

Water and Sanitation for the Urban Poor

Richard Franceys

Regulation is how the incentive to ensure service delivery at lowest cost is built into reforms and how the cost savings from the incentives are shared with the users. Effective regulation requires effective regulatory tools and effective skills. (Estache, 2005)

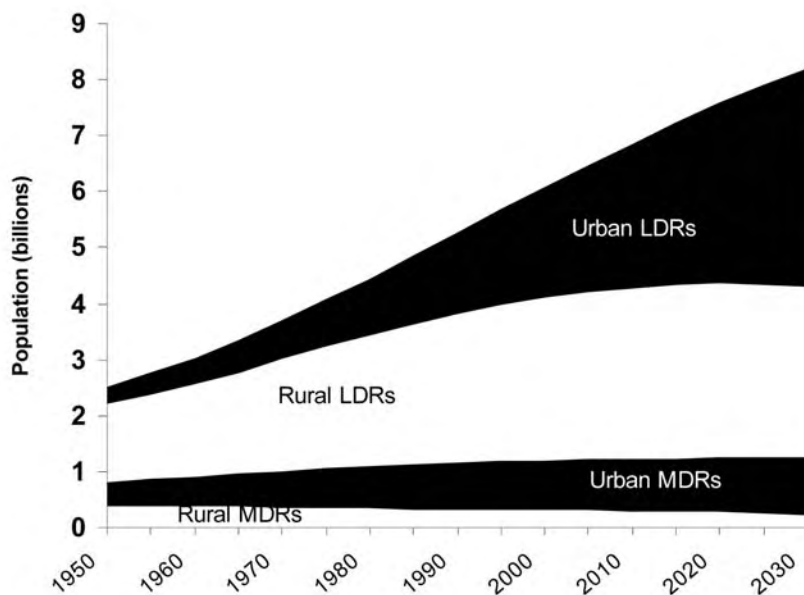
WATER AND SANITATION FOR THE URBAN POOR IN LOWER-INCOME COUNTRIES

Progress is being made in ensuring clean water supply and safe sanitation for the poorest. However, this progress is not fast enough to meet the goals of the world expressed through the United Nations-sponsored Millennium Development Goals (MDGs), particularly with respect to the need for improved sanitation. Urban water and sanitation fall under MDG Goal 7, which aims to ‘ensure environmental sustainability’. Within that goal, Targets 10 and 11 specifically state that the international community aspires to halve, by 2015, the proportion of people without sustainable access to safe drinking water and hygienic sanitation (from a 1990 base year) and, by 2020, to have achieved a significant improvement in the lives of at least 100 million slum dwellers. Water supply and sanitation also implicitly contribute to Goals 1 (eradicating extreme poverty), 3 (promoting gender equality), 4 (reducing child mortality) and 6 (combating HIV/AIDs and other diseases) (UN, 2006).

Figure 1.1 illustrates the ever-increasing challenge of providing large unserved or under-served rural – and now, ever more predominantly, urban – populations with adequate water supply and sanitation services. While presently an estimated 85 per cent of the people without access to improved water sources

worldwide live in rural areas, rapid expansion of cities and urban sprawl creates large concentrations of water demand with more limited access to traditional sources, a situation exacerbated by the high potential for pollution of those sources. 5 billion people are expected to live in urban areas by 2030 (up from 3 billion today). The number of slum dwellers in the world, presently estimated at approximately 1 billion, can be expected to double within the next 25 years under a 'business as usual' scenario (UN-HABITAT, 2003a). The annual growth rate of slum populations in sub-Saharan Africa has been 4.5 per cent (UN, 2006), which implies a 'doubling time' of less than 20 years – very much a case of water providers needing to run even if they are only to stand still. And over half of all 'new urbanites' can be expected to be poor (UNFPA, 2007). In sub-Saharan Africa it appears that almost 100 per cent of new urbanites are poor as the present and predicted growth in slum populations almost exactly matches the growth in urban populations.

The ongoing lack of safe water and sanitation (and other 'preventable environmental causes') in the rapidly expanding urban areas, as well as in the rural, is believed to lead to 'at least 1.6 million children dying each year'. 2.6 billion people are reported to be without access to adequate sanitation, 1.1 billion without access to safe water at the beginning of the (second) water decade (WHO and UNICEF, 2006).



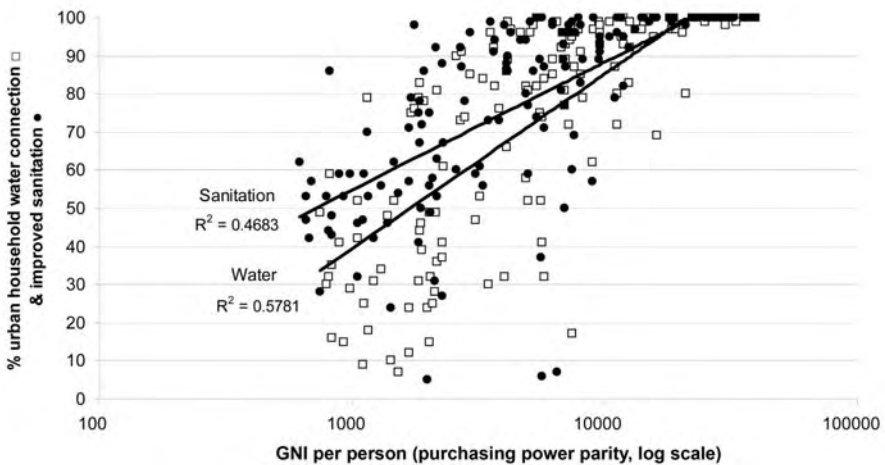
Note: LDRs are less-developed regions that comprise all regions of Africa, Asia (excluding Japan), Latin America and the Caribbean, Melanesia, Micronesia and Polynesia; MDRs are more- developed regions that comprise Europe, Northern America, Australia/New Zealand and Japan.

