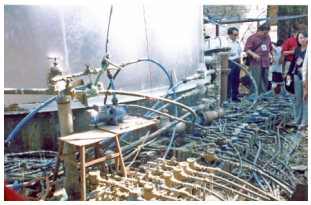
Regulating Public and Private Partnerships for the Poor



Cranfield UNIVERSITY

REGULATION For the Poor LITERATURE REVIEW

What does the published literature say about economic regulation of water and sanitation services, economic regulation in lower-income countries and particularly economic regulation for the poor ?

A regulatory vision:
'A water industry that delivers a world-class service, representing best value to customers now and in the future'

Office of Water Services, England and Wales

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Research Summary

Incentive based, economic regulation of monopoly water and sanitation providers is a powerful tool for improving services. Regulators determine the maximum water price ('price cap') to finance a desired level of outputs. Prices in high-income countries have tended to increase faster than inflation as society demands higher standards. The total revenue requirement (from which the price cap is derived) is determined by adding anticipated operating expenditure to planned capital expenditure (for capital maintenance as well as for improvements in quality, security of supply, service standards and service extensions), plus an acceptable cost of capital. Both opex and capex plans include efficiency targets derived from comparisons between a number of providers. Water companies are allowed to retain any further efficiency savings achieved within the price cap for a period (five years for example), an incentive to achieve even higher efficiency, before the benefits are shared with customers in reduced prices for the future.

This model has been adapted around the world with varying degrees of success, usually in the context of a Public Private Partnership, but until recently it has tended to be reactive rather than proactive regarding early service to the poor. There is now a recognised need for adequate economic regulation of public providers, as well as private companies, in lower-income countries, to deliver similar mechanisms for financeability and efficiency and as a prerequisite for developing effective pro-poor urban services.

The purpose of this DFID research project is to give water regulators the necessary technical, social, financial, economic and legal tools to require the direct providers to work under a *Universal Service Obligation*, to ensure service to the poorest, even in informal, unplanned and illegal areas, acknowledging the techniques of service and pricing differentiation to meet demand.

Looking to achieve early universal service, the research also considers how the role of small scale, *alternative providers* can be recognised in the regulatory process. *Customer involvement*, at an appropriate level, is seen as the third key aspect. The research investigates mechanisms for poor customers, and most importantly potential poor customers, to achieve a valid input to regulatory decision-making to achieve better watsan services within the context of social empowerment and sustainable

Economic Regulation for the Poor: Literature Review

In view of the enormous challenge for regulation in the global water and sanitation sector, this summary paper aims to critically examine the situation from a research perspective. The existing body of knowledge on the subject of water utilities regulation has been reviewed, and the paper presents key concepts and regulatory developments in developed and developing countries in the field of economic regulation and the social responsibilities it has taken on. Works of academics and practitioners have been included, mapping out different perspectives and contentious issues. Much in the same way that the review informed the research at the planning stage and continues to inform its analysis, it now introduces the reader to the "regulatory challenge" ahead.

1. REGULATION

Defining 'regulation'

The growing academic interest in the theory of regulation and regulatory developments is reflected in the growing body of literature available on the subject. The term 'regulation' is used at different levels of generality, and its precise definition differs from discipline to discipline. Usually it is understood to refer to different forms of government intervention into society or, more specifically, market-based activities to induce or curtail certain types of behaviour. The latter corresponds to economists' narrower interpretation of the meaning of regulation as being mainly concerned with economic actors and firms in particular. Standard textbooks also define regulation as the promulgation of specific rules to be monitored and enforced by a public body. The broadest definition offered includes all forms of social control by public or private agents with regulatory effects, whether these are the result of deliberate intervention or merely chance occurrences (Baldwin and Cave 1999).

Regulation of economic activities has a long history in the United States, where early and groundbreaking theories of regulation originated. Regulatory reform (or de-regulation), now underway worldwide, and the privatisation of the British utilities added further perspectives and have widened the academic discourse. Many observers have commented on the conceptual confusion arising from different interpretations and usage of the term 'regulation' by academics and practitioners from different backgrounds (Black, 2002, Prosser, 1997, Jordana and Levi-Faur, 2004). Jordana and Levi-Faur (2004) assert that there is little use and sense in searching for an authoritative and consensual definition. They also make the important point that the various interpretations reflect the changes in the socioeconomic context of regulation. It is not the aim of this paper to review the many and varied theories of regulatory development and conceptualisation which have emerged from economics, law and political science. For the purposes of this review it will suffice to note that definitions of regulation range from narrow interpretations of regulation relating to economic activities to all-encompassing views which include issues of governance, legislation and social control under the heading 'regulation'.

Economic regulation, which broadly refers to government interventions into the market (Posner, 1984) is particularly relevant to the utilities. The lawyer sees economic regulation as the area of interventionist law which addresses instances of inadequate competition and natural monopoly (Ogus, 2001), which is particularly relevant to water services and hence water utilities regulation. The legal rules, however, are not sufficient to achieve regulatory objectives, as Majone (quoted in Jordana and Levi-Faur, 2004, p.12) points out. Regulation, he asserts, "requires detailed knowledge of, and intimate involvement with, the regulated activity." There is indeed a tendency to associate 'regulation' with the activities of utility regulators, as noted by Baldwin and Cave (1999) in the case of post-privatisation Britain, where regulatory decision-making has become increasingly influenced by social policy objectives. The gradual shift in emphasis from "pure" economic regulation to a greater level of social regulation has generated a substantial literature. This review will proceed with examining the current 'state of the art' of utilities regulation in industrialised countries, including its social and economic rationales, as well as regulatory principles and best practice. Section 2 will then turn to the specific challenges found in developing country settings.

Utility regulation

Regulatory rationales

Generally, the motivations for introducing regulation are manifold, but instances of 'market failure', where regulation is deemed necessary to safeguard public interest objectives, top the list of rationales presented in the literature (e.g. Armstrong et al. 1994, Baldwin and Cave, 1999, Bishop et al. 1995, König et al. 2003, Ogus and Veljanovsky, 1984). Of the various types of market failure, the prevention of monopoly abuse is seen as the main justification for regulation of utilities and infrastructure. Ogus (2001) here emphasises situations of natural monopoly, where economies of scale are such that the competitive potential is almost reduced to zero and the market is supplied at lowest cost by a single firm (Baldwin and Cave, 1999, Parker, 1999). Regulation, König et al. (2003) argue, is then required to control profit-seeking behaviour of private providers or to protect customers from inefficient (or low service standard) public monopolies. The authors identify customer's lack of access to adequate information regarding the services they receive, wider societal concerns and 'essential' qualities of certain services as additional forms of market failure which may require regulatory intervention. Ogus (2001) sees an economic justification for what has become known as 'social regulation' in such information asymmetries and externalities. Armstrong et al. (1994) point out the low demand elasticity associated with most utility services, where allocative inefficiencies threaten to cause substantial losses in welfare.

History shows how utility regulation is intrinsically linked

with the wider political and social framework. Black (2002) reports a shift in the normative goals of regulation towards an inclusion of social goals. The British privatisation experience, which involved a drastic reorganisation of ownership and regulatory structures, serves as an illustration of these developments. Beginning with British Telecoms in 1984, the Thatcher government ended an era of public ownership by implementing a large-scale privatisation programme of its utilities. Within less than a decade, telecoms, electricity, gas and water services had changed into private hands. Dedicated industry regulators were appointed for each sector to prevent monopoly abuse by the newly created national or regional private monopolies (Bishop et al. 1995). The transition of public policy from the traditional welfare state with state-coordinated service provision towards private provision (and sometimes ownership) under regulatory supervision is often referred to in the literature as the "rise of the regulatory state" (Minogue, 2002, Cook et al. 2003).

Parker (1999) summarises the rationales for this combination of privatisation and state-directed regulation: In the absence of a competitive market, regulation was premised to act as a price control mechanism and a driver for efficiency improvements. The primary duties of the newly established regulators were to ensure the satisfaction of reasonable consumer demand and the financeability of service provision or, in other words, the ability of companies to finance their activities in terms of service maintenance and investment programmes. Reviewers of the privatisation process frequently comment on its negative side-effects. Young (2001) reports how achieving social equity was soon proving a challenge in a competitive market and resulted in a heated public debate as rising consumer debt stood in stark contrast to perceived excess company profits and managerial pay. Waddams Price and Young (2003) present evidence that some vulnerable groups were adversely affected by the changes following privatisation. Access inequalities to utility services, described as a "necessary condition of participation in a modern society" (p.102), resulted from the erosion of cross-subsidies inherent in the nationalised public services and entrenched the social exclusion suffered by large sections of society. Graham and Marvin (1994) claim that utility sector privatisation entailed a complete change in service ethic with an overriding profit motive. Social dumping of marginal users, which often correspond to poor domestic customers, could be observed as a simultaneous trend to "cherry-picking" as utilities concentrated their operations on the more lucrative market segments. Affordability problems were particularly marked in the water sector, where heavy capital investment was required and prices continued to rise in response to new environmental and quality standards. Controversies centred on disconnection of water services. Within three years of creation of the regional monopolies the number of disconnections had risen sharply to an annual 21,000 households, prompting fears for public health with this loss of universal access (Prosser, 1999, Graham and Marvin, 1994). At that time, Graham and Marvin (1994) called for stronger state protection of universal access to basic utilities services and strong regulators to safeguard equity principles. Prosser (1994) equally criticized the disregard of the social dimension in the utilities regulation debate. He alleged an over-emphasis on economic principles, which neglected the social considerations he perceived as becoming "absolutely central to regulatory credibility and performance" (p.156).

Ugaz and Waddams Price (2003) see the UK experience as proving the relevance of distributional concerns, which they contend were given little attention upon privatisation, to public perception. Social concerns sparked a new wave of government involvement to tackle access, equity and distributional aspects of the essential utility services, reinforced by the 2000 Utilities Act, which included explicit social obligations for gas and electricity regulators. In the case of water and sewerage services, disconnection of residential services for non-payment reasons was banned in 1999 along with pre-payment metering options. The 1999 Water Act also introduced vulnerable charging schemes to assist certain customer groups, whilst its latest revision specifically instructs the regulator to consider the interests of the disabled or chronically sick, pensioners, those on low incomes and residents in rural areas (Water Act 2003, 39, 2C). Nevertheless 20% of the population found themselves obliged to commit an unreasonably high proportion of household income to water bills in 2003, and thus experienced "water poverty" as defined in Fitch (2003b), whilst findings of a review by Narracott (2003) confirmed an under-representation of vulnerable customers' interests in the regulatory system. The National Consumer Council (2002) attributes this marginalisation to their being "pigeon-holed as being 'hard-to-reach'" (p.4).

