

## triple-s

### Regulation in rural areas

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#### POINTS FOR ACTION

→ **For Governments**

- Establish a national framework that clearly allocates regulatory functions to various levels of government, taking into account existing capacities at the local level

→ **For NGOs implementing rural water supply interventions**

- Build on existing regulatory arrangements and seek to strengthen capacities

→ **For Donors and Development Partners**

- Support the drafting of national legislation and model contracts and provide funds for regulatory training, including at local government level

→ **For International Financial Institutions**

- Fund the establishment of sound regulatory mechanisms when financing reforms of the rural water sector

Regulation is a key function for delivering sustainable water services, both in urban and rural environments. In the context of small towns and rural areas, it may seem difficult to introduce regulatory mechanisms that are able to apply national rules while also balancing potentially conflicting interests at the local level. For this reason, it is often necessary to adopt a mix of approaches to regulate water and sanitation services, relying on a mix of contracts, national-level regulatory bodies and in some cases, regulatory relays at the local level.



Photo: Ton Schouten, IRC

Regulation entails setting rules, monitoring whether those rules are complied with, enforcing them and adjusting them over time. It is broader than service quality monitoring and also needs to be distinguished from policy-making, which usually involves setting out long-term policy directions under which regulation must operate.

Water services need to be regulated to protect human health and ensure the economic and environmental sustainability of such services. The overall objectives of regulation are that water services are provided in an efficient, fair and sustainable manner, while balancing priorities set out by governments at national and local levels.

Regulation can also be seen as a mechanism to balance different stakeholders' objectives (as those may be contradictory), including to:

- Enable the public sector to carry out its long-term policy objectives, such as expanding services to people currently without access;
- Protect service providers from politically-driven decisions and keep potential political interference under check; and

- Protect customers from potential abuse of monopoly power by their service providers or from arbitrary rule changes from local and national politicians.

## REGULATORY FUNCTIONS

It is useful to think of regulation as a set of 'functions', which can be allocated between government levels that are best able to perform them. These functions are rarely allocated to a single entity and can be broadly divided into three main categories: economic, environmental and public health regulation.

**Economic regulation** consists of setting, monitoring and enforcing tariff and service quality levels to be provided by water service providers. As Groom, Halpern, and Ehrhardt (2006) explain, economic regulation refers to 'the rules and institutions that set, control and modify the maximum authorised tariffs and ensure they are applied and the minimum agreed service standards for water service operators'. Going further, economic regulation can be broken down into four functions: tariff regulation, service quality regulation, competition regulation and consumer protection (see Table 1).

TABLE 1 ECONOMIC REGULATION FUNCTIONS

↓ Tasks	Functions →	Tariff regulation	Service quality regulation	Competition regulation	Consumer protection
<b>Collect information and data</b>		Obtain data on current and future costs and revenues  Obtain information on the willingness and capacity to pay for different levels of service	Obtain data on current levels of service  Compare operator performances (benchmarking)  Conduct technical audits	Obtain information on illegal conduct and monopolistic behaviour  Obtain information on the number of operators and their methods of access to resources	Organise consumer surveys  Set up call centres to answer consumer complaints
<b>Control the application of existing rules</b>		Verify that authorised tariffs are applied	Ensure that service quality standards are applied  Verify that coverage targets are met	Conduct enquiries on monopolistic abuses and predation practices	Audit systems and procedures in order to educate consumers and share information
<b>Define new rules</b>		Modify tariff levels  Modify rules on tariff structures and payment methods	Define or review quality standards  Adapt existing rules to needs	Organise bid invitations  Approve contracts for bulk purchase by small-scale operators  Approve (or not) consolidation among several sector actors	Define consumer service standards
<b>Ensure rules are applied and resolve conflicts</b>		Apply penalties in case of non-application of tariffs in force  Maintain financial equilibrium in the sector by tariff adjustments or innovative risk-sharing measures	Apply penalties in case of quality targets not being met  Demand quality improvements to ensure targets are met  Redefine quality targets where required	Order vertical or horizontal separation of a monopoly or changes to conditions to access network  Resolve conflicts between operators in a situation of competition	Ensure consumer service standards are applied  Resolve conflicts between consumers and regulated companies

Source: Trémolet and Binder, 2010.

