Going beyond regulation: social policies and private sector participation in water supply

Naren Prasad

Research Coordinator,
United Nations Research Institute for Social Development (UNRISD), Geneva

Paper prepared for the workshop entitled 'Legal Aspects of Water Sector Reforms' to be organised in Geneva from 20 to 21 April 2007 by the International Environmental Law Research Centre (IELRC) in the context of the Research partnership 2006-2009 on water law sponsored by the Swiss National Science Foundation (SNF)

Going beyond regulation: social policies and private sector participation in water supply

Naren Prasad[1]

Summary

Infrastructure maintenance is one of the biggest challenges confronting the water supply sector in 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 big (and often increasing) investments, but the funding of such investments poses major problems in developed and developing countries alike. The most common solution proposed consists of market-based reform, which includes operating the system on a full cost-recovery principle, commercialisation, or private sector participation (PSP) of various degrees. Given that water is a basic necessity, affordability of the service becomes a major issue. However, the water industry is a natural monopoly and as such it is not free from problems associated with lack of competition regardless of who owns or operates the system. They may include charging higher prices, or lowering production costs by decreasing the quality of service. In such circumstances, government intervention, either through public management or through appropriate regulation is often proposed.

However, previous research has shown the shortcomings of concession type contracts and that regulation in developing countries is faced with major challenges, which render it ineffective. This paper demonstrates that in such circumstances, water reform aimed at increasing coverage should go in tandem with social policies. Such policies are crucial in ensuring that the vulnerable groups have access to affordable water. Social policies related to water supply are quite common in both developing and developed countries alike, 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.

[1] United Nations Research Institute for Social Development (UNRISD), Research Coordinator, prasad@unrisd.org. Anna Sagan provided excellent research assistance for this project.

Introduction

The most important challenges facing the water sector in both developing and developed countries relate to the following (Hall 2001):

- Infrastructure: reducing leakages, replacement/expansion of networks, technological innovation
- Financial: sustainable and equitable tariffs, efficient revenue collection, investment
- Environment and health: public health needs, conservation, environmental management
- Socio-political: having affordable price, transparency, accountability, expansion of coverage
- Managerial: improving efficiency and productivity, capacity building, efficient procurement.

One way to tackle these challenges is through the private sector participation (PSP). PSP in the water industry is one of the most controversial and emotional debates of the current development discourse. On one side are the proponents who argue that since governments have failed in delivering quality water to everyone, the private sector can solve this problem by using market principles. In other words, 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 unlike any other resource and because of the fact that water is the essence of life, it should not be treated like another commodity and market principles should not be applied to it. In other words, 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. And then there is another group who 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.

PSP in urban water supply has had a long history. Private initiatives were instrumental in establishing modern water supply systems, which led to privately owned or operated systems. This started as a result of urban growth since the mid-1800s 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 19th 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, Spain), and to full privatisation (England and Wales) with strong regulation (Mohajeri, Knothe et al. 2003).

Privatisation has been back on the agenda since the late 1970s. During the early 1990s, many developing and transition countries[2] involved the private sector in their water supply. A variety of forms was adopted, ranging from build-operate-transfer (BOT) models, management, service or lease contracts, concessions (the most common), and joint ownership (but rarely a complete privatisation, as in the case of England and Wales or some cities in Chile).

During the last 5 years, there has been a decline in private sector investment in the water sector in developing countries. In addition, an intense and heated debate is taking place on the appropriate roles of the private sector in the delivery of water supply services (polarized around ideological grounds). This has led to an impasse among the stakeholders on how to proceed.

What is required is a constructive engagement. In order to move forward, an independent and balanced multi-stakeholder assessment of the impacts of public and private sector participation is needed. Lessons from the past experiences should help in policy making. This is precisely what this research tries to accomplish: we use seven case studies with extensive statistics on access and affordability to investigate the impact of private sector participation on the poor and how social policies are designed to help them.

