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## Regulation of water and sanitation services: getting better service to poor people

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This paper aims to provide practical guidance on how to evaluate regulatory arrangements and adapt them to be more conducive to expanding access and improving service to poor customers.

OBA approaches to improving water and sanitation service can work in a wide variety of circumstances. Such OBA schemes require an understanding of the impact that existing regulatory arrangements have on water services to poor customers. The design of OBA schemes should therefore include an evaluation of the

existing regulatory arrangements in order to identify what changes could potentially be made in order to get better services to poor people. If such changes can be introduced in the short-term, the need for external subsidies may be greatly reduced as a result. If such changes are not forthcoming, because of political resistance or high social costs, OBA may be introduced but would need to be adapted to the existing regulatory arrangements (taking account of their limits) or used as a lever to bring about changes in those arrangements.

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# **Regulation of water and sanitation services: getting better service to poor people**

**June 2006**

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## **1 - Introduction**

Getting WSS services to poor households in urban areas raises specific challenges for service provision and regulation. Most of the time, they are not connected to the main utility network, particularly if connection charges are high or if they cannot obtain access to the service for lack of land tenure. Poor customers are usually served by a wide spectrum of service providers, often operating in the informal market. They often pay a lot more to obtain water than if they were connected to the main network. Even when they are connected, they would tend to receive poor quality or intermittent services, as they often reside in areas that get served last. Finally, their preferences in terms of price/quality trade-offs may vary widely from one community to the next, and they would often have difficulty getting their voices heard by the authorities.

Given the high incidence of poverty in urban areas, taking account of poor households in regulation is paramount in order to meet objectives such as promoting the efficient development of services whilst ensuring some basic adherence to equity principles. Regulatory arrangements can have a decisive influence on making water and sanitation services more accessible to poor people and on providing service providers with strong incentives to serve them. In some cases, however, existing regulatory arrangements introduce obstacles to serving poor people because they tend to ignore the specific conditions that poor households have to cope with.

This paper aims to provide some practical guidance on how to evaluate regulatory arrangements (for a definition, see Box 1 below) and adapt them to be more conducive to expanding access and improving service to poor customers.

A recent report for the World Bank surveyed the existing literature on this topic and carried out a series of short case studies to explore the application of these principles in more detail (see Trémolet and Hunt, January 2006). These principles were developed and applied in the context of an action research program conducted with four East African water service regulators (Mozambique, Zambia, Rwanda and Kenya). The program included diagnostics of existing regulatory constraints in order to improve services to the poor and prepare action programs to lift such constraints. The program was supported by the BPD (Building Partnerships for Development), GTZ and the World Bank. A report synthesizing the findings of this program was prepared separately and is available on demand (contact: info@bpdws.org).

## Box 1 – Definitions

**Water service regulation** - Water service regulation consists of ensuring that water service providers comply with existing rules with respect to tariffs or quality standards and of adapting those rules overtime in order to cope with unforeseen events. The objective of regulation is that those services be provided in an efficient, fair and sustainable manner, whilst bearing in mind social priorities set out by policy makers (both at national and local Government level). Economic regulation can be broken down into four functions: price, service quality and competition regulation and consumer protection.

**Regulatory arrangements** - Regulatory arrangements are defined as the set of rules and processes that bind the water and sanitation service providers, including formal rules (laws, contracts, bye-laws, etc.) and informal rules (personal commitments, financial incentives, reputation, etc.).

**Regulatory institutional model** – A regulatory institutional model refers to how regulatory functions are allocated to various institutions, which can include an autonomous regulatory agency, a Ministry, an asset-holding company, a customer group, independent experts, etc... Various types of institutional models may be used, such as self-regulation, regulation “by agency” or regulation “by contract”. Regulatory institutional models tend to vary depending on the market structure for water service provision (centralized or decentralized) and the ownership of the service provider (public or private).

In order to benefit poor customers, regulatory arrangements should foster increased and improved access to water and sanitation services, in terms of the availability, affordability, and sustainability of these services. This would typically call for:

- Incentives (or obligations) for the main utility to extend services;
- A tariff level and structure that foster access without jeopardizing financial stability;
- A flexible approach to service quality in order to give incentives to service providers to experiment and to cut costs whilst respecting basic quality requirements;
- A competition framework which allows a wide range of service providers, including the main utility and alternative service providers, to compete on a level playing-field;
- Mechanisms to address complaints from all customers, including the most marginalized.

This paper is structured as follows:

**Section 2** discusses how regulatory arrangements can benefit poor customers in a number of regulatory areas, including the regulatory regime for expanding access, tariff setting, quality regulation and the regulation of alternative water service providers;

**Section 3** provides guidance on how to draw inferences from such evaluation for OBA design and on how regulatory reforms can be promoted (with or without OBA) if the existing regulatory arrangements do not meet the needs of poor customers;

**Section 4** draws overall conclusions and identifies areas requiring further analysis.

Annex A provides indicative reference materials. A more extensive annotated literature review appears in Trémolet and Hunt, “Taking account of the poor in water regulation” (2006).

## 2 - Evaluating existing regulatory arrangements

When reviewing whether existing regulatory arrangements have been designed with the interests of poor customers in mind, one should seek to understand:

- Whether the rules for expanding coverage are sufficiently detailed and enforceable;
- Whether tariff levels and structure ensure that subsidies benefit poor customers;
- Whether quality requirements are sufficiently flexible to allow service providers to experiment with lower-cost service;
- Whether alternative service providers are able to compete on a (nearly) level playing field with the main service provider.

Common problems with existing regulatory arrangements could be that the existing coverage targets are inadequately defined or impossible to enforce because they are not associated with specific financing. Alternatively, quality standards may also have been set at high levels and relaxing such standards could allow cutting the amount of subsidies required by a significant amount.

This section provides an overview of the main areas for evaluating existing regulatory arrangements and suggests key questions under each area.

### 2.1 - *Regulating access expansion*

One of the best ways to improve poor people's water services is often to provide them with access to a reliable supply through a piped network, either through a domestic connection (in the house or in the yard) or through a public connection. This is true especially when poor people do not have access to the network and, as a result, may have to pay very high prices for obtaining water from off-network solutions, such as water vendors or neighbors. Encouraging coverage extension is therefore potentially a very effective way to benefit the poor, as economies of scale in service provision can bring down the costs of serving them.

#### ***What are common problems with the definition of coverage targets?***

***Coverage targets may be defined in vague terms or without matching resources.*** Existing coverage targets are often left relatively vague, and as a result, coverage often does not increase as fast as initially anticipated. The rules relating to coverage, contained in a contract for example, may not be sufficiently clear (problem of definition) or precise (problem of lack of data). They may also specify coverage targets that are inappropriate because they are either not ambitious enough or too ambitious. In other cases, coverage targets may be clearly specified, but with no matching financial resources, which means that they are unenforceable. This is particularly the case for public service providers, for which coverage objectives are often more difficult to enforce than for private providers, as financing of coverage extension is dependent on the allocation of public funds. Besides, public sector operators' coverage targets are often set out in broad terms rather than in specific contracts or decrees or other ostensibly binding instruments.