Source: Author's analysis of DESA (2006)

Figure 1.1 *Rural and urban population growth*

For urban areas, the focus of this study, the service improvement challenge should be more straightforward than in rural areas, even though coverage at present remains significantly dependent upon national wealth as illustrated in Figure 1.2. The UN (2006) already reports that city dwellers in sub-Saharan Africa are twice as likely to have safe water as those living in rural areas. A likely explanation is that this improvement will have been driven by absolute necessity. Alternative sources of supply, vaguely potable streams and rivers, hand-dug wells and springs, for example, are simply not an option in most urban areas. But there is another critical issue regarding the rural–urban divide in the context of economic regulation of services. Urban water supply is very ‘capital intensive’ but where invested appropriately that capital investment can deliver good quality water at a low volumetric cost. Where the price charged, that is what consumers actually pay, is significantly below even that low cost, as has been usual without economic regulation, then cities continue to siphon off most of the capital available nationally for urban rehabilitation as well as some expansion, all at the expense of developments in the rural areas. As the cities grow ever larger, and therefore more powerful, they should not be allowed to drink at the expense of much more limited water accessibility in rural areas.

By getting the balance of investment, service and tariffs correct, the task of economic regulation, most urban water services could be made to be sustainable through reasonable, affordable user tariffs. Extending those services to the poor is a different task. For one of the particular challenges the water and sanitation sector faces is, perhaps surprisingly, limited demand from the prospective beneficiaries. It appears that outsiders are much more aware of the benefits that



Note: GNI = gross national income.

Source: Author's analysis of World Bank (2007) and WHO and UNICEF (2006)

Figure 1.2 *Significance of wealth to water and sanitation coverage*

can be derived from clean water and effective sanitation than consumers. Everybody already has some form of water supply; otherwise they could not live in that location. Everybody could (and many have to) excrete in the open, close by their home, whether in nearby rural fields or urban slum streets. Good promotional ‘social marketing’ campaigns can affect this limited demand for a while but without continued inputs normal patterns tend to resume. Medical bills, school fees, food, perhaps even electricity and cable television in some slums (and definitely mobile phones, though recognizing the gender bias in these products) are often seen as more important, within the context of limited household incomes. They are definitely seen as more important than allowing tariffs to rise to ensure capital maintenance of a water system or latrine that ‘only’ provides welcome, but apparently too expensive, convenience. Particularly when the rhetoric of the sector often encourages a belief that the absolutely vital human right to water also means that it should be free.

A key approach to serving the poor therefore is not only social marketing of health- and hygiene-type ideas but actual marketing of lowest possible cost services for water and sanitation in urban areas. Developed and discussed in an earlier DFID study (Sansom et al, 2004), the concept of service and pricing differentiation to meet the specific interests of different customer segments, that is marketing, is a critical component that economic regulation has to recognize and harness, requiring such pro-poor activities from the providers.

To date, the capital-intensive technologies that are most effective in the networked water sector have not been delivering, particularly to slums in urban areas, because of institutional and organizational weaknesses allied to the pricing challenge described. These weaknesses may be in terms of appropriate competences (as always, based upon incentives) in the service providers, particularly in adapting service delivery modes appropriately. But these weaknesses may be equally a reflection of the socio-economic conditions, perhaps also of the institutional capital within which they must operate. Experience suggests that these issues can only be addressed effectively through long-term support to appropriate organizations, particularly service providers but also to the ever more required economic regulators, ideally within the context of a growing economy.

Without effective reform of water sector governance and capacity building for the various organizations in order to channel additional resources over the long term to bridge the affordability and willingness-to-pay gap (though smaller than often assumed) it will not be possible to achieve the world’s water and sanitation goals. Reform requires both resources and institutional drivers, not only to deliver that reform but also to maintain it for long enough to limit the tendency to revert to a restricted service, particularly a service that fails to serve the poor. Economic regulation, some level of independent judgement over reasonable prices and services, is seen as a potential driver for reform and maintenance of that reform in the context of public utility services.

URBAN WATER SUPPLY: INSTITUTIONAL REFORM AND PUBLIC–PRIVATE PARTNERSHIPS

Various approaches have been attempted to accelerate the provision of sustainable services over the years since the first water decade in 1980, promoting, without necessarily realizing it, the development of ‘institutional capital’. Following the demise of international training programmes and technical assistance, there then followed fashions for community management, social marketing, demand-responsive approaches, public–private partnerships and now public operator partnerships. Most of these efforts could be considered to have been inadequate in their effect, usually because of poverty linked to limited national economic resources and the institutional inadequacy referred to earlier. Governments and donors have usually not been able to overcome these weaknesses, tending to commit only to initial capital investment type projects for short periods before moving on to the next ‘good idea’.

It was the new ‘good idea’ of the ‘privatization’ approach to institutional reform that delivered the initial impetus for regulatory development. ‘Privatization’ was quickly reborn as ‘public–private partnerships’ (PPPs) perhaps to stress that the approach was never about the private ownership of any water resources, perhaps to make it sound more acceptable to the sceptical. Other terminology was developed to similarly confuse the uninitiated, referring to private sector participation, disinvestment, capitalization, demonopolization, equitization, opening of capital, peopleization, ownership reform, disincorporation, all in different countries at different times. Regulation does not appear to have needed such rebranding, perhaps because it was never seen as a threat, perhaps because it is rarely understood.

All of the PPP terms refer to some level of involvement of the private sector to a greater extent than had been common in that setting previously. In some countries it referred to having staff vehicles maintained by an external garage rather than having all work undertaken by the public provider workshop (Sansom et al, 2003). This cannot be seen as a significant threat to world water, but all such private sector involvement was targeted during the powerful and successful international campaign against any private involvement in water supply. In other settings PPP refers to the responsibility for all operations being transferred to a private company, though one that employs 90 per cent of the existing staff and where all the assets, not to mention control of water resources, remain under government control and ownership. Only rarely did the PPP concept mean selling off all the assets to a private owner (or more usually selling shares in a renamed public provider, maintaining existing management and staff).

This spectrum of private sector involvement, reflecting different levels of risk and potential reward, is usually reflected through the labels given to different types of private involvement: service contracts; management contracts; design,

build, operate contracts; build (own), operate and transfer contracts; leases; concessions and divestiture. Described in more detail elsewhere (Weitz and Franceys, 2002), it is worth noting that all such contracts need provision for adjustment through negotiation and arbitration should conditions and requirements change. The longer the contract, the more certain it is that conditions and requirements will indeed change. Economic regulation is, in effect, simply a sophisticated form of arbitration but one where more stakeholders are involved because it affects the prices charged direct to customers and takes place within a national and international concern over service delivery and the environment.