Theoretical framework

Market-based reforms, including privatization have encountered considerable challenges and failures, and especially so in developing countries. This led policy makers to focus on regulation. It was argued that in natural monopolies, such as the water industry, where competition was difficult the state should set up regulatory institutions: coherent, accountable, transparent, and predictable independent bodies (Kessides 2004). They should have the capacity to protect consumers, investors, and the environment. Scholars like Buchanan (1972), Newbery (1999), Laffont (2000) have argued that regulatory process is often captured by interest groups while others like 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 the results have been rather disappointing (see for example Kirkpatrick and Parker (2004), Jalilian, Kirkpatrick et al. (2007), Minogue and Carino (2006), Amann (2006), Cook and Mosedale (2007)). This was a result of poor accountability, deficient transparency and lack of consistency in developing countries (Parker 1999). Similarly, previous UNRISD research has shown that regulation of water services through independent bodies has encountered difficulties in many developing countries (Ugaz 2006). This is a result of 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*

[2] Based on World Bank's private participation in infrastructure (http://ppi.worldbank.org) the following countries have involved the private sector in their water supply: Argentina, Armenia, Azerbaijan, Barbados, Belize, Bolivia, Brazil, Bulgaria, Central African Republic, Chile, China, Colombia, Croatia, Cuba, Czech Republic, Ecuador, Egypt, Estonia, Gambia, Guyana, Honduras, Hungary, India, Indonesia, Jordan, Kazakhstan, Lebanon, Malaysia, Mexico, Morocco, Mozambique, Namibia, Niger, Panama, Papua New Guinea, Peru, Philippines, Poland, Romania, Russian Federation, Saudi Arabia, Senegal, Slovak Republic, South Africa, Thailand, Trinidad and Tobago, Turkey, Uganda, United Republic of Tanzania, Uruguay, Venezuela, Viet Nam, West Bank and Gaza.

change, plus c'est la même chose. In this circumstance, the question that merits to be asked is how to reform the water sector in order to increase coverage?

This paper shows how and why social policies can ensure an affordable access to water while independent regulatory instruments are still being developed. In other words, this paper investigates the impact of PSP in water supply through the social policy framework. By a social policy we mean any policy put in place by the government or its bodies for the betterment of the welfare of the population, especially its less privileged members. According to Mkandawire (2006), "*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*" (p. 1). Such policies are also based on the notion of *equity*, which addresses concerns of justice, equality, and rights. Equity here implies a distributional principle, which is applied in the allocation of services and benefits in order to achieve what is considered as just and fair division.

A legitimate question that needs to be addressed is: what is the relationship between social policy and regulation? There is much ambiguity when defining regulation since it depends on whether an economist, a lawyer, a political scientist or a social scientist defines it[3]. 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*" (p. 3) (Baldwin, Scott et al. 1998). 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. Our definition of social policy comes close to regulation, except for the requirement of having an independent regulatory institution. It is widely recognized that having such an independent agency in place is difficult in developing and transition economies. Therefore we argue that an additional set of (social) policies, explicitly pursued by the State, is necessary in a developing country context. Even though there might be commonalities between social and regulatory policies, what makes them distinct is that the former are executed by the State, whereas the latter is by supposed to be an independent body.

Lessons from history

Water supply (and sanitation), especially in poor countries, is one of the major challenges facing the development community. Yet, the debates regarding increasing access are not new. They already took place in developed countries two hundred years ago. At the beginning of the 19th century, water supply was not sufficient, of low quality, and often very expensive to be supplied at domiciles. By the early 20th century water was made available in adequate quantities and its quality had drastically improved. By the mid-20th century, access to water was

[3] Lawyers would incorporate a broader meaning of rules and institutions, while political scientists will also include the policy process.

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. Let's look at how these industrialized countries achieved universal coverage.

Historically, the industrialized countries were concerned with increasing expansion of the water and sanitation systems and the improvements were directly linked to the water sector legislations (Juuti and Katko 2005) (p. 220). The drivers of such expansions and improvements were the need for fire fighting, 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 experience of England, the United States of America and France could be useful. Fragmented, piece meal and localized systems were abandoned in favour of highly centralized and integrated water supply systems. This occurred in 1802 in Paris, in1808 in London and in 1856 in Berlin (Gandy 2006). At that time, like in developing countries today, most of these cities originally relied on wells, water vendors, and rivers for their water supply.