**Environmental regulation** consists of regulating water abstractions and discharges so as to manage resources in a sustainable manner. The bulk of environmental rules, such as abstraction and discharge standards (and associated penalties), is usually defined at the national level and enforced by the ministry in charge of the environment. Based on such rules, a regional administration, such as a river basin organisation, or, in some cases, the local government can be involved in keeping a registry of abstraction points or even issuing a licence for abstractions and levying a small charge on the use of such a water point or licenses for pollution discharges.

**Public health regulation** usually focuses on drinking water quality. Once drinking water standards have been set (usually at national level, typically by the Ministry of Health based on WHO guidelines), monitoring must take place at the local level to ensure that such standards are met. This entails carrying out regular water quality testing, both at source and at various delivery points (World Health Organization, 2011). If such testing is done at the local level, support may be provided by national-level institutions, especially for carrying out more sophisticated and expensive testing.

The service provider itself also needs to be regulated, to ensure that it complies with all necessary legal requirements, such as business registration, licensing laws, accounting standards, etc.

## THE CHALLENGE OF ECONOMIC REGULATION IN RURAL AREAS

The rest of this note focuses on the way in which economic regulation functions can be performed in rural areas at the local level, as this raises specific issues that affect the long-term sustainability of these services. For the purposes of this discussion, the term 'rural' can be taken to include small towns as well.

Rural water services are usually highly decentralised with a large number of service providers, which makes regulation particularly complicated. For example, even in a relatively small country like Honduras, water services are provided by more than 7,000 community-based water committees. In Ghana, there are an estimated 22,000 rural service providers (Lockwood and Smits, 2011). Another characteristic of the rural environment that can make regulation challenging is the diversity of providers and service levels – ranging from privately-managed piped schemes serving small towns to community-managed handpumps serving small, isolated rural communities.



Rural service providers are sometimes operating informally in somewhat of a legal vacuum. Increasingly, however, they sign contracts with local community-based organisations or local governments. Such contracts can usually provide a basis for regulating their activities, with support from regional or national institutions for conducting certain regulatory functions.

## INSTITUTIONAL MODELS FOR REGULATION

To achieve the difficult exercise of balancing potentially conflicting interests (which is at the heart of regulation), regulatory functions (as defined in Table 1) should ideally be performed by a different entity from the one in charge of setting policy direction or owning the assets (which usually are public entities) or from those providing the services. Such separation of functions is often difficult to achieve in urban areas and can be even harder to achieve in a rural context, where few people are able and available to perform such functions in an independent manner.

To overcome this difficulty, it might be necessary to allocate regulatory functions to various levels of government, with, for example, tariffs set by the local government while performance monitoring is carried out under the supervision of a national entity. The national legal framework usually determines how regulatory functions are allocated at different levels of government or between different types of regulatory mechanisms.

Two main regulatory models can serve as reference points: 'regulation by contract' and 'regulation by agency' (Trémolet and Binder, 2010). 'Regulation by contract' (which originates in the Francophone civil law tradition) refers to a situation where most of the rules, particularly on tariffs and service quality, are set out in advance in a contract and conflicts are arbitrated by independent agencies, such as Public Courts. By contrast, in a 'regulation by agency' model (based on the English-speaking common law tradition), an agency established by law is in charge of conducting regulation in a more autonomous manner and of adapting the rules to changing circumstances. This model is often put forward as a way to cope with uncertainty in a more balanced manner. However, it is effective only if the agency in charge of regulation is genuinely autonomous. Trémolet and Binder (2010) noted that: 'as these models are, in their initial form, rarely applicable in developing countries, we have witnessed the emergence of a whole host of hybrid models, which can combine several aspects of these main models or invent others in an attempt to provide more appropriate solutions for the context of developing countries'.

