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Overview: Social Policies and Private Sector Participation in Water Supply

Naren Prasad

Introduction

It is now widely recognized that infrastructure development (transportation, telecommunication, energy, water) are prerequisites for social and economic development. Although private initiatives were historically instrumental in the development of some of this infrastructure, it has traditionally been the responsibility of the state. Expanding and maintaining this infrastructure presents a major challenge for many countries.

This chapter presents some of the issues surrounding private sector participation (PSP) in the water supply sector and presents the results of a research project on ‘Social Policy, Regulation and Private Sector Involvement in the Water Supply’.

At the time of writing, over one billion people worldwide lacked access to drinking water, especially in developing countries. The World Health Organization estimates that in 2005, 1.6 million children under the age of five (an average of over 4,000 every day) died from unsafe water and inadequate hygiene. In addition, the importance of the connection between water and poverty has been recognized by the international community. Target 10 of the United Nations Millennium Development Goals – ‘Halve by 2015 the proportion of people without sustainable access to safe drinking water and basic sanitation’ – is evidence of this growing concern. As a consequence, countries are required to increase access to safe water supply.

Infrastructure maintenance is one of the biggest challenges facing the water supply sector in both developed and developing countries. In the latter, an additional challenge is to extend the network and thus increase the coverage of the population. Both network maintenance and network extension require colossal investments. The most common solution
proposed consists of market-based reforms, which include operating the system on a full cost-recovery principle, commercialization, or PSP of varying degrees. Given that water is a basic necessity, the affordability of the service becomes a major issue. However, the water industry is a natural monopoly and as such it is not free from the problems associated with lack of competition regardless of who owns or operates the system. Such problems may include charging higher prices, or lowering production costs by decreasing the quality of service. In these circumstances, government intervention, either through public management or through appropriate regulation, is often proposed.

There are several important challenges facing the water sector in both developing and developed countries (Hall 2001). The first challenge consists in maintaining the existing infrastructure, which includes reducing leakages, replacing and expanding networks. In order to achieve this, there is a need for financial autonomy, including sustainable and equitable tariffs, and efficient revenue collection. In addition, the utility company should be properly managed which consists in building managerial capacities and improving efficiency and productivity. Since water is a basic necessity, sociopolitical issues such as having affordable price, transparency and accountability must be considered. And, finally, issues of environment and health, such as public health needs, conservation, and environmental management, must be appropriately dealt with.

One way to tackle these challenges is through the PSP. The debate surrounding PSP in the water industry is one of the most controversial and emotive in the current development discourse. On one side are the proponents who argue that since governments have failed to deliver quality water to everyone, the private sector can solve this problem by the application of market principles. In other words, the private sector can improve efficiency, extend the coverage of service, bring in more investment, and relieve governments from budget deficits. On the other side of the spectrum are those who consider that water is a common good and should not be in the hands of the private sector. They argue that since water is a unique resource and because it is essential to life, it should not be treated like another commodity and market principles should not be applied to it. In other words, the private sector cannot apply just criteria for this merit good. In this context, access to water for everyone becomes a human right and it is the state's obligation to provide this vital resource to everyone. Finally, there is another group which stands in between these two extreme positions. This group thinks that solutions can be found by considering water as an economic good
and a human right at the same time. It is within this context that the current debate is taking place.

Although the private sector has a long history of involvement in water supply in industrial countries, PSP is a relatively new phenomenon in developing countries. Privatization has been back on the agenda since the late 1980s. During the early 1990s, many developing and transition countries involved the private sector in their water supply. Different varieties of PSP have been experimented with, ranging from build-operate-transfer (BOT) models, management, service or lease contracts, concessions (the most common), to joint ownership (but rarely a complete privatization, as in the case of England and Wales or some cities in Chile). After nearly two decades of such experimentation, it is time to investigate the impact of these policy reforms.

This chapter aims to contextualize the debate of PSP and then present the research findings. It starts by outlining the research objectives and the framework. It then presents a historical perspective of PSP in the water supply sector. In the third section, it tries to argue that water is a different kind of good which merits different the adoption of policy options. In the fourth section it presents the arguments for PSP, some statistics and why there was an increase in PSP in the 1990s and the early years of the twenty-first century. In the fifth section it discusses why social policies and public provision were historically important in increasing access to an affordable water supply. The final section presents the research findings and shows why policy makers should not forget about social policies when reforming their water sector.

**Theoretical framework**

Market-based reforms, including privatization, have encountered considerable challenges and failures – especially in developing countries. This has led policy makers to argue that in natural monopolies, such as the water industry, where competition is difficult, the state should establish independent regulatory institutions. Within the general restructuring and privatization framework, the establishment of regulation was generally prescribed by donors in order to attract more aid and to provide the private sector with incentives for investment in infrastructure sectors. It was argued that regulatory institutions should be coherent, accountable, transparent, and predictable independent bodies (Kessides 2004). They should have the capacity to protect consumers, investors and the environment.
However, scholars such as Buchanan (1972), Newbery (1999) and Laffont (2000) have argued that the regulatory process is often captured by interest groups while others, such as Stiglitz (1998), have argued that regulation is captured by the politicians. Recent research has shown that building independent regulatory institutions in developing and transition economies presents a major challenge and that the results have been rather disappointing (see, for example, Kirkpatrick and Parker 2004, Jalilian et al. 2007; Minogue and Carino 2006; Amann 2006; Cook and Mosedale 2007). This was the result of poor accountability, deficient transparency and the lack of consistency in developing countries (Parker 1999). A World Bank (2006) publication also recognizes that after the creation of over 200 regulatory entities worldwide within the past 15 years, there is now ample evidence to show that regulatory systems have failed to achieve the expected sector outcomes. Very often regulation becomes an end in itself rather than a means of achieving social, economic and environmental objectives for the well-being of the population. Similarly, previous UNRISD research has shown that the regulation of water services through independent bodies has encountered difficulties in many developing countries (Ugaz 2006). This is a result of a poor tradition of independent policy-making bodies, weak institutions and uneven bargaining power among the stakeholders. Lack of effective and transparent regulation hampers the accountability of any service provider.

This takes us back to square one: *plus ça change, plus c’est la même chose.* This research was intended to study how and why social policies can ensure affordable access to water while independent regulatory instruments are still being developed. The following questions were addressed: How do social policies address issues of affordability and access? What is the role of tariffs (social tariffs, increasing block tariffs, metering)? How are policies designed to help the poor (minimum service levels, subsidies)? Are the poor able to benefit from the social policies in place? And, more generally, how can private sector be made to serve poor customers?

In other words, this research investigates the impact of PSP in water supply through a social policy framework. Social policy is any policy put in place by the government or its bodies to improve the welfare of the population, especially its less privileged members. According to UNRISD (2006: 1), 'Social policy is a state intervention that directly affects social welfare, social institutions and social relations. It involves overarching concerns with redistribution, production, reproduction and protection and works in tandem with economic policy in pursuit of national social and economic goals'. Such policies are also based on the notion of *equity*, which addresses concerns of justice, equality and
rights. In this circumstance, equity here implies a distributitional principle, which is applied in the allocation of services and benefits in order to achieve what is considered as just and fair division.

Social policies related to water supply are quite common in both developing and developed countries, with the most widespread forms being income support and tariff adjustment. The former are linked to welfare systems, and include housing benefits, charities, tariff rebates, flexible payment methods, connection subsidies, and vouchers. The latter comprise increasing block tariffs, cross-subsidies, and special tariffs for low-income households.