Most cities were reluctant to invest in public works like water supply and therefore called on the private sector. One of the lessons 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, etc.) and water (sanitation) was established. This happened in the mid-19th century, when research in bacteriology was developed. Not only were the poor affected by water borne diseases, but increasingly the middle and upper classes as well. In New York, for example, real investment and expansion of the network started through the issuance of municipal bonds. Statistics show that by 1905 the largest category of municipal debt was related to waterworks. 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 was decreasing as reflected in London's water supply statistics. In 1861 the share of private provision in the water supply in larger towns was 60%, which decreased overtime reaching 20% in 1881 and only 10% in 1901 (Fletcher 1845) (p. 28). 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 Chadwick (Chadwick 1842). He argued and demonstrated that unsanitary housing conditions caused diseases and poverty. 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 the life expectancy by 13 years for the middle class. 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 in the queues, whereas a universal water and sanitation services would increase their productivity. One has to bear in mind that frequent social and political unrest during this period also called for action. 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, water borne diseases still prevail today in developing countries. The World Health Organization (WHO) estimates that around 2 million people (with 90% of them being children under 5) die every year from diarrhoeal diseases, the 6th most dangerous disease on a global scale[4]. 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 the water supply. The public authorities started investing in the system once the link between disease and water was established. However, the final responsibility lies on the State that, through appropriate social policies, ensures 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 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 it is often the case with utility services, is regarded as a *natural monopoly*. These characteristics jointly determine the economics of water.

Natural monopoly

Water market is not competitive because of the existence of economies of scale. Due to a very high fixed cost and extremely low, usually constant marginal cost, the average costs of production decline as the level of production increases. To enter such an industry enormous initial investment is required (lying down transmission networks, such as water pipelines) but the marginal cost of connecting an additional customer to the network is very low. 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 such a company may abuse its market power and this can justify government intervention. A traditional and also extreme solution to this kind of market failure is public ownership. This is often the case when public or national interests are at stake, for example in national defense or education. However, governments can also choose to regulate private firms by, for example, controlling their prices. 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 rather from competition and not 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 (Fletcher 1845) on how competition among different private companies in England (County of Surrey and in St. John's Southwark) caused inconvenience to the consumers and difficulties to the companies. The competition was so intense

[4] http://www.who.int/water_sanitation_health/publications/facts2004/en/index.html (accessed 22 January 2007).

that the companies put two or three mains and pipes on the same street. This led to wastage of capital and ruined some of the companies. The public was adversely affected by poor quality of the 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 companies (Wingate 1883).

Though competition *within* such a market is costly, it is possible to set up 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 (30 years)[5], and there only being three major competitors in the market. Equally, competition can be used for *part* of the market, through outsourcing contracts. Some water companies outsource a considerable proportion of their operations. The extreme case is Welsh Water, 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 by 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 public good

As mentioned earlier, water industry does not easily fall under standard economic theory. This makes it an atypical "economic good". Contrary to a private good, a public good is *non-rival* and *non-excludable*. Non-rivalry 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 the 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, purifying and delivering 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[6]. The major push for applying market principles to

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

[6] Although the United Nations does not have the power in terms of financial resources, it has however managed 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

the water sector comes from the 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 the public and private entities could forge partnerships[7].

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 rival and thus implies that market forces should manage the supply and demand. However, one should keep in mind that water is an essential resource (increasingly considered as a human right) and in spite of the type of ownership, an 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 favor of privatization from a historical perspective

Some of the arguments in favour of state ownership rest on the assumption of a market failure and state ownership is seen as a possible response to this failure. However, state ownership has its shortcomings as well and some see privatisation as an alternative solution (Megginson and Netter 2001) (p. 329). Adam Smith argued that economic activities should be in the hands of the private sector provided that the following conditions were satisfied: there were no externalities, the commodity in question was not a public good, the market was not monopolistic, and there was no asymmetry of information. As we have seen above, this is exactly the opposite in the case of water supply. Today, this debate is still as passionate as it was during Adam Smith's era.

Megginson (2005) argues that the policy of privatization has been one of the most visible signs towards greater reliance on markets to allocate resources. He defines privatization as the sale of a state-owned enterprise (SOE) or its assets to private agents. According to him privatization, for more than 100 countries, has increasingly become a 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 exclusively focus 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).

(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 commercialisation 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] http://www.worldbank.org/ (accessed 22 January 2007)

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 (industrial revolution of late 19th and early 20th century),
- Nationalization of failing private businesses aimed at either preserving employment or continuation of production of essential goods and services (during economic crises like the Great Depression),
- Ideology of state ownership (like communist or certain radical socialism),
- Extreme political factionalism (state ownership of key industries becomes a political tool of reward and punishment).