***Coverage targets may be very restrictive in how they define service.*** Coverage targets are often defined in a restrictive way, for example by requiring that all connections be in-house. To keep costs at reasonable levels, allowing differentiated service levels may be preferable. This may be achieved through allowing the main service provider to extend coverage either directly (through domestic or public connections) or indirectly (through sales to independent entrepreneurs, who would then sell the water on through their own distribution networks). This is allowed in some cases (such as in the concession contract in Manila) but not in others (such as in the concession contract in Gabon, which specifically

excludes indirect sales from meeting coverage targets or that in La Paz-El Alto, which focused the definition of coverage on domestic connections).

**Coverage targets may be too ambitious or unrealistic.** In some private sector contracts, coverage targets may have been set at such unrealistic levels that they were unachievable. This was the case in Casablanca, Morocco, for example (see Box 2).

### **Box 2 – Ambitious coverage targets in Casablanca, Morocco**

In April 1997, the municipality of the Great Casablanca signed a 30-year concession contract with Lydec, the electricity, water and sanitation service provider in which Suez Environment is the main shareholder. The contract was awarded following 3 years of negotiation. It contained specific targets, including loss-reduction targets as well as coverage objectives, requiring that the concessionaire carry out 45,000 social connections (for water and sanitation) per 5-year period. Water coverage in the areas previously served through standpipes was supposed to go up to 85% in the 5<sup>th</sup> year, 95% in the 10<sup>th</sup> year and 100% in the 25<sup>th</sup> year. Those targets were defined on an overall basis, without specifying priority areas and on the basis of an unreliable information base. Although the contract is called a “concession” and the operator is remunerated from revenues of sales to end consumers, funds for investing in social connections come from financial contributions from newly connected users and municipalities and are channeled through a “Special Works Fund” (*Fonds de Travaux*). The concessionaire has met most of its obligations and customer satisfaction is deemed to be high. However, the company has not been able to meet the coverage targets set in the contract for a number of reasons, most of them linked to the inadequacies of the regulatory arrangements:

- Targets were set at very ambitious and probably, unrealistic, levels compared to the previous rate of service extension. At the end of 2002, Lydec had made 4067 social connections to the water system and 169 to sanitation. This is much below what was anticipated.
- Social connections can only be provided in social areas, if the area is close to the network and has permanent buildings, which are purely for domestic use. Informal slum areas are therefore excluded, as well as informal constructions on terraces, where a lot of poor people live. Those criteria were defined by municipalities, which do not wish to legalize such areas and do not want to finance service extensions in those areas. The concessionaire has been trying to get the municipalities to modify those criteria, but with limited success until a recent initiative by the King which has turned a prohibition on serving those areas into an obligation to serve them with associated financing (see Section 3.3).
- Service extensions in “illegal” areas were not taken into account in the design of the financing mechanisms for the contract. The Special Works Fund was set up to finance works in the core “legal” areas of the city. Even if criteria for making social connections were relaxed, this financing mechanism would not be sufficient to fund their expansion in “illegal” areas.
- The tariff structure gives a disincentive to the concessionaire to serve those areas. Lydec is largely a water distributor: it must purchase water from ONEP, the publicly-owned bulk water supplier operating throughout the country. The tariff at which it purchases water in bulk (set nationally) is actually higher than the social tariff (also set nationally). Given that 69% of clients who have received a social connection consume in the social tariff “band” (as opposed to 50% for all customers), Lydec has no incentive to serve those customers as it would be “below cost”. The concession contract contains a clause which guarantees the level of the average tariff: if the structure of consumption varies in a way detrimental to the concessionaire (for example, if the share of consumption in the lower tariff block increases faster than the one in the higher tariff blocks), tariffs must be adjusted to compensate the concessionaire. However, this mechanism has never been applied and the tariffs have not been adjusted accordingly.

In Casablanca, several donors (including the World Bank and the *Agence Française de Développement*) are presently considering how OBA financing could potentially be incorporated in the incumbent’s concession contract so as to provide it with stronger incentives for expansion, particularly in the context of new obligations for the concessionaire to serve impoverished squatter areas. Even though it may be possible to define more realistic coverage targets (with adequate financing), existing tariff regulation may complicate this task.

***How can the effectiveness of coverage targets be improved?***

**Use financial incentives in association with coverage targets.** In many cases, coverage targets (with associated penalties if the targets are not met) may not be the most effective way to encourage coverage extensions, because financing cannot be guaranteed in advance or is likely to be extremely limited. In such cases, using incentives to foster coverage extension may be more appropriate simply because it is preferable to encourage operators to carry out whatever can be achieved rather than to penalize them retrospectively for what they could not have achieved. This is what Output-Based Aid (OBA) programs focused on financing service extensions seek to achieve. Introducing OBA schemes can therefore help clarify the definition of coverage targets and make their achievement more likely.

#### **Key questions for evaluation**

- Do service providers have sufficient incentives to expand coverage?
- Is the definition of coverage appropriate or does it limit service solutions?
- Is adequate funding in place for expanding coverage?
- Does the regulator have all necessary tools and instruments to regulate the main provider's coverage targets?

## **2.2 - Regulating tariffs**

Tariffs should be set at, or at least move toward appropriate levels, i.e. levels which permit recovering the costs of service provision and include some contribution toward investments whilst not generating excessive profits. The structure of tariffs, i.e. the balance between the connection and consumption charges as well as the structure of the consumption charges should also be defined so as to provide the right incentives to all customers whilst allocating subsidies to those who need them most. Below we review common problems with tariff regulation which could negatively affect the ability of the water service providers to serve poor customers and we examine, potential solutions.

### **What are common problems with tariff regulation?**

**Tariffs may be too low, i.e. below costs.** Volumetric tariffs may be kept below the costs of providing service, such that the main utility is unable to finance routine maintenance and expansion. Tariffs are often held below such levels by politicians in order to obtain political support from the large customer base which currently enjoys subsidized service. Rather than unwillingness-to-pay on the side of the consumers, some point to “unwillingness-to-charge” by politicians as a main reason for low tariffs and poor cost recovery. Such low tariffs negatively affect service quality and limit the main utility's capacity to expand its services to unserved households. The subsidy that is implicitly provided by keeping tariffs low is limited to those who have access to piped water supply. The urban poor are often less likely to have access to such services and usually pay much higher tariffs for inadequate services provided by alternative providers. Keeping tariffs low tends to aggravate this state of affairs. Increasing average tariffs to permit sustainable financing of ongoing O&M and a portion of investment costs may be one of the most efficient ways to benefit poor households in the medium to long run.

**Tariffs may be too high (in rare cases).** In certain cases, service providers can charge whatever they want because consumers cannot choose between competing suppliers and because they place a high value on access to water services if they do not have low cost alternatives. Even government-owned providers may take advantage of consumers by

charging too much for a poor quality service, because they have little incentive to improve productivity or they artificially increase costs due to corruption and poor management. For example, water tariffs in small countries such as Djibouti and Rwanda are high compared to regional averages and are not even sufficient to cover operating costs, reflecting the inefficiencies of their public utilities.