There is much ambiguity when defining regulation since it depends on whether it is being discussed by an economist, a lawyer, a political scientist or a social scientist. In the case of PSP in the water sector, regulation often refers to a diverse set of instruments by which governments through an independent agency protect consumers, investors and environment. It includes laws, orders and rules issued by all levels of government and by non-governmental bodies to whom governments have delegated regulatory powers. In this view regulation not only means creating institutions, but also defining the ‘rules of the game’ (Minogue 2005; Kirkpatrick and Parker 2004). In other words, ‘regulation refers to the promulgation of an authoritative set of rules, accompanied by some mechanism, typically a public agency, for monitoring and promoting compliance with these rules’ (Baldwin et al. 1998: 3). In this sense regulation refers to all the efforts of state in order to promote the welfare of its citizens, including economic, fiscal or redistributive policies. It is widely recognized that having an independent agency in place is difficult, especially in developing and transition economies. For example, regulation is likely to be ineffective where corruption is rampant, lack of independence of legal system or even in countries with economic or political crisis.

Therefore we argue that regulation should be complemented by social policies, explicitly pursued by the state. Even though there might be complementarities between social and regulatory policies, what makes them distinct is that the former are executed and pursued by the state, whereas the latter are supposed to be implemented by an independent body.

Lessons from history

PSP in urban water supply has had a long history (Prasad 2007). Private initiatives were instrumental in establishing modern water supply
systems, which led to privately owned or operated systems. This began in the mid-1800s as a result of rapid urban growth in most of the European countries and in North America. England was the precursor of modern water supply systems, which later spread to Germany, elsewhere in Europe and to the United States. However, during the late nineteenth century, as a result of their unsatisfactory performance (inefficiency, high costs and, in some cases, corruption) or due to public health concerns in numerous European countries, many of these services were transferred to public or municipal ownership. Today, in the European countries, the provision of urban water supply is quite diverse, ranging from no private sector participation (the Netherlands), PSP but with no profit motive (Austria, Denmark and Sweden), to an amalgam of PSP arrangements (Belgium, Finland, France, Germany, Greece, Italy and Spain), and to full privatization with strong regulation (England and Wales) (Mohajeri et al. 2003).

Water supply (and sanitation), especially in poorer countries, is one of the major challenges facing the development community. Yet debates about increasing coverage are not new. These debates had taken place in developed countries two centuries ago. In major European cities at the beginning of the nineteenth century, water supply was insufficient, of low quality, and often very expensive. By the early twentieth century water had been made available in adequate quantities and its quality had improved drastically. By the mid-twentieth century, access to water was quasi-universal. Looking at how different (now developed) cities dealt with managing their water supply over time can be instructive for understanding today’s water supply challenges in developing countries.

Historically, the industrialized countries were concerned with increasing expansion of the water and sanitation systems and the improvements were directly linked to water sector legislation (Juuti and Katko 2005: 220). The drivers of such expansions and improvements were the need for fire fighting, the lack and/or poor quality of water, environmental concerns, public health, industrial use, or various combinations thereof. It is argued that the business motive was the main factors in considering the first private proposal in the mid-1800s (Juuti and Katko 2005).

The historical experiences of England, the United States of America and France could prove instructive. Fragmented, piecemeal and localized systems were abandoned in favour of highly centralized and integrated water supply systems. This occurred in 1802 in Paris, in 1808 in London and in 1856 in Berlin (Gandy 2006). At that time, as in developing countries today, most of these cities originally relied on wells, private water vendors and rivers for their water supply.
Most cities were reluctant to invest in public works such as water supply and therefore called on the private sector. One lesson that could be drawn from this experience is that public authorities started to pay more attention to water supply once the association between diseases (such as cholera, typhoid and diarrhoea) and water (sanitation) was established in the mid-nineteenth century, through progress in research in bacteriology. Not only were the poor affected by water-borne diseases, but increasingly the middle and upper classes were also concerned. In New York, for example, real investment and expansion in the network started through the issuance of municipal bonds. Statistics show that by 1905 the largest category of municipal debt was related to waterworks (Cutler and Miller 2005). The problems were more acute in cities like London where water sources were progressively more polluted due to the growing population and industrialization. The role of the private sector is declining, reflected in London’s water supply statistics (Juutti and Kathy 2005). In 1861 the share of private provision in the water supply in larger towns was 60 per cent, which decreased over time reaching 20 per cent in 1881 and only 10 per cent in 1901. Cholera epidemic in France and damages caused by fire in London and Hamburg were instrumental in initiating the development of water infrastructure.

One of the most influential reports on public health published at that time was that of Edwin Chadwick (Chadwick 1842). He argued and demonstrated that insanitary housing conditions caused diseases and poverty in London. He established the correlation between poor sanitation, defective drainage, inadequate water supply and overcrowded housing with disease, high mortality rates and low life expectancy. For example, he claimed that proper sanitation and clean water could increase middle-class life expectancy by 13 years. He also analysed the economic cost of public health and studied why access to water and sanitation should be universal. He argued that it was a waste of valuable time when the poor went to fetch water and waited long hours in the queues, whereas a universal water and sanitation services would increase their levels of productivity. An enlightened public health movement followed the publication of Chadwick’s report, starting with the Public Health Act of 1848. In the 1850s, public health was considered as a noble cause and building water supply network became a prestigious symbol of wealth of a city (Breyer 2006).

Despite these breakthroughs in developed countries, today water-borne diseases still prevail in developing countries. The World Health Organization (WHO) estimates that every year around two million
people (with 90 per cent of them being children under five) die from diarrhoeal diseases, the sixth most dangerous disease on a global scale.\(^3\) This means that around 4,000 children die each day from water-borne diseases.

What emerges from this historical perspective is that both public and private actors played important roles in developing water supplies. The public authorities started investing in such systems once the link between disease and water had been established. However, the final responsibility lies with the state, through appropriate social policies, to ensure that there is universal coverage and that the poor are not excluded from the service.

**Uniqueness of water**

Water is a unique commodity. It is not only a physical good, but also a cultural and social resource with great economic and political significance. The water industry does not easily fit into the standard economic theory of competitive markets (Ballance and Taylor 2005). There are significant *externalities* (social costs and benefits) attached to it and the industry, as is often the case with utility services, is regarded as a *natural monopoly*. These characteristics jointly determine the economics of water.

**Natural monopoly**

The drinking water market is not a competitive one because of the existence of economies of scale. Due to very high fixed costs and extremely low, usually constant marginal costs, the average costs of production decline as the level of production increases. To enter such an industry an enormous initial investment is required (laying down transmission networks, such as water pipelines), but the marginal cost of connecting an additional customer to the network is very low (unless the new customer is very far from the existing network). The (sunk) initial costs are usually so high that they constitute an effective barrier to entry and, ultimately, only one firm can survive in such a market. In the absence of competition the sole company may abuse its market power and this can justify government intervention. One traditional solution to this kind of market failure is public ownership. This is often the case when public or national interests are at stake, as, for example, is the case for national defence. However, governments can also choose to regulate private firms by, for example, controlling their prices (see above on regulation). Although economic theory suggests that private ownership should perform better
than the public, there is no compelling empirical evidence substantiating this argument. Numerous studies show that operational and economic efficiency comes from competition and rather than from the ownership structure (Vickers and Yarrow 1988).