The 'independent regulatory agency' model has often been promoted as a way to overcome potential conflicts of interest and limit political interference. In some countries, such as in the UK, Colombia, Mozambique, Honduras or Zambia, even though water services are decentralised, a national regulatory body has been established. This entity is frequently referred to as a 'national regulator'. In several cases, however, such national regulators are in fact in charge of regulating urban service providers only, as was the case in Mozambique until relatively recently.

The main purpose of the 'national-level regulation' model is to reduce the risk of political interference at the local level for tariff setting. When a national regulator is in place, it can provide support to local government or local level contract monitoring units in several ways, such as: by defining an overall framework for regulation (including principles for tariff setting or determining quality standards); carrying out performance benchmarking of service providers; or providing technical assistance for specific regulatory tasks, such as tariff reviews. Box 1 sets out the example of Colombia, where two national regulators have been established to supervise water and sanitation service providers.

The national regulator model is often difficult to introduce or to render effective in practice, however, because of the magnitude of the task (a national regulator would have a large territory to cover and a

#### BOX 1 NATIONAL REGULATORS IN COLOMBIA

In Colombia, according to the World Bank, there are more than 1,500 water and sanitation service providers in urban areas, and probably more than 12,000 community-based organisations providing services in rural areas. The regulator established at the national level, the CRA (Comisión de Regulación de Agua), confines itself to defining methodologies for tariff setting, and municipalities set the tariffs themselves by respecting (or not) these principles established at the national level. In addition, another entity, the SSPD (Superintendencia de Servicios Públicos) is in charge of protecting the interests of consumers and dealing with customer complaints (on appeal).

In Colombia, the Water Services Law dating from 1992 established tariff-setting principles, which the national regulator, CRA is then responsible for promoting at the level of municipalities, while the SSPD is in charge of verifying their application. In addition, the CRA manages a database on service provider performance and tariffs charged, and has sought to develop specific guidance for smaller service providers in rural areas.

Source: Trémolet and Binder, 2010.

#### BOX 2 THE ROLE OF WATER SERVICES AUTHORITIES (WSA) IN SOUTH AFRICA

In South Africa, Water Services Authorities (WSA) act as the asset owner but are also in charge of regulating the Water Service Providers (WSP), under the supervision of the Department for Water Affairs, which is also the Water Ministry (Lockwood and Smits, 2011). Regulatory reforms have been under discussion in South Africa for many years to consider the establishment of a regulator at the national level that could take on some of these functions and limit the risk of self-regulation, particularly when WSAs are also acting as WSPs and providing services themselves.

high number of service providers to regulate in the case of decentralised services) or due to political resistance at the local level to relinquish regulatory powers.

A more common model when service provision is decentralised is to have economic regulation functions carried out by the local government itself, as is the case in South Africa (see Box 2). A specially set-up contract monitoring unit (CMU) within the local government can take on performance monitoring responsibilities, if there are sufficient resources to finance it (note that such a unit can monitor various infrastructure services that have been delegated to private service providers or various service providers across an aggregated service

area). Although CMUs may have many of the attributes of a regulatory agency, including competence and autonomy, they typically have less discretion in modifying the rules in the case of unforeseen events or substantial changes in circumstances than a regulatory agency.

Carrying out all regulation functions at the local level can be problematic, however, as it can result in a confusion of functions, with local governments in charge of determining overall targets but also letting contracts, regulating them and sometimes delivering services. In addition, the capacity of local staff and their ability to focus on water sector regulation may be limited. To address these capacity issues, the bulk of the regulatory regime, such as tariff setting, service standards, etc., can be defined in a contract between the owner of the assets (typically, the local government or a community-based organisation) and the service provider. To increase the effectiveness of such contract-based regulation, tariff-setting principles and procedures or performance indicators may be defined at national level to serve as a guide (by law, or by a resolution of the national regulator).

A national framework for tariff setting can help introduce sound tariff principles (as was done in Colombia, for example), especially if local governments have an incentive to adopt such principles. Typical tariff-setting principles that are likely to be defined at national level (for application by local government or inclusion in private sector participation contracts) are set out under the description of 'regulatory tools' in the next section.