***Subsidies may be inadequately targeted.*** The tariff structure (i.e. the number of customer class or consumption blocks and the level of tariffs for each of these customer class or consumption blocks) can also have a substantial impact on accessibility for the poor, as it would determine how subsidies are allocated to different customer classes. It may be that tariffs are inadequately targeted because poor people do not receive subsidies (error of exclusion) or because comparatively rich customers receive comparatively more subsidies (error of inclusion).

### ***How can the design of tariffs be improved?***

***Use connection rather than consumption subsidies.*** Connection subsidies, such as “social connections”, are often more effective than consumption subsidies in targeting subsidies to poor households, as long as eligibility criteria are well defined for awarding such social connections. The common argument made in favor of connection subsidies is that the single most significant barrier for the poor to have access to service are high connection charges, although “non-price” barriers (such as land tenure or administrative procedures) are also significant and should also be dealt with. As a first step, connection charges can be reduced by eliminating additional costs which artificially increase the cost of a new connection or the fixed charge for this connection, such as meter rental costs. As a second step, connection subsidies can be introduced on an output-basis, although that would usually require that the tariff structure and the remuneration formula for the operator maintain adequate incentives to serve the poor once they have been connected.

When designing connection subsidies, one should be aware of the targeting issues associated with their implementation. It is often difficult to identify poor customers who can benefit from such subsidies because they may be living throughout the urban area rather than in clearly defined geographical areas. In Casablanca, only one out of three poor households resides in areas qualified as “shantytowns”. Others live on terraces above buildings or in crowded, rented accommodation in the center of town. Granting connection subsidies to shantytown residents only would generate high errors of exclusion. At the same time, relatively well-off families may be living in peri-urban areas and have their own water source. Therefore, awarding uniform subsidy to all peri-urban residents without access to the water network may exaggerate errors of inclusion.

If subsidies are provided for social connections, clear criteria should be defined for identifying poor customers. Experiences in Senegal and Cote d’Ivoire reveal that while the existing social connection programs are intended to target the “poor”, they often do not reach the very poor. This is because, in both countries, communities are eligible only if they have secure land tenure, a criterion that excludes the very poor living in informal settlements. Extending services via differentiated service levels (such as standpipes) or low-cost solutions (such as condominal networks) may allow a form of “self-targeting” to take place.

***Improve the targeting of consumption subsidies.*** Tariff structures often incorporate “social blocks”, i.e. initial consumption blocks for which the tariff is set well below cost. The underlying assumption is that poor consumers, if they can keep their consumption within that block, can benefit from lower tariffs. These block tariffs can be structured in various ways: for example, “increasing-block tariffs” (IBT) are stepped tariffs in which a higher price per unit is charged for each subsequent block of consumption. If the first block is subsidized, customers consuming in the higher blocks would still benefit from this subsidy. Besides, it is

not necessarily the case that only the first block is subsidized: if the first three blocks are set below cost-recovery for example, the subsidies would benefit a large segment of the population (probably the majority) and not exclusively poor customers. To compensate for subsidizing the first blocks, subsequent blocks should be set above average cost in the relevant consumption range of households living in that locality, something that is not followed with great frequency.

Whether this kind of tariff structure actually helps the poor is the subject of considerable debate: analysts have pointed out that in some cases, this type of tariff structure can harm the poor because they would tend to consume more water (either through collective connections or standpipes) or would often be unconnected, therefore unable to benefit from this kind of cross-subsidy (“exclusion risk”). If the size of the first block is very large (i.e. a relatively large monthly consumption gets subsidized), the error of inclusion then becomes high, with a large number of relatively well-off people benefiting from the subsidy. In a recent review of tariff structures in seven African countries (Kenya, Tanzania, Uganda, Zambia, Senegal, Mali and Burkina Faso), it was found that all countries had an increasing block tariff except Uganda. The size of the social block varied from 5 m<sup>3</sup> in DAWASA (Tanzania) to 20 m<sup>3</sup> in Mali or Senegal. It was also in those two countries that there was the sharpest difference in tariff level between the first block and the second block. Because the size of the first block is high, the risk is that the significant subsidy provided to consumers in the first block would benefit quite a lot of consumers who are well-off. This would partly depend on the size and consumption patterns of poor families versus rich families, which is a factor to taken into account when deciding on the tariff structure.

When an IBT is in place, one potential way of alleviating this problem is to reduce the size of the first block. An optimal size for the first block would usually considered to be around 6 m<sup>3</sup> per month, which would be sufficient to provide a minimum of 40 liters per capita per day to a family of 5 people. In a recent review of alternative tariff structures, however, the World Bank concluded that reducing the size of the first block is usually not as efficient as moving to a volume-differentiated tariff. With this type of tariff, consumers are charged the unit price for the last block of their consumption, irrespective of the number of blocks, and only those who limit their consumption to the lower blocks get a subsidy.

***When metering is not universal, examine the most efficient way to charge for consumption.*** When metering coverage is limited, the impact of modifying the structure of consumption tariffs would be very limited. When consumption is not metered, consumption charges are often based on arbitrary rule of thumb estimates. There is often a tendency to overcharge the poor and to undercharge the rich in relation to their actual consumption. In these cases, designing tariffs that benefit poor customers may be more difficult. It would be necessary to consider the trade-offs between introducing universal metering and defining improved methods of tariff differentiation, based on geographic location or means-testing criteria, such as the size or the quality of the dwelling for example.

***Design the operator’s remuneration so as to provide incentives to serve the poor, even if tariffs are below costs.*** When consumption tariffs are low, especially when the “social block” is highly subsidized, the disincentive for the operator to serve those consuming at such low tariffs can sometimes be alleviated by subsidizing the operator’s remuneration so that it has no disincentive to serve poor customers. This is what the affermage contract in Senegal allows, for example, since the operator’s remuneration per cubic meter of water sold is fixed, irrespective of whether the operator sells water at the social tariff or at the commercial tariff. If, as a result, the operator’s remuneration were to be higher than total tariff proceeds, the asset-holding company would need to pay the difference (although this has not occurred in practice) or tariffs would need to be increased. In the case of Senegal, tariffs have been increased every year and the asset-holding company did not need to cover the deficit by using external funds. If this cannot be done, a predictable and secure source of

external subsidies should be identified to secure the long-term viability of the service delivery scheme.

#### **Key questions for evaluation**

- Do tariff setting principles emphasize the need to take account of poor customers? Do they define concepts such as “equity” or cost-recovery sufficiently clearly? How are they interpreted?
- Do tariff structures target subsidies to poor consumers?
  - If an IBT is in place, what is the size of the first-block?
  - Do higher blocks recoup the subsidies provided in the initial blocks?
  - Are subsidies available to all or are they targeted on the poor?
  - Is there a specific tariff for standpipes or bulk sales?
- What is the charge for a new connection and can poor customers afford it?
- If there is a “social connection” policy and do the criteria allow the poorest to benefit?