Although competition is generally desirable, competition within a natural monopoly in particular is very costly and unsustainable. There is an account by Fletcher (1845) of how competition in water supply among different private companies in England (county of Surrey and in St John's Southwark) caused inconvenience to the consumers and difficulties for the companies. The competition was so intense that the companies put two or three mains and pipes in the same street. The public was adversely affected by the poor quality of service and frequent disruption because of continuous works on the street. Moreover, the companies had no incentive to supply water to less dense areas. Finally they collectively decided to increase rates and, in some cases, to divide the areas of operation. This turned out to be detrimental to the consumers and it was later decided that the principle of competition was not applicable to water supply (Wingate 1883).

Though competition within such a market is costly, it is possible to establish competition for the market. This has been, for example, the dominant organizational method for water services in France, although in this case the resulting degree of competition is limited by contracts often being set for long periods (15–20 years). Equally, competition can be used in one part of the market, through outsourcing. Some water companies outsource a considerable proportion of their operations. The extreme case is Welsh Water, Dŵr Cymru, which outsources virtually its entire business, running just a skeleton staff to manage these contracts.

To sum up, the theory says that, if left alone, the water sector (or rather the consumers) will likely be fraught with all the problems associated with natural monopolies. This may justify government intervention in the operation or management and regulation of the industry.

Private commodity versus merit good

As mentioned earlier, the water industry is not easily accommodated within standard economic theory. This makes it an atypical 'economic good'. Contrary to a private good, a public good is non-rival and non-excludable (Anand 2007a). Non-rival means that consumption of the good by one individual does not reduce the amount of the good available for consumption by others. Non-excludability means that it is not possible to exclude individuals from the good's consumption and therefore make them pay for it. For these reasons such goods are unattractive
to private firms. This can result in market failures, where uncoordinated markets are unable to provide these goods in desired quantities. In such situations, governments may come into play to ensure a sufficient supply (through incentives, investments, and subsidies).

The supply of water is finite and location-specific. In contrast to a public good, there is a marginal cost attached to each unit consumed in the sense that additional costs are associated with production, purification and delivery of water to an individual’s home.

Alternatively, there is currently a growing tendency to treat water as an economic good. In other words, people should be charged for the water they consume and prices should be based on the cost of production and delivery. This is referred to as ‘full cost recovery’. This view has been greatly influenced by key international players such as the Bretton Woods institutions, donor governments, and multinational corporations. The major push for applying market principles to the water sector comes from donor agencies like the World Bank. For example, the World Bank’s Policy Paper on Water Resources Management (World Bank 1993) clearly calls for improving water efficiency through the use of prices (markets) and privatization. The World Bank’s 2000 Operational Policy, which replaced the 1993 strategy, again emphasized the price mechanism but this time it softened the rhetoric on privatization and instead focused on how public and private entities could forge partnerships.

Because of positive externalities and the merit good argument, water is a very unusual good, which makes a clear-cut classification very hard. Its finite and locally specific supply makes it a rival good and thus implies that market forces should manage supply and demand. However, one should keep in mind that water is an essential resource (increasingly considered to be a human right) (Anand 2007b; UNDP 2006), and in spite of the type of ownership, affordable and universal access to it should be provided. As we will see later, this goal is not easy to achieve, in both developing and sometimes even developed countries, and there is not much consensus about the right solution(s).

Privatization as a solution

Arguments in favour of privatization from a historical perspective

Some of the arguments in favour of state ownership rest on the assumption of a market failure. However, state ownership has its own
shortcomings and privatization is seen a remedy to these (Megginson and Netter 2001: 329). Megginson (2005) argues that the policy of privatization has been one of the most visible signs of greater reliance on markets to allocate resources. He defines privatization as the sale of state-owned enterprises (SOEs) or its assets to private agents. According to him, privatization, for more than 100 countries, has become an increasingly legitimate and accepted tool of statecraft.

In general, there are three theoretical reasons for state ownership. One is to ensure that business enterprises balance social and economic objectives rather than focus exclusively on profit maximization. Intervention can also be seen as a response to market failure and the problem of natural monopolies (which rule out competition and hence its supposed benefits). And, thirdly, it can be desirable in situations of informational asymmetries between the principal (public) and the agent (producer).

Historically, state ownership of businesses has arisen as a result of (Megginson 2005): natural expansion of ‘royal power’ in feudal or tribal societies (antiquity and middle ages) attempts to commercialize complex and new technologies (the industrial revolution of the late nineteenth and early twentieth century), nationalization of failing private businesses aimed at either preserving employment or continuing the production of essential goods and services (during economic crises like the Great Depression), ideology of state ownership (like communism or certain forms of radical socialism), extreme political factionalism (state ownership of key industries as a political tool of reward and punishment).

It is argued that Hayek's *The Road to Serfdom* (1944) had a direct impact on policy makers in the United Kingdom in justifying privatization in the 1970s (Megginson and Netter 2001; Megginson 2005). Hayek's work provided the intellectual basis for Keith Joseph and later Margaret Thatcher and the British Conservative Party (David Howell) who started campaigning for the rolling back of the borders of the British welfare state. What followed in the 1980s and 1990s was a worldwide movement towards privatization as a result of increasing fiscal problems and later due to the collapse of socialism. SOEs were seen as ‘inefficient’ because government used them to pursue non-economic objectives. Specifically, it was believed that this inefficiency was due to: weak incentives (especially in terms of revenue maximization), the lack of monitoring because of collective action problems, and soft budget constraints since politicians will never apply strict private sector rules in terms of budgetary requirements.

The motives for privatization were different in developed and developing countries. In the latter, state ownership was seen as important in order to promote economic growth, especially in physical facilities.
In addition, after the colonial legacy, most countries resented foreign ownership. Nationalization was justified as a way to overcome decades of colonial exploitation. China, India, Brazil and Russia provided many developing countries with the intellectual leadership in the state ownership.

By the late 1970s, state ownership was common in both developed and developing countries. However, the poor performance of state-owned enterprises triggered the march towards privatization. In the early 1980s, Margaret Thatcher justified the privatization of state-owned firms as a way to: raise revenue for the state, promote economic efficiency, reduce government interference in the economy, promote wider share ownership, introduce competition, and subject state-owned enterprises to market discipline.\(^7\)

Although Margaret Thatcher was not the first to launch a privatization scheme, the Conservative programme had a strategic importance (it was one of the most important ones).\(^8\) After the initial apparent success in Britain, other countries followed suit. In France, for example, this happened after the coming to power of a Conservative government in 1986. Two years later, the arrival of the Socialists stopped the further sale of SOEs, but did not attempt to re-nationalize the privatized companies. Austria, Belgium, Canada, Chile, Denmark, the Netherlands, Italy, Jamaica, Japan, Malaysia, Singapore, Spain, Sweden and the United States all began privatization programmes. For developing countries, the ascendancy of conservative politics was to be felt largely through the international financial institutions. The 1990s witnessed widespread privatization in Latin America. However, it is not yet widespread in sub-Saharan Africa and some observers argue that it is ‘something of a stealth economic policy’ in this region (Meggison 2005: 19). The last bastion of privatization has been the former Soviet-bloc countries and Eastern Europe after the collapse of communism in 1989–91.

**The push for water privatization**

Among the triggers of privatization of the water sector have been increasing debt burdens, fiscal and macroeconomic burdens, public health crises and ideological shifts. It is argued that reform in the water sector had higher social gains (increased coverage, better service quality) but low political benefits (price increase, loss of employment) (Kessides 2004). PSP in the water sector has been *lite and light* compared to the privatization of other sectors such as electricity, telecommunications, and transport (Davis 2005: 147). There has been much controversy in the water sector due to water being seen as a basic human need, fears
about price rises, public health concerns, environmental implications, and beliefs that water should not be transferred to a profit-making entity. As we have demonstrated above, these debates took place in the United States and England more than a century ago, when there was a shift from private to municipal ownership.