## REGULATORY TOOLS AND INSTRUMENTS

The ability of a local government to conduct regulation is often limited. Therefore, it is important to carefully select regulatory tools and instruments that are easy and relatively cheap to use.

The main function that will typically need to be carried out at the local level is tariff setting. This may be done at the local level on the basis of tariff-setting principles laid out in law at the national level, as shown in Box 3. Alternatively, contracts may specify tariff-setting formulas that leave less scope for interpretation but which are less likely to be adaptable to changing circumstances. The entity in charge of regulation



Photo: IRC

typically has to estimate tariffs and either approve them or get the local politicians to approve them (depending on the institutional model in place).

Effective adoption of such tariff-setting principles at the local level can be encouraged in many ways. Central government financial transfers to local governments may be linked to the adoption of tariffs based on such principles. Alternatively, the service provider may be enabled to appeal tariff decisions taken at the local level to a regional or national body, if it deems that the tariffs

imposed at the local level have not been defined on the basis of the principles established at national level.

With respect to service quality regulation, entities in charge of regulation can either use 'carrots' (incentives, including financial rewards) or 'sticks' (penalties) to motivate service providers. If regulatory capacity is low, as it frequently is in rural contexts, it may be preferable to use regulatory instruments that rely quite heavily on the dissemination of information and consumer feedback, so as to increase accountability and minimise the need for on-going monitoring or the application of penalties. This approach gives service providers positive incentives to improve<sup>1</sup>.

Regulation that relies most heavily on carrots (as opposed to sticks) is commonly referred to as 'light-touch regulation'. Such a regime relies in part on competition and consumer vigilance to ensure that service quality is appropriate and is particularly suitable in cases where there is a large number of small-scale service providers and where the costs of regulation need to be kept in check.

As with tariffs, common tools for performance monitoring can be developed at national level and applied by local stakeholders. The latter would typically be in charge of gathering data and sending it to a national regulator, which can then use the data to benchmark service providers' performance at national level.

Whatever regulatory tool is used, access to information is crucial, including access to:

- Financial information, to set tariffs that allow the service providers to finance their functions (including expansion) but stop them from making extraordinary profits;
- Technical information, in order to monitor service providers' performance (such as the rate of borehole functionality or the time spent to mend a broken pipe or repair a pump);
- Customer service information, to assess whether customers are getting value for their money – this is where forming customer associations that can act as relays for this information can help, although an independent assessment would always be required to avoid manipulation; and
- Information on compliance with environmental and drinking water standards. This may be relatively straightforward with official operators but more difficult with informal ones.

### BOX 3 COMMON TARIFF-SETTING PRINCIPLES

Most water service legislation specifies principles for setting tariffs at the local (or national) level that are more or less binding. These usually prescribe that tariffs should be set to balance three main principles:

- **Cost-recovery:** tariffs should be sufficient to cover the costs of providing the service. Various cost targets may be used, depending on how far the existing tariffs are from cost-recovery levels and how challenging moving to such levels may be in the short term. Most legislation requires that tariffs cover at least operations and maintenance costs, plus replacement of short-life assets. Larger utilities may be required to cover depreciation costs and major investments (i.e., providing a fair return on capital) so as to ensure sustainability of service provision. In all cases, it is useful to specify a transition path towards tariffs that cover the full life-cycle costs of the service (including investment costs) so as to set clear management targets, even though other financing sources, such as subsidies, may be needed to cover part of those costs.
- **Efficiency:** productive efficiency involves producing a good at the lowest possible cost while allocative efficiency is generated when a company produces goods and services that are the most valued by society (i.e., the short-term marginal cost is equal to its marginal usefulness for the consumer). For water services, this requires to check whether volumetric tariffs reflect the long term marginal cost of producing water (i.e., the long term cost of the last unit to be produced). This is particularly important in water-scarce environment where such marginal cost can be very high.
- **Equity:** water and sanitation are often considered to be a social good, which usually means that these services should be available to all at an affordable price. However, the definition of 'equity' is likely to vary substantially from one country to the next.