It is argued that after the Second World War, Hayek's (1944) *The Road to Serfdom* had a direct impact on policymakers – in justifying the motives in favor of privatization (Megginson 2001). Hayek's work provided the intellectual basis for Keith Joseph and later Margaret Thatcher and the British Conservative party who started campaigning for the rolling back of the borders of the British welfare state. What followed was a worldwide movement towards privatization in 1980s and 1990s as a result of increasing fiscal curse and later due to the collapse of socialism. SOEs were argued to be "inefficient" because government used them to pursue non-economic objectives. Specifically, it was believed that this inefficiency was due to:

- Weak incentives (especially frail incentives to maximize revenue),
- The lack of monitoring because of collective action problems,
- 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 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,

- Subject state-owned enterprises to market discipline[8].

Although Margaret Thatcher was not the first to launch a privatization program, it had a strategic importance (it was one of the most important ones)[9]. After the initial apparent success in Britain, other countries followed suit. In France, for example, this happened after the coming to power of the 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 privatised companies. Austria, Belgium, Canada, Chile, Denmark, Holland, Italy, Jamaica, Japan, Malaysia, Singapore, Spain, Sweden and USA all started privatisation. For developing countries, the ascendancy of conservative politics was to be largely felt through the international financial institutions. The 1990s show increased privatisation in these continents. Privatisation was more widespread in Latin America in the 1990s. 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 (Megginson 2005) (p. 19). The last bastion of privatization has been the former Soviet-bloc countries and Eastern Europe after the collapse of communism in 1989-91.

Push for water privatization

Among the triggers of privatization of the water sector there have been increasing debt burden, 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 "*late and light*" compared to the privatization of other sectors like electricity, telecommunication, and transport (p. 147) (Davis 2005). There has been much controversy in the water sector due to the nature of water as a basic human need, fears of price increase, public health concerns, environmental implications, and beliefs that water cannot be transferred to a profit-making entity. As we have demonstrated above, these debates took place in USA and England a hundred years ago, when there was a shift from private to municipal ownership.

Privatization was 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 (Ouyahia 2006). In Latin America, it was initiated because of excessive political interference in public utilities and corrupt government. As for the case of Africa, it was mainly aimed at reducing the financial burden of the State and increasing access to water for the poor. In Central and Eastern Europe privatization was essentially introduced on ideological grounds (shift from communism to market economy).

[8] It should be noted that the Federal Republic of Germany (government of Konrad Adenauer) launched the first large-scale ideologically motivated "denationalization" program in 1961. It sold Volkswagen and the chemical firm VEBA.

[9] She adopted the term "privatization" which was originally coined by Peter Drucker (Drucker, P. (1970), A New style of Government, Conservative Party Centre (London)) and replaced "denationalization". In his earlier works Drucker (See: Drucker, P. (1968). The Age of Discontinuity. Guidelines to Our Changing Society. With a New Introduction by the Author. New Brunswick, New Jersey: Transaction Books.

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. During 1990-2005, 56 countries implemented various forms of private sector participation. The much-publicized cases include Buenos Aires (Argentina), Manila (Philippines), Cochabamba (Bolivia), Jakarta (Indonesia), Nelspruit (South Africa) and La Paz (Bolivia), and the United Republic of Tanzania.

One of the main players in international development is the World Bank. Apart from being the largest donor, it has the capacity to produce research that supports its policies[10]. 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.

World Bank started the discussion on privatization through the concept 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 WDR 1994 was that private sector should be involved in management, financing and ownership in infrastructure to ensure commercial orientation of the sector (World Bank 1994) (p. 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.

In 2002 some of the major water companies started to withdraw from developing countries following a series of economic and financial crises, natural disasters, incidence 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). Consequently, the number of people served by these major international companies has declined from 349 in 2004 to 296 millions in 2006. By 2003, the World Bank was starting to doubt its own water privatization advice and was doing some soul-searching[11]. 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*" (p. 25)[12]. It acknowledged its excessive focus on the private sector and its lack of attention to the specific requirements of particular countries (p. 5). Other authors show that reforms, like increasing the efficiency of the public sector through privatization, will be 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 not be able to bring in the additional investment required to increase coverage. In its progress report it further recognized that the private sector in not able to increase investment in infrastructure and that public funding will continue to be important (World Bank 2005). Compared to the late 1980s and 1990s, the World Bank's infrastructure strategy has

[10] See Evaluation of the World Bank Research (1998-2005) at http://econ.worldbank.org (accessed 22 January 2007)
[11] Wall Street Journal, 21 July 2003, "The World Bank as Privatization Agnostic".
[12] Implementing the World Bank Group infrastructure action plan, 13 September 2003.