Privatization has been introduced in different regions of the world for different reasons. In Asia it was launched to reduce budgetary deficits, increase economic growth, develop capital markets and improve services (Ait-Ouyahia 2006). In Latin America, it was initiated because of excessive political interference in public utilities and corrupt government. In the case of Africa, it was aimed principally at reducing the financial burden of the state and increasing access to water among the poor. In Central and Eastern Europe privatization was essentially introduced on ideological grounds (shift from communism to market economy).

Private sector investment in infrastructure increased dramatically in the early 1990s, reaching its peak in 1997 (see Figure 1.1). Subsequently, the Asian financial crisis and successive crises in other countries, together with growing concerns about PSP in infrastructure projects and reservations amongst investors about going into developing countries because of weak regulatory instruments and market failures, led to a waning of private investment in general. With regard to investments in water supply and sanitation in particular, private flows have been very erratic, reaching a peak in 1997 and falling to US$1 billion in 2003. There was a slight increase in 2004, followed by a decline in 2005 to the mid-1990s level of over US$1 billion. During the 1990-2005 period, 55 countries (representing 383 projects) had introduced some form or other of PSP in the water sector (see Figure 1.2). In 2005 alone, there were 41 new
investments going to 10 countries in the water sector (China alone had 25 projects).

In order to develop water infrastructure, funds could come either from tax revenues, user charges (and cross-subsidies), private sector investment, aid (bilateral or multilateral), or a combination of some or all of these sources. As regards private investment, Figure 1.3 shows that Malaysia, China, Brazil and Chile received the highest amount of private investment in the water supply sector in the period 2000-05. These four countries also receive a high level of aid. The total household connection rate is also relatively high compared to other countries.

We find that private sector investment generally goes to countries that have higher levels of connection rates. Only seven low-income countries managed to attract private investment in their water sector during 2000-05 (Mozambique, Senegal, Papua New Guinea, Vietnam, India, Niger and Tanzania). South Africa is the only other sub-Saharan African country that received private investment over the course of the same period. In addition, aid and private flows go to the same group of countries. In other words, aid seems to attract private investment and private investment flows to countries that reform their water sector.

One of the main reasons why so many developing countries decided to involve the private sector in water and other infrastructure is the influence and persuasiveness of international donors. One of the main players in international development is the World Bank. In addition to being the largest donor, it has the capacity to produce research that supports its policies. As a result, the World Bank is able to shape the policy agenda of other regional development banks, development agencies, donor countries, and academic community and thus can penetrate the decision-making machinery of a borrowing country.
Figure 1.3  Aid and private investment, 2000–2005

Source: OECD Database on Aid (http://www.oecd.org/dataoecd/30/17/3337721.htm), World Bank’s private project investment database
The World Bank started discussion on privatization through the policy of decentralization (privatization is a type of decentralization) (World Bank 1983). In the 1990s a plethora of reports on privatization was published. One of the main messages of the World Development Report 1994 was that the private sector should be involved in management, financing and ownership of infrastructure to ensure the commercial orientation of the sector (World Bank 1994: 2). In 1995, the World Bank published a high-profile study of SOE reform in developing countries (World Bank 1995). It expressed puzzlement at the slow pace of privatization and was disappointed that ‘the bureaucrats’ were still in business.

After several years of increased interest by the multinational companies, in 2002 some of the major water companies started to withdraw from developing countries following a series of economic and financial crises, natural disasters, incidences of corruption, risky operating environments, miscalculation by the multinationals, or non-compliance with contractual obligations. For example, Suez pulled back from Latin America and developing economies, but remained in China; Veolia concentrated on Europe and China; SAUR focused its activities only in Europe; RWE withdrew from all markets except Germany and Central Europe (Owen 2006). The result of these developments was that the number of people served by these major international companies declined from 349 million in 2004 to 296 million in 2006. At the same time, the World Bank was starting to doubt its own water privatization advice and was doing some soul-searching (Wall Street Journal 2003). In its 2003 evaluation, the World Bank recognized the difficulties associated with the private sector provision of water to the poor: ‘getting the private sector to focus on the alleviation of poverty and to design tariffs in a way that does not discriminate against the poor has proved hard to achieve in practice’. It acknowledged its excessive focus on the private sector without recognizing particularities of each country. Moreover reforms, like increasing the efficiency of the public sector through privatization, are more successful if the donor agencies better understood the local context and politics of the reforms (Bangura and Larbi 2006).

It also acknowledged that the private sector might be unable to bring in the additional investment required to increase coverage. In its progress report it further recognized that since the private sector would not be able to increase investment in infrastructure, public funding would continue to be important (World Bank 2005a). Compared to the late 1980s and 1990s, the World Bank’s infrastructure strategy has shifted from a reliance on private sector to a mere encouragement of public-private partnerships. Similar conclusions are also drawn by Utting (2006) who
argues that the World Bank is fine-tuning its orthodox policy of reliance on market and is paying more attention to social and environmental costs. In addition, civil society organizations have been stepping up pressure against government moves to apply market forces to public services (Ghimire 2005). After two decades of private sector involvement in the water and sanitation sector one can observe increasing popular protests and a growing dissatisfaction of governments and investors (World Bank 2005b).

However, recent research shows that, as a result of such policies, it is only the name that has changed – the main thrust of PSP remains the same. Prasad (2006) argues that reliance on the market to solve water problems through PSP is still alive but repackaged in different terminologies.

Role of social policies and investment

As regulation is often difficult in developing countries, it emerges that both public and private actors have important roles to play. However, the final responsibility lies with the state and social policies are crucial in increasing coverage and ensuring that the poor are not excluded from the service.

Social policies in water supply

It is argued that the Romans were the first to manage drinking water as a priced commodity and that social policies were used to guarantee universal access (Salzman 2006). For example, a special tax was levied on those who used pipes from the main system into their residences (the amount varied according to the size of the supply pipe nozzle). The tax funds were used to cover the cost of maintenance of the system. By this method, water for the richer citizens was considered to be an economic good whereas it was free of charge for the average citizen. Each depended on the other in the sense that piped water in private residences was priced as an economic good enabling the authorities to fund and maintain public fountains.

Historically, the industrialized countries were concerned with the increasing expansion of the water and sanitation systems and many improvements in these sectors were linked directly to the water sector legislation (Jauti and Katko 2005: 220). Social policies have been historically instrumental in bringing access to the vast majority of the population in developed countries. This has been the case of France,
and England and Wales. In the early 1800s, the London-bridge Waterworks company was practising some sort of cross-subsidy for supplying water (an extra charge was levied on brewers, stable-keepers and tradesmen) (Hunter 1898: 476). The public authorities were concerned that the poor would not be able to afford such services from the private sector and that some poor areas would not be supplied (Fletcher 1845: 174–5). It was argued that the poor could be supplied only through a ‘public body’. The private sector was reluctant to supply water to the poor, except through the medium of the landlord or through a separate reservoir with intermittent supply. The rich had their own supplies whereas the poor bought water from private vendors at high prices (two shillings per week – equivalent to their rent) or got it from rivers and wells (Sellers 1997).