The presumption has often been that ‘private’ refers only to large-scale international operators. Although initially true of the sorts of concessions and divestitures that demanded economic regulation, there is another reality in that the majority of the poor in particular have long been served by private providers. As already mentioned, the small-scale vendors and carters, the neighbours on-selling from their tap or private borehole, are all private. Perhaps more contentiously, in many countries NGOs are equally seen as private though perhaps of a ‘not for profit distributing’ variety. All these small-scale alternative providers tend to operate in a multi-provider competitive market ideally not requiring any economic regulation – and perhaps most importantly not being seen as a threat to existing vested interests. These other private providers may not need to be regulated, in fact ideally not if they are selling in a potentially competitive environment, but they do need to be recognized in the overall process of serving the poor. Where the reality has been that the poor have found themselves at the mercy of an unregulated but ‘mafia captured’, and therefore very uncompetitive, market then a more direct form of regulation of small-scale providers is necessary. But we recognize that those small-scale providers have generally been meeting a need that the public utility has been failing to serve and that a reasonable profit margin is the price that must be paid for reasonably efficient service delivery.

The promotion of large-scale international private sector involvement as a means to deliver service reform was partially driven by the initial expectation that the private companies would deliver, from private sources, the finance necessary to upgrade water and sanitation services. However, with a few exceptions, the private equity markets were not convinced enough to invest their money in pipes buried in the ground in low-income economies and, in hindsight with good reason, not daring to trust any regulatory system (or perhaps more importantly the host government) to protect that investment. What the new private operators did deliver was increased technical competence and expectation, particularly in increasing efficiency, but also of commercial viability through enhanced service provision and tariff collection. This convinced the multilateral donors to lend through them and, for a while, unlocked many billions for investment. It has been cheaper for consumers to accept a reasonable level of profit for those more efficient, lower-cost, private companies than to

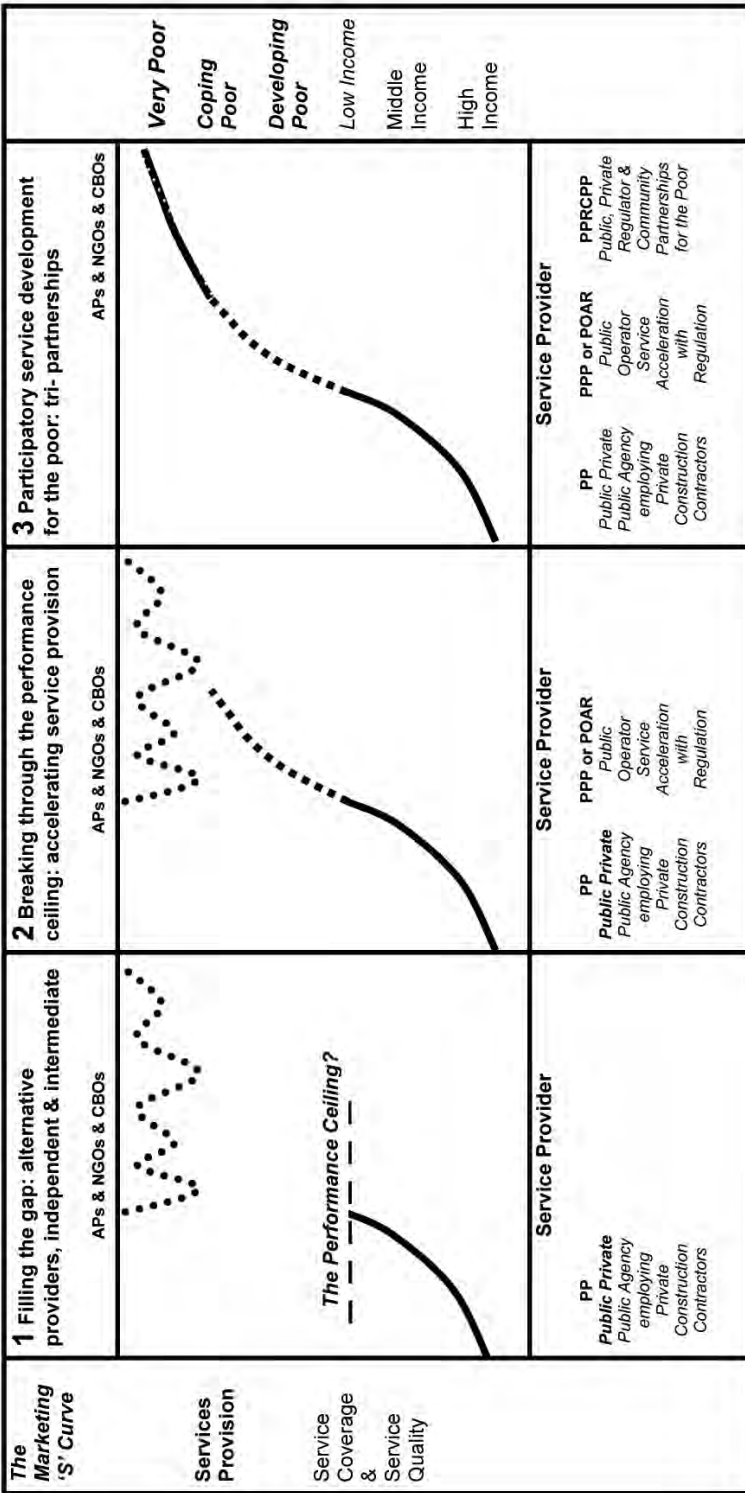


Figure 1.3 The marketing 'S' curve related to services providers, improvement and partnerships