Even a far more elaborate social security system than in other countries who have experimented with utilities privatisation and liberalisation and virtually universal connection levels have not prevented utilities regulation from becoming highly politicised in the UK, Waddams Price and Ugaz (2003) point out. In addition to its primary goal of maximising economic efficiency, the remit of regulation has been extended over the years to include social dimensions (Prosser, 1999). There is now a greater emphasis on distributional and other supplementary aims compared with a purely economic view of market failure correction. Much of the contemporary regulatory debate has been confused by the failure to distinguish between the economic and social rationales for utilities regulation, Prosser (1997) argues. He distinguishes three types of regulatory tasks with different regulatory rationales. Monopoly regulation, which aims to increase allocative efficiency in the absence of effective competition, and regulation for competition both find their justification in purely economic reasoning. Social regulation, in the case of utilities, is founded on the belief that services should be made accessible to the widest possible range of social groups. Having explored the 'why' and 'what' questions of utilities regulation, the next section will look more closely at regulatory design and procedure. There is a vast literature on 'how to regulate', ranging from economic analysis of various regulatory approaches to critical evaluations of appropriate institutional arrangements. As regulation of household water services is the subject of primary interest, the focus of this

review is on conduct regulation rather than regulation of market structure, seeing that the nature of the industry is such that there is little scope for introducing competing networks.

Principles of economic regulation

Incentive regulation – driving efficiency

The standard textbook identifies efficiency and cost reduction as the major objectives of regulation (Baldwin and Cave, 1999). In the absence of information asymmetries, economic regulation would be a simple matter of calculating optimal prices, determining cost reductions to be achieved by a firm and issuing instructions to this effect. This statement implicitly underlines the crucial role information plays in the regulatory process as recognised by the New Regulatory Economics (Armstrong et al. 1994). Due to their informational advantages over regulators, firms have to be given incentives to reveal their efficiency potential and implement cost reductions. The key design issue for incentive regulatory systems lies in achieving the right balance between incentives and the distribution of efficiency gains, or profit, between shareholders and customers (Vass, 2003b). Baldwin and Cave (1999) discuss the relative advantages of the two available alternatives, rate of return regulation ('cost-plus pricing') and price capping. The degree to which a company will be compelled to improve long-run efficiency is determined by the rewards offered. As with a fixed rate of return a company benefits little from improved efficiency, rate of return regulation is considered a low-powered incentive mechanism.

RPI-X, the best-known variant of the price cap which has become the most distinctive feature of British utility regulation (Rees and Vickers, 1995, Armstrong et al. 1994), provides higher-powered incentives for outperforming efficiency targets. Efficiency gains are retained as economic profit by the company for a certain period of time and passed on to customers at regular price reviews, when price controls are set for the next regulatory period. This 'regulatory lag' is described as the key feature distinguishing RPI-X from rate of return regulation (Armstrong et al. 1994). When it was first introduced, RPI-X was perceived as the superior alternative due to its greater inherent cost efficiency incentives and operational simplicity. After two decades of RPI-X regulation, it has proven more complex and problematic than anticipated. Rather than being gradually replaced by the introduction of competition as expected it had to be supplemented with quality controls (Armstrong et al. 1994, Rees and Vickers, 1995). For all its successes, RPI-X has failed to eliminate the fundamental problems of regulation, which are discussed below.

Regulatory risk

In addition to the information asymmetries, the economic of regulation is complicated by problems of policy commitment and regulatory capture by other interests (Armstrong et al. 1994, Rees and Vickers, 1995). Determining a company's efficiency potential and setting a price cap accentuates the information problem. Whilst operating costs should be observable from published company accounts, information relating to capital expenditure, the value of existing assets, cost of capital, and projected productivity and demand is not readily available. In his discussion of the RPI-X mechanism, Vass (2003b) exposes the problems of inconsistent or underdeveloped methodologies for resetting price controls. Whilst perceived 'excess' profits have undermined confidence of the British public, relationships between regulators and investors have become strained following a series of 'unnecessary' disputes. Appeals processes can substantially add to the cost of regulation, which is often cited as an important factor.

The commitment problem primarily relates to the danger of opportunistic behaviour on the part of the regulator. Specifically, it refers to *ex post* opportunism, the temptation for regulators to break the 'regulatory contract' after a firm has made capital expenditures by tightening policy such that the company will find itself unable to recover the investment. This exploitation of the sunk cost nature and irreversibility of infrastructure investments bears the risk of underinvestment as investors expect guarantees of a 'fair' return on investment and an increase in the cost of capital where uncertainties persist (Armstrong et al. 1994, Rees and Vickers, 1995). But the commitment problem is not exclusively connected with regulatory discretion, as Rees and Vickers (1995) point out. A change of government may involve a change of regulatory policy with similar results. Baldwin and Cave (1999) cite 'windfall taxes', which can and have been employed to recapture large industry profits during initial regulatory periods, as an example of political intervention which may reduce incentives if regulated firms suspect that the tax will be repeated.

The literature also warns of making the premature assumption that regulators will always choose to act as guardians of the public interest. Armstrong et al. (1994) trace the evolution of 'capture theory' back to the Chicago School economists, who considered the option of regulators becoming aligned with the industry to the extent that they act in the interest of incumbents rather than consumers and potential competitors. Laffont and Tirole (1991) develop the early capture theories further to include other interest groups who would compete in the 'market for regulatory decisions'. Armstrong et al. (1994) find evidence in favour of limiting regulatory discretion where there is risk of capture, but conclude that the literature offers little insight beyond the implied need to balance authority and incentives for regulatory authorities - as well as companies - to maximise social welfare.

Institutional structure of regulation

The stability of the 'regulatory bargain' depends as much, if not more, on the structure and behaviour of regulatory and political institutions as on the form of regulation adopted (Rees and Vickers, 1995). Much debate has centred on the independence of regulators and how to establish and maintain arms-length separation between government, operators and regulators. In the UK, individual regulators specialising in a single industry were expected to allow quick and unbureaucratic decision-making (Baldwin and Cave, 1999).

König et al. (2003) see personal accountability and predictability of decisions as advantages of UK-style individual regulators. Fast professional development is cited as an additional benefit of single-industry regulators by Parker (1999), who also provides arguments in favour of multi -industry regulators. Cross-sector knowledge transfer can improve efficiency and effectiveness, economise on regulatory expertise as well as providing a more consistent approach across the various regulated industries. Without stating a preference, König et al. (2003) provide arguments in favour of regulatory commissions. Spreading decision-making power amongst several members reduces the risk of capture and can provide different perspectives on a given problem. The authors also see the potential of greater stability and continuity in the event of changing governments as discussed previously. The more practically-oriented publications such as König et al. further discuss institutional design issues such as appointment of regulators and funding arrangements, which otherwise receive comparatively little mention.

Water industry regulation

Relative to the large body of literature on the various aspects of regulation, there are few published accounts of sector-specific research. The British water regulator OFWAT (Office of Water Services) generally features in the literature on British regulatory reform, and there is an emerging literature describing regulatory experiences in developing countries, which will be the subject of later parts of this review. The basic approach to water utilities regulation shares many of the principles already discussed, with quality issues assuming greater significance in the water industry than in other infrastructure sectors. Klein (1996) maintains that regulatory mechanisms - within or independent of government - can be found in all countries to counterbalance the monopoly elements inherent in piped water systems. He emphasises the paramount importance of regulating and monitoring performance standards relating to service quality aspects. There he distinguishes health and safety issues arising during the production process (environmental impacts) and service provision (water quality) as well as the quality of customer service.

In the UK, regulatory responsibilities are divided between several agencies. Strict environmental and quality regulation is exercised by the Environment Agency and the Drinking Water Inspectorate respectively, influencing OFWAT's regulatory decisions, which lie in the economic domain. The preceding section has already hinted at the link between price and quality regulation, which is reflected in the water industry's price cap, RPI+K. The K factor reflects the scheduled increase in real prices. Armstrong et al. (1994) identify investment as a crucial determinant of K, as companies need to be enabled to meet statutory environmental and quality standards. The peculiarities of the water industry have influenced regulatory procedure. In response to the limited potential for competition, OFWAT has placed greater emphasis on refining benchmarking techniques. Armstrong et al. mention the opportunities for yardstick competition, i.e. efficiency comparisons between the regional water monopolies. Klein (1996) suggests a possibility of generating such yardstick information across different countries. Recent OFWAT publications set out the regulatory approach to encouraging investment "at the right level and at the right time" (OFWAT, 2004, p. 34). In consultation with stakeholders the regulator has established clear procedures regarding the determination of the 'unknowns' discussed above to ensure financeability but sharing the benefits of greater efficiency with customers.

'Good' regulation

Several concerns regarding regulatory performance and regulatory conduct have transpired during the discussion of the literature so far. Authors have commented on the effectiveness and efficiency of regulation in correcting market failure and achieving social equity objectives under different regulatory arrangements. Some have questioned regulatory authority and legitimacy of decision-making. Regulatory discretion and the various monetary and non-monetary costs of regulation have been subject of debate. The majority of authors have implicitly and explicitly suggested regulatory principles such as credibility, independence, accountability, trustworthiness, competence and commitment as well as transparency, fairness, consistency, and predictability of decision-making. These attributes of 'good regulation' have occupied a host of academics, consultants and government advisors, and this section discusses some of the literature that has been produced.

Regulatory performance and legitimacy tests

Berg (2000) identifies three elements that determine the effectiveness of regulation. A regulatory agency must be provided with a well-defined legal mandate and adequate organisational resources to successfully carry out its duties. The agency itself then needs to develop a set of core values or operating principles which are consistent with its policy objectives. He acknowledges that newly created agencies are likely to deviate to greater or lesser extent from this ideal case, and the factors typically evolve over the lifetime of government agency. The legal mandate serves as a basis of regulatory authority whilst circumscribing the boundaries of regulatory jurisdiction divides responsibilities between the line ministry and the regulator. Berg argues that explicit legal statements regarding the regulator's functions are desirable, and the provision of appropriate instruments facilitate the achievement of regulatory objectives. Agency values play a crucial role in establishing the legitimacy of the regulator in the eyes of the other stakeholders involved in the regulatory process.

This question of regulatory legitimacy or 'worthiness of public support' is central to the effectiveness of regulatory systems. It has also elicited debates on the justification of regulatory discretion and the extent to which it should be limited. Prosser (1997) summarises the argument with respect to the economic and social rationales of utilities regulation: Whereas regulators derive legitimacy from their technical expertise in increasing allocative efficiency, which requires rational and non-arbitrary

decision-making, distributive concerns (i.e. the social rationale, which is of key importance to utilities) involve choices which some parties prefer should rest with government holding the democratic mandate. Baldwin and Cave (1999) suggest that regulatory performance is best evaluated against five key benchmarking criteria, a suitable combination of which can be argued to legitimise regulatory arrangements or decisions: The *legislative mandate* satisfies the need for authorisation by a democratically elected body, but does not solve the problem of discretionary decision-making as legislation is often framed in ambiguous terms. *Accountability* of the regulator to a democratic institution can act as a substitute for imprecise mandates. Fairness, accessibility and openness of regulatory procedure are the basis of the '*due process*' argument, which calls for stakeholder participation in regulatory policy. Decisions may further be justified by the level of regulatory *expertis*e, but this criterion relies on public trust in the reliability of expert judgements and may fail to satisfy the accountability criterion. Finally, *efficiency*, both in the implementation of the legislative mandate (productive efficiency) and the production of desirable outcomes (allocative and dynamic efficiency), can be used as a claim for legitimacy. However, in addition to being difficult to assess objectively, efficiency of utility regulation is entangled in Prosser's (1997) argument regarding regulatory rationales. König et al. (2003) concur with these five 'key test of regulatory legitimacy', but seem more realistic regarding the trade-offs involved in attempting to improve regulatory performance on all counts simultaneously.