Traditionally, the French state provided subsidies to the ‘syndicat d’eau’ to construct water systems, especially in rural areas. These subsidies were accorded with the framework of the Law on Public Health of 1902. They ranged between 50 and 80 per cent of total investment (Pezon and Petitet 2004) and the rate of subsidy was a function of the total cost of the construction and operation and the number of population. For example, in 1939, access to piped water was almost universal in urban areas, but it was only 25 per cent in rural areas (Pezon 1999). Consequently, a special fund was created in 1954 aimed at increasing access to water in the rural areas (Fonds National pour le Développement des Adductions d’Eau). Public fountains were cross-subsidized by individuals who wanted to have water connected in their residences and also by the industries. It should be remembered that around 50 per cent of the total water networks in France were constructed in the period 1965–80 (Pezon 1999).

Most of the developed economies have introduced some sort of social policies in order to deal with the problem of affordability. The most widespread forms of such social policies are income support (housing benefits, funds, charities, tariff rebate, flexible payments, vouchers) and tariff adjustment (increasing block tariffs (IBT), cross-subsidies, special tariffs for low-income households) (OECD 2003). The most popular form of social policy practised in developed and developing countries is IBT. In Latin American countries, the first block represents 25 cubic metres per month (WHO advises that is should be between 8 and 16 cubic metres) (ADERAS 2006). This implies that most of the residential consumers benefit from such tariffs. In addition, many countries practise social tariffs and subsidy schemes for poorer households. For example, Chile spends US$40 million per year on subsidies which benefit 600,000
people (20 per cent of the population), Colombia spends US$250 million a year for 30 million people (90 per cent of the population, which is considered quasi-universal), 40 per cent of which is funded from internal surcharges, Argentina spends around US$10 million per year for 100,000 people (less than 1 per cent of the population), and Paraguay spends just US$0.1 million for around 5,000 people (Foster andYepes 2006). In general, social tariffs in Latin America offer a discount of around 67 per cent compared to a normal tariff. However, these authors caution that certain subsidies benefit the rich and the middle class disproportionately.

In many countries, disconnection is not allowed since it is very likely that those who are unable to pay regular water bills are poor. Such policies exist, for example, in the United Kingdom. In certain countries that have involved the private sector in providing water services, social policies such as tariff structures and increasing coverage rates especially to the poorer households are incorporated in the contractual obligations. This has been the case in most developed countries where the private service provider is committed to implement social policy objectives. Since developing countries desperately seek to attract foreign investment in the water sector, private companies in these countries often manage to secure exemption from such obligations.

Public investment

As mentioned above, although historically the initial construction of the water supply network was often initiated by the private sector, water supply improvements did not take place until the state took full responsibility (increasing public investment and assuming control from the private operators). The main concern of the public authorities was to make access universal, to reduce the incidence of water-borne diseases, and to provide water for firefighting. Public investment increased as governments recognized the importance of economic, social and political benefits of providing clean, safe and reliable water.

Historically, the funding of the large water supply infrastructure came in the form of ‘municipal bonds’, as in New York City, and private capital, as, for example, in Britain. In the early twentieth century, waterworks represented the largest component of municipal debt in American cities (Cutler and Miller 2005). However, even in the most prosperous western cities, household connections were uneven, mainly favouring middle-class households. From the middle of the nineteenth century, private monopolies were replaced by public monopolies because the
private companies were unwilling to extend coverage to poor neighbourhods, improve quality, or reduce excessive charges. Today, in the industrialized countries, public investment is important in building and maintaining infrastructure. For example, America has set up a revolving fund for municipalities to borrow from, 33 per cent of capital investment costs in Germany are financed by the central government, even in England and Wales, with its fully privatized firms, 9 per cent of capital investment comes from government subsidies, and in France private companies are subsided through a general taxation on consumers (Hall and Lobina 2006: 22).

In developing countries, funds generally come from government tax revenues, user charges, cross-subsidies, private sector investment, contributions from non-governmental organizations (NGOs) and charity organizations, official development assistance (ODA), or a combination of some or all of these sources. The choice depends on who pays (cross-subsidy, national, or international sources) and how it is financed (either through tax or user charges), and when (now or in the future) (World Development Movement 2006). State aid generally comes from taxation (similarly to ODA). Funds from development banks (national, regional or international) come from taxation and from those who save. Those who save can finance investment cost (through loans, bonds or private equity investment). Loans from savers will be recouped from the users or the government.

There are several estimates undertaken in order to gauge the amount of investment required in order to achieve universal coverage in developing countries. A report published by OECD (Ashley and Cashman 2006) shows that 0.33–1.2 per cent of GDP is required to finance, maintain and service the water supply networks in high-income countries, 0.54–2.60 per cent of GDP in middle-income countries, and 0.70–6.30 per cent of GDP in low-income countries. A more conservative figure is shown in a World Bank (WB) study, which estimates the investment needs for 2005–10 for developing countries to be around 0.5 per cent of GDP (Fay and Yepes 2003). The United Nations Development Programme (UNDP) believes that 1.6 per cent of GDP is required to achieve the target ten of the Millennium Development Goals (MDGs) (UNDP 2006).

As mentioned earlier, there are considerable challenges to securing private funds for the financing of water infrastructure in developing countries. The municipalities who usually operate the water services do not have the capacity to acquire loans to finance their infrastructure. They do not have satisfactory credit-ratings and therefore borrowing is very expensive (either from bank loans or by debt issuance). Some of the
municipalities are small which renders them unattractive for private capital. However, there are some innovative approaches (such as pooling) which help decrease administrative costs and provide a more attractively sized bond.

The economic benefits of increasing access, as demonstrated by Edwin Chadwick in the mid-1800s, were recently estimated by WHO for the case of developing countries (Hutton et al. 2006). According to this estimate, every dollar invested in making water and sanitation coverage universal will bring in, on average, a return of US$10.3 dollars to developing countries. More precisely, a total of US$16.6 billion investment is required, and it will bring US$171 billion of economic benefits (time savings, productivity gains, healthcare cost savings). This will translate into 67.3 million fewer diarrhoea cases, resulting in around 600,000 fewer deaths, and saving US$1.7 billion in healthcare costs (over US$200 million in non-medical cost such as food, transport), US$3.5 billion in economic value of work days avoided, and US$7.3 billion as a result of lives saved.

**Tariff and distribution**

Different social tariff models for water supply tend to have different distributional impacts. Social policy schemes are, in general, welfare enhancing: several developing countries have succeeded in reducing poverty through universal provision of social services like health care, education and water supply. However, most countries have both universal and targeted social policies since it is argued that even within universal policies, there is a possibility that the poorest may be excluded from accessing some services. Therefore, targeting would be necessary to make ‘universalism effective’ (Mkandawire 2005: 17).

**Case studies**

As academic literature alone does not give a clear answer about the superiority of either private or public provision, it might be insightful to consider some empirical evidence. Having contextualized the water services issues globally, we will now look into our country studies to get a clearer picture.

We conducted seven case studies (in Brazil, Burkina Faso, Colombia, Great Britain, France, Hungary and Malaysia) in which we analysed how the private sector impacts on issues of access and affordability for the poor. We also looked at how social policies were designed and how effective they were at targeting those in need. Household data from
selected countries and cities were used to analyse the issues related to access and affordability. These studies examined the debates surrounding PSP within the specific political, cultural and economic settings of each country. The selection of country studies was confirmed after a review of the literature and was based on several criteria. These included regional balance, geographical settings, level of economic development, level of poverty, degree of PSP, degree of regulatory instruments in place, degree of problems in the water supply sector (level of access, availability/scarcity of water) degree of ‘success’, ‘failure’ or ‘difficulty’ in the service provision, and availability of reliable data.

