-scale projects from the World Bank, Inter-American Development Bank and Asian Development Bank [calculated from data in Winpenny, James (2003), *Financing Water for All: Report of the World Panel on Financing Water Infrastructure*, World Water Council, Third World Water Forum and Global Water Partnership, Marseille, France].

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⁵⁴ Winpenny, James (2003), *Financing Water for All: Report of the World Panel on Financing Water Infrastructure*, World Water Council, Third World Water Forum and Global Water Partnership, Marseille, France.

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⁵⁷ Loftus, Alexander and David McDonald (2001), “Of liquid dreams: a political ecology of water privatization in Buenos Aires”, *Environment and Urbanization*, Vol 13, No 2, pages 179-199.

⁵⁸ Gutierrez, Eric (2001), “Framework document: a survey of the theoretical issues on private sector participation in water and sanitation”, WaterAid and Tearfund.

⁵⁹ Gutierrez, Eric (2001), “Framework document: a survey of the theoretical issues on private sector participation in water and sanitation”, WaterAid and Tearfund. Ironically, governments often insist on consortia with local firms, in order to strengthen the local private sector and not be completely controlled by a multinational corporation.

⁶⁰ Haarmeyer, David and Ashoka Mody (1998), “Pooling water projects to move beyond project finance”, Private Sector Viewpoint Note No 152, PPIAF, World Bank, Washington DC.

⁶¹ Hall, David and Emanuele Lobina (2003), “Water privatisation in Latin America, 2002”, Public Services International Research Unit, University of Greenwich, June.

⁶² Brook Cowen, Penelope (1999), “Lessons from the Guinea water lease”, Private Sector Viewpoint Note No 78, PPIAF, World Bank, Washington DC; and WaterAid and Tearfund (2002), “Matrix of key findings and lessons” unpublished draft.

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⁶⁶ Foster, Vivien, Andrés Gómez Lobo and Jonathan Halpern (2000), “Designing direct subsidies for the poor – a water and sanitation case study”, Private Sector Viewpoint Note No 211, PPIAF, World Bank, Washington DC.

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⁶⁹ Argentine pesos were worth exactly US\$ 1 at the time these charges were levied (1993-1998).

⁷⁰ Loftus, Alexander and David McDonald (2001), “Of liquid dreams: a political ecology of water privatization in Buenos Aires”, *Environment and Urbanization*, Vol 13, No 2, pages 179-199.

⁷¹ Edwin Chadwick, perhaps the foremost sanitary reformer of the nineteenth century, clearly articulated the case for this form of competition as a means of achieving competitive results in natural monopoly conditions in: Chadwick, Edwin (1859), “Results of different principles of legislation and administration in Europe; of

competition for the field, as compared with competition within the field of service”, *Journal of the Royal Statistical Society of London*, Issue 22. This did not prevent a later wave of nationalization in the face of persistent private sector failures, however.

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⁷³ Etherington, Alan, James Wicken and Dinesh Bajracharya (2002), “Preparing for private sector management of Kathmandu urban water supply”, unpublished draft report, WaterAid and Tearfund.

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⁷⁶ Hay, Winston (2000), “The regulator’s perspective”, presented at Infrastructure for Development: Private Solutions and the Poor, London, 31 May-2 June.

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- ¹⁰⁹ A very crude calculation was made based on the number of customers served by the dominant formal private operators (see table 11) in relation to the global population, as estimated by the Human Development Index: 319.7 million customers is around 5.4 per cent of the global population of approximately 5.95 billion. This figure is likely to be an overestimation for the following reasons: (i) it is only based on ten multinational water operators and does not include smaller and/or national private operators; (ii) “customers” usually refers to households rather than individuals (although this is often not specified in figures); and (iii) in many urban areas in the South, coverage rates are often low or very low. In addition, the Camdessus Report states that “...only 3 per cent of the population of poor or emerging countries is now served by operators that are fully or partially private”. Although the authors do not state how they arrived at this figure, given the above, it is likely to be fairly accurate [Winpenny, James (2003), *Financing Water for All: Report of the World Panel on Financing Water Infrastructure*, World Water Council, Third World Water Forum and Global Water Partnership, Marseille, France; citation from page 7].
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- ¹²⁴ Hall, David (2002), "The water multinationals 2002 – financial and other problems", Public Services International Research Unit, University of Greenwich, August; and Hall, David, Kate Bayliss and Emanuele Lobina (2002), "Water privatisation in Africa", Public Services International Research Unit, University of Greenwich, June.
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- ¹³⁴ Condominial sewerage is a low-cost sewerage system developed in Brazil, which comprises a branch system with one sub-branch per block and individual connections to each plot, using small diameter plastic pipes set at least 30-40 cm deep.
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¹³⁶ Twenty-five per cent in February 1991; 29 per cent in April 1991; 18 per cent in April 1992 (value added tax); 8 per cent in May 1993 (before privatization); 13.4 per cent in 1994; 3 per cent in 1995; 4.6 per cent in 1998; and 15 per cent in 2000 (after privatization) [Loftus, Alexander and David McDonald (2001), “Of liquid dreams: a political ecology of water privatization in Buenos Aires”, *Environment and Urbanization*, Vol 13, No 2, pages 179-199].

¹³⁷ Hall, David (1999), “Water and privatization in Latin America, 1999”, Public Services International Research Unit, University of Greenwich, September.

¹³⁸ Such increases were due to recategorization of customers, and higher-income and larger water users, and that average domestic increases were in the order of 35 per cent [Nickson, Andrew and Claudia Vargas (2002), “The limitations of water regulation: the failure of the Cochabamba concession in Bolivia”, *Bulletin of Latin American Research*, Vol 21, No 1, pages 99-120].

¹³⁹ Hall, David (1999), “Water and privatization in Latin America, 1999”, Public Services International Research Unit, University of Greenwich, September; and Crespo, Carlos (c2000), “Democracia y regulación en Bolivia: las superintendencias – una mirada desde la guerra del agua [democracy and regulation in Bolivia – the water regulators – a perspective from the Cochabamba water conflict]”, unpublished manuscript, Oxford Brookes University.

¹⁴⁰ Semboja, Joseph and Ole Therkildsen (editors) (1995), *Service Provision under Stress in East Africa*, Centre for Development Research, Copenhagen; and Kjellén, Marianne (2002), “Water provisioning in Dar-es-Salaam, Tanzania: from public pipes to private hands”, *Urban Water* (submitted).