Principles of good regulation

Baldwin and Cave (1999) claim that their five benchmarks are consistent with the principles of regulation highlighted in the regulatory debate. This debate has been driven by the practical need for well-designed and balanced government interventions, and is thus not confined to theoretical academic discourse. According to the five 'Principles of Good Regulation' endorsed by the British Government, regulators should aim for *proportionality* of interventions relative to the risk and costs of compliance. The *accountability* principle demands that regulators should be able to justify their decisions and remain open to public scrutiny. *Consistent* application of rules is expected to heighten predictability and relieve uncertainties amongst the regulated. *Transparency* involves effective and timely stakeholder information and consultation, and *targeting* of interventions allows for flexibility in meeting clearly defined targets and systematic review of the effectiveness of specific regulations (Better Regulation Task Force, 2003). The Australian counterpart task force (quoted in Berg, 2000, p.161) identified a total of nine best practice principles: C*ommunication* and *consultation* to promote stakeholder information and participation, *consistency* and *predictability* of decision-making, *flexibility* in the selection of policy instruments and their adaptation to changing conditions, *independence* to remove undue political influence, *effectiveness and efficiency*, *accountability*, and finally *transparency* of the regulatory process. Berg (2000) takes the international experience so far as evidence that these principles (or agency values, in his terminology) are required to support regulators in their activities. Quoting Stern and Holder (1999), Berg (2000) then separates the principles of good regulation (or good 'agency governance') into those relating to agency design and those relating to the regulatory process. Good agency design hinges on clarity of roles, autonomy and accountability, whereas participative, transparent and predictable processes enhance the legitimacy and effectiveness of newly established regulators vis-à-vis other non-government stakeholders.

Implementing 'good' regulation

Researchers have approached the issue of implementing good regulatory practice from different angles. A number of authors have highlighted the effect of discretionary decision-making on companies' investment decisions as well as the cost of capital, both of which ultimately influence consumer prices and quality of service. Armstrong et al. (1994) merely raise this issue of regulatory risk in their discussion of RPI-X, whereas Vass (2003a) directly links the problem with the question of regulatory independence. His conclusion is that both regulatory and ministerial discretion should be constrained to protect regulatory objectives from individual interests, whereby independence of economic regulation serves to control the dangers of political interference. In his view, this approach to risk minimisation has the additional benefit of promoting public confidence, which becomes a central concern as contemporary regulatory regimes attract criticism for a perceived lack of accountability and transparency as much of the literature confirms.

Minogue (2004) examines the accountability and transparency principles and draws attention to the variety of instruments that can be employed to satisfy public demand for more 'openness' in regulation. He shows that increased transparency of regulatory systems and accountability of actors are not goals *per se*, but instead fulfil the purpose of maintaining an equilibrium state of regulatory objectives and outcomes for regulatory regimes that are embedded in the prevailing administrative doctrine and are thus predisposed to certain policy instruments. The 'traditional' public administration approach prefers a more legalistic approach to regulation, in which expert review is expected to provide justification for regulatory decisions and thus accountability. Under the 'consumer sovereignty' doctrine, information is emphasised as a means to improve consumer choice, and finally, 'citizen empowerment' advocates maximum public scrutiny through direct involvement of informed citizens. Each scenario draws on a different combination of the four 'transparency tools' (voice, choice, representation and information). Minogue also shows that certain trade-offs are associated with the pursuit of accountability and transparency, and how the holding to account of all activities may result in an increasingly rigid regulatory system.

Vass (2003a) directly comments on the British principles of 'better regulation' as they relate to the utilities sector. With regard to the transparency principle, he argues that a clear statement of policy objectives ought to be supplemented with the promotion of clear expectations amongst customers and

the general public. The ubiquitous negative portrayal of 'profit', for instance, is counterproductive for confidence in incentive-based regulatory system. Targeting, he explains, is related to the cost-effectiveness of regulatory interventions, and the consistency principle should not be mistaken for rigidity. Consistency relates to the objectives of regulation and does not preclude a level of regulatory discretion to adapt rules flexibly in the light of new information and accumulated experience.

2. Regulating water services in Low and Middle Income Countries

In much of the developing world, low-income households do not enjoy access to safe, convenient and reasonably priced water services at the same level as their wealthier counterparts at home and abroad. Over the past two decades governments have implemented infrastructure reforms, usually involving

Children playing in a slum in Metro Manila, Philippines

neo-liberal economic strategies as promoted by international financing institutions (Cook et al. 2003, (Nickson and Franceys, 2003)). Although the policy changes in the water sector are less markedly inclined towards private sector participation, utility ownership, operation and oversight functions have become redefined in attempts to improve water utilities performance. The various models of regulation which have been experimented with and the very specific challenges to regulation which have emerged in developing country settings will be the subject of this section.

The context for water services

Before moving on to the workings of utilities regulation in lower-income economies, this first part will take a step back with the intention to familiarise the reader with the 'local realities' in the target countries. The literature is reviewed to gain a basic, but sound, understanding of the problem of urban poverty and the fragmented water markets that serve low-income households, which constitute an important aspect of the operating context for water regulators in the developing world.

The concept of urban poverty

The concept of 'poverty' revolves around various aspects of deprivation. Hossain and Moore (2002) suggest that poverty reduction strategies driven by international organisations have resulted in an over-emphasis on quantitative definitions of poverty', often in highly narrow economic terms. Friedmann (1996) distinguishes four major approaches to conceptualising 'poverty'. The bureaucratic approach prefers precisely defined absolute and relative poverty lines, which usually measure the lack of financial resources, and are essentially political definitions according to Friedmann. The moralistic approach, referring to the "destitute", "indigent", "deserving poor", or popular classes, for instance, implies moral judgements. Academics speak of "structural poverty", "exclusion" and marginalisation", and tend to associate poverty with external conditions, such as the prevailing socio-economic order. Finally, the disempowerment explanation, founded in social activism of poor communities, includes social, political and psychological dimensions, such as lack of access to resources, lack of voice in the political process and lack of self-confidence. Hossain and Moore (2002) argue that in policy terms, poverty is a matter of perception rather than simple facts, and with this perception the conceptualisation of poverty varies over time. The definition of poverty has now shifted from classical poverty lines to including non-monetary criteria such as health, education, lack of voice and power. The multiple dimensions of poverty, which encompass aspects of insecurity, vulnerability, indignity, and repression, are now widely recognised by practitioners as well as academic researchers, who acknowledge the significance of social exclusion in assessing the origins and implications of poverty (Courmont, 2001, World Bank, 2001).

A study of the literature on water supply and sanitation services shows that the urban poor are normally assumed to be slum dwellers, squatters or occupants of multi-tenancy buildings of a sub-standard quality, and vice versa residents of such areas are assumed to be poor. It is less apparent in

Informal housing in Jakarta, Indonesia

which locations researchers expect to find poor urban communities, although some authors specifically refer to the expanding urban fringe and peri-urban areas. The diversity of the poor is now being emphasised (UN-HABITAT, 2003a, Plummer, 2002b), but there remains the practical problem of incorporating measures of security, empowerment and opportunities into the standard measures of poverty. Some broad classifications are needed to define the beneficiary target group for this research, i.e. which urban poor communities can reasonably be expected to benefit from the economic and social regulation to be introduced. Plummer (ibid) explains how the degree of poverty affects household priorities: Whilst the "very poor" have no money at all to spare for water services, the "middle poor" prioritise water over sanitation, whilst the "better off poor" cut back on service expenditures only in emergencies. The micro-financing literature, which distinguishes the "destitute", "extremely poor" and "very poor" from the "moderately poor" and "vulnerable non-poor" who are at risk from marginalisation and deprivation, offers a further useful starting point (e.g. Cohen and Sebstad, 1999, Hasan, 2003, Simanowitz, 2004).

Water services for the urban poor

Problems with assessing the adequacy of water services have long been recognised, but are still subject of review and debate. The often-quoted Global Water Supply and Sanitation Assessment 2000 Report only refers to "improved" access to

Water kiosk in Nyeri, Kenya

drinking water, providing its own definition of what is considered an "improved source" (WHO and UNICEF, 2000). Satterthwaite (2003) gives a passionate account of how "nonsense statistics" obscure the true level of urban poverty and the extent of the challenge that lies ahead in providing water to all those presently un-served or under-served. He challenges reports from various countries who report high service coverage achievements, when in fact large proportions of the population rely on the classical "poor people's solutions" such as standpipes and kiosks.
Even where "adequate" supplies are on the increase in absolute terms, official coverage statistics are often found to be misleading, as they "confound growing numbers of connections with growing population" (Foster and Araujo, 2004, p.18). Webb and Iskandarani (1998) introduce the concept of household water security, which draws upon existent theory relating to the concept of food security, and combines aspects of availability, access and actual water use on a macro-scale, suggesting that poor households are particularly water insecure. Although the paper neither exclusively nor specifically addresses the issue of urban water supply, the underlying concept of considering water as a resource, an economic commodity and a human entitlement provides interesting ideas for developing a corresponding concept of 'urban household water security', which could replace the purely technical notion of "adequate access".

Poor urban communities face various problems in accessing networked water services, many of which are related to water companies' perceptions. Slums, housing large urban communities, have been described as the "water engineer's nightmare" (Katakura and Bakalian, 1998). Reasons other than distance from existing networks and accessibility problems explaining the operators' reluctance to connect residents of slums and shantytowns include the perceived problems of affordability and non-payment and the lack of security guarantees for pipelines and connections installed on land of insecure or disputed ownership (Almansi et al. 2003, McPhail, 1993, WaterAid, 2001). Almansi et al. (2003) show that frequently access is delayed, if not denied, by cumbersome administrative procedures. A detailed literature review on the "connection charge barrier", which according to Clarke and Wallsten (2002) will continue to "make a mockery of any policy intended to connect the poor", has been carried out for this research programme's sister project. It was found that the issue of "charging to enter the water shop" had not been addressed in any systematic way in the literature (Gerlach, 2004). The results of the research confirmed the suspicion that connection costs in many cases are not only too high, but also lack predictability, thus seriously hampering service access for the urban poor (Franceys, 2005). Alternative options of accessing water services are examined in the next section, which establishes current knowledge on actual and existing water markets in developing country cities.