France

France has historically involved the private sector in the distribution of water. The private sector now supplies 80 per cent of the French population. This very high rate can be compared to the worldwide average of around 10 per cent. The most widely used form of PSP is a concession contract, awarded usually for 10 to 30 years. The author of the French study, Arnaud Reynaud, reminds us that increasing coverage to quasi-universal levels took one or two generations with a high level of subsidies from urban to rural areas. In terms of affordability, Reynaud shows that in 2001 there were still 4.3 per cent of households in France (representing 1.16 million households) who used over 3 per cent of income on water bills. It is estimated that three million people are late in paying their water bills and around 700,000 households request to reschedule their bills.

Despite these affordability problems, there is currently no explicit pricing scheme, rebate or discount tariff for the poorest households in France. Instead, the mechanism put in place by the public authorities corresponds to an ex-post financial aid designed to help qualified low-income households pay their water bills. The main reason for this approach is that, according to the French definition of a public service, all customers with similar characteristics must face the same price (different pricing systems are therefore ‘illegal’). The prominent size of the private sector (and the lobby against such social tariffs) might also constitute a plausible explanation for the ex-post choice.

During the past two decades, water prices increased twice as fast as the consumer price index. In addition, water tariffs are 33 per cent higher in areas where the private sector operates than they are in those regions supplied by the public companies. Although the marginal cost and marginal price are not very different, the private companies tend to have a high fixed charge in order to secure their revenues. Reynaud concludes by saying that the private sector has negatively impacted the poor and that
the *ex-post* financial assistance has not succeeded in solving affordability problems for the poor.

**Great Britain**

Studying the water sector in Great Britain is instructive and fascinating for two reasons. *First*, from the early nineteenth century Great Britain was a pioneer in the private sector provision of water services. Later its ownership reverted to the public provision. We learn that from the middle of the nineteenth century government policy makers have given priority to providing every household, regardless of geographical location, social class or income, with access to treated piped water. By the early twentieth century, this had been achieved for the vast majority of urban residents (and the mid-twentieth century for most of the rural areas). This was accomplished through an extensive, and costly system of cross-subsidies.

And, *secondly*, it is interesting to investigate the British model of unprecedented full-scale privatization since 1989. The authors of the England and Wales and Scotland study, John Sawkins and Valerie Dickie, argue that one of the reasons for privatization was the belief that the private sector could deliver services in a more efficient and effective way than the public sector, provided there was appropriate economic regulation. Hence an independent economic regulator—the Office of Water Services (Ofwat)—was established. Sawkins and Dickie demonstrate that with this transformation, there was a shift in government policy and more emphasis was given to economic equity such as cost-recovery, dismantling of certain social policies (for example, cross-subsidies). They also argue that changes in policy did not impinge detrimentally on the underlying principle of universal access. However, with the arrival of the Labour government in 1997, there was a move towards re-prioritizing social over economic equity, as demonstrated by the prohibition of domestic disconnection for non-payment, and a ban on the use of limiting devices (for example, trickle valves). The authors provide a detailed analysis of such policies and how the government tried to influence OFWAT to take up some social obligations.

What were the effects on affordability in the aftermath of privatization? Data reveal, for example, that in 1988, the poorest were using 3.5 per cent of their gross household income for water bills compared to 0.4 per cent for the richest. This figure increased for the poorest in 1991 and remained unchanged for the richest; that is, the poorest bore most of the burden. In 1997 the poorest were still using 4 per cent of gross household income on water and sewerage charges whereas the richest spent only 0.5 per cent. The 2002–03 figures show that this burden for
the poorest has started to decrease, whereas it increases for the middle class. In addition, problems related to water debt have also been increasing recently. After comparing England and Wales with Scotland, Sawkins and Dickie conclude that there is no marked difference between a private and a public delivery of service and that the poor do not seem to be more or less affected by either model. However, with a public management in Scotland, there is more emphasis given to social equity concerns. Indeed, effective regulation (an independent economic regulatory body)\textsuperscript{17} and appropriate social policies seem to cushion the adverse effects of privatization.

Colombia
As a result of poor management and the lack of sufficient capital, the World Bank proposed the privatization of the water services in many Latin American countries. PSP in Colombia's water sector is representative of developments observed in other Latin American countries. These experiences were often controversial and characterized by considerable failures. The two well-known cases are Cartagena (privatized services) and Bogota (refusing privatization). The authors of the Colombian study, Andrés Gómez-Lobo and Marcela Meléndez, show that significant participation through management or concession contracts is relatively recent in this country, as it started only in 1994.

Data on access show that only around 68 per cent of the poorest do have access to piped water compared to around 96 per cent of the richest. However, the lack of access is almost exclusively a problem for the rural poor, for which the connection rate is still less than 50 per cent. As expected, the poorest are paying more in terms of their share of expenditure on water bills: 0.05 per cent compared to 0.01 per cent for the richest (this figure remains unchanged between 1997 and 2003).

Gómez-Lobo and Meléndez demonstrate that PSP tends to have a neutral to positive effect on access, especially to the poor and neutral impact of affordability. They argue that the generous subsidy scheme cushions the potential negative impact of PSP. The subsidy scheme is financed by the higher income and business sector groups, by the national and local governments, and by a special 'solidarity and income distribution fund' which was designed as a cross-subsidy scheme for the poorer regions. The subsidy is based on the socioeconomic stratification of dwellings. The authors show that over 80 per cent of households are classified in the first three groups eligible for subsidies. As such, it is more akin to a universal subsidy scheme than a focused social programme. The main policy
conclusion to emerge from this study is that in the presence of appropriate social policies, PSP does not necessarily imply that the welfare of poorer households is negatively affected.

**Brazil**

PSP in Brazil is still in its infancy, since only 2 per cent of water companies are in private hands. However, in terms of the percentage of population supplied by the private sector, Brazil comes second (25 per cent) in Latin America after Chile (Owen 2006). In his contribution, André Rossi de Oliveira presents an in-depth analysis of the sector’s development since the 1960s and shows how the government managed to increase coverage from 60 per cent in 1970 to 86 per cent in 1990. He argues that this was achieved by heavy public investments, especially through two institutions: the National Housing Bank ( BNH) and the national Sanitation Plan (Planasana). This led to the emergence of regional (state) companies, which still hold concessions from municipalities. Following the dismantling of these institutions in the late 1980s (due to an economic crisis), the country has been struggling to develop a coherent water policy. There is confusion as to who (municipalities or the federal/state government) has the right to grant concessions. After much discussion, a new bill was passed in 2007, which allows the municipalities and states to access federal financing and establishes a council including civil society institutions to influence tariff setting and termination of service. However, it falls short of defining the authority in according concession.

De Oliveira presents some social policies that were put in place to increase access to water for the poor in the 1990s, and argues that all these policies gave greater priority to access than to issues concerning affordability. He shows that only 52 per cent of the poorest households had access to water supply in 1995, compared to nearly 100 per cent of the richest. By 2003, this figure had increased to 68 per cent of the poorest households. This increase is due mainly to the heavy public investments mentioned above and by forcing private operators to invest. However, 45 million Brazilians still have no access to water supply. The author provides some evidence that private companies are present mainly in areas with higher coverage rates, that the productivity is higher in private companies, private companies invest less, and the private companies tend to have higher tariffs. In terms of affordability, the study shows that water and sewage bills are much more burdensome for low-income families than high-income families. The poorest use around 1.4 per cent of their expenses on water bills compared to only 0.3 per cent for the richest. The affordability problem is generally dealt with the tariff structure and
all companies (public or private) practice social tariffs such as increasing block tariff and use other ex-post measures designed to help the poor households.