Source: Richard Franceys

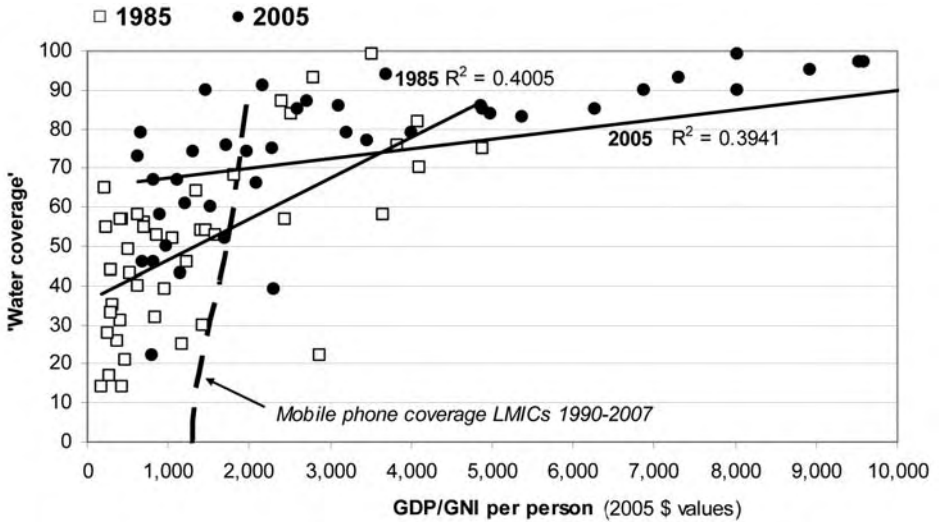
continue to pay the costs, limited in financial terms but high in economic terms, of the failing public sector.

Earlier work for the Asian Development Bank (Weitz and Franceys, 2002) also suggests that the best of the private operators were learning how to serve the poor living in the slums and shanties. Looking at urban service delivery through the lens of the marketing ‘S’ curve (see Figure 1.3) it is suggested that the conventional public providers reach a ‘performance ceiling’ in service coverage that very much equates to their societies’ economic and institutional environment or expectations. The performance gap, that is service to the rest of the population, was being met by a mixture of self-service coping strategies, independent and intermediating vendors, community-based organizations (CBOs) and NGOs. The research in ten Asian countries found that the best international private operators were able to break through that performance ceiling through conventional upgrading approaches – and that where they were working in partnership with civil society, NGOs and CBOs they were then able to reach the most difficult part of any ‘S’ curve, the late adopters, in this case the slum and shanty dwellers.

This analysis is important in the present context because it demonstrates that it is possible to accelerate service development beyond the normal socio-economic trend line, as illustrated in Figure 1.4, with the correct approach and suitable drivers for change. Figure 1.4 illustrates that although water and sanitation provision remains very significantly dependent upon economic growth, the poorest countries now have a higher coverage ratio than was previously the case at similar levels of wealth. Economic regulation could be part of the driver for utility change. Please note with interest the almost vertical dashed line in Figure 1.4 showing an approximation towards the change in mobile phone coverage between 1990 and 2007, relative to the change in water coverage. Ability to pay is higher where demand is facilitated, a point we return to later.

However, in the context of the supply-side PPPs, this ‘unfreezing’ of the existing socio-institutional situation, following the terminology of Lewin (1997), was, as is normal, quickly followed by the response of the ‘restraining forces’, that is the vested interests for whom the existing situation provided all that they needed (which did not include water supply to all). Whether it was politicians perceiving a loss of patronage and power over tariff setting or trades unions wanting to protect unduly the privileged positions of their elite members (elite in the sense of having a formal job in an economy where the informal predominates) or civil society groups finding a cause that resonated, the PPPs have been rejected by society. Interestingly this rejection has been more complete in poorer societies or countries where the need for improved water has been greatest and therefore perhaps where the significance or implications of any change are highest.

Similarly, many governments were not sufficiently convinced to allow ‘foreign control’ of their monopoly public water supplies, a reluctance that was again most marked in the poorer countries where governance can be weak and



Source: Author's analysis of WASH (1992), World Bank (2007) and WHO and UNICEF (2006)

Figure 1.4 *Change in significance of wealth to coverage over a 20-year period*

governments need to be cautious about being taken advantage of by foreign suppliers, a caution based on hard experience.

The result has been that international private water companies have made headlines mainly in relation to the number of depressingly early contract endings rather than their significant (though rarely reported) contributions to developing workable alternatives to serving poor urban communities. Society, having rejected many of the forms of PPP, has to recognize the fact that the excellent NGO- and community-led water schemes face resource constraints (both financial and environmental, for example access to water) that prevent them from scaling up to match the needs of a growing and increasingly impoverished urban population. Where successful, NGO scaling-up invariably encounters the same problems currently faced by conventional utilities.

The end result of this PPP experiment is that the upper middle-income countries, using an analysis from the Cranfield PPP database (Franceys, 2008), appear to have embraced private sector involvement to a similar extent to the high-income countries – approximately one third private, two-thirds public. Although this does not represent a balance within (most) individual countries it appears to show a governance need for the private sector to be present to at least act as a comparator by which public providers can be judged, and incentivized, between countries. Each pattern, public or private, we would argue needs the spur of comparative competition and the potentially cheaper public sector can become extremely inefficient without the spur of private sector comparators.

However, the recent reluctance of both governments and the private sector to work together in lower-income economies, where the public health benefits of

clean water and sanitation are highest, had led to private sector involvement reaching just about 10 per cent urban involvement in lower middle-income countries and only perhaps 5 per cent now in low-income countries. This might well be seen to disadvantage the poorest the most. Why should the poorest not be able to benefit from the challenge of private sector comparators that the rich appear to value? But recognizing that time has passed, the task now is to use appropriate levels of economic regulation to promote service to the poor through increasing the pressure on the public providers, while fully supporting those public providers through long-term capacity building.

Overall there has been a failure of governments and/or their regulators, as well as the private companies, to deliver on their promises to be in anything like the oft-proclaimed ‘partnership’ that demands ‘acting together’ and ‘deciding together’ by some definitions. It was always unrealistic to expect too much of a partnership with such unequal partners – a massive multinational against a city-level client or, as an alternative perspective, a sovereign government against a temporary foreign visitor. Both views illustrate such unequal levels of power relationships that it is hard to see how they could ever be called partnerships. But some level of working together and deciding together remains critical if service delivery to the slums is to out-perform economic growth.