### **2.3 - Regulating service quality**

Quality standards are a key determinant of service costs. They are therefore a key driver for determining the revenue requirement and hence, tariff levels. One way of keeping tariffs at affordable levels whilst recovering a greater share of service costs (and reducing the need for external subsidies) is to adapt quality standards to local needs. Quality regulation therefore needs to be flexible and to consider the trade-offs between service quality and price, so that quality standards and requirements can be adapted to the circumstances in different service areas, including the type of customers and service providers.

#### **What quality aspects should be considered and what are common problems?**

**Quality standards having an impact on society as a whole, such as environmental standards, may hit poor customers particularly hard.** These would typically include abstraction or discharge standards, having an impact on the environment. In developing countries, environmental standards are either not in place or set at relatively high levels, which are difficult or too costly for operators to meet. Inappropriate environmental regulation may have a substantial impact on poor people. For example, if small-scale providers are taking water from private wells, an outright ban on private abstractions intended to permit aquifer recharge may hit the poor hardest, especially if they were relying heavily on such small-scale providers to obtain drinking water.

**Quality standards non-perceived by customers, such as technical standards, may artificially inflate the costs of serving poor areas.** These would be the engineering and construction standards which are set in order to ensure the reliability and durability of the installations. They may also include health and safety requirements for the operator’s workers. In the case of short-term private sector contracts (or even construction contracts), it is particularly important to monitor those so that the operators (or constructors) are not tempted to make savings on construction costs. In many countries, technical standards have been imported from developed countries and are too costly given the local circumstances. Often, they could be varied to reflect the local geography (such as soil condition or temperature fluctuations) without any significant loss in quality. But in practice, such standards are often the same as in developed countries without appropriate adjustments. This may be because local engineers consider them as best practice and are reluctant to change them. Such standards may lead to higher construction and operation costs, create artificial barriers to entry and limit innovation, particularly if they are focused on inputs.

**Service quality parameters perceived by customers, such as continuity or pressure, may not adequately reflect poor customers’ preferences in terms of price/quality**

**trade-off.** These would typically include characteristics such as hours of service, pressure, taste, physical appearance (color, turbidity, etc), drinking water and customer service standards (time for installing a new connection, repairing leaks or answering and resolving a complaint, billing and payment options, etc).

Customers' preferences for such service quality parameters are likely to vary from one location to another and from one group of customers to another, based on an evaluation of the trade-offs between quality and price. In poor areas, it may be possible to lower certain service characteristics in order to reduce the cost of service or the amount of subsidy required to expand service into those areas. For example, it may be possible to supply water at a lower pressure in peri-urban areas than in the dense urban centre. By lowering design specifications with respect to pressure, the quality of service provided to the end customer may actually remain the same, simply because the buildings tend to be lower in peri-urban areas. The ability to modify standards relative to pressure, and the potential benefits from it would depend on the topography of the service area and on whether peri-urban areas are located on hills or on flat lands surrounding the urban centre. Varying service quality parameters such as pressure would also require upgrading the network as a whole, so that the service area can be divided in several sub-sectors with bulk meters and pressure can be varied from one sub-sector to the next.

### ***How can quality regulation better meet the needs of poor customers?***

***Adapt service quality standards and encourage the development of innovative solutions.*** For all these quality parameters, the impact of modifying the standards would need to be considered based on the costs and benefits of such actions, taking account of the potential cost savings and of the impact on customer welfare. This type of approach was tested in a number of places, with a private operator in La Paz-El Alto in Bolivia (see Box 3) or with a public operator in Durban, South Africa (see Box 4).

#### **Box 3 - Introducing condominal water and sewerage networks in La Paz El Alto (Bolivia)**

In 1997, the Bolivian Government signed a 30-year concession contract for water and sewerage services in the capital city of La Paz and adjacent El Alto (a poor neighborhood located on a plateau above La Paz). The contract set ambitious coverage targets for the private operator, setting out that all new connections had to be domestic and that the private operator had to close down existing standpipes. The concessionaire made significant efforts to extend coverage so that it met most of its coverage obligations but this placed him in a difficult financial situation, as demand from these new connections was much lower than from connections in rich areas. Through entering into a partnership with public and civil society actors (including the water regulator), the concessionaire introduced a new standard (condominal water and sewerage) that allowed reductions in the costs of expanding water and sewerage services. This standard involved technical innovation (with the use of shorter and shallower networks), community participation for construction and maintenance and hygiene education as well as micro-credit for sanitary installations. It is estimated that, as a result of these innovations, network costs can go down by 10 to 20% and digging costs by 45 to 75%. Total cost savings for network expansion were around 40% for water and 25% for sewerage (and 20% in Brazil).

The introduction of this new standard was not without problems, however: the connection charge to those condominal networks was not lowered, and the only way that poor customers could get a reduction was through contributing their own labor. As a result, there were some difficulties to get people to accept those different standards, as they were labeled as "standards for the poor", with a consequent negative impact on the price of the property for example. As the national water regulator (SSB) had been part of the partnership set up to test this new standard on a pilot basis, however, it was prompt to recognize its benefits and to push for its incorporation in the new construction standards drafted by the Ministry. The Ministry later adopted construction standards that recognize condominal as an acceptable standard at the level of the country as a whole.

#### **Box 4 - Adapting quality standards in Durban, South Africa**

In Durban (South Africa), the municipality (which also owns the municipal operator, Durban Metro Water Services) let the municipal company experiment with alternative service standards in order to meet the needs of customers in poor areas. Durban Metro Water Services (DMWS), the municipal water service provider in Durban Metro, has introduced a series of innovations to provide services to poor (and predominantly black) neighborhoods that were incorporated into its urban territory following the end of the Apartheid. The first was the adoption of the Free Basic Water Policy, i.e. the provision of six cubic meters of water for free to all customers. This policy was deemed appropriate in Durban because the number of high income customers (and in particular, commercial customers) makes cross-subsidization of low-income customers eminently possible. The second innovation had to do with varying quality standards and giving customers the ability to choose between a range of options with varying price/quality characteristics. For example, DMWS developed non-pressurized water systems with the provision of a roof tank as an alternative to a full pressurized system (which may be unaffordable). In such a system, water is reticulated using small diameter piping, which is laid along the major access routes or tracks located within the informal area. At appropriate intervals, connections are made to this reticulation and a manifold, which allows approximately 20 houses to connect to the water main, is installed. Each consumer receives a 200 liter water tank that is serviced by a water bailiff every day. This system results in a low level of unaccounted for water because of the low pressure and effective customer demand management. Overall water consumption through such a service delivery system is estimated to be up to 50% less than conventional systems to communities of similar profile. The approach nevertheless provides sufficient water to households to maintain a basic level of hygiene and health.

***Use penalties only when appropriate.*** Penalties seldom are the most appropriate instrument to regulate quality. Applying penalties for non-compliance may be particularly stifling, especially if the service provider has no financial means to implement the standards because they have been set at too high levels and tariff revenues are insufficient to cover the costs. Relying on other regulatory tools, such as benchmarking provider performance or relying on self-regulation (whereby providers seek to distinguish themselves by offering better quality guarantees) may be more appropriate than applying penalties in some circumstances.