Urban, developing country water markets

Coping with inadequate services

There is widespread agreement on the fact that the continuous pressures of rapid population growth and rising poverty levels far exceed the capabilities of conventional public service provision, which more often than not suffers from inadequate infrastructure networks, historic underinvestment and managerial inefficiencies. Service failures occur on a multitude of levels, and service for poor people is usually equivalent with poor quality service (World Bank, 2003, Brocklehurst, 2002). Official service coverage statistics often mask the extent to which households, and in particular the poor and vulnerable, rely on costly or time-consuming coping strategies

and alternative means of securing drinking water supplies (Zérah, 1997, UN-HABITAT, 2003b). As attention focused on the centralised monopoly providers and their various shortcomings, there was only occasionally note of the widespread occurrence of water vending in the literature (Zaroff and Okun, 1984), and alternative providers were not "rediscovered" until the late 1990s. Today there is growing interest in the irregular and fragmented urban water markets where a variety of agents occupy the many gaps left vacant by the utilities, and in particular (but not exclusively) caters for lower and lowest income households, where there are no options for self-supply. Many case studies have examined the nature of alternative providers (e.g. Solo, 1998, Collignon and Vézina, 2000, Llorente and Zérah, 2003, Conan, 2003) and governments, donors and advisors acknowledge their role in

terms of the number of people they serve, and their ability to successfully match services with the needs of a diverse and often financially and socially disadvantaged clientele (UN-HABITAT, 2003b, World Bank, 2003, Brocklehurst, 2002, Stallard and Ehrhardt, 2004, Plummer, 2003, McIntosh, 2003).

Types of alternative providers and market share

The African Water Utilities Partnership (Plummer, 2003) classifies alternative providers into intermediate and independent service providers. Intermediate providers effectively act as utility extensions by purchasing bulk quantities of water and distributing it, whereas independent providers develop their own sources and supply systems, sometimes in competition with the utility. A small number of "pioneers" operate independent distribution networks with individual household connections; but vendors and resellers are the most commonly found type of alternative provider (Conan, 2003). The long list of types of alternative providers ranges from water tankers supplying un-served areas, water carriers providing a door-to-door delivery service, water points and kiosks owned or managed by communities or NGOs, and privately managed utility stand posts to water being sold by neighbours or landlords with a household connection. Though many of the alternative providers' businesses are not officially registered, cases of illegal distribution of utility water have also been reported (McIntosh, 2003, WPEP, 2000. The definition of an alternative provider becomes somewhat ambiguous, with blurred boundaries between local entrepreneurs operating within the informal economy and those engaging in outright theft and fraud.

Alternative providers' market share varies widely across the developing world, ranging from 5-15% in South Asia and 20-45% in South East Asia (Conan, 2003), to some 25-50% in Latin America (Solo, 1998, 1999) and up to 80% in African cities (Collignon and Vézina, 2000). Their significance is neatly summarised by Solo (1998), who finds that in Port-au-Prince, Haiti, alternative providers "produce about 10 percent of the urban water supplied, distribute about 20 percent of the city's water, and reach some 70 percent of the households". Alternative providers are beginning to conquer traditional strongholds of public service provision, such as India (Zérah, 1997), and there is an emerging market for bottled water, with sales on the rise reported from many countries (Foster and Araujo, 2004, Conan, 2003, Raghupathi, 2003, Llorente and Zérah, 2003). Researchers find the significance of alternative providers increases outside of major urban centres (Collignon, 1998, Solo, 1999).

Successes and failures of alternative providers

The overriding concern of opponents and sceptics are the rates charged by alternative providers, frequently described as "exorbitant" and "overcharging" (Zaroff and Okun, 1984, Espinosa and López Rivera, 1994, Vézina, 2002). An overriding profit motive, anti-competitive monopolist behaviour, occasional illegal involvement of corrupt utility staff, and the threat of capture by local elites or mafias are feared to exclude vulnerable groups and reinforce existing inequalities (Mitlin, 2002). The safety of largely unmonitored drinking water supplies has also been questioned. Secondary concerns include possible irregularities and unreliability of supplies and independent providers' activities undermining long-term sustainability, as exemplified by the over-abstraction of local groundwater resources (Zaroff and Okun, 1984). In contrast to these criticisms stands the unanimous agreement on alternative providers' good understanding of the market, their customer responsiveness, and remarkable resourcefulness in finding simple, but effective solutions under the most adverse operating conditions. Stallard and Ehrhardt (2004) advise private sector participation (PSP) projects to cooperate with alternative providers on account of their ability to serve customers beyond the reach of conventional projects and their ability to cater specifically for the poor through innovation, flexibility and economical solutions. Authors positively note the generally good and often personal relationships between suppliers and customers (Solo, 1999, Raghupathi, 2003). Knowledge of customer habits and preferences and the financial situation of the households served allows alternative providers to adjust payment plans to customers' income schedules or even delaying payments (Troyano, 1999). Whilst Llorente and Zérah (2003) criticise alternative suppliers for only providing peripheral solutions, Solo (1999, 1998) cites their readiness to see beyond the official city limits and experiment with innovative, unconventional

technologies as admirable strengths. Community management is portrayed as an option allowing for extensive household participation in designing and delivering services, albeit not without certain capacity and sustainability problems (Mitlin, 2002).

Constraints on alternative providers

The lack of official recognition of alternative providers' functions and their ambiguous legal situation are presented as a core problem by Plummer (2002). Communication with public authorities is likely to be non-existent, and the attitude of formal (private) monopoly providers, protected by exclusivity clauses in their concession agreements, may range from tolerance to outright hostility (Collignon and Vézina, 2000). Obel-Lawson and Njoroge (1999) report that even where official policies have been reformed they are unlikely to accommodate independent providers. The ambiguous operational framework increases alternative providers' business risk to the extent that it becomes virtually impossible to raise money for investments from commercial banks. Without access to public subsidies and conventional financing, independent small-scale businesses invest family savings and are consequently forced to achieve full recovery of all costs (Solo, 1999). Insecure investments severely restrict planning horizons, with typical amortisation periods ranging from less than three months in the case of vendors and resellers to approximately three years for independent suppliers (Conan, 2003, Troyano, 1999, Drangaert et al. 1998). Recent study results indicate that profit margins are lower than presumed, and operators are surviving on modest incomes (Vézina, 2002, Collignon and Vézina, 2000, Conan and Paniagua, 2003).

Regulation in the developing country context

Regulatory rationales in developing countries

The beginnings of utilities regulation in developing countries are usually associated with post-privatisation reforms under the guidance of foreign advisors. Incentive regulation based on England and Wales' OFWAT model has become a popular export to developing countries (Nickson and Franceys, 2003, Parker, 1999). However, some authors have voiced their disapproval of such policy transfer experiments, the sparse literature on which suggests that "blueprints are borrowed, but honoured in the breach more than the observance" (Cook et al. 2003, p.24). Many see the reasons for regulatory failure in the failure to address the local realities described above. Minogue (2003) detects a disparity between regulatory 'best practice' as promoted by donors and existing (and different) administrative, political, legal and economic conditions in the developing countries under reform. Laffont (2005) finds the initial reliance on conceptual frameworks borrowed from the Western World not surprising, noting that there is a distinct lack of theoretical understanding of economic regulation in developing countries. Academic researchers are only beginning to build the foundations for a theory of regulation that recognises the constraints and objectives of economic regulation in developing economies (Parker and Kirkpatrick, 2002, Laffont, 2005). Parker and Kirkpatrick (2002) suspect this theory may be substantially different to the accepted theory which originated in high-income nations.

In view of the major service gaps commonly found in developing countries it is now becoming clear that regulatory rationales necessarily differ from those in developed countries. Widespread poverty pushes social objectives higher onto the political - and hence regulatory - agenda. Practitioners state the challenge more boldly as finding "reasonable ways to improve substantially and on a large scale the service provision for the poor" in an environment that is characterized by inefficient social redistribution systems and a large share of the population surviving at or below the poverty line (GTZ, 2004, p.7). Minogue (2003) argues that regulating for development and poverty alleviation may require a higher degree of political intervention on behalf of the poor than conventional models of independent regulation permit, even if such independence should be aspired to. Together with Cook (Cook and Minogue, 2003) he proposes to think of regulation as the 'bridge' between often conflicting efficiency and welfare objectives. What under the conventional 'fixed bridge model' would amount to regulatory capture, is simply making allowances for the special circumstances of developing countries in terms of the scale of the need and institutional and capacity deficits under the suggested 'flexible swing bridge' model. This notion is supported by Stern and Holder (1999), who emphasise the need to reach clarity about regulatory objectives and requirements whilst retaining flexibility and creativity with respect to optimal institutional setups for each country and industry.

Metropolitan Water works and Sewerage System Regulatory Office

Regulatory failures and constraints

Nickson and Franceys (2003) note that experiences with water regulation remain limited. Nevertheless the literature is full of anecdotal evidence of regulatory failures, mostly relating to some form of capture. Shirley and Ménard (2002) suggest that it was the bureaucratic and legal institutions' susceptibility to political interference and corruption which ultimately weakened regulators in Latin American and African case study countries. Trémolet and Browning (2002) demonstrate

that not even autonomy necessarily protects against overrule of regulatory decisions by political interests. Esguerra's review (2002, cited in Mitlin, 2002) of the world's largest water concessions in Manila reveals that the (under-) bidding private companies subsequently tried to influence the regulatory process to rule in their favour. Instances of undue intervention on the part of regulators, effectively leading to 'micro-management' of the service providers' operations, have also been observed (Nickson and Franceys, 2003). Nickson and Vargas' (2002) analysis of the perhaps most spectacular failure of PSP identifies weak regulatory capacity as one of the decisive factors in the termination of the Cochabamba concession following the high profile water conflict in Bolivia. In spite of attempts to create an appropriate regulatory framework, the conflict was characterised by almost continuous political intervention and pressure on the regulator to endorse pre-determined government decisions. Regulatory budget constraints, lack of qualified staff, an ambiguous legal framework and the lack of consumer participation exacerbated the problem.

The above evidence only confirms earlier warnings about constraints that political and economic environments impose on the new regulators. In 1999, Parker summarised the prerequisites for UK-style regulation as political commitment to regulatory independence and a "reasonably stable" economy. He fully acknowledged the need to beware of trying to copy a system which has achieved many benefits for consumers and investors in its home country into a setting where the right balance of regulatory independence and accountability may be even more difficult to achieve. Anticipated problems include the continuation of customary political appointments, which undermine the credibility of regulators and thus investor confidence, recruitment problems, and a high risk of political intervention, intensified by the lack of vocal parliamentary opposition and free press (Parker, 1999). A more recent review identifies the lack of regulatory capacity as a major challenge to successful regulation in developing countries (Cook et al. 2003). Cook et al. add the limited potential to recruit skilled regulatory personnel, a problem which is further complicated by low civil servant salaries, to Parker's above list. Developing countries, they argue further, are predisposed to 'gaming' as the potential lack of government integrity, independent media and judiciaries allow for greater exploitation of the information asymmetries inherent in the regulatory process. Under these circumstances, further research needs to focus on understanding and addressing information asymmetries, appropriate regulatory instruments, institutional aspects of regulation such as incentives, regulatory structures, and capacity building, and how the principles of 'good regulation' can realistically be incorporated into regulatory reform in developing countries (ibid).