There is now a movement towards the greater empowerment of national operators, the public operator partnerships, and smaller-scale service/management contracts models. It is therefore even more important to ensure that the needs of the poorest are met where there are not the comprehensive requirements of an all-embracing concession with clear and demanding service targets, and where there is no automatic built-in mechanism for sharing best practices around the world, as was the case with the largest international operators. Which perhaps leads to an even greater need for empowered regulation of public as well as private providers to achieve water for all?

WATER FOR LIFE: WATER FOR ALL

‘Without water, it is all just chemistry, but add water [to the catalogue of genes and the proteins they code for] and you get biology’ (Franks, 2006, cited in Matthews, 2006). The simple fact that the human body, on average, contains 60 per cent of water should be enough to convince that access to water is an absolute necessity – and as such is already achieved by all people in one form or another. There is good reason for declaring that ‘water is special, water is life!’, as the slogans continue to remind us.

It is the safety, regularity, convenience and, above all, price of this access – in terms of distance to point of consumption, variability of supply and water quality – that are now the main cause for concern. However, water is also highly valued in productive uses, supporting various livelihood activities including household livestock and gardens, even in urban areas. Water is therefore an

economic good as well as a basic need, critical for health and social welfare. WHO estimates that US\$1 invested in water and sanitation would give an economic return of between US\$3 and US\$34, depending on the region. Achieving the global targets would require an estimated additional investment of around US\$11.3 billion per year over and above current investments. The benefits would include an average global reduction of diarrhoeal episodes of 10 per cent and a total annual economic benefit of US\$84 billion (WHO, 2005).

Similarly, excreta disposal in its most rudimentary form involves nothing more than the edge of a field, a rubbish tip or an empty plastic bag discarded into the street. However, sanitation refers to the process of ensuring that excreta disposal is safe and does not lead to disease in other people or cause harm to the environment. People prefer comfort and convenience in excreta disposal and many cultures value privacy. Hygiene and hand-washing ensure that any possible link between the pathogens in human waste and the ingestion of those pathogens through food and water (the faecal–oral route) is broken.

Water and sanitation provision is therefore a complex amalgam of behavioural issues, development issues, health issues, economic and societal issues. Gender issues have equally been recognized as important in development work, and are emphasized especially in the water and sanitation sector. Women are now encouraged to participate in water projects and decision-makers show a commitment to increasing gender equity.

Given the inability of public authorities and their agents very often to provide sufficient safe and accessible water and sanitation facilities that respond to actual and expressed needs, deteriorating service levels tend to reinforce social exclusion. By one definition ‘social exclusion happens when people or places suffer from a series of problems such as unemployment, poor skills, low incomes, poor housing, high crime, poor health and family breakdown’ (Social Exclusion Unit, 2006). This is a UK definition included to demonstrate that serving the poor is not just a low-income country challenge but also needs to be recognized as part of the responsibility of all regulatory systems, a point developed further in the case study of economic regulation in England and Wales (Chapter 7). Understanding powerlessness, further discussed below in the context of understanding poverty, is critical in ‘making sure mainstream services deliver for *everyone*’.

Considering how economic regulation might enable water providers to serve the poor better with these life-critical services in the context of social exclusion it is necessary to acknowledge that poverty comes in many forms, with different characteristics, over a ‘spectrum of poverty’.

There are descriptions such as the ‘income poor’ (those living on less than US\$1–2 per day); the ‘health and education poor’ (where limited incomes either deny access to health and education or leave families utterly vulnerable to the costs of the next sickness episode or school fees demand); the ‘housing poor’ (for those living in multi-family occupancy of a room or small dwelling in tenements and in slums or the other names given to informal or unplanned

Table 1.1 *Characterizing poverty*

<i>Category of poor</i>	<i>Characteristics</i>
Lower middle-income households 'vulnerable non-poor'	Often employed at low wage levels by government or the formal private sector, living in conventional housing, are susceptible to unexpected financial shocks, particularly ill-health or family expenses. Conventional water and sanitation tariffs are normally affordable but may need to be structured in a way that allows for delay in payments in exceptional circumstances so as not to disrupt household finances and push the family into poverty.
'Developing poor'	Can be characterized as a household in a slum or informal housing area that has sufficient income to be able to invest in permanent (semi-permanent) materials for their own housing, with a fairly regular income from at least one semi-skilled member of the family.
'Coping poor'	Describes households with perhaps a single daily employed unskilled earner living in what we could call a temporary shelter (but that might be used for many years), perhaps rented from a slum landlord.
'Very poor'	Might be characterized as a single parent family, very possibly female-headed, sharing a one- or two-room temporary shelter with other families with very irregular or seasonal employment.
'Destitute'	Refers to the street sleepers and the street children with no fixed living space.

and/or illegal housing areas); and most importantly the 'powerless poor', characterized by 'insecurity and vulnerability, bad social relations, low self-confidence and powerlessness' (Narayan et al, 1999)

To these descriptions other characteristics can be addressed: the unemployed, the underemployed, the randomly employed as in daily paid (and employed) labourers, the over-borrowed, the single parent, female- or child-headed household, the disabled, the chronically sick, the elderly and the street kids.

Reflecting on these descriptions and a number of different sources (particularly Plummer, 2002a) the researchers developed the 'segmentation' below as capturing a minimum number of poverty segments that have to be recognized by a watsan provider and their regulatory environment if they are to be effective.

Facilitating water and sanitation services to the urban poor requires recognition of these different levels of poverty that might each require a different approach by the service provider, whether technical, financial or spatial. The goal is to reach as many people as possible with the lowest-cost formal piped supply that can significantly reduce average household spending on water. However, although achievable for most of the 'coping poor', conventional supplies may not be possible for many of the 'very poor' and probably not at all for the 'destitute'. For many in these segments of the population water stand

posts or kiosks, which do not add the transaction costs of the stand post to the cost of water charged, may be more appropriate as a temporary (short- to medium-term) solution. Any regulatory approach has to recognize the importance of the technology of service delivery in addition to the need for inclusion and empowerment – an ever more challenging task.