Malaysia

Malaysia started PSP in the water sector in the early 1990s, mainly through BOT. In recent years, this has been changing in favour or concession-type contracts granted for longer periods. The private sector currently supplies water to 64 per cent of the population of the country. This figure is among the highest in the Asia Pacific region (Owen 2006). One particularity of the country’s water sector is that apart from the big multinational companies, local firms have also been very active in the market, having ambitions to expand beyond its national territory (for example to China, Thailand and Indonesia).

Cassey Lee argues that the development of the water sector in Malaysia has been fairly uneven, with the more developed states achieving almost universal coverage, while the less developed states continue to have great difficulties in increasing access, particularly in rural areas. He also shows that the more developed states tend to attract PSP while those that are poor have public provision of water supply. Lee’s study shows that only 56 per cent of the poorest had access to water in 1994 compared to 94 per cent for the richest. These figures changed to 74 per cent and 96 per cent, respectively, in 1999. Water affordability for the households with lower income worsened during the same period. On the other hand, the affordability for the richer households has improved. In 1999 the poorest used 1.5 per cent of their expenditure on water compared to 0.7 per cent for the richest. Social policies such as lifeline consumption rate, cross-subsidy (from industrial to domestic consumers), increasing block tariff are implemented to address the concerns for the poor households. The author shows that there is a general trend in reducing water subsidies.

Lee finds that privatization does not seem to have improved access to water. As illustrated by the case of Kelantan, water privatization in Malaysia has not always been successful. In other words, PSP has not brought in additional investments to increase coverage, nor have they increased efficiency. He shows that most of the companies are highly deficient since they are unable to recover their operating costs. The main reason for this weak financial performance is the loss of revenues from non-revenue waters, primarily through leakages (but this is lower where the private sector is operating the system). However, because of strict policies and political sensitivity regarding tariff increases, there does not
seem to be an association between PSP and higher tariffs. But privatized states do tend to revise tariff (upwards).

Hungary

Hungary is representative of what is taking place in other transition economies, where a large-scale privatization started after the regime change in the early 1990s. Within the privatization wave (and with little public debate), the water sector was reformed, with the ownership being transferred first to the municipalities and then to the private sector. Zsolt Boda et al. remind us that an overall privatization of the assets was prohibited by law. However, partial privatization did take place, and this was combined with long-term management rights given to private companies. Today about 40 per cent of the water is distributed by private companies/joint ventures and about 20 per cent of the water companies were privatized.

Although piped water is available to almost all residential areas, connection is still not universal. By disaggregating data, Boda et al. show that 20 per cent of the poorest households still have no access to piped water (this figure has remained relatively unchanged since 1992). The authors argue that if people are not connected, it is because of financial, rather than physical constraints and therefore the issue of access can be redefined as a question of affordability. In general, there does not seem to be an affordability problem (with most of the households paying less than 3 per cent of their income on water bills), but the proportion of expenditure on water bills paid by the poorest has increased from 1.1 per cent to 1.5 per cent over the period 1992–2003.

The authors argue that water is affordable thanks to the specific social policies put in place in the country. These policies include keeping the tariffs low (which does not reflect investment and depreciation costs), providing state subsidies and assistance (maintenance or debt relief) by the local governments, and the existence of regional cross-subsidies. The prices are kept deliberately low for political reasons because in the socialist era water services were free of charge. As a result of this scheme, investments cannot be imposed on the companies but instead fall under the responsibility of the municipality (backed by the state subsidies and EU funding). Another consequence is that the water tariffs are between 5 and 90 per cent lower than the actual cost of production and this benefits both the rich and the poor (universal social policy).\(^{18}\)

In terms of the differences between public and private provision, Boda et al. find that the rate of price increase is slightly higher in the private companies, but that PSP did not lead to price increase. This is
due to the strict political control of prices (as discussed above), or due to the practices of the water companies that seek compensation from fixed management fees, increasing efficiency, or by choosing regions with low costs of production (cherry picking). Overall, the authors find that although the private water companies (especially multinational corporations) have been successful in increasing efficiency (productivity) without increasing investment, this did not result in a lowering of tariffs.

**Burkina Faso**

Burkina Faso is one of the poorest countries in the world, and is confronted by major development challenges. Studying this country could illustrate the challenges of increasing access to water, in conditions where less than half of the people have access to safe drinking water. The other half either buy water from private vendors at exorbitant prices or consume unsafe water from rivers and other sources. In other words, there are three groups of private actors in the water services: private firms, fountain managers, and private vendors who sell water to individual domiciles. The authors, Issaka Kouanda and Mouhamad Moudassir, start their discussion of Burkina Faso by emphasizing that it is a landlocked country, which suffers from extreme climatic conditions. Reform of the Burkinabe water sector started in the mid-1990s with loans from the World Bank. In common with their approach to other developing countries, and cautious about the country's ability to respect its financial obligations, the lenders set the privatization of the public water company as a condition. In 2001, a compromise was reached in the form of a service contract with a multinational water company (Veolia). The objective of this partnership was to operate the company on a commercial basis, improve access and increase the efficiency of the water services.

The study shows that the share of population with access to safe drinking water has been increasing constantly – from 43 per cent in 1994 to 52 per cent in 1998 and to 61 per cent in 2003, benefiting all income groups. In addition, the time spent on fetching water has also decreased as a result of putting to use more water fountains. Kouanda and Moudassir present a detailed account of how the private management tries to prioritize economic efficiency to the detriment of social objectives. These take the form of increasing tariffs, dismantling social policies, privileging larger consumers, and decreasing the level of lifeline consumption. As a result, the share of expenditure used for water increased for the poorest quintile, but decreased for the richest income groups. The
fact that the number of poor people using more than 3 per cent of expenditure on water has increased also illustrates this point. Moreover, the authors caution that the poorest are often not connected to the network and therefore have to purchase water from private vendors.

The authors conclude that although coverage seems to have increased for all groups and efficiency has improved, the commercialization objective pursued by the private sector has been detrimental in terms of affordability, especially to the poorest sectors of the population.

Policy implications: social policies are instrumental

All of these country studies show the shortcomings of PSP in terms of access and affordability. Increased coverage comes from increased investment or increases in efficiency (increasing productivity, organizational restructuring and rationalization, reducing leakages, and more efficient collection of tariffs). The private sector does not necessarily invest more. However, they tend to be more efficient (in Burkina Faso, Hungary and Malaysia), but this efficiency does not seem to translate into a lowering of tariffs. On the contrary, the evidence shows that the private sector has higher tariffs (Burkina Faso, France, Colombia). Our studies show that affordability is a major issue in most countries. In all of the countries, it is demonstrated that the poor are affected disproportionately. Governments try to neutralize this by designing various social policies such as cross-subsidies, public subsidies, increasing block tariffs, lifeline consumption, ex-post assistance and by keeping tariffs deliberately low.