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 consideration to social and environmental costs. In addition, civil society organizations have been increasingly active in putting pressure on governments protesting against applying market forces to public services (Ghimire 2005). It is generally recognized that 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 2005).

However recent research shows that, as a result of such policies, it is only the name that has changed and 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 on the state and social policies are crucial in increasing coverage and ensuring that the poor are not excluded from the service.

Social policies

It is argued that Romans were the first to manage drinking water as a priced commodity and 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 (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 rich citizens was considered as an economic good whereas it was free of charge for an average citizen. Each depended on the other in the sense that piped water in private residence was priced as an economic good enabling to fund and maintain public fountains.

Historically, the industrialized countries were concerned with increasing expansion of the water and sanitation systems and many improvements in these sectors were directly linked to the water sector legislations (Juuti and Katko 2005) (p. 220). Social policies have been historically instrumental in bringing access to the vast majority of the population in developed countries. This is true, for example, for the case of France, and England & Wales. In the early 1800s, London-bridge Waterworks company was practicing some sort of cross subsidies for supplying water (an extra charge was levied on brewers, stable-keepers and tradesmen) (Hunter 1898) (p. 476). The authorities were concerned that the poor would not be able to afford services from the private sector and some poor areas would not be supplied (Fletcher 1845) (p. 174-75). 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 separate reservoir with intermittent supply. The rich had their own supplies whereas the poor bought water from private vendors at high prices (2 shilling per week - an equivalent of 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 the rural areas. These subsidies were accorded with the framework of the Law on Public Health of 1902. They ranged from 50-80% 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% 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 by industries. It should be reminded that around 50% of the total water networks in France were constructed between 1965-1980 (Pezon 1999).

Most of the developed economies have introduced some sort of social policies in order to deal with the problems 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 practiced in developed and developing countries is IBT. In Latin American countries, the first block represents 25 cubic meters per month (WHO advises that is should be between 8-16 cubic meters) (ADERAS 2006). This implies that most of the residential consumers benefit from such tariff. In addition, many countries practice social tariffs and subsidy schemes for poorer households. For example, Chile spends 40 millions USD per year on subsidies which benefit 600'000 people (20% of population), Colombia spends 250 millions USD a year for 30 million people (90% of population, which is considered quasi universal) 40% of which is funded from internal surcharges, Argentina spends around 10 millions USD per year for 100'000 people (less than 1% of population), and Paraguay spends just 0.1 millions USD for around 5'000 people (Foster 2006). In general, social tariffs in Latin America offer a discount of around 67% compared to a normal tariff. However, the authors caution that certain subsidies benefit the rich and the middle class disproportionally.

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 structure 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 often manage to get exempt from such obligations.

Public investment

As mentioned above, although historically the initial construction of the water supply network was started by the private sector, water supply improvements did not take place until the state took full responsibility (increasing public investment and taking over the control from the private operators). The main concern of the

public authorities was to make access universal, reduce the incidence of water borne diseases, and provide water for fire fighting. 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" like in New York City and private capital, e.g. in Britain. In the early 20th century, water works represented the largest component of municipal debt in American cities (Cutler and Miller 2005). However, even in the prosperous western cities, household connections were uneven, mainly favouring middle-class households. From the middle of the 19th century, private monopolies were replaced by public monopolies because the private companies were unwilling to extend coverage to poor neighbourhoods, improve quality, or reduce excessive charges. Today, in the industrialized countries, public investment is important in investing and maintaining infrastructure. For example America has set up a revolving fund for municipalities to borrow from, 33% of capital investment cost in Germany is financed by the central government, even in England and Wales with its fully privatised firms, 9% of capital investment comes from government subsidies, and in France private companies are subsided through a general taxation on consumers (Hall and Lobina 2006).