It is now widely recognized that genuine demand-responsive approaches produce better outcomes in terms of access and effective use of services and are more sustainable than the supply-driven approaches, which had long dominated the water sector. Giving local stakeholders and ultimately service recipients a voice and a choice in basic service provision was emphasized in water projects that centred on community management in rural areas. In the urban/networked context, consumer involvement is taking longer to establish but is receiving attention within partnership approaches (see www.bpdws.org and www.wsup.com) and practical participation is being explored as a vital component of consumer protection. The ‘S’ curve of Figure 1.3 can only be completed through the involvement of people in a quite different way than is normal for a conventional engineering-focused utility.

Many water sector reforms have missed the opportunity to introduce stakeholder involvement from the beginning in the formulation of sector policy. Reforms are often designed without stakeholder consultation and rarely accompanied by timely and broad communication and information campaigns. Where consultation and stakeholder participation feature in national policies, the legal framework often fails to specify the necessary instruments to facilitate interaction between institutional actors and consumers.

Fortunately, the international consumer movements have discovered and added public utility services to their portfolio, noting that ‘when consumers cannot vote with their feet, forms of involvement become even more crucial as a means of assessing quality, delivery and value for money, and of shaping the service to match consumers’ needs’ (NCC, 2002). In the developing economy context, ‘consumers’ must not be understood to refer only to those already receiving a service, but should be interpreted to include those who potentially could (and, for the various reasons discussed earlier, should) become formal customers of water services.

Urban water supply: Finance and tariff reform

Understanding the needs and potential of poor customers is vital but, in the end, sector reform is dependent upon tariff reform to ensure adequate revenue flows for financial sustainability. The importance of achieving financial (self-)sustainability for the sector cannot be overemphasized. Tariff reform is a critical and always politically sensitive element of water sector reform that is clouded in many myths and misconceptions. In summary, sustainable water and sanitation costs much more than is generally acknowledged in terms of investment and capacity building but equally customers are generally able to contribute far more

to those costs, when spread over a ‘maintainable’ and affordable longer term, than is usually recognized – with the notable exception of the ‘very poor’ and ‘destitute’. A key challenge in terms of pro-poor service delivery is to harness the enormous financial resources that are currently diverted into the informal sector (to the various vendors and resellers that serve the majority of low-income households without a utility water connection) at the level of the ‘developing’ and ‘coping poor’.

There remains the need to recognize the difference in potential for cost-reflective tariffs between the various levels of country wealth and also in geographical situations, often between regions within a country. What can be achieved in lower middle-income countries (or provinces for example with bountiful and accessible water resources) is quite different from what can be achieved in low-income countries with declining water availability. In fragile states it is unlikely that tariff reform can be achieved and alternative sources of revenue will have to be provided to utilities – though some form of regulatory oversight might well remain beneficial in promoting efficiency through benchmarking.

The tariff structure should allow the service provider to comfortably recover the costs of everyday operations and ongoing capital maintenance, as well as, ideally, generating revenues that enable debt servicing and capital investments. The technicalities of accurately determining and fairly allocating the costs of service provision are complex in the context of urban and networked water services. There are several design objectives for water and sanitation tariffs that frequently conflict with each other. There is no consensus on optimal tariff structures, though many developing countries have favoured increasing block tariffs with a low ‘lifeline’ block designed to safeguard affordability – very probably as a result of donor advice. These complicated tariff systems are now believed to confuse rather than assist but it is notable in the case studies how often they are used. Experience has begun to indicate that single rate volumetric tariffs may well be more manageable as well as fairer to the poor (though England is now moving in the opposite direction). A frequent problem is the confusion over the difference between willingness to pay and ability to pay. This often leads decision-makers to respond to public outcry over any increase in tariffs or indeed public disapproval of the whole concept of charging for something that is perceived as ‘free’ or ‘a gift of God’. There is a great need for raising awareness about the need to contribute financially to a water *service*. While water remains ‘free’ when collected from springs and rivers or harvested as rain, piped water undergoes a series of collection, transportation and storage, as well as necessary treatment and purification processes. Piped water conveniently delivered into the customer’s home thus becomes a relatively costly product, without even counting in the administrative overheads associated with running a modern, customer-friendly service. This is another reason for recognizing the role of customer involvement.

Where there are genuine and valid concerns over affordability problems for lower-income segments of the population, special pricing and service arrange-

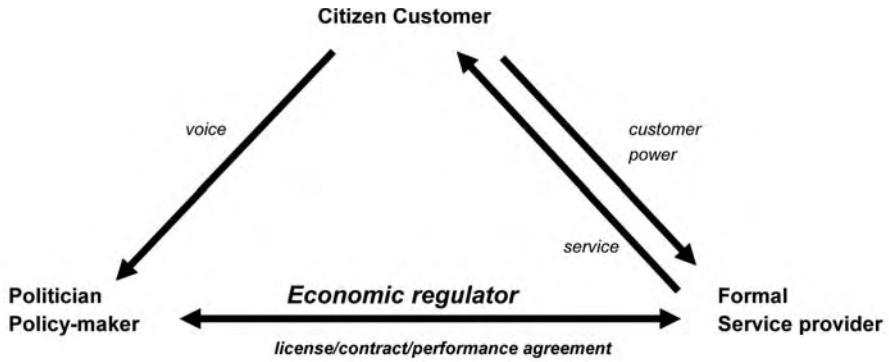
ments may be developed to meet the needs of the poorest. There is a growing consensus that the present broad subsidy schemes, including most increasing block tariffs, tend to bypass poor households, and subsidies are captured by the middle- and higher-income classes who are much more likely to be connected to networked services. Recent research (Franceys, 2005a) has shown that in many instances high initial connection charges, rather than the relatively smaller ongoing usage fees, present the real bottleneck. The challenge for regulators is thus to reconcile cost recovery and social protection objectives as well as developing subsidy mechanisms that explicitly and transparently target people in need. Some countries successfully operate means-tested subsidy schemes (see for example the Chile case study, Chapter 7) though they have been criticized for high administrative costs. Another difficulty lies in defining suitable eligibility criteria, particularly among ‘non-recognized’ communities or slums.