#### ***Key questions for evaluation***

- Are quality objectives set at an appropriate standard to meet the needs of the poor? Do service providers have any flexibility to adapt service quality to those needs?
- Are there appropriate quality monitoring mechanisms in place to monitor service quality in poor areas so as to ensure that service providers do not sacrifice quality in those areas?

## **2.4 - Regulating alternative service providers**

Alternative service providers, including operators of small-scale networks or water resellers, are often relegated to illegality and not adequately regulated, even though they usually provide essential services to poor customers and account for a very important share of the market (up to 60 or 70% in some countries). Policy-makers and regulators usually tend to ignore those alternative service providers, as they deem that services can be provided more efficiently and at least cost through supporting the development of the main service provider or they feel that it would be too complicated or risky to try and regulate them. Even though service provision by a large utility may be more cost-effective in the long-run (thanks to economies of scale), there may be a long delay before the utility is in a position to extend services to all, during which alternative providers services can be critical for many customers.

Alternative providers may also be potential receivers of OBA subsidies, but only if they are formally incorporated into the regulatory regime. This would require forming a better understanding of the market, bringing them into the formal market and defining the most appropriate regulatory regime so as to avoid stifling their ability to innovate.

### ***Seek to understand the market better***

The term “alternative water service providers”, also referred to as small-scale independent providers (SSIPs) or independent water entrepreneurs, covers many distinct types of water supply solutions which may call for different regulatory regimes. They may provide water to end consumers through piped networks, at a single distribution point (such as a standpipe) or through a mobile distribution system (such as tankers). They may get water in bulk from the main utility or have an independent water source. The regulatory issues they face would differ as a result: for example, private operators with their own source would need to obtain groundwater abstraction permits whereas those that buy water in bulk from the main supplier would need to negotiate bulk supply agreements with the main supplier.

Domestic water resellers may also play a significant role in the market. In many areas, poor customers buy water from their neighbors, particularly when water is not metered. Households with a connection can get a significant income from such activities, although in some cases they may also give the water for free, especially to indigents or relatives. Poor consumers would generally take water from a combination of such sources. For example, the national regulatory agency for Mozambique (CRA) conducted a study in Maputo and found that the main utility (which it is in charge of regulating) serves 60% of the market (20% through domestic connections, 20% through standpipes and 20% through neighbor resale), whereas small network operators serve 30% (11% through house connections and 19% through standpipes) and the remaining of the population gets water from wells or boreholes.

### ***Examine the potential for bringing alternative providers into the formal sector***

Bringing alternative providers into the formal market would usually give them increased security of investment, lower risk of expropriation and improved access to finance. Independent providers themselves are often aware of the advantages from obtaining legal recognition as in Zambia (see Box 5 below). Once in the formal sector, alternative providers are better able to invest in service expansion, as in Ho Chi Minh City (see Box 6 below).

#### **Box 5 - Water Trusts in Zambia**

In Zambia, Water Trusts are small network providers which have been established at the initiative of donors, in coordination with the local communities, in peri-urban areas of the capital city Lusaka. They are currently operating in a legal vacuum, even though they collectively serve almost as many people as the public utility, Lusaka Water Services Company (37% of Lusaka's population are served by Water Trusts as opposed to 43% by LWSC, leaving 20% unserved). A recent survey carried out in the context of the BPD work on pro-poor regulation showed that they would like to see their services regularized and regulated, because they see that regulation would “enhance transparency and the trust of people in the Trusts”. The main advantages they saw from regulation were that it could help “maintain standards and promote uniformity when it comes to water quality, accountability and transparency”. The solution currently being considered is for NWASCO, the national water service regulator, is to sign Memoranda of Understanding (MoU) between the Trusts and LWSC and to regulate the Trusts via LWSC's license. The preparation of such arrangements under the supervision of the regulator is likely to enhance impartiality and protection of each party's interest. This is important as the Water Trusts are keen to maintain their independence and do not view favorably proposals to incorporate them into the main provider or to simply become their distributor.

#### **Box 6 – Alternative providers in Ho Chi Minh City (Vietnam)**

The regulatory authorities in Ho Chi Minh City (Vietnam) adopted a deliberate policy of legitimizing alternative providers in order to encourage them to extend and improve services. This policy built on the observation that the public utility (Ho Chi Minh Water Supply Company) was unable to expand services and produce water at a rate to meet demand (particularly for the unserved poor). The municipal government defined a contractual regime whereby the rights and responsibilities of these alternative providers would be clearly set out in 5 to 10 year contracts. The right to provide services transferred to those operators is limited to this period (but guaranteed) in order to allow the public utility to provide service in that area at the end of the period or before, provided appropriate financial compensation is paid.

Alternative service providers can also innovate and develop lower cost technologies to extend services to poor customers. They can play a “demonstration” role and develop standards that could be later adopted by the main utility in order to compete and keep costs down. For example, in Paraguay, alternative service providers such as the Aguateros use low-cost technologies, using simple well drilling techniques and plastic hosing. They have reduced installation costs of small water networks to \$250/person whereas the regulatory standards that govern construction for the main utility are very rigid, calling for more expensive technologies (Solo 2003).

Bringing alternative providers into the formal sector would usually require lifting exclusivity clauses awarded to the main utility, especially when such exclusivity does not reflect the reality on the ground. Of course, as exclusivity provides security for a large operator, the latter may require compensation for any restriction to its exclusivity.

Turning alternative providers into legal entities may be relatively complicated, as it requires that those service providers obtain several authorizations, permissions or licenses from various institutions, such as the corporate registration, tax and social security authorities, land registry and planning authorities but also the regulator in charge of environmental regulation functions (for water abstractions and discharges) and that in charge of economic regulation functions (if a license is required to provide a public service). A single institution may need to take the lead for organizing this process, acting de facto as a “one-stop” shop.

#### ***What aspects of alternative providers’ performance should be regulated?***

Regulation is needed only to correct market failures, such as monopoly power, information asymmetry or externalities. Whilst conducting an analysis of the alternative service provider market, it is important to identify whether there are any market failures which have a detrimental impact on customers or on the environment. It would also be necessary to compare the potential benefits of establishing a regulatory regime with the actual costs of doing so, in terms of compliance costs for the operators and monitoring and regulatory costs. Given the diversity of alternative providers which may be operating at the same time, it would be necessary to carry out this analysis for each type of provider, in order to develop suitable regulatory arrangements for each type.

When regulating alternative providers, the risk may be an “over-kill”, as over-regulating may stifle the dynamism that makes alternative providers useful in the first place. For example, if providers are required to obtain a license in order to operate, that may increase their operating costs and reduce their ability to provide services at a relatively low cost. This could include the additional operating costs of having to submit formal accounts or of having to comply with technical design standards and customer service specifications.