<sup>1</sup> This is of course mostly applicable to areas of customer preferences whereas 'hard standards' (such as drinking water standards) need to be met (and therefore monitored) in a more stringent manner.

Of course, getting such information is challenging. Mobile phone technology integrated with monitoring platforms can help, particularly in rural dispersed areas (Hutchings et al., 2012). In addition, stakeholder groups representing customers can give feedback to the local level regulator on the service quality experienced by customers and thereby increase the responsiveness and legitimacy of the regulatory process. For example, the regular use of community scorecards through focus

groups is one such method. In Honduras, local organisations, Unidad de Supervision y Control Local (USCL), were established at the level of 500 Juntas de Agua (community-based water service providers), to improve the relay of information to the national regulator (Lockwood and Smits, 2011).

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## How can regulation in rural areas be improved?

In conclusion, since regulation has primarily been developed in urban settings, our understanding of alternative models of regulation in rural areas has so far been quite limited, especially given the general trend towards service decentralisation, which raises new challenges.

The following steps can help determine what can be done to improve regulation in a rural context:

- **Assess existing regulatory arrangements at the national level, particularly for the urban sector.** If a national regulator is in place, consider whether this regulator might be willing to take on responsibilities for the rural sector as well. If so, the regulator could either limit itself to establishing national-level guidance for regulation to be carried out at the local level or identify (or set up) local-level regulatory 'relays' (such as USCLs in Honduras) that can carry out some of these functions. A note of caution: when developing guidelines, the regulator must bear in mind that standards developed for urban service providers are not always appropriate for small-scale rural operators. National regulators may also prepare model contracts for regulating private sector providers, even if the contracts are drafted, signed and monitored at the local level.
- **Examine the existing service delivery models.** Services provided by communities are frequently self-regulated (i.e., by the communities themselves), although this may result in inadequate tariffs or quality. Introducing 'light-touch' regulation, by requesting communities to report on service quality (but leaving them free to set tariffs, for example) might be a good way to introduce external oversight without overburdening community members or over-restricting their independence.
- **Consider existing capacities at the local level, particularly at the level of local government.** Regulating water services requires technical skills and experience. Depending on local capacities, reliance on central-level guidance or even delegated regulatory responsibilities may be necessary. Training on regulation is also necessary at all levels of government and not only at the level of central government (where it is most commonly provided).

Recommended institutional changes should also reflect the following principles:

- Clarify the allocation of responsibilities between institutions.
- If there is a risk of conflict of interest because an institution is carrying out several functions at once (e.g., regulation, oversight and service provision), seek to shift some of its functions to other institutions, and introduce a system of checks and balances or external arbiters.
- If the capacity for carrying out those functions at the local level is deemed to be too low, identify sources of professional support to help carry out such functions or investigate the possibility of grouping several local governments together.

In countries where services are still being established, developing guidance for tariff setting can be a useful first step. In countries moving towards a full service delivery approach, the definition of a system for monitoring services and reflecting service quality through a combination of carrots and sticks is a useful way to incentivise service providers to improve their services. This requires the establishment of community mobilisation and information systems in order to be able to monitor service quality in a reliable manner.

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Photo: IRC

### About IRC

IRC is an international think-and-do tank that works with governments, NGOs, businesses and people around the world to find long-term solutions to the global crisis in water, sanitation and hygiene services. At the heart of its mission is the aim to move from short-term interventions to sustainable water, sanitation and hygiene services.

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This briefing series was developed under IRC's Triple-S project. It is intended as a resource for people who make decisions about rural water supply – financing, policy and programme design and

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### About this Brief

This brief was authored by Sophie Trémolet, a consultant who has worked on water sector regulation issues for 16 years for clients such as the World Bank, the Agence Française de Développement and regulated companies. This brief is based on Trémolet's previous published work on the subject (see Trémolet and Binder, 2010) and the 13 country studies carried out under Triple-S (Lockwood and Smits, 2011).

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