What these papers fail to note is the fact that the sequence most commonly observed is that regulatory arrangements follow after negotiations for private sector involvement have begun (Nickson and Franceys, 2003). Not surprisingly, early regulation efforts have focused on contractual arrangements, where price-sensitive contract deliverables, at least initially, take precedence over other considerations (Halcrow, 2002). In McIntosh's (2003) view this reduces newly created regulatory bodies to contract administrators. The Asian Development Bank (2001) confirmed that regulation in the region had indeed not evolved significantly away from mere contract administration. McIntosh (2003) claims that most developing countries have only implemented regulation by contract over the past decade. Halcrow management consultants (2002) use the terms 'regulator' and 'contract supervisor' interchangeably, which opens up questions regarding foreign advisors' understanding of the nature of regulation in developing countries (2002). The problem of sequencing and inequalities between negotiating partners in terms of experience thus becomes acute (Budds and McGranahan, 2003, Mitlin, 2002). Johnstone et al. (cited in Mitlin, 2002, p.17) note that the high level of concentration in the international water market may tip the balance in favour of private companies "who know a lot more about regulatory options and their potential consequences than the regulators themselves".

Privatisation, regulation and the poor

Although some authors continue to blame the World Bank for neglecting the effects of service privatisation on low-income households (Bayliss, 2002), a growing interest in the impact of privatisation on poverty can be detected in the literature (Brocklehurst, 2002, Budds and McGranahan, 2003, Clarke and Wallsten, 2002, Estache et al. 2000, Gutierrez et al. 2003 ,Weitz and Franceys, 2002). Irrespective of the views on dangers and benefits of private sector participation in service provision expressed by the authors, the critical issues converge; affordability problems associated with tariff rises, cost of connections and widespread elimination of illegal connections, and the challenge of achieving universal service coverage feature in the majority of accounts. Critics and champions agree that adequate regulatory structures need to be in place for privatisation to have the desired effect of connecting and protecting the urban poor. Where privatisation has been successful, Cook (1999) argues that the largest gains have been achieved by effective regulation rather than privatisation itself. Plummer (2002) adds that the regulatory framework is "perhaps the most critical aspect of the external operating context for the success of all PPPs" (public private partnerships, p. 4-7).

At the same time the privatisation literature dispels some myths, which are neatly summarised by McIntosh (2003): Blaming private operators for tariff increases, convenient as it may be especially where international water companies are involved, is a case of confounding causes and effects. PSP is no miracle cure for decades of mismanagement and underinvestment. Tariff increases, McIntosh argues, are absolutely crucial to finance ambitious connection targets. Poor households' alleged low willingness and ability to pay has merely used to conceal government's reluctance to charge. The consistently higher prices paid to alternative providers prove this point. In line with the findings of privatisation critics (Budds and McGranahan, 2003, Gutierrez et al. 2003)

McIntosh concedes that without explicit directions, PSP will not solve the problem of serving the urban poor. Laurie and Crespo (2002) put some of the benefits of the Bolivia privatisation experience, reported for instance by Barja and Urquiola (2001), into perspective, arguing that in the case of the La Paz - El Alto concession the achieved service expansions have been over-emphasized, obscuring "significant anti-poor elements" which are rooted in regulatory weaknesses and a lack of democratic participation.

In recognition of the fact that PSP and its associated efficiency gains do not automatically deliver benefits for the urban poor, donor initiatives are now developing 'pro-poor' PSP strategies (Brocklehurst, 2002, Stallard and Ehrhardt, 2004). Early lessons from privatisation experiences indicate the importance of pro-poor contract design and the supporting policy and regulatory frameworks. Komives (1999) concludes that the typical concession contract performs better if tangible objectives are formulated, these are supported by financial incentives to serve the poor, policy barriers are eliminated, and services retain a high degree of choice and flexibility. Exclusivity clauses and strict technical service specifications are examples cited as counterproductive by restricting or eliminating options available to poor households. Subsequent research commissioned by development banks initially focused on pro-poor transaction design and contract preparation, covering key elements of sector reform ranging from appropriate legal frameworks to tariff structures and subsidy allocation (Brockelhurst, 2002), but is expanded upon in a more recent report by Stallard and Ehrhardt (2004). The regulation literature followed suit and, in line with the findings of 'pro-poor PSP' studies, elaborated on regulatory strategies designed to turn poor services into services for the poor.

The regulatory challenge ahead: Inducing utility providers to replace defunct standpipes (above) with regular piped water connections in slums and informal

From poor regulation to pro-poor regulation

Establishing the poverty focus

Trémolet (2002) notes that regulatory agencies are rarely mandated to protect poor consumers, a complex task requiring specialist skills and dedicated resources. Smith (2000) emphasises that an effective pro-poor regulatory strategy must prioritise service expansion and cost minimisation in order to remain sensitive to the affordability concerns of the poorest. The broad consensus in the literature is that the key to meeting the challenge lies in matching customer needs and preferences with relevant and accessible services. Stallard and Ehrhardt (2004) compare this first step of developing the necessary understanding with market research. Attention should be paid to the characteristics, attitudes, expectations, aspirations and financial circumstances of the poor. Trémolet and Browning's (2002) report linking regulatory frameworks and tri-sector partnerships provides excellent arguments in support of early involvement of multiple stakeholders to create a flexible and innovative environment of mutual support and recognition of interests and constraints. Smith (2000) as well as Stallard and Ehrhardt (2004) acknowledge the role of partnerships in performing broader regulatory functions such as assessing the needs of poor customers. The latter advise against relying on frequently inaccurate official statistics and see local partners as potential contributors to community surveying.

Regulatory mechanisms

Price and service differentiation

Smith (2000) advocates more pragmatism in regulatory controls on pricing and service quality. Tight price regulation may actually remove incentives to serve the poor, who may be more costly to serve, and high technical, health, safety and environmental quality standards may come at a price that turns the poor away from regulated services. In response to these affordability concerns, Baker and Trémolet (2000) propose to allow an "acceptable relaxation in quality" of services to ease access of the poorest. They note that stricter enforcement of quality standards can add significant costs to the service, though enforcement is generally weak. The authors admit that optimal quality standards are difficult to determine, which speaks in favour of Smith's (2000) model of nurturing competitive markets, where choice reveals consumer preferences. There is a general agreement that minimum standards tend to be oriented at first world standards rather than acceptable standards that meet the basic needs of the poor, and specifying the technology to be employed can stifle innovation and adaptive, low-cost solutions. However, a slightly more prescriptive approach may be preferable as far as performance targets are concerned. Stallard and Ehrhardt (2004) suggest that coverage targets, for instance, should be specifically tied to locations rather than

statistical figures, with built-in flexibility to respond to circumstances. Outcomes should take precedence over input standards, Baker and Trémolet (2000) concur. They also emphasise the role of publicising quality information, in which community organisations could play a role, as a cheap and effective means to address the problem of information asymmetries, as long as a suitable balance can be maintained between public education and interest group lobbying. Stallard and Ehrhardt (2004) propose that above the required minimum standards public information campaigns could actually replace regulatory oversight, whilst still promoting quality improvements.

Tariffs and subsidies

The design of appropriate tariff systems is a critical regulatory task, which goes hand in hand with subsidy allocation. It has become an established fact that subsidies more often than not have bypassed their intended beneficiaries. Clarke and Wallsten (2002) find that only in Eastern Europe have monopolists used subsidy schemes to promote access to infrastructure services for the poor. Many authors give reasons and examples of how the prevailing tariff and subsidy systems entrench social exclusion. Tariffs are generally set too low to turn poor households into attractive potential customers, and subsidy schemes are plagued with high errors of inclusion (subsidies are captured by the non-poor) and exclusion, i.e. subsidies failing to reach the - often unconnected - poor (McIntosh, 2003), (Whittington et al. 2002, (Boland and Whittington, 2000). While there is no scope for debating appropriate pricing mechanisms within this review, it is essential to note that even consumer organisations support the view that the poor stand to gain from raised tariffs (Simpson, 2002). Only an increased revenue base can stimulate much-needed network expansions and service improvement.

Trémolet (2002) makes the explicit link between pro-poor tariff and subsidies required to meet cost recovery levels. She highlights the need for innovative delivery mechanisms for subsidies. To date subsidies are usually incorporated into the tariff designs in the form of cross-subsidies. Boland and Whittington's (2000) critical evaluation of objectives and considerations governing tariff development reveal some of the limitations and even negative impacts associated with cross-subsidy schemes. They find no evidence to support the assumption that increasing block tariffs (IBTs), originally devised to assist low-income households in developed countries through below-cost first blocks without introducing overall revenue distortions, increase the likelihood of households connecting to the system or encourage poor households' water use. IBTs promote public health no more than uniform tariffs with built-in rebates, nor do they achieve equity or resource conservation. Boland and Whittington provide convincing arguments that in spite of their widespread popularity, IBTs have wrongly been promoted as the most suitable choice in developing countries. IBTs also penalise shared connections, which are commonly found amongst connected low-income households, a point also raised by several others (Inocencio, 2001, Weitz and Franceys, 2002). Many authors support the 'access priority', maintaining that subsiding new connections should be prioritised over actual consumption subsidies (McIntosh, 2003, Whittington et al. 2002, Simpson, 2002, Weitz and Franceys, 2002, Brocklehurst, 2002). Some authors assert that subsidies should never cover the full cost of provision (Brocklehurst, 2002, Stallard and Ehrhardt, 2004).

Regulators not only face the challenge of balancing competing objectives in developing tariff structures, but also have only limited control over subsidy levels, as Trémolet (2002) points out. However, Chisari et. al (2003) demonstrate that the choice of regulatory system (i.e. price cap or rate of return regulation) influences the choice of technology and hence the level of investment (and hence subsidy) likely to be required. Subsidies often are used as political instruments, as Boland and Whittington's (2000) observations confirm: Subsidies reflect *subjective* notions of fairness rather than objectively promoting equity. The main purpose of tariffs is to cover revenue requirements (ibid), but there are uncertainties surrounding government commitment to agreed levels of subsidy (Trémolet, 2002). The problems of administering subsidies and monitoring performance become more complicated when subsidies are directly linked with service provision (for example, through output-based aid mechanisms), and when subsidies are allocated to small-scale alternative providers (ibid). Stallard and Ehrhardt (2004) suggest that subsidy payments should be linked with specific services but remain technology and provider neutral. Subsidy payments in the form of direct transfers to customers are generally favoured as the economically best solution (Trémolet, 2002, Chisari et al. 2003), with cross-subsidies rated second-best. Chisari et. al (2003) introduce a universal service fund as an alternative option to finance universal service obligations (USOs), where these have been introduced by the regulator.

Incorporating alternative providers

While it is now almost an undisputed fact - supported by international development agencies (Brocklehurst, 2002, Stallard and Ehrhardt, 2004) - that regulation should encompass both utilities and alternative providers, very few tentative suggestions can be found in the literature as to what these future regulatory arrangements should look like.