Analysts of existing experiences with alternative providers usually conclude that “light-handed” regulation is required, in order to keep costs down and avoid driving those providers out of business. At the minimum, regulation should be focused on securing a level playing

field for all types of operators, including the large utility provider and small-scale providers. They should all be able to operate on comparable terms, including not being discriminated against when acquiring basic inputs such as electricity or having access to water resources. Rules for interconnection between networks should also be defined so that alternative providers can purchase water from the main network at a fair price and that the systems can interconnect at a later stage in order to reach economies of scale in service provision.

Light-handed regulation may be developed based on identifying the key aspects of the service that are currently unsatisfactory and important to customers (for example, affordability, quality, reliability, etc...). It would be preferable to regulate only those service characteristics, whilst leaving others to be regulated through market forces (i.e. competition). For example, regulating tariffs would require acquiring a deep understanding of alternative providers' cost structures, which may be very time consuming and inefficient. In fact, competitive pressure between those operators is usually sufficient to maintain tariffs at acceptable levels. In the case of the Aguateros in Paraguay, for example, a recent in-depth study found that those independent private entrepreneurs in the capital city Asunción charged the same or slightly less for the volumetric and connection charge than the public water company, and this without any external public regulation or subsidies. If tariff regulation for independent entrepreneurs was attempted, the risk of getting it wrong could be quite high, as setting maximum allowable tariffs below costs could actually drive those operators out of business. At the minimum, a focus on the quality of water supplied in order to safeguard the health and safety of customers would be required.

### ***What institutional mechanisms can be relied upon to regulate alternative providers?***

Regulation of alternative providers can be done through issuing simple licenses, with an initial control of service quality aspects followed by controls at regular intervals, as specified in the license. Licenses are particularly appropriate for existing operators using their own infrastructure to deliver the service. The objective of the license is to grant the alternative provider the right (exclusive or non-exclusive) to operate over a given territory and to exercise public service prerogatives over this given territory. Such licenses are typically issued by a regulator or by a local authority. Alternatively, the main operator may indirectly regulate those alternative providers, particularly when it is in charge of supplying them with bulk water. In order to formalize their existence, the main operator can issue them with a contract and monitor the quality of the end service. If disputes arise, these can be resolved in court or the regulator may be required to step in to resolve the dispute quicker.

The entity responsible for overseeing the main water service provider may not necessarily be best placed to carry out light-handed regulation, however. It may be more efficient to define a "relay" that the main regulator can rely upon, i.e. an institution that is sufficiently close to the alternative providers in order to carry out local level regulation. To do so, the main regulator may choose to forge alliances with such local-level institutions. For example, in Mali, the national regulator is in charge of regulating water services in all urban centers above 10,000 inhabitants. However, in practice, the national regulator is only focusing on the 16 towns that are served by the main service provider and has not sought to regulate other towns, which are served by local-level providers which have signed a contract with the municipality. An ad-hoc body, the CCAEP is in charge of providing technical assistance to the operators in those other towns and of supervising them at the same time, including verifying their financial accounts and technical performance. Those local-level providers have strongly benefited from such light-handed and supporting regulation.

Regulators may also wish to rely on service providers associations to supervise alternative providers. Such associations can help for implementing benchmarking regimes, as the association can publish information on the performance of its members. Belonging to the association can be a sign that the service provider complies with certain principles, which

would increase customers' trust. If the association publishes league tables of its members, this can act as a strong incentive for its members to improve their performance, even better than a more formal licensing regime. The role of such associations has received increased interest in recent years and a World Bank-financed research was recently initiated to look at their potential role by reviewing the experience of existing associations. This review showed that while service provider associations may play a useful role, they are often fragile institutions that may fail if they are not established in a credible and sound manner.

#### ***Key questions for evaluation***

- Does the main provider have exclusivity, either explicitly or implicitly (e.g. monopoly over abstraction rights)?
- Do alternative providers represent a large share of the market? What are the characteristics of the alternative provider market? Do they provide adequate services and could they be developed to cover broader areas?
- Is the existence of alternative service providers officially recognized? Does the regulator have the remit and the ability to regulate them? If it is not responsible to regulate them, would it be appropriate for the regulator to play a role in this area? Does the regulator have contacts with alternative providers?
- Do alternative providers have the ability to compete on a level playing ground (e.g. are bulk water selling rules equitable)?
- Is there any "light regulation" of alternative providers (such as publication of information, simplified licenses, service provider associations, etc)?
- What are the aspects of their activities which are not currently regulated and should be (prices, service quality or customer relations)?
- Does the regulator have all necessary tools and instruments to monitor and regulate alternative providers or should it develop additional tools?
- Do existing rules give alternative providers incentives to expand?
- What could be the role of main provider (s) for regulating small-scale providers?
- What other mechanisms for regulating alternative providers (such as association of providers, etc...) exist already or could be initiated?

### **3 - Regulation in the context of OBA schemes**

Output-Based Aid (OBA) is a strategy for using explicit performance-based subsidies to support the delivery of basic services where policy concerns would justify public funding to complement or replace user-fees. OBA involves delegating service delivery to a third-party, such as private firms, public utilities, NGOs, or community-based organizations, under contracts that tie disbursement of public funds to the services or outputs actually delivered.

While approaches involving OBA subsidies can improve water and sanitation service for poor households and communities, the prospects for success are conditioned by the existence of supportive policies and conducive regulatory arrangements. For example, if an OBA scheme is to be provided for extending access but tariffs remain well below cost-recovery levels, the operator that receives the subsidy may have little incentive to provide good quality service to its customers after the connection has been established.

The design of effective OBA schemes therefore requires an understanding of the impact that existing regulatory arrangements have on water services to poor customers. Based on the results of such evaluation, changes in rules, processes, and institutional responsibilities may

be required to better ensure sustainable services for poor customers. If OBA schemes are introduced in the absence of such changes, their long-term viability may be at risk.

Deliberate adaptation of the regulatory regime should accompany efforts to shift financing to OBA mechanisms. OBA pilots can sometimes be used as a lever to bring about such changes. For example, OBA schemes which provide financing for extending coverage may help in the design of more explicit and transparent coverage targets. OBA schemes may also ease tariff increases to cost-recovery levels, a critical objective in order to serve all customers, including the poorest, in a sustainable manner.

This type of effort was clearly at play in the design of an OBA scheme for water service expansion to rural areas in Paraguay (as described in Box 7 below) and contributed to ensuring the success of the scheme. In that case, existing rules were revised ahead of implementation of the OBA scheme to formalize the status of independent service providers who had been operating successfully, albeit informally for some time in urban areas. Appropriate institutional mechanisms were put in place to supervise the service, through a series of contracts and local-level oversight bodies (including the water users association). This was done in a pragmatic way, through small rather than radical changes to the overall regulatory framework. One area where experimentation was limited, however, was in the choice of service levels, since coverage targets were specified in terms of in-house connections only.

#### **Box 7 - OBA subsidies in Paraguay were combined with a suitable approach to regulation**

In Paraguay, the World Bank piloted an OBA financing scheme for financing water and sanitation service extensions in rural areas. So far, the population appears to be satisfied with the service, although key challenges remain with respect to service affordability.

