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“Why is regulation insufficient? Social policies and private sector participation in water supply”

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prepared for the UNRISD project on
“Social Policy, Regulation and Private Sector Involvement in Water Supply”

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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 UNRISD research has shown the shortcomings of concession type contracts and how regulation in developing countries is faced with major challenges, which render it ineffective. Following those findings, our current study demonstrates that in such circumstances, water reform to increase 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.

This book 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.

1. 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 countries² involved the private sector in their water supply. A variety of forms were 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.

2. Research objectives and 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 change, plus c'est la même chose*. In this circumstance, the

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.

question that merits to be asked is how to reform the water sector in order to increase coverage?

This research was intended to study how and why social policies can ensure an 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 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 it³. 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.

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

3. 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 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, in 1808 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 scale⁴. 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.

4. 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.

4.1. 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 (laying 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

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

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 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.

4.2. 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

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.

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 corporations⁶. The major push for applying market principles to 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 partnerships⁷.

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).

5. Privatization as a solution

5.1. 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

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 (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. Coincidentally, 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)

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 (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 discipline⁸.

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.

5.2. 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).

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

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.

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 policies¹⁰. 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-searching¹¹. 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 is 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 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

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 Privatisation Agnostic”.

¹² Implementing the World Bank Group infrastructure action plan, 13 September 2003.

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.

6. 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.

6.1. 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 Petitot 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 it 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 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 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.

6.2. 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 subsidised 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.

6.3. 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.

7. Case studies

We conducted seven case studies (Brazil, Burkina Faso, Colombia, Great Britain, France, Hungary, and Malaysia) in which we analyzed 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 analyze 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, geographic 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.

7.1. France

France has traditionally involved the private sector in distributing water. Private sector now supplies 80% of the French population. This is one of the highest rates compared to the worldwide average of around 10%. 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 Reynaud¹³ reminds us that increasing coverage to quasi-universal levels took one-two generations with high level of subsidies from urban to rural areas. In terms of affordability, Reynaud shows that in 2001 there were still 4.31% of households in France (representing 1.16 million households) who used over 3% of income on water bills. It is estimated that 3 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.¹⁴ The main reason for this approach is that, according to the French definition of a public

¹³ Arnaud Reynaud, National Institute for Agronomic Research (INRA) and University of Toulouse 1.

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

service, all customers with similar characteristics must face the same price (different pricing systems are therefore “illegal”¹⁵) The prominent size of the private sector, points out Reynaud, 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% higher in areas where the private sector operates compared to the regions supplied by the public companies. Although the marginal cost and marginal price is 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.

7.2. Great Britain

Studying the water sector in Great Britain is instructive and fascinating two reasons. First, since the early 19th century Great Britain was a pioneer of private sector provision of water services. Later the ownership was reverted to the public provision. We learn that from the middle of the 19th century government policy makers have given priority to providing every household with access to treated piped water, regardless of geographical location, social class or income. By the mid 20th century, this had been achieved for the vast majority of urban residents (and recently in the remote rural areas as well). This was accomplished through an extensive (and costly) system of cross subsidies, and other financial checks and balances.

And, secondly, it is interesting to investigate the British model of unprecedented full-scale privatization since 1989. The authors of the England & Wales 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)¹⁶—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 and efficiency such as cost-recovery, dismantling of certain social policies (e.g. cross subsidies). They show that changes in policy did not detrimentally impinge upon the underlying principle of universal access. However, with the arrival of the Labor government in 1997, there was a move to reprioritize social over economic equity visible, for example, in the prohibition of domestic disconnection for non-payment, and a ban on the use of limiting devices (e.g. 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 results on affordability in the aftermath of privatization? Data reveals, for example, that in 1988, the poorest were using 3.5% of their gross household income for water bills compared to 0.4% for the richest. This figure increased for the poorest in 1991 and remained unchanged for the richest, i.e. the

¹⁵ The last Water Law n°2006-1772, promulgated on December 30th 2006, has however recognised a right for all users to benefit from water at an economically acceptable cost. This is a first step toward 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 an annual report to the Secretary of State and the First Minister of Wales.

poorest shared most of the brunt. In 1997 the poorest were still using 4% of gross household income on water and sewerage charges whereas the richest spent only 0.5%. 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 & 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)¹⁷ and appropriate social policies seem to cushion the adverse effects of privatization.

7.3. Colombia

As a result of poor management and lack of sufficient capital, the World Bank proposed privatization of the water services in many Latin American countries. PSP in Colombia's water sector is representative of developments observed in the Latin American countries. These experiences were often controversial and fraught by failures of different kind. The two well known cases are Cartagena (privatized services) and Bogota (refusing privatization). The authors of the Colombian study, Andrés Gomez-Lobo and Marcela Meléndez¹⁸ 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% of the poorest do have access to piped water compared to around 96% 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%. As expected, the poorest are paying more in terms of their share of expenditure on water bills: 0.049% compared to 0.012% for the richest (this figure remains unchanged between 1997 and 2003).

Regarding access and affordability, Gomez-Lobo and Meléndez are not able to show whether PSP had been beneficial, but argue that Colombia has a large subsidy scheme, where the poorest households pay a tariff below the average cost of provision. 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 socio-economic stratification of dwellings. The authors show that over 80% of households are classified in the first three groups eligible for subsidies. This system is progressive and has a significant impact on poverty since most of the poor receive some benefits (low errors of exclusion). As such, it is more akin to a universal subsidy scheme than a focused social program.