NGO-facilitated focus group discussion in Metro Manila

Insufficiently flexible solutions are a major concern, feared to destroy effective and original solutions (Troyano, 1999). Collignon and Vézina (2000) warn that an over-emphasis on technical standards and formal procedures can prove counter-effective by increasing overheads with associated price rises and service deterioration, ultimately forcing independent providers out of business before satisfactory substitutes can be offered. The literature identifies price, water quality, market entry and market share as main aspects of regulation (Plummer, 2002, Baker and Trémolet, 2000). Plummer (2002) recommends relaxing performance standards and exclusivity rights given to utilities, supporting alternative providers in securing legal contracts, revising tariff regimes, addressing land tenure issues and disseminating a "spirit of inclusion" amongst the incumbent large-scale service providers. Most authors agree that a healthy level of competition should be encouraged to promote service extensions to poor households, with alternative provider licences providing a degree of formality. Baker and Trémolet (2000) raise the point that relaxed rules should be a temporary measure. Self-regulation by provider associations has been proposed as another option (Stallard and Ehrhardt, 2004), as positive experiences are reported in the literature (WPEP, 2000, Conan, 2003, Plummer, 2003). Trémolet and Browning (2002) propose replacing costly 'traditional' regulation through price and quality standards with making performance data publicly available, thus relying on the regulating effects of reputation.

Customer and civil society involvement

The centrality of information has received frequent mention in the preceding discussion of pro-poor regulation. Brocklehurst (2002) stresses needs-responsiveness as a central feature of regulatory design. Stallard and Ehrhardt (2004) advocate continuous engagement with the beneficiary communities from the project design stage through to establishing feedback mechanisms allowing for interaction between customers, operators and government/regulators. They emphasise the need for cultural sensitivity and an understanding of the special challenges facing the poor. A host of participatory and surveying techniques are available for consumer consultation and gathering site-specific information. Establishing accessible and inclusive regulatory processes is a more difficult challenge, as Foster (2003) reports from Latin America, where the failure to create mechanisms for interaction within the legal framework nurtured a negative public perception of regulation. She finds that regulators in the region have developed creative ways of improving the 'opaque, technocratic and non-participatory' image of the regulatory process, engaging the public in capacity building activities and public consultations. Permanent interaction in the form of customer representation remains the exception, but has been implemented in Buenos Aires, where representatives of consumer associations form an advisory body to the regulator. The regulator in Jakarta has introduced customer representation modelled after England and Wales' WaterVoice, but so far this has not been evaluated in the literature. As Simpson and Shallat (2004) report, consumer organisations are currently participating in informal sector regulation, such as water vending (Kenya) or community-managed cooperative water systems (Philippines). More formal arrangements include membership in regulatory boards in some African countries and membership in the water company's board (Senegal).

Within formal regulatory frameworks, customers currently enjoy a very limited level of influence, and there are few, if any, reported attempts of including poor or unconnected households in the process. Smith (2000) sees poor access to transport and communication links as an impediment for the poor to become involved. Extreme poverty seriously limits participation as daily wage-earners lack time and financial resources and perhaps education and confidence to participate meaningfully. Although these issues are little discussed in the regulation literature, they can be gleaned from discussions on accountability and consumer voice (Ear-Dupuy, 2003). Smith (2000) insists that stakeholder engagement must go beyond formal hearings. Regulators should take a proactive stance and reach out to the disadvantaged by visiting communities, establishing consultative and advisory bodies, and educating citizens about their rights under the regulatory system. Ugaz (2002) regards the involvement of consumer associations as an indication of attempts to incorporate the voice of the poor. She presents a basic set of considerations which affect the design of consumer involvement. Decisions need to be taken regarding which participants are to join the system, how to encourage, train and empower them to overcome knowledge barriers and transcend unequal power relations between the various actors involved.

SPECIAL ISSUE 1: Service Obligations and the Concept of Universal Service

This section introduces the various types of obligations which governments have sought to impose on service providers in order to protect public interest objectives. Amongst these, the concept of 'universal service' frequently appears in the literature on networked industries. Much of literature provides justifications for the introduction of 'universal service obligations' in the context of monopoly services or, more recently, and mainly in the telecommunications sector, in a competitive environment. Choné et al. (2000) introduce the underpinning notions of 'equal access' and 'affordable tariffs', as well as some of the constraints related to USOs. Ubiquity, the provision of service connections in all locations, and non-discrimination, which refers to the same tariff irrespective of customers' location and cost of connection, form the geographical component of USOs. The relatively sparse literature with a developing country focus tends to emphasise welfare aspects, or the social component of USOs (e.g. (Gasmi et al. 2000), (Clarke and Wallsten, 2002), (Chisari et al. 2003)). The water sector is notably underrepresented in the discussions, according to which the main challenge for regulators consists in correcting the market distortion introduced by the USO and, as Choné et al. (2000) explain, in "determining optimal rules for allocating and funding those USOs" (p.250). The section examines the current understanding of the concept of universal service, contrasting

its present meaning with its historical origins as well as applications in developed and developing countries.

Simmonds (2003) develops a comprehensive definition of the contemporary universal service concept in his evaluation of service obligations imposed under EU legislation. These obligations emerged in the course of European market liberalisation as the express commitment of the Union to protect certain 'general interest services' that are deemed essential in economic and social terms. The Commission here distinguishes between universal and public service obligations (USOs and PSOs). Public services, it is emphasised, do not necessarily have to be provided by the public *sector*, nor does the term imply public ownership of the service infrastructure. Community legislation further states that universal service, designed to guarantee "access to certain essential services of high quality at prices [everyone] can afford", is an evolutionary concept, which is shaped by technological innovations, changing general interest requirements and users' needs (The European Parliament and The Council,):3). The political use of terms, Simmonds argues, has thereby caused some confusion. In the strictest sense, PSOs refer to any type of government obligation imposed on service providers for public interest purposes, and encompass both USOs and specific public service obligations, which do not include the element of universality. Simmonds' concept of universal service is based on a very broad definition of access, which includes notions of equity and equality. It is centred on consumers' needs and expectations with regards to access, service quality, choice, security of supply and appropriate mechanisms for redress and compensation, but also considers wider societal interests, such as environmental concerns and the protection of vulnerable groups. Independent scrutiny and stakeholder consultation, Simmonds argues, are vital to ensure openness in management, price-setting and funding. To accomplish this "societal idea" (p.10) of universal service, he recommends a set of regulatory instruments, designed to promote socially conscious service delivery.

In the context of telecommunications, the origin of the term 'universal service' has been traced back to the early 1900s. Mueller (Anonymous1997), in his account of the development of telephone networks in the USA demonstrates that universal service at the time did not have the connotations of affordability and non-discriminatory service for all that it has today. The AT&T Bell Laboratories' slogan "One system, one policy, universal service" effectively intended to preserve AT&T's monopoly profits. The term 'universal service' thus arose from fierce market access competition, with 'universal' implying *everywhere*, rather than extending services to everybody (Verhoest, 2000). Verhoest's (ibid) discussion of the "myth of universal service" illustrates with reference to the EU telecoms sector that even in the European context the concept of universal service was basically market-related, and not necessarily a result of deliberate social policy. This fact is often obscured by the political use and misuse of a term with a dual economic and social meaning. Historically, the concept of universal service clearly developed with reference to the market, and Mueller (Anonymous1997) defies conventional wisdom by demonstrating that it was not a result of regulatory intervention by government.

As the concept of universal service has significantly evolved away from its early economic roots, it is interesting to note that in Europe service obligations are not consistently imposed on all public interest services. There is a notable scarcity of references to the water sector in both the academic literature and existing laws and regulations, compared with an extensive literature evaluating and analysing universal service in, for example, telecommunications. Under current EU legislation, USOs apply to the telecoms and postal services, and public service obligations are imposed on the gas and transport sectors. Simmonds (2003) notes that although the Community recognises water as a service of general economic interest, it is mainly environmental considerations which have driven the regulation of the sector. The US American National Association of Regulatory Utility Commissioners (NARUC), in contrast, recognise the financial implications of maintaining safe drinking water supplies for in view of environmental threats. NARUC perceive a national commitment to household affordability as essential and recommend a national 'universal water service' policy to protect "high quality drinking water at affordable rates for every American" (EPA, 1998).

As previous chapters have clearly shown, there is a tremendous need for improving access to affordable water services in developing countries. However, authors discussing universal service in these settings have tended to focus on the funding implications of extending service obligations to include underserved rural areas and the urban poor (e.g. (Clarke and Wallsten, 2002, Chisari et al. 2003). They do, nonetheless, provide some insight into the understanding of the universal service concept. Chisari et al. (2003) note that service obligations or connection targets have often been used in the context of public-private partnerships as policy instruments to accelerate access to utility services for the poor. The authors discuss USO and obligatory service (OS) as the "standard tools" available to governments, which have been used by regulators in the Latin American countries under review and are projected to remain a feature of utility services, notably in the water and sanitation sector. Both USO and OS are described as subsidy mechanisms, the implications of which need to be considered in the light of the regulatory objective of ensuring financeability of operations. OS is defined as compulsory service to all households wishing to connect under the existing tariff structure, whereas affordability concerns feature in the USO. The USO thus extends the notion of 'universal access', which is supported by OS, with an ambition to promote socially desirable consumption levels through tariff control. The authors further raise the issue of unidirectional and bidirectional service obligations (obligation to serve and obligation to use), highlighting water and sanitation service as a likely candidate for the latter. Whilst OS is deemed appropriate for services with geographically variable supply costs and where availability

fails to reach socially desired levels, USO would be the chosen instrument for essential products or services, which some consumer groups find difficult to access unless tariffs take into account their ability to pay, possibly further excluding them from other markets. Clarke and Wallsten (2002) see the justification for universal service policies in externalities associated with service uptake, 'merit' good qualities of services and political or development goals. Any combination of these factors may induce governments to provide subsidies to poor or rural consumers. Water and sanitation services qualify because of the public and environmental health benefits associated with adequate consumption levels. The authors point out that the 'merit good' argument begs the question why some services are mandatory and other, arguably more important, are not legislated for.

SPECIAL ISSUE 2: The Ultimate Regulator - Customer Involvement

Consumers as service recipients are arguably the best monitors of service quality and reliability. As they are directly affected by regulatory decisions, they should be informed and consulted about planned changes (Plummer, 2003). So far communication between utilities and poor communities has been suffering serious shortcomings, where it has not been neglected altogether. The UK National Consumer Council (2002) deems customer involvement essential to "design and deliver goods and services that meet people's needs, improve standards, identify problem areas, and provide value for money." In the case of developing countries with their often "uninspiring track record" in public service provision, Burra et al. (2003) emphasise that urgently-needed, practical solutions must be rooted in the experiences of those who have to live with the problems. Isolated, bureaucratic approaches are best avoided by opening the policy-making and regulatory process to external groups, who bring in fresh perspectives (Berg, 2000). Engagement of all stakeholders, including (potential) customers, does not only improve the quality of decisions, but can also improve the legitimacy of regulation (Smith, 2000, Foster, 2003). Additional benefits of involving consumers mentioned in the literature include reduced risk of regulatory capture and increased accountability (ECLAC, 2003). McIntosh (2003), echoing ideas expressed in the 2004 World Development Report, suggests confronting the governance crisis through a civil society that demands accountability of policy-makers. He emphasises the role of NGOs as advocates of the un- and underserved poor and in monitoring policy implementation. Especially for the poorest, consumer and/or community engagement can make an important contribution to empowerment.