**The context** – SENASA, the public service operator responsible for extending service in rural areas (in towns of less than 10,000 inhabitants), was unable to meet demand and to comply with its expansion targets. In the late 1990s, SENASA was reaching only 37% of the population in target communities. Because local communities had problems repaying their debts for investments made by SENASA, the de-facto public subsidy amounted to about 300-400 USD per connection. Given available funds, it would have needed 20 years to reach 85% coverage. The decision to introduce OBA financing schemes via independent entrepreneurs was therefore taken to accelerate the rate of coverage expansion.

**Regulatory reforms** – Law No. 1614 of 2000 legalized outsourcing of water services and provided limited protection for the private operators who had already developed their own water systems. Through this law, the Aguateros (independent entrepreneurs who serve peri-urban populations through their own networks and who compete successfully with the main operator) were officially recognized and were allowed to operate in the formal sector. Besides, the Law designated the local water user associations as the responsible bodies for providing the service in small communities whilst giving them the possibility to outsource the service. Finally, the law created a national regulator (ERSSAN) responsible for regulating all providers and enforcing service quality and tariff regulations.

**The OBA financing scheme** - Three successive rounds of bidding were organized in 2002, 2004 and 2005, resulting in the award of six contracts to construction companies associated with Aguateros (in the last round, it was mandatory that an Aguatero be a member of the consortium rather than a mere sub-contractor). OBA financing is provided in the form of a subsidy per new connection made in the service area. The subsidy per connection covers more than the cost of each connection as it includes some overall investment costs as well. In the first round of bidding, the selection criterion was the connection cost for the end consumer (based on a fixed subsidy amount of 150 USD per connection). The successful applicant won the bid by setting the connection cost at between 200 and 217 USD per connection, equivalent to 40% of the total estimated cost of each connection. In the second round of bidding, the entrepreneurs had to compete on the amount of subsidy they were requesting from the Government (taking account of a set connection cost of 80 USD for domestic consumers), thereby shifting the bidding risk from the end customers to SENASA. The operators are obliged to provide the service to anybody who asks for it and pays the connection charge.

**Regulatory arrangements for OBA** – The arrangements are governed by three parallel contracts:

- A construction contract between SENASA and the private operator, setting out construction standard requirements;
- An agreement between SENASA and the local water user association (UA) regarding the subsidy arrangement and supervision requirements;
- A renewable 10-year operation and maintenance contract between the UA and the operator.

SENASA organized the bidding and selection process and disburses the subsidy to the operator upon satisfactory completion of the construction components. The UA is responsible for representing the community and supervising the operator's compliance with the O&M contract. The consumption tariffs were specified in the bidding documents on the basis of the estimated costs of service provision (including a minimum tariff to provide security against seasonal variation in demand). Quality standards are specified in the O&M contracts and tend to focus on outputs rather than inputs.

**Evaluation** – The OBA financing scheme has generally been considered a success: the local communities have been satisfied because service has expanded more rapidly than previously and their contribution to the costs of expansion has gone down. Despite the subsidy, some population still had difficulties in paying the connection charge so they were subsequently allowed to contribute their labor instead, through a work-for-connection vouchers program. Additional service options, such as water kiosks or tap stands, have not been considered as yet, but may be required to reduce costs.

The regulatory arrangements, although appropriate, were untested and have taken some time to become operational. The UAs have faced some difficulties in performing their oversight role, partly due to a lack of financial and human resources (this has partly been addressed in the last contract by allocating a small supervision fee to the UA out of the operator's revenues). They have been relatively reactive rather than proactive in their monitoring role. ERSSAN is responsible for regulating service quality but as it is relatively new, it has taken time to develop their enforcement capacity.

If regulatory constraints have been identified during the evaluation, OBA designers should check whether there is any willingness to modify the arrangements. If changes to supporting policy and regulatory arrangements are not forthcoming, caution should be exercised in proceeding with OBA schemes. OBA approaches may still be introduced but would need to be adapted to the existing regulatory arrangements (taking account of their limits) or used as a lever to bring about regulatory changes. For example, OBA schemes which provide financing for extending coverage may help in the design of more explicit and transparent coverage targets. OBA schemes may also ease tariff increases to cost-recovery levels, a critical objective in order to serve all customers, including the poorest, in a sustainable manner.

In the remainder of this section, we examine what aspects of the regulatory arrangements may need to be modified to improve the long-term viability of OBA schemes and what can be done if changes to the regulatory arrangements are not forthcoming. We then turn to practical issues regarding the process for modifying regulatory arrangements.

### **3.1 - Key issues in regulation and enhancing OBA**

In certain cases, the need for external subsidies may be greatly reduced due to changes to the regulatory rules, such as tariff reforms or the modification of criteria for installing connections. Where there is political commitment to such changes, it may be preferable for these changes to precede or accompany the implementation of an OBA scheme in order to maximize the reach and cost effectiveness of such OBA scheme.

OBA subsidies may still be required, however to compensate for regulatory deficiencies that would take a long time to fully address or where it would be too difficult to do so in the short term, for lack of political will or fear of high transition costs. When subsidies are required to

address social policy concerns such as affordability for particular groups of users, positive externalities, or the infeasibility of imposing direct user-fees, making regulatory changes could improve the effectiveness of OBA subsidies and maximize the impact of limited funds.

The following changes to the regulatory arrangements may need to be considered to improve the viability and effectiveness of OBA schemes:

- **Regulation of access expansion:** the design of an OBA scheme for service expansion should start with an assessment of the existing rules for expansion by the main service provider. The existing coverage targets may be unclear or unfunded. Additional funds may be provided to the incumbent for meeting such targets but that would require clarifying the overall regime to ensure that the same targets are not financed twice, i.e. that the subsidy does not finance a coverage target that the incumbent was already obligated to meet.
- **Tariff regulation:** even for the introduction of OBA connection subsidies, it would be advisable to obtain a commitment to increase average tariffs toward cost-covering levels so as to ensure the long-term sustainability of the service. As it is often not feasible to reach cost-covering levels in the short term, a path to increase tariffs over a defined period of time should be agreed, with possibly a temporary consumption subsidy to ease the transition to cost-covering tariffs based on OBA principles.
- **Service quality regulation:** the potential for varying quality standards and service delivery technologies should be examined when designing OBA schemes in order to identify the scope for generating cost reductions and hence, reducing the magnitude of OBA subsidies required or expanding the pool of participants which benefit from a given subsidy budget. This would need to take account of what is legally feasible at present. It may be possible to recommend alternative quality standards in the context of a pilot OBA scheme and to roll out such standard if the pilot performs well.
- **Regulation of alternative providers:** once the nature of the alternative provider market is better understood, one can assess whether some alternative providers would be well placed to receive or to channel OBA subsidies, in conjunction with being brought into the formal regulatory system. If alternative providers become the recipients of an OBA subsidy in a specific geographical area, the framework for monitoring their performance could become the basis for defining a broader framework for regulating their activities in other areas. In order to ensure a level playing field for all service providers (incumbent and alternative providers alike), it may be useful to consider establishing a “challenge fund” system whereby all types of providers could compete for award of subsidies per connection, including for expansion of service in areas close to the main provider’s service area.