The choice of social policies varies from country to country. In the two developed countries (France and Great Britain), heavy public investment was used to ensure that everyone had access to piped water. In these countries, even with high regulatory capacity, social policies in the water sector have been crucial. For example, in France, it consists predominantly of ex-post assistance to those who cannot afford to pay water bills, operating a fund for rural water supply, and the prohibition of disconnection. British social policies include income support based on property values, subsidies, a ban on disconnections, various forms of social security support and social assistance in paying water bills. In addition, there exists an effective and independent economic regulatory body.

In the case of Colombia, our findings suggest that it is the subsidy that helps the poor to have access to affordable water. In addition, private investment commitments prescribed to the private sector have been useful in increasing coverage. Similarly, in Brazil, the desire to make
water supply universal led to heavy investment in the 1970s and effective social policies (cross-subsidies) helped to increase the coverage to the poor. However, the current impasse on who has the right to grant concessions (the state or municipality) to the private sector is jeopardizing further progress. The government in Hungary provides subsidies to those regions that have high costs of production. In addition, industrial users cross-subsidize domestic consumption and income transfers by central or local authorities shoulder some of the burden of households' water expenditures. The tariffs are kept low ("hidden social policy"), and no disconnection is allowed due to the non-payment of bills. The private sector has increased efficiency in the system, but the investment is financed by the state. In Malaysia, the social policies that are in place comprise state financing of water supply in rural areas, cross-subsidy (industrial users to domestic), and lifeline block tariffs. In addition, the private sector is contractually obliged to increase coverage in the urban and rural areas. In Burkina Faso, although the efficiency of the network has substantially improved with commercialization through PSP, it is now putting pressure on dismantling social policies.

And, finally, our studies also show that once the private sector comes in, it tries to dismantle such social policies.

Conclusions

The results of our research are consistent with other research findings. Increasing coverage requires many things and investments is one of the key inputs. As we have seen, the private sector can, and often does, assume a critical role in the provision and operation of the water supply. However, loans have to be recovered from the users or from the government. One of the water specialists puts this bluntly: "whatever the purists say, water services need to be able to cover their operating costs and to finance debt" (Owen 2006: 28). In the countries that cannot service loan repayments, the private sector does not provide a new source of financing. The financing of water facilities is unappealing to private investors for reasons such as the 'lumpiness' of necessary investments, long payback periods (of 20 years or more), and the political difficulties inherent in charging and collecting cost-recovering tariffs. Ironically, it is the developing countries that need the most assistance in terms of investment requirement and yet the private sector finds these countries 'aggressively challenging'. As discussed above, water projects are risky compared to other forms of capital-intensive projects. In such circumstances, there is no need to be overoptimistic that the private sector will solve the
water supply problem. It is rightly pointed out by one of the leading experts on privatization that operating water business which is profitable to the service providers and affordable to consumers, especially the poor, is extremely difficult because of the huge capital investment requirements (Meggison 2005: 399–400).

As discussed above, it is ultimately the public authorities that can make the difference in terms of providing the adequate social policy framework and mobilizing investments. Expenditure in water supply, rather than creating regulatory bodies, would be more effective in increasing coverage. Increased coverage will benefit the poor the most since they are not connected to piped water sources and they have to pay more in order to obtain water from alternative sources. Improved coverage will also save their time (spent on fetching water) and could drastically improve their health (since they will have access to better quality of water).

Our results, the growing failures of large-scale privatization and increasing public pressure against privatization, show that there is a need to rethink PSP strategy in terms of water supply. PSP in the water sector was oversold during the 1990s without realizing the challenges of such policy reforms. In this context, Mahbub ul Haq argued that the development pendulum is swinging from a reliance on the public sector to an overenthusiasm for the private provision and he fears that this pendulum may swing too far (Haq 1995: 140). In other words, one should be more cautious about private sector involvement in the water sector.

In conclusion, theory and evidence show the ambiguities of PSP in the water sector. The political economy of water is such that any benevolent reform can lead to an impasse if the reforms are not well thought through. Our country studies, together with a historical perspective, show that any reform intending to increase coverage (either through commercialization, PSP, additional investment or increasing efficiency) should be accompanied by appropriate social policies. These policies should be able to address the issue of access and affordability, especially to the poor.

Notes

1. Research Coordinator, United Nations Research Institute for Social Development (UNRISD), prasad@unrisd.org. Anna Sagan provided excellent research assistance for this project.
2. Lawyers would incorporate a broader meaning of rules and institutions, while political scientists will also include the policy process.

4. Following the introduction of laws governing the PSP in water and the bidding procedures, the duration of delegation contracts has significantly dropped, however, and most contracts are now signed for 12 years or less.

5. Although the United Nations does not have the power in terms of financial resources, it has managed, however, to shape policies through UN conferences and declarations. One such international conference took place in 1992 in Dublin and focused on water and the environment (Dublin 1992). It was organized to prepare a statement for the Rio Earth Summit in the same year. The Dublin statement proposed four guiding principles including the Principle 4: Water has an economic value and it should be recognized as an economic good. This principle has been used to justify the commercialization of water supply. Coincidently, the emergence of water multinationals and the Dublin/Rio principles are linked where the multinationals becoming the vehicle for these principles.


7. It should be noted that the Federal Republic of Germany (government of Konrad Adenauer) launched the first large-scale ideologically motivated ‘decentralization’ programme in 1961. It sold Volkswagen and the chemical firm VERA.

8. She adopted the term ‘privatization’ which was originally coined by Peter Drucker (1968).

9. Based on the World Bank’s private participation in infrastructure (http://ppi.worldbank.org), the following countries have involved the private sector in their water supply: Albania, Algeria, Argentina, Armenia, Azerbaijan, Barbados, Belize, Bolivia, Brazil, Bulgaria, Central African Republic, Chile, China, Colombia, Croatia, Cuba, Czech Republic, Ecuador, Egypt, Arab Republic, Estonia, Ghana, Guyana, Honduras, Hungary, India, Indonesia, Jordan, Kazakhstan, Lebanon, Malaysia, Mexico, Mozambique, Namibia, Niger, Panama, Papua New Guinea, Peru, the Philippines, Poland, Romania, Russian Federation, Senegal, Serbia and Montenegro, Slovak Republic, South Africa, Tanzania, Thailand, Trinidad and Tobago, Turkey, Uganda, Uruguay, Uzbekistan, Venezuela, Vietnam, West Bank and Gaza.


13. Although still subject to debate, there is an international norm that expenditure on water should not exceed 3–5 per cent to total expenditure (or, in the absence of expenditure data, 3 per cent of household income).

14. For example, there exists a specific fund created to help low-income households who cannot pay their bills (by writing off water debts).

15. The last Water Law No. 2006–1772, promulgated on 30 December 2006, has however recognized a right for all users to benefit from water at an economically acceptable cost. This is a first step towards the implementation of social water pricing.
16. Ofwat is a non-ministerial government department, and therefore not subject to direction from ministers. It is accountable to Parliament, provides evidence for Parliamentary Select Committees and provides annual report to the Secretary of State and the First Minister of Wales.

17. The economic regulator is to regulate through the use of a price cap mechanism with periodic reviews every five years. In setting price caps Ofwat's primary duty was to ensure that the companies were able to finance their functions, in particular by securing a reasonable rate of return on their capital.

18. However, there is concern that the national-level social policy scheme in the form of reduced price and cross-subsidy is contrary to the EU Guidelines on Water Framework Directive. These guidelines emphasize that the cost of water should be covered by the operator. This will likely lead to a price increase in Hungary and the targeted assistance at the local level will probably be enhanced.

19. For a literature review on PSP and their results, see Prasad (2006).

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