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 Marcela Meléndez, FEDESARROLLO, Bogotá, and Andrés Gómez-Lobo Echenique, Department of Economics, University of Chile

7.4. Brazil

PSP in Brazil is still in its infancy since only 2% of water companies are in private hands. However, in terms of population supplied with private sector, Brazil comes second (25%) in Latin America after Chile (Owen 2006). André Rossi de Oliveira¹⁹, the author of the Brazilian case, presents an in-depth analysis of the sector's development since the 1960s and shows how the government managed to increase coverage from 60% in 1970 to 86% 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 (Planasa). 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 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 councils including the civil society to influence tariff setting and termination of service. However, it falls short of defining the authority in according concession.

De Oliveira presents some of programs that were put in place to increase access to water for the poor, such as the Pro-Sanitation Program Pro-Sanitize Program, Pro-Community Program, Program to Finance Private Concessionaires of Sanitation Services, Rural Sanitation Program, program Sanitation For Everyone (replacing Pro-Sanitation, Pro-Sanitize, Pro-Community, and Financing Private Concessionaires). He argues that all these policies gave more priority to access rather than on issues of affordability. He shows that only 52% of the poorest households had access to water supply in 1995 compared to nearly 100% for the richest. This figure increases to 68% in 2003 for the poorest. This increase is mainly due to the heavy public investment programs mentioned above and by imposing the private operators to invest. However, 45 million Brazilians still do not have access to water supply. 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% of their expenses on water bills compared to only 0.29% for the richest. The author provides some evidence that in municipalities with a private operator water services are relatively less expensive. 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.

7.5. Malaysia

Malaysia started PSP in the water sector mainly through BOT since the early 1990s. This has been changing in favour of concession type contracts granted for longer periods. Private sector currently supplies water to 64% 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 national territory (for example to China, Thailand and Indonesia).

¹⁹ André Luís Rossi de Oliveira, University of Brasilia.

Cassey Lee²⁰ 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 the rural areas. Lee's study shows that only 56% of the poorest had access to water in 1994 compared to 94% for the richest. These figures changed to 74% and 96%, 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 1.45% of their expenditure on water compared to 0.68% for the richest. Some of the social policies in the water sector include lifeline consumption rate, cross-subsidy (from industrial to domestic consumers), IBT.

Lee concludes that the impact of PSP on issues of access and affordability is rather mixed. For example, he finds that PSP does not seem to have improved access to water, and it did not necessarily worsened water affordability. 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 not able to recover their operating costs. The main reason for this weak financial performance is the loss of revenues from non-revenue waters, primarily leakages (in 2002 40.2 % of produced water was not billed). However, because of strict policies and political sensitivity regarding tariff increase, there does not seem to be an association between PSP and higher tariffs or affordability problems.

7.6. Hungary

Hungary is representative of the transition economies, where a large-scale privatization started after the regime change in the early 1990s. Within the privatization wave (and without much public debate), the water sector was reformed, with the ownership first being transferred to the municipalities and then to the private sector as well. Zsolt Boda et al²¹ remind us that law prohibited an overall privatization of the assets. However, partial privatization took place, and it was combined with long-term management rights given to private companies. Today about 40% of the water is distributed by private companies/joint ventures; and about 20% of the water companies are privatized.

Although piped water is available to almost all the settlements, connection is still not universal. By disaggregating data, Boda et al. show that 20% of the poorest still do not have access to piped water (this has remained relatively unchanged since 1992). The authors argue that if people are not connected, it is not because of physical, but financial constraints and therefore the issue of access can be redefined as an affordability question. In general, there do not seem to be an affordability problem (with most of the households paying less than 3% of their income on the water bills), but the proportion of expenditure on water bills paid by the poorest has increased from 1.1% to 1.5% over the period 1992-2003.

The authors argue that the specific social policies put in place in the country. They 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, existence of regional cross subsidies. The prices are deliberately kept low for political reasons because in the socialist era water services

²⁰ Cassey Lee Hong Kim, Faculty of Economics and Administration, University of Malaya.

²¹ Zsolt Boda, Institute of Political Science, Hungarian Academy of Sciences, Budapest, in collaboration with Public Service International Research Unit (PSIRU)

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 5-90% lower than the actual cost of production and this benefits both the rich and the poor (universal social policy)²².

In terms of the differences between public and private provision, Boda et al. find that PSP did not lead to price increase. This is due to 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 cost of production (cherry picking).

7.7. Burkina Faso

Burkina Faso is one of the poorest countries in the world, confronted with 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 buys water from private vendors at exorbitant prices or consumes 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 on 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. Similar to other developing countries and cautious about the country's ability to respect its financial obligations, the lenders set privatization of the public water company as a condition. A compromise was reached in the form of a service contract with a multinational water company (Veolia) in 2001. The objective of this partnership was to operate the company on a commercial basis, improve access and increase efficiency of the water services.

The study shows that the share of population with access to safe drinking water has been constantly increasing from 43% in 1994 to 52% in 1998 and to 61% in 2003, benefiting all income groups. Apart from that, 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 of social policies, privileging larger consumers, 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% 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 increase for all groups, the commercialization objective pursued by the private sector has been detrimental in terms of affordability, especially to the poorest populations.

²² However, there is a 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.

8. Main findings and conclusions

The results of our research are consistent with other research findings²³. 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 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 in 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.

Our mixed results, growing failures of large-scale privatization and increasing public pressure against privatization show that there is a need to rethink the PSP strategy in the water supply. PSP in 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 the reliance on the public sector to an over-enthusiasm for the private provision and he fears that this

²³ 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.

pendulum may swing too far (Haq 1995) (p. 140). In other words, one should be more cautious about the private sector involvement in the water sector.

In sum, 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 over. 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 issues of affordability, especially to the poor.

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