In developing countries, funds generally come from government tax revenues, user charges, cross-subsidies, private-sector investment, contributions from NGOs and charity organizations, 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 done 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 0.35-1.2% of GDP is required to finance, maintain and service the water supply networks in high income countries, 0.54-2.60 % of GDP for middle income countries, and 0.70-6.30 % of GDP for low income countries. A more conservative figure is shown in a World Bank study, which estimates the investment needs for 2005-2010 for developing countries to be around 0.5% of GDP (Fay and Yepes 2003). The UNDP believes that 1.6% of GDP is required to achieve the target 10 of MDGs (UNDP 2006).

As mentioned earlier, there are considerable challenges to secure private funds for financing 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-rating 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 Chadwick in mid-1800s, were recently estimated by WHO for the case of developing countries. (Hutton, Haller et al. 2006). It is shown that every dollar invested with the purpose of making water and sanitation coverage universal will bring on

average $10.3 dollars in developing countries. More precisely, a total of $16.6 billion investment is required, but it will bring $171 billion of economic benefits (time savings, productivity gains, health care cost saving). This will translate into 673 million fewer diarrhoea cases, resulting in around 600,000 fewer deaths, saving $1.7 billion in health care cost (over $200 million in non-medical cost such as food, transport), $3.5 billion in economic value of work days avoided, $7.3 billions as a result of lives saved.

Tariff and distribution

Different social tariff models tend to have more distributional impact. These schemes do not result in reducing welfare loss. There are sufficient examples of developing countries that have succeeded in reducing poverty through universal approaches to social provision (Mkandawire 2005). However, most countries have both universal and targeted social policies since even with universal policies the poorest tend to be excluded from accessing some services. Therefore targeting would be necessary to make the "universalism effective".

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

Some Findings from UNRISD research

This section presents the results of an UNRISD research project on "Social policies and private sector participation in the water supply". Seven country studies were undertaken for the purpose of our study. These were: Brazil, Burkina Faso, Colombia, Great Britain, France, Hungary, and Malaysia. All these country studies show the shortcomings of PSP and how social policies are crucial in addressing the issues of access and affordability. The choice of social policies varies from country to country. In the two developed countries (France & 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 are 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 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 the regions that have high cost of production. In addition, industrial users cross-subsidize domestic consumption and income transfers by central or local authorities shoulder certain burden on water expenditures of households. The tariffs are kept low ("hidden social policy"), and no disconnection is allowed due to 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 tariff. In addition, the private sector is contractually obliged to increase the coverage in the urban and rural areas. In Burkina Faso, although the efficiency of the network has substantially improved with commercialisation through PSP, it is putting pressure on dismantling social policies.

Unfortunately, despite having some creative social policies aimed at increasing access and improving affordability, most developing countries have not managed to increase coverage. For example only 38% of the residents in the Ouagadougou (Burkina Faso) have access to piped water, a considerable share of the poorest still lack access to safe water supply in Brazil, Colombia and Malaysia.

Conclusions

The results of our research are consistent with other research findings[13]. Increasing coverage requires many things and investments is one of the key inputs. As we have seen private sector can, and often does, assume a critical role in the provision and operation of 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"* (p. 28) (Owen 2006). In the countries that cannot service loan repayments, the private sector does not provide a new source of financing. 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 to 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 challenged*". As discussed above, water projects are risky compared to other forms of capital-intensive projects. In such circumstances, there is no need to be over optimistic that the private sector will solve the water supply problem. It is rightly pointed out by one of the leading experts on privatisation 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 (pp. 399-400) (Megginson 2005).

As discussed above, it is ultimately the public authorities that can make the difference and hence their role should be enhanced. Increased coverage will benefit the poor *the most* since they were not connected to piped water source and they had to pay more in order to obtain water from alternative sources. Improved coverage

[13] For a literature review on PSP and their results, see Prasad, N. (2006). "Privatisation Results: Private Sector Participation in Water Services After 15 Years." Development Policy Review **24**(6): 669-692.

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).

However, increased access does not merely come from investment (be it private or public). Alternatively it can result from a higher efficiency. As shown by some of our country studies, efficiency increased through PSP as in Burkina Faso, Hungary and in some cases in Malaysia. This was mainly a result of increasing productivity, organizational restructuring and rationalization, reducing leakages, more efficient collection of tariffs, and regional spread towards the agglomeration with increasing population density. In addition, in some cases it is further demonstrated that price increase was only a marginal component in efficiency gains.