There are special challenges in involving the poor, and regulators wishing to establish customer representation will have to proceed in a proactive way. Even the UK experience shows that domestic customers are in a weaker position compared to the resources and lobbying power of commercial customers (National Consumer Council, 2002). People may be unaware of their rights and the assigned tasks of regulators (Berg, 2000). Again, this is not exclusively an issue in developing countries, as the same ignorance has been reported amongst applicants to a British water charity: Fearing disconnection of their water supply, they sought help with their rising water debt not knowing that disconnections had been banned by the government some years ago (Fitch, 2003a).

In view of the social disadvantages and serious time limitations that restrict the participation of poor people, formal mechanisms of customer representation and involvement may not prove feasible. Hanchett et al. (2003) warn of unrealistic expectations for establishing inclusive ("mixed") customer committees. As the poor are excluded from formal service provision in many instances, creativity will be needed to give due consideration to their special circumstances and concerns when incorporating them into the regulatory process.

Customer involvement, perhaps traditionally viewed as some form of customer representation, may initially take the form of information, but will have to extend into a real dialogue between customers, providers and regulators. Arnstein's ladder of citizen participation is the classical measure for the level of influence over decisions granted to the public (Arnstein, 1969). Whatever level of involvement is decided to be appropriate, it is important for authorities to clearly state the objectives and conditions of participation to avoid false expectations (Working Group on Public Participation, 2002). There is a vast literature available on the theory of participation, and resource books detail the various methods that have been tried over the years. Abelson et al. (in: van Ryneveld, 1995) provide a concise set of principles for evaluating the different approaches, and particularly explore the usefulness of deliberative methods in recognition of the need for a two-way dialogue and consensus-building amongst all participants of the debate. Citizens' juries, consensus conferences and the like have become increasingly popular and may stimulate broader and more meaningful participation than traditional methods such as surveys and focus groups have done in the past. Further research will be required into participatory methods that can accommodate the poorest.

A parallel examination of current arrangements in the England and Wales regulatory system is appropriate as currently 20% of the population are experiencing "water poverty", defined by Fitch (2003b) as a "situation faced by householders who are obliged to devote an unreasonable high proportion of their income to paying for water"(p.15).

Although there is evidence of regulators in developing countries trying to set up customer representation mechanisms, there is little to be found in the published literature. Several authors attribute public opposition to water sector reforms to a failure on the part of the regulators to defend consumer interests (Foster, 2003) and adequately engage them in the regulatory process. Whilst Shirley and Ménard (2002) report that in none of the cases they reviewed consumers were involved in the regulatory process, Foster (2003) finds that Latin American regulators are demonstrating

"significant creativity in developing mechanisms for interaction with civil society" (p.1). Public consultations modelled after US-style public audiences are most widespread as are capacity building programmes. Contrary to Shirley and Ménard's findings, she cites the Buenos Aires regulator ETOSS as most advanced: A Consumers Commission, which gives members an opportunity to review Board decisions, was established in 1999. Given the total lack of reference to any kind of formal or official involvement of low-income households, it can be suspected that so far none of these attempts have included the poorest.

As mentioned previously, formal hearings may not prove appropriate in a developing country setting. Regulators will have to proactively pursue customer involvement objectives. Smith (2000) suggests visiting communities and perhaps establishing specialist consultative or advisory bodies. However, to make customer representation meaningful, whatever type of involvement is chosen, consumer bodies must be truly representative and able to speak for those without the power and resources to ensure their voices are heard. There are different tools and techniques outlined in the literature, but it is pointed out that it may take time before consumer involvement has evolved into an active partnership between all interested parties (e.g. Berg, 2000). Troyano (1999) notes that while it is important to guarantee stakeholder participation, this should not happen at the expense of operational efficiency. Finding an optimum strategy for each case will much depend on local factors, but certain organisational options for customer bodies are worth considering. In the UK utilities sector, for instance, Simmonds (2002) distinguishes between two types of arrangement: In the integrated model, customer representatives are affiliated with the regulatory office, whereas independent consumer councils are external, as their name suggests. Accounting for the regional characteristics of the water industry, customer representation in the UK to date has had a regional structure and focus as opposed to the single national body, which exists for other utility sectors. Independent consumer councils have attracted criticism as they are feared to duplicate the regulatory task of consumer protection potentially adding an unnecessary level of bureaucracy and threatening to induce rivalry between regulatory bodies and consumer bodies. Detached from regulatory staff, independent consumer bodies might struggle to gain access to vital information and receive due recognition from companies (Simmonds, 2002).

REFERENCES

ADB (2001) Regulatory systems and networking. Water utilities and regulatory bodies. Proceedings of the Regional Forum. Manila, 26 - 28 March 2001.

Almansi, F., Hardoy, A., Pandiella, G., Schusterman, R., Urquiza, G. and Gutierrez, E. (2003) Everyday water struggles in Buenos Aires: The problem of land tenure in the expansion of potable water and sanitation service to informal settlements. London: WaterAid and Tearfund. wateraid website.

Armstrong, M., Cowan, S. and Vickers, J. (1994) *Regulatory reform: Economic analysis and British experience*, edn. Cambridge, MA: MIT Press.

Arnstein, S. (1969) A ladder of citizen participation. *Journal of the American Institute of Planners*. **35**, 216-224.

Baker, B. and Trémolet, S. (2000) Utility reform: Regulating quality standards to improve access to the poor. *Public Policy for the Private Sector*. **219**,

Baldwin, R. and Cave, M. (1999) *Understanding regulation*, Oxford: Oxford University Press.

Barja, G. and Urquiola, M. (2001) Capitalization, regulation and the poor. Access to basic services in Bolivia. WIDER Discussion Paper No. 2001/34. UNU/WIDER.

Bayliss, K. (2002) Privatisation and poverty: The distributional impcat of utility privatisation. CRC Working Paper No. 16. Manchester: CRC.

Berg, S.V. (2000) Sustainable regulatory systems: laws, resources, and values. *Utilities Policy* **9**, 159-170.

Better Regulation Task Force (2003) Principles of good regulation. London.

Bishop, M., Kay, J. and Mayer, C. (1995) Introduction. In: Bishop, M., Kay, J. and Mayer, C., (Eds.) *The regulatory challenge*, Oxford: Oxford University Press]

Black, J. (2002) Critical reflections in regulation. CARR Discussion Paper Series DP 4. London: Centre for Ananlysis of Risk and Regulation, London School of Economics.

Boland, J. and Whittington, D. (2000) The political economy of water tariff design: Increasing block tariffs versus uniform price with rebate. In: Dinar, A., (Ed.) *Political economy of water pricing reforms*, pp. 215-235. Oxford: Oxford University Press]

Brocklehurst, C. (2002) *New designs for water and sanitation transactions. Making private sector participation work for the poor*, PPIAF, WSP.

Budds, J. and McGranahan, G. (2003) Privatization and the provision of urban water and sanitationin Africa, Asia and Latin America. Human Settlements Discussion Paper Series. London: IIED.

Burra, S., Patel, S. and Kerr, T. (2003) Community-designed, built and managed toilet blocks in Indian cities. *Environment&Urbanization* **15**, 11-32.

Chisari, O., Estache, A. and Waddams Price, C. (2003) Access by the poor in Latin America's utility reform: subsidies and service obligations. In: Ugaz, C. and Waddams Price, C., (Eds.) *Utility privatization and regulation: A fair deal for consumers?*, Cheltenham: Edward Elgar

Choné, P., Flochel, L. and Perrot Anne (2000) Universal service obligations and competition. *Information economics and policy* **12**, 249-259.

Clarke, G.R.G. and Wallsten, S.J. (2002) Universal(ly bad) service: Providing infrastructure to urban and poor urban consumers. World Bank.

Cohen, M. and Sebstad, J. (1999) Microfinance impact evaluation: Going down market. Paper Prepared for Conference on Evaluation and Poverty Reduction, World Bank, June 14-15, 1999. http://rrojasdatabank.net/wbpover/evalfin1.pdf. Accessed 05.07.2005.

Collignon, B. (1998) The public water service for disadvantaged people. *Villes en développement: Efficiency of urban services* **42** 6-7.

Collignon, B. and Vézina, M. (2000) Independent water and sanitation providers in African cities. Full report of a ten-country study. Washington DC: UNDP-World Bank Water and Sanitation Programme.

Conan, H. (2003) Scope and scale of small scale independent private water providers in 8 Asian cities: Preliminary findings.

Conan, H. and Paniagua, M. (2003) The role of small scale private providers in serving the poor : Summary paper and recommendations.

Cook, P. (1999) Privatization and utility regulation in developing countries: The lessons so far. *Annals of Public and Cooperative Economics* **70**, 549-587.
Notes: slightly out of date - the Argentina case

Cook, P., Kirkpatrick, C., Minogue, M. and Parker, D. (2003) Competition, regulation and regulatory governance in developing countries: An overview of the research issues. Manchester: CRC, IDPM, University of Manchester.

Cook, P. and Minogue, M. (2003) Regulating for development. *Insights* **49**, 1-2.

Courmont, V. (2001) Poverty, a few definitions. *Villes en développement: Exclusion and urban poverty* **53** 4

Drangaert, P., Melgarejo, S., Kemper, K. and Bakalian, A. (1998) Aguaterias: Small entrepreneurs bring competition to Paraguay's small town water sector. Paper presented at the Community Water Supply and Sanitation Conference, World Bank, Washington, DC.:

Ear-Dupuy, Haidy. (2003) Comment submitted to the electronic discussion forum on the Draft World Development Report 2004.

ECLAC. (2003) Regulation of the private provision public water-related services. 96.

EPA (1998) Information for States developing affordability criteria for drinkig water. Available from http://www.epa.gov/safewater/smallsys/afforddh.html: EPA.

Espinosa, L. and López Rivera, O.A. (1994) UNICEF's urban basic services programme in illegal settlements in Guatemala City . *Environment and Urbanization* **6**

Estache, A., Gomez-Lobo, A. and Leipziger, D. (2000) Utiliy privatization and the needs of the poor in Latin America. Have we learned enough to get it right? Paper presented at 'Infrastructure for Development: Private Solutions and the Poor' 31 May - 2 June 2000. London, UK.

Fitch, M. (2003a) Deep waters. Sutton Colfield: Severn Trent Trust Fund.

Fitch, M. (2003b) Unaffordable water. Leicester: Centre for Utility Consumer Law.

Foster, V. (1998) Considerations for regulating water services while reinforcing social interests. UNDP-World Bank Water and Sanitation Program.

Foster, V. (2003) What role for consumers in the regulatory process? Presented at the International Conference on Financing Water and Sanitation Services: Options and Constraints, November 10-11 2003, Washington DC.

Foster, V. and Araujo, M. C. (2004) Does infrastructure reform work for the poor? A case study from Guatemala. World Bank Policy Research Working Paper 3185.