Networked sanitation, that is sewerage, is an expensive form of sanitation that is very appropriate to commercial centres and high-income housing areas. Generally costing at least as much again as piped water supply (120 per cent with safe sludge disposal), when the resulting wastewater is necessarily treated before discharge, there is a tendency in many cities to add on just 20–30 per cent to the water bill for sewerage. Removing this subsidy to the rich, along with the other inherent subsidies, is a necessary part of utility reform. Variations such as condominal sewers or reduced cost sewerage are examples of how technology can be used at a lower price to meet the needs of richer low-income urban customers – technical variations that regulators need to be aware of.

It is worth noting that financial assistance with ongoing water bills as well as initial connections to water services is not just a ‘poor country’ phenomenon. Examples can be found in many comparatively rich nations, with UK water companies as examples of private and public utilities that, as suppliers of an essential public service, have begun to accept their share of the responsibility in dealing with the affordability problems experienced by their customers.

ECONOMIC REGULATION

To achieve all these goals requires a subtle, perhaps impossible, balancing act from any regulatory agency as illustrated by the traditional and much used triangle diagram (see Figure 1.5). The example in Figure 1.5 is adapted from the ‘key relationships of power’ (World Bank, 2003) but in this variation places the citizen customer at the top, as the ‘keystone’. Meeting the needs of citizen customers is after all, the goal. However, the triangle diagram is, not surprisingly, too simplistic to represent the actual process of regulation where there are many more stakeholders involved and where the key balancing act is to achieve the outputs desired by customers and society as against the inputs that customers and governments are willing to contribute.



Source: Adapted from World Bank (2003)

Figure 1.5 *The role of economic regulation*

The *World Development Report 2003* (World Bank, 2003) describes a ‘long route of accountability through the State, politicians and policy makers’ with a ‘short route through client power between citizen clients and providers’. It is the experience of the researchers through contacts with many utilities in many countries that the long route has tended to become so distorted that an adequate voice has never reached the service providers. Similarly the short route tends more towards illustrating the powerlessness of an individual customer in the face of a monopolistic technocratic provider. Experience from South Asia illustrates that customers have become so trained in accepting poor service that customer power has made no difference in situations of just one or two hours of water supply every other day or even once a week. One story is that only when the service frequency reached one or two hours *once in every two weeks* did customer power begin to have an effect. But that was of course when the storage capacity affordable to middle-income customers had been exceeded. The silent poor had been suffering far more for longer.

Hence the authors see the need for an ‘empowered route’ for customer power through customer involvement with the price and service setting economic regulator. The additions to the triangle diagram in Figure 1.6 therefore include a mechanism for customer involvement in the regulatory process. We have also added, in the context of focusing upon serving the poor, the necessary recognition of the informal or indirect customers – indirect in that they may be purchasing the formal service provider’s water through vendors and neighbours on-selling, informal in that they might be bypassing that service altogether, accessing water through non-networked wells and boreholes. Those alternative providers are also illustrated as having links with the formal service provider, perhaps as tanker drivers buying water in bulk, but also possibly entirely separate and therefore needing their own lines of communication with the regulators, along with all the other stakeholders illustrated.

The regulators are placed in this diagram as the adjudicators, the referees between the politicians and policy-makers and the service provider. Many are

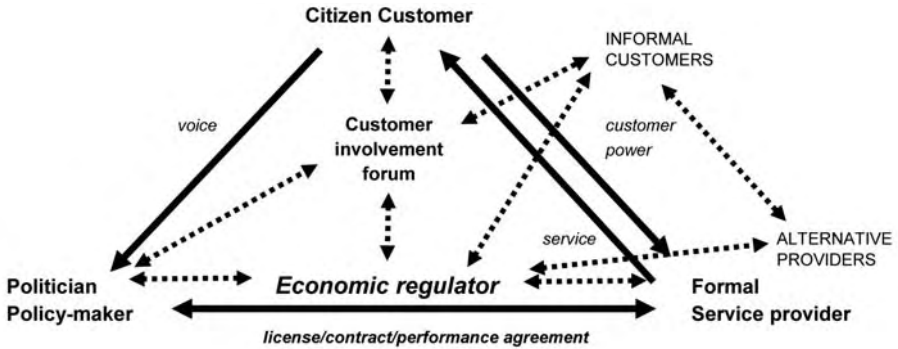


Figure 1.6 *The extended role of economic regulation and customer involvement*

surprised that this is the key relationship that needs ‘regulating’ in the face of a monopoly supplier, assuming that the role should be to adjudicate between the customer and the provider. Some element of this may be required on the (should be) rare occasions that the process required by the regulatory system breaks down. The overwhelming task of regulation is to mediate between the high expectations of society, as filtered through the politicians and policy-makers, with the equally high reluctance to allow a reasonable price. The result has traditionally been that the provider does not have the revenue and consequent access to finance to operate effectively and to enhance and expand service according to need and demand – and all too common where the poor suffer most as a result.

INTRODUCTION TO THE CASE STUDIES

It is this framework that the authors and researchers have used to undertake the fieldwork research as described in the case study chapters. Each case study attempts to explain the context in which service provision is being attempted, recognizing the institutional and legal framework in addition to the economic conditions. There is a description of the performance of the service provider and the way in which economic regulation has been operating. The focus of this study is, however, not on private provision of services, though it is necessarily described where appropriate, or on the efficacy of economic regulation as a whole. This work attempts to ‘drill down’ to the level whereby economic regulation is, maybe, having an effect or could be enabled to have a greater effect on service to the poor.

We have used the terminology of a ‘universal service obligation’ (USO), explained in detail in Chapter 3, to describe the requirement to serve poor consumers for their benefit and for the benefit of society as a whole. Some see a USO as synonymous with a ‘human right’ to water and in many ways it is. We have used the USO description because we believe that in the interests of long-

term sustainability of services to the poor the focus has to be on establishing a viable formal service provider. There is no other means of delivering the capital investment that in the end translates into the economies of scale that deliver the cheapest water to all in urban areas. Therefore the focus on a service obligation also attempts to communicate the necessity that such service has to be paid for. Notwithstanding the limited apparent demand for water described earlier, the willingness to pay for mobile phones, particularly in the slums, has demonstrated that there may well be a higher level of affordability than often assumed. Translating that affordability for water into revenue for the formal provider by all but the very poorest is necessary for service sustainability.