Our studies show that affordability is a major issue is most countries. In all the countries, it is demonstrated that the poor are disproportionately affected. Governments try to neutralize this by designing various social policies such as cross subsidies, public subsidies, IBTs, lifeline consumption, ex-post assistance and by deliberately keeping tariffs low such as in Hungary and Malaysia.

Research findings that include a growing number of failures of large-scale privatization schemes, and increasing public pressure against privatisation suggest the need to rethink the strategy of private sector participation in water supply. Indeed, this approach was oversold during the 1990s without giving sufficient attention to the challenges of such policy reforms. This paper reveals the ambiguities of private sector participation in the water sector. The country studies 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 issues of affordability, especially to the poor.

ADERAS (2006). Las Tarifas de Agua Potable y Alcantarillado en America Latina. ADERAS, Asociación de Entes Reguladores de Agua Potable y Saneamiento de las Américas.

Amann, E. (2006). Regulating Development: Evidence from Africa and Latin America. Cheltenham, Edwar Elgar.

Ashley, R. and A. Cashman (2006). The impacts of change on the long-term future demand for water sector infrastructure. Infrastructure to 2030: Telecom, Land Transport, Water and Electricity. OECD. Paris OECD**:** 241-349.

Baldwin, R., C. Scott, et al. (1998). A reader on regulation, Oxford University Press New York.

Ballance, T. and A. Taylor (2005). Competition and Economic Regulation in Water: The Future of the European Water Industry, IWA Publishing.

Bangura, Y. and G. Larbi, Eds. (2006). Public sector reform in developing countries : capacity challenges to improve services. New York, UNRISD/Palgrave Macmillan.

Breyer, H. (2006). Mortality, morbidity and improvements in water and sanitation: some lessons from English history. Human Development Report Office, Occasional Paper, Human Development Report 2006, United Nations Development Program.

Buchanan, J. M. (1972). Theory of public choice, University of Michigan Press Ann Arbor.

Chadwick, E. (1842). Report… from the Poor Law Commissioners on an Inquiry into the Sanitary Conditions of the Labouring Population of Great Britain, London.

Cook, P. and S. Mosedale (2007). Regulation, Markets and Poverty. Cheltenham, Edward Elgar.

Cutler, D. and G. Miller (2005). Water, Water, Everywhere: Municipal Finance and Water Supply in American Cities, National Bureau of Economic Research Cambridge, Mass., USA.

Davis, J. (2005). "Private Sector Participation in the Water and Sanitation Sector." Annual Review of Environment and Resources **30**: 145-83.

Drucker, P. (1968). The Age of Discontinuity. Guidelines to Our Changing Society. With a New Introduction by the Author. New Brunswick, New Jersey: Transaction Books.

Fay, M. and T. Yepes (2003). Investing in Infrastructure: What is Needed from 2000 to 2010?, World Bank, Infrastructure Vice Presidency.

Fletcher, J. (1845). "Historical and statistical account of the present system of supplying the Metropolis with water." Journal of the Statistical Society of London **8**(2): 148-181.

Foster, V., Yepes, T. (2006). "Is cost recovery a feasible objective for water and electricity? The Latin America experience." World Bank Policy Research Working Paper(3943).

Gandy, M. (2006). Water, sanitation and the modern city: colonial and post-colonial experiences in Lagos and Mumbai. H. D. R. O. Occasional paper for Human Development Report 2006, United Nations Development Program.

Ghimire, K. B. (2005). Civil Society and the Market Question: Dynamics of Rural Development and Popular Mobilization, Palgrave Macmillan.

Hall, D. (2001). Water in Public Hands. PSIRU: London. www. psiru. org.

Hall, D. and E. Lobina (2006). Water as a public service, Public Service International: A report commissioned by Public Service International.

Hunter, W. (1898). "London water supply." Journal of the Society of Arts **47**(2422): 475-494.

Hutton, G., L. Haller, et al. (2006). Economic and health effects of increasing coverage of low cost water and sanitation interventions. O. P. Human Development Report Office, Human Development Report 2006. New York, United Nations Development Program.

Jalilian, H., C. Kirkpatrick, et al. (2007). "The impact of regulation on economic growth in developing countries: a cross-country analysis." World Development **35**(1): 87-103.

Juuti, P. and T. Katko (2005). City in Time.