### 3.2 - **What additional information may be required?**

The design of sustainable OBA schemes and of regulatory arrangements that explicitly take into account the needs of poor households will call for accurate information on who the poor customers are, where they reside, what their current problems are and on their preferences and capacity to pay.

This may require conducting regular surveys or forming partnerships with other organizations which generate, analyze or otherwise have access to this sort of socio-economic information. Indeed, some of this information may already be collected by agencies responsible for socio economic surveys and social protection systems. These are not institutions in the water sector but rather central agencies, universities, think tanks, etc, working on the development and implementation of social programs.

These agencies would have the most detailed available information on poverty and household characteristics but this information would not always be used by stakeholders in the water sector, such as policy-makers, regulators or service providers.

If available information is not sufficiently detailed or reliable, it may be necessary to commission surveys or mapping exercises, for example to combine available poverty information with maps of networks managed by the main utility or independent entrepreneurs. An objective of such surveys would be to identify where the poor are, i.e. whether they are concentrated in specific peri-urban areas or spread around the city, as this would call for different subsidy targeting methods. Those surveys should also assess poor customers' preferences and their circumstances (including non-price barriers to connection).

Surveys have their limitations however. They are often costly to undertake and can only give a snapshot of the situation at any given time. Unless a system is established to update and process this information over time, the information is likely to become obsolete, especially given that poverty is by definition a very transient and precarious situation. People often move in and out of poverty (following catastrophic events, a relative's death or illness) and poor people typically also move around to seek employment opportunities or join family. The definition of what constitutes poverty may also be shifting along with national economic shocks. Therefore, unless social services agencies have an efficient way of tracking poor households (as they do in Chile or Colombia, for example), general socio-economic surveys may only provide a very blunt instrument for tracking where poor people are and what they need. Given that the level of available information in existing surveys in most countries would usually be inadequate, defining "poor people" eligible for receiving the OBA subsidies based on such general surveys alone may be difficult and would need to be complemented with more dynamic methods for identifying poor customers.

Forming partnerships with local NGOs/ CBOs which are working in areas where the poor are located may be an alternative or useful complement to conducting extensive survey work. Such organizations are present in the field and they are working directly with poor customers so they can relay information on their needs or act as customer advocates.

### ***3.3 - How can regulatory arrangements be modified?***

Once the required information has been gathered and analyzed, it will be important to understand the process for reforming the existing regulatory arrangements and how this may coincide (or not) with the design and implementation of the OBA financing scheme.

As argued in this paper, careful adaptation of the regulatory regime should precede or at least accompany efforts to shift financing to OBA mechanisms. If such changes are not forthcoming, OBA approaches may still be introduced but would need to be adapted to the existing regulatory arrangements (taking account of their limits) or used as a lever to bring about changes in those arrangements.

If the evaluation found that policy changes and new legislation are required, policy-makers would be responsible for introducing such changes (in some cases, following recommendations by the regulator). If the obstacles to serving the poor have mostly to do with minor changes to detailed rules or practices (such as billing rules), the institution charged with regulatory oversight should take the lead. The boundary between what policy-makers and what regulators can and should do is difficult to define in general terms as it is highly dependent on the institutional framework in each locality, on the strength and reputation of the regulator and on the degree to which it has the legitimacy and political backing to take or to recommend decisions which have substantial policy and/or financial implications.

The issue of below-cost tariffs, for example, is particularly sensitive. Whilst it may be in the regulator's remit to set tariffs on a cost-covering basis, it would often be unable to do so without clear public backing of the political authorities. Ultimately, a political decision would be required to arbitrate on the underlying trade-offs between increasing tariffs and meeting expansion goals or improving service quality for those who are already served. If political decision-makers are not willing to bring tariffs to cost-covering levels, targets for service expansion may need to be lowered or set over a longer timeframe than originally envisaged.

Another typical example of a policy decision relates to the modification of rules for providing a connection. Frequently, municipalities and central governments are reluctant to regularize informal settlements by providing them with urban services, as this could lead to establishing squatters' de-facto ownership of the land. As a result, utilities would be able to offer a connection only to those with ownership or right to their property. Only strong political will can overcome such a constraint because modifying such rule would have implications for urban planning as a whole. In the example of Morocco discussed in Box 2 above, the Moroccan government changed its mind on this issue after terrorist actions in Casablanca in 2003. Following those events, the Casablanca municipality allowed Lydec to develop a policy of social electricity connections in the slum areas. Such extensions are now possible for water services as well following the recent announcement by the King of a national program for human development, which will entail providing services in slums. Whereas extending connections to the poor was previously forbidden, it is now compulsory and the utility has signed a financing framework in order to access funds for doing so.

If policy makers are not willing to modify the rules for providing a connection, the institution in charge of regulation may be able to address such existing regulatory constraint indirectly. In Manila, for example, the regulator allowed a moratorium on demolitions and the use of above-ground pipes by small operators which allowed them to serve poor customers in areas that the main concessionaires could not serve because of lack of land tenure.

## **4 - Conclusions**

While OBA approaches to improving water and sanitation service, particularly for poor households and communities, can work in a wide variety of circumstances, effective OBA schemes require an understanding of the impact that existing regulatory arrangements have on water services to poor customers.

The design of OBA schemes should therefore include an evaluation of the existing regulatory arrangements in order to identify what changes could potentially be made in order to get better services to poor people. If such changes can be introduced in the short-term, the need for external subsidies may be greatly reduced as a result. If such changes are not forthcoming, because of political resistance or high social costs, OBA may be introduced but would need to be adapted to the existing regulatory arrangements (taking account of their limits) or used as a lever to bring about changes in those arrangements.

As OBA schemes are usually carried out on a pilot basis initially, it would be important to design regulatory arrangements at the level of the pilot scheme that are conducive to expanding services to poor customers in a sustainable manner. The scale-up phase could then include an analysis of how the regulatory innovations tested in the OBA pilot could be introduced in the broader regulatory regime. If there is no willingness to make any changes to the regulatory arrangements even on a pilot basis, then such limitations should be pointed out early in the OBA pilot or such pilot could potentially be abandoned. Indeed, if there is a risk that the subsidy program would not go ahead for this reason, policy-makers may have a stronger incentive to reconsider such regulatory changes. OBA schemes could act as powerful levers to trigger rule changes which can make the overall regulatory arrangements more beneficial to poor customers.

There are many unanswered questions with respect to what regulatory arrangements that benefit poor people may consist of, particularly with respect to the design of tariffs for non-metered consumption or the design of “light regulation” for alternative service providers. Pilot OBA schemes may also allow experimenting with different methods of regulation and provide answers to some of those questions.

## Annex A – Further readings

Bill Baker and Sophie Trémolet (2000), Public Policy for the Private Sector, Viewpoints 219, 220 and 221, The World Bank, Washington, DC, including:

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“Micro-infrastructure: Regulators must take small operators seriously”  
<http://rru.worldbank.org/Documents/PublicPolicyJournal/220Baker-10-24.pdf>

“Regulating Quality: Let Competing firms offer a Mix of Price and Quality Options”  
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