Franceys, R. (2005) Charging to enter the water shop? The cost of urban water connections for the poor. Paper presented at the International Conference on Water Economics, Statistics and Finance, Rethymno, Greece, 8-10 July 2005.

Friedmann, J. (1996) Rethinking poverty: Empowerment and citizen rights. *International Social Science Journal* **148**, 161-172.

Gasmi, F., Laffont, J. and Sharkey, W. (2000) Competition, universal service and telecommunications policy in developing countries. *Information Economics and Policy* **12**, 221-248.

Gerlach, E. (2004) Literature Review. In: Charging to enter the Water Shop? Research Report. DFID KaR 8319.

Graham, S. and Marvin, S. (1994) Cherry picking and social dumping. Utilities in the 1990s. *Utilities Policy* **4**, 113-119.

GTZ (2004) Sharing the experience in regulation in the water sector (SOWAS - Sub-Saharan Africa). Lusaka, Zambia: GTZ.

Gutierrez, E., Calaguas, B., Green, J. and Roaf, V. (2003) New rules, new roles: Does PSP benefit the poor? Synthesis Report. London: WaterAid and Tearfund.

Halcrow (2002) *Private sector participation and the poor 3 - Regulation*, Loughborough: WEDC.

Hanchett, S., Akhter, S. and Hoque Khan, M. (2003) Water, sanitation and hygiene in Bangladeshi slums: An evaluation of the WaterAid-Bangladesh Urban Programme. *Environment&Urbanization* **15**, 43-55.

Hasan, M.E. (2003) Implications of financial innovations for the poorest of the poor in the rural area. Experience from Northeren Bagladesh. *Journal of Microfinance* **5**, 101-134.

Hossain, N. and Moore, M. (2002) Arguing for the poor: Elites and poverty in developing countries. IDS Working Paper 148. Brighton: IDS.

Inocencio, A.B. (2001) Serving the urban poor through public-private-community partnerships in water supply. *PIDS Policy Notes.* **10**

Jordana, J. and Levi-Faur, D. (2004) The politics of regulation in the age of governance. In: Jordana, J. and Levi-Faur, D., (Eds.) *The politics of regulation*, pp. 1-30. Cheltenham: Edward Elgar]

Katakura, Y. and Bakalian, A. (1998) PROSANEAR. People, poverty and pipes. WSP Working Paper. Washington: World Bank.

Klein, M. (1996) Economic regulation of water companies. World Bank Policy Research Paper 1649. Washington : World Bank.

Komives, K. (1999) Designing pro-poor water and sewer concessions: Early lessons from Bolivia. World Bank Policy Research Working Paper No. 2243. Washington: World Bank.

König, A., Taylor, A. and Ballance, T. (2003) Infrastructure regulation. An introduction to fundamental concepts and key issues. GTZ Working Paper No.10. Eschborn: GTZ.

Laffont, J.-J. (2005) *Regulation and development* Cambridge: Cambridge University Press.

Laffont, J.-J. and Tirole, J. (1991) The politics of government decision-making: A theory of regulatory capture. *Quarterly Journal of Economics* **106**, 1089-1127.

Laurie, N. and Crespo, C. (2002) An examination of the changing contexts for developing pro-poor water initiatives via concessions. Final report on SSR Project R7895.

Llorente, M. and Zérah, M.-H. (2003) The urban water sector: Formal versus informal suppliers in India. *Urban India* **12**

McIntosh, A.C. (2003) *Asian water supplies. Reaching the urban poor*, London: ADB and IWA.

McPhail, A. (1993) Overlooked market for water connections in Rabat's shantytowns. *Journal of Water Resources Development* **119**, 388-405.

Minogue, M. (2002) Governance-based analysis of regulation. *Annals of Public and Cooperative Economics* **73**, 649-666.

Minogue, M. (2003) Back to the state? *Insights* **49**, 2

Minogue, M. (2004) Accountability and transparency in regulation: Critiques, doctrines and instruments. In: Jordana, J. and Levi-Faur, D., (Eds.) *The politics of regulation*, pp. 124-144. Cheltenham: Edward Elgar]

Mitlin, D. (2002) Competition, regulation and the urban poor: A case study of water. Centre on Regulation and Competition, University of Manchester.

Mueller, M.L. (1997) *Universal Service: Competition, Interconnection, and Monopoly in the Making of the American Telephone System.*, edn. Cambridge, Mass.: MIT Press and AEI Press.

Narracott, A. (2003) Regulating public-private partnerships for the poor. MSc Thesis. Silsoe: Cranfield University.

National Consumer Council (2002) Involving consumers: everyone benefits. London: National Consumer Council.

Nickson, A. and Franceys, R. (2003) *Tapping the market: The challenge of institutional reform in the urban water sector*, Houndmills, Basingstoke: Palgrave.

Nickson, A. and Vargas, C. (2002) The limitations of water regulation: The failure of the Cochabamba concession in Bolivia. *Bulletin of Latin American Research* **21**, 128-149.

Obel-Lawson, E. and Njoroge, B.K. (1999) Small service providers make a big difference, Field Note. 5, UNDP-World Bank

Water and Sanitation Program - Eastern and Southern Africa Region.
OFWAT (2004) Future water and sewerage charges 2005-10. Final determinations. Birmingham: OFWAT.
Ogus, A.I. and Veljanovski, C.G. (1984) *Readings in the economics of law and regulation*, Oxford: Oxford University Press.
Ogus, A.I. (2001) Introduction. In: Ogus, A.I., (Ed.) *Regulation, economics and the law*, Cheltenham: Edward Elgar
Parker, D. (1999) Regulating public utilities: What other countries can learn from the UK experience. *Public Management* **1**, 93-120.
Parker, D. and Kirkpatrick, C. (2002) Researching economic regulation in developing countries: Developing a methodology for critical analysis. CRC Working Paper No. 34. Manchester: CRC.
Plummer, J. (2002a) Developing inclusive public-private partnerships: The role of small-scale independent providers in the delivery of water and sanitation services. World Development Report 2003/04 Workshop, Oxford, 4-5 November 2002.
Plummer, J. (2002b) *Focusing partnerships: A sourcebook for municipal capacity building in public-private partnerships*, London: Earthscan.
Plummer, J. (2003) *Better water and sanitation for the urban poor. Good practice from sub-Saharan Africa*, Water Utility Partnership & Water and Sanitation Program.
Posner, R.A. (1984) Theories of economic regulation. In: Ogus, A.I. and Veljanovski, C.G., (Eds.) *Readings in the economics of law and regulation*, pp. 240-251. Oxford: Clarendon Press
Prosser, T. (1994) Utilities and social regulation. *Utilities Law Review* **5**, 156
Prosser, T. (1997) What should the regulators be doing? In: Prosser, T., (Ed.) *Law and the regulators*, pp. 1-31. Oxford: Oxford University Press
Prosser, T. (1999) Theorising utility regulation. *Modern Law Review* **62**, 196-217.
Raghupathi, U.P. (2003) Small-scale private water providers - A growing reality. *Urban Finance* **6** (3):1-3. New Delhi: National Institute of Urban Affairs.
Rees, R. and Vickers, J. (1995) RPI-X price cap regulation. In: Bishop. Matthew, Kay, J. and Mayer, C., (Eds.) *The regulatory challenge*, Oxford: Oxford University Press]
Satterthwaite, D. (2003) The Millennium Development Goals and urban poverty reduction: Great expectations and nonsense statistics. *Environment&Urbanization* **15**, 181-190.
Shirley, M.M. and Ménard, C. (2002) Cities awash: A synthesis of the country cases. In: Shirley, M.M., (Ed.) *Thirsting for efficiency: the economics and politics of urban water system reform*, London: Pergamon]
Simanowitz, A. (2004) Ensuring impact: Reaching the poorest while building financially self-sufficient institutions, and showing improvement in the lives of the poorest families. Paper delivered at Asia Pacific Region Microcredit Summit Meeting of Councils (APRMS) Dhaka 2004
Simmonds, G. (2002) Consumer representation in the UK. Bath: CRI.
Simmonds, G. (2003) Universal and public service obligations in Europe. Bath: CRI.
Simpson, R. (2002) Should consumers demand higher water prices? *Consumer 21*
Simpson, R. and Shallat, L. (2004) WaterWorks: A consumer advocacy guide to water and sanitation. Consumers International.
Smith, W. (2000) Regulating infrastructure for the poor: Perspectives on regulatory system design. Presented at: Infrastructure for Development: Private Solutions and the Poor. London. World Bank.
Solo, T.M. (1998) Competition in water and sanitation: The role of small-scale entrepreneurs. *Public policy for the private sector.*
Solo, T.M. (1999) Small-scale entrepreneurs in the urban water and sanitation market. *Environment&Urbanization* **11**, 117-131.
Stallard, K. and Ehrhardt, D. (2004) Private sector participation in infrastructure for the benefit of the poor. Frankfurt: KfW.
Stern, J. and Holder, S. (1999) Regulatory governance: criteria for assessing the performance of regulatory systems. An application to infrastructure industries in the developing countries in Asia. *Utilities Policy* **8**, 33-50.
Trémolet, S. (2002) Pro-poor regulation. Paper presented at the PPIAF/ADB Conference on Infrastructure Development - Private Solutions for the Poor: The Asian Perspective, Manila.
Trémolet, S. and Browning, S. (2002) Research and surveys series: The interface between regulatory frameworks and tri-sector partnerships. BPD Water and Sanitation Cluster.
Troyano, F. (1999) Small scale water providers in Paraguay. WSP Working Paper.
Ugaz, C. (2002) Consumer participation and pro-poor regulation in Latin America. WIDER Discussion Paper No. 2002/121. UNU/WIDER.
Ugaz, C. and Waddams Price, C. (2003) *Utility privatization and regulation: A fair deal for consumers?*, Cheltenham: Edward Elgar.
UN-HABITAT (2003a) *The challenge of slums: Global report on human settlements 2003*, London: Earthscan.
UN-HABITAT (2003b) *Water and sanitation in the world's cities: local action for global goals / United Nations Human Settlements Programme (UN-HABITAT)* , London: Earthscan.
van Ryneveld, M.B. (1995) Costs and affordability of water supply and sanitation provision in the urban areas of South Africa. *Water SA* **21**, 1-14.
Vass, P. (2003a) The principles of 'better regulation' - separating roles and responsibilities. In: Vass, P., (Ed.) *Regulatory practice and design*, Bath: CRI]
Vass, P. (2003b) Profit sharing and incentive regulation. In: Vass, P., (Ed.) *Regulatory practice and design*, Bath: CRI]
Verhoest, P. (2000) The myth of universal service: hermeneutic considerations and political considerations. *Media, Culture & Society* **22**, 595-610.
Vézina, M. (2002) Water services in small towns in Africa: The role of small and medium-sized organisations. 12,
Waddams Price, C. and Young, A. (2003) UK utility reforms: distributional implications and government response. In: Ugaz, C. and Waddams Price, C., (Eds.) *Utility privatization and regulation: A fair deal for consumers?*, Cheltenham: Edward Elgar]