Kessides, I. (2004). Reforming Infrastructure: privatization, regulation and competition, World Bank/ Oxford University Press.

Kessides, I. N. (2004). Reforming infrastructure: privatization, regulation, and competition, World Bank.

Kirkpatrick, C. and D. Parker (2004). "Regulatory impact assessment and regulatory governance in developing countries." Public Administration and Development **24**(4): 333-344.

Laffont, J. J. (2000). Incentives and Political Economy, Oxford University Press.

Megginson, W. L. (2005). The Financial Economics of Privatization, Oxford University Press.

Megginson, W. L. and J. Netter (2001). "From state to market: A survey of empirical studies on privatization." Journal of Economic Literature **39**(2): 321.

Megginson, W. L. a. N., J. (2001). "From state to market: a survey of empirical studies on privatization." Journal of Economic Literature **39**(2): 321-389.

Minogue, M. (2005). "Apples and oranges: problems in the analysis of comparative regulatory governance." Quarterly Review of Economics and Finance **45**(2,3): 195.

Minogue, M. and L. Carino (2006). Regulatory Governance in Developing Countries. Cheltenham, Edward Elgar.

Mkandawire, T. (2006). "Transformative social policy: lessons from UNRISD research." UNRISD Research and Policy Brief **No. 5**.

Mohajeri, S., B. Knothe, et al. (2003). Aqualibrium: European Water Management Between Regulation and Competition. Brussels, European Communities.

Newbery, D. M. G. (1999). Privatization, Restructuring, and Regulation of Network Utilities, MIT Press.

OECD (2003). Social Issues in the Provision and Pricing of Water Services. Paris, OECD.

Ouyahia, A. M. (2006). Public-private partnerships for funding municipal driking water infrastructure: what are the challenges?, Government of Canada, Policy Research Initiative.

Owen, D. L. (2006). Pinsent Masons Water Yearbook, 2006-2007, London: Masons Solicitors.

Parker, D. (1999). "Regulation of privatised public utilities in the UK: performance and governance." International Journal of Public Sector Management **12**(3): 213-235.

Pezon, C. (1999). La gestion du service d'eau potable en France de 1850 à 1995. Conservatoire National des Arts et Métiers. Paris, Conservatoire National des Arts et Métiers. **Thèse es sciences de gestion**

Pezon, C. and S. Petitet (2004). L'intercommunalité en France de 1890 à 1999, la distribution d'eau potable en question, Arras, communication à la Journée d'études« Les territoires de l'eau», Université d'Arras.

Prasad, N. (2006). "Privatisation Results: Private Sector Participation in Water Services After 15 Years." Development Policy Review **24**(6): 669-692.

Salzman, J. (2006). "Thirst: A Short History of Drinking Water." Yale Journal of Law & the Humanities.

Sellers, D. (1997). Hidden beneath our feet: the story of sewerage in Leeds. Leeds, Leeds City Council.

Stiglitz, J. (1998). "The Private Uses of Public Interests: Incentives and Institutions." The Journal of Economic Perspectives **12**(2): 3-22.

Ugaz, C. (2006). Commercilization, privatization and universal access to water. Draft manuscript.

UNDP, U. N. D. P. (2006). Human Development Report 2006: Beyond scarcity: power, poverty and the global water crisis. New York, Palgrave Macmillan.

Utting, P., Ed. (2006). Reclaiming Development Agendas: Knowledge, power and international policy making. New York, UNRISD/Palgrave Macmillan.

Vickers, J. and G. Yarrow (1988). Privatization: An Economic Analysis, MIT Press.

Wingate, C. F. (1883). "The water-supply of cities." North American Review **136**: 364-374.

World Bank (1983). World development report 1983, New York: Published for The World Bank by Oxford University Press.

World Bank (1993). Water Resources Management. A World Bank Policy Paper, Washington.

World Bank (1994). World Development Report 1994. New York, Oxford University Press.

World Bank (1995). Bureaucrats in Business: The Economics and Politics of Government Ownership, World Bank; Oxford University Press.

World Bank (2005). Infrastructure and the World Bank: A progress report, Development Committee.

World Bank (2005). Infrastructure development: the roles of the public and private sectors, World Bank Group's approach to supporting investments in infrastructure. Washington DC, World Bank.

World Development Movement (2006). Piped Dreams: The failure of the private sector to invest in water services in developing countries