However, the research recognizes that this is a goal unlikely to be achieved in the short term and for that reason we have investigated the alternative service providers to get a better sense as to whether they need to be simply recognized or perhaps incorporated into the regulatory approach – but all with the long-term view of gradually transferring their business to the formal provider. If that formal provider can be enabled to work more effectively why should the poorest have to pay the intermediation costs or the diseconomies of scale of the alternative providers? Such an approach does not necessarily destroy the livelihoods of all alternative providers; it simply encourages them to move out beyond the provider efficiency frontier (explained further in Chapter 10) to the new peri-urban developments so characteristic of the rapidly growing urban areas.

The final part of the fieldwork was to investigate the present approaches to customer involvement, again with a focus on the involvement of poor customers, direct or indirect and to capture the views of some of those consumers relative to the researchers' opinions on regulation and service delivery. Not surprisingly they do not always coincide. In that process the researchers also tried out adaptations of a simple focus group, participatory appraisals with groups of slum dwellers, to investigate and to demonstrate to regulators the level of feedback and customer involvement that could be achieved and that could be drawn upon in regulatory decision-making.

The case study locations were selected through the common approach of attempts at rigour necessarily limited by pragmatism, significantly influenced by where regulators were known to be in place and by where the research partners were based. The cases can be separated into four main groups:

- unregulated (except by the traditional government oversight);
- regulation of public providers;
- regulation of management and concession contracts;
- regulation of 'divested' water utilities.

There is a clear bias in the cases towards services in capital cities. It is in such cities where private sector involvement, and therefore regulation, has initially taken hold, perhaps because it is where governments have felt most required to

do something about service delivery. It is also where the slums are normally largest. The researchers believe that the approaches described later are very scalable to secondary cities and towns but that is a process that is dependent upon economic growth as well as governance extension.

The order of case studies as they are reported here also reflects the length of the practice of economic regulation in that setting. This could be useful in building up an ever-deepening understanding of service to the poor based on the presumption that it is reasonable to expect more regarding service to the poor from those with longer experience. This approach recognizes that getting economic regulation to work for the average, majority, customer is necessarily the initial and primary goal. Equally the length of regulatory involvement might show there is no such correlation with pro-poor service.

Information on country-level statistics is included, national wealth per person for example, poverty levels and the 'Human Development Rank Index', as the reader might like to consider the extent to which such factors affect economic regulation and in particular regulation for the poor. Governance, institutional capital and economic wealth are recurring themes in enhancing service delivery.

The initial fieldwork for this research was undertaken in 2004 and 2005. Although much has changed since then in terms of the names of the owners of some of the private providers, and on occasion the role of any private providers (Ghana has gained a management contract, Bolivia has lost a private concession as examples), the completion of this publication has not uncovered any significant change in the pattern of regulation and, most disturbingly of all, little change in service to the poor.

The fieldwork researchers have a stimulatingly varied understanding or perspective on regulation and services to the poor. Several were deeply suspicious of the role of any privatization and regulation, some had worked for utilities, one is working partly for a regulator, one for an NGO and there are several academics with a background in teaching and researching infrastructural service provision from a management and engineering perspective. The lead researcher has taken a view on the effect of regulation in England and Wales from the perspective of working (very part-time) for the consumer body for water, initially linked to the regulator – a participant observer approach in research terms. We should also explain that the fieldwork in Latin America was much more limited than in the other locations, particularly so in the case of Buenos Aires where because so much has changed and so much remains disputed we have omitted the formal case altogether, though we have included references to that situation where it seemed appropriate. We have tried to capture these different perspectives in the overview while ensuring the individual viewpoints of the researchers are reflected in the individual cases (see Table 1.2).

Table 1.2 *Case studies*

	India	Uganda	Zambia	Ghana	Indonesia	Jordan	Bolivia	Philippines	Chile	England
Human Development Index rank*	128	154	165	135	107	86	117	90	40	16
Population living on <US\$2/day (%)	80.4	–	87.2	78.5	52.4	7	42.2	43	5.6	–
GNI per capita (US\$, 2006)†	3800	1490	1000	2640	3950	6210	2890	5980	11,270	35,580
Country population (millions)	1110	30	12	23	223	6	9	85	16	60
Urban population (%)	29	13	35	49	50	83	65	64	88	90
Urban population growth rate 2005–2010 (%)	2.3	4.8	2.1	3.4	3.3	2.5	2.5	2.8	1.3	0.4
Urban water coverage (%)	95	87	90	88	87	99	95	87	100	100
Water supply by household connection (%)	47	7	41	37	30	96	90	58	99	100
Improved urban sanitation coverage (%)	59	54	59	27	73	94	90	80	95	–
Research focus location	Jaipur	Kampala, Jinja	Lusaka	Accra, Kumasi	Jakarta	Amman	La Paz, ElAlto	Manila	Santiago	Midlands
Research focus population (millions)	2.75	1.3	1.1	2.4	10	2.2	1.4	11	4.7	8.5
Service provider at time of fieldwork	PHEED & JMC	NWSC	LWSC	GWCL	PJ & TPJ	LEMA	AISA	MWSI & MWCJ	AA	SVT, SST
Regulator			NWASCO	PURC	JWSRB	PMU	SISAB	MWSS-RO	SISS	OFWAT
Regulatory start date			2000	1997	2001	1999	1999	1997	1990	1989

Notes: * out of 177 countries. † implied purchasing power parity conversion rate to US\$ (in case study introductions) from EconStats. The researchers believe it is only possible to judge any pro-poor regulatory effectiveness against the scale of the challenge, that is the poverty level of the urban unserved in the context of the urban growth rate, while recognizing the limitations of social, economic and institutional capital as evidenced by the HDI ranking and gross national income (GNI) per capita. However, so as not to distort the cost and price of water supply, in the case studies we have used national currency to US\$ conversion rates at purchasing power parity based upon the rates quoted in EconStats (www.econstats.com/weo/V023.htm accessed 1 February 2008).

Source: Human Development Index (HDI) data from UNDP (2008); poverty and income data from World Bank (2008); urban population data from UNFPA (2007); water and sanitation coverage data from WHO and UNICEF (2006)