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# Utility Reform

## Regulating Quality Standards to Improve Access for the Poor

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**Privatization of infrastructure services is often followed by stricter enforcement of quality standards, which pushes up costs, maintaining or worsening the exclusion of the poor. The poor could get easier access to service if the main provider was permitted to deviate from this uniform standard, offering poor consumers a service in which an acceptable relaxation in quality led to a lower price. This Note reviews the legal and technical challenges for quality diversification by utilities, and early results from efforts by some to diversify.**

An important reason for reforming or privatizing public providers of infrastructure services is the need to improve the efficiency and quality of service. But when private participation is introduced, the tendency of governments is to focus on the service provided by the main utility and set high quality standards for the sector as a whole.

Private participation also goes hand in hand with setting up independent regulatory agencies. These agencies have better capacity for monitoring and enforcing quality arrangements than the government bodies previously in charge. As a result, governments tend to become tougher on standards following utility privatization and the costs of quality usually go up (even if the quality standards set by law have not been modified).

Quality standards, defined in law or the private provider's contract, can cover production (resource management), product and service delivery (chemical and biological, continuity), and customer relations (flexibility in payment methods). These quality targets for private provision can be set through a variety of legal instruments. The choice of instrument depends on the frequency with which the standard will need to be changed and the number of parties involved in agreeing changes to the standard, among other things.

Health, security, and environmental requirements (such as the regulation of drinking water quality standards, or the quality of sewage discharges) have a significant impact on mortality and morbidity, and on the utility's costs, and should preferably have foundations in primary legislation. The process for modifying laws is usually more complex and difficult than for secondary legislation or bilateral contracts. If consumers and third parties see laws protecting their interests, they will be more likely to accept

the private participation as legitimate. If the provider is satisfied that these rules are not going to be modified overnight and that it would be duly consulted in the process for modifying them, this can lower its perception of risk and ultimately reduce the cost of service through a lower cost of capital.

For standards requiring greater flexibility, regulations (founded in laws), that can be more easily amended by the regulatory agency might be more appropriate. Less fundamental aspects of quality, which may need to be changed frequently (for instance, when pricing conditions are reviewed), are better expressed in contractual clauses (for example, customer service standards, such as the delays for responding to an enquiry by mail or by phone).

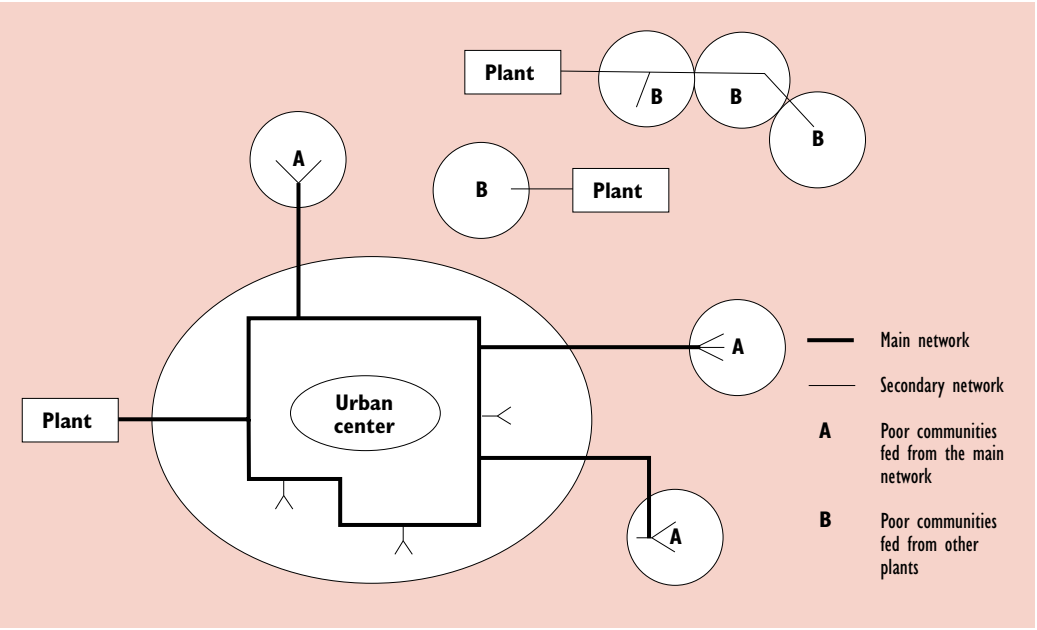
### Why quality standards are often set high

There are three main reasons why quality standards tend to be set high for main utility providers in developing countries. First, such providers have often inherited operating structures and tariffs from large-scale operations not used to considering low-cost options or alternative provisions at the community level. The culture in such big organizations is often to derive "professional pride" from top-quality uniform service, not from bold innovations in low-cost alternatives.

Second, investment designs are often based on developed countries' standards. Quality standards are often driven by engineering specifications, such as standards for the installation of electrical wiring in houses or the minimum depth for pipes underneath roads. Usually, these engineering norms were designed in developed countries and, in the absence of anything more relevant, exported unchanged to the regulatory handbooks in developing countries. The expectations of the elite in developing countries also push towards the adoption of developed countries' standards of service. While lower-cost alternatives do exist in developed countries, they are no longer the norm so they are not necessarily considered when setting standards in developing countries. For example, in-house septic tanks are still often in use in rural areas in France and the United States.

Third, large private utility providers tend to focus on high-margin customers, and often have no financial incentive to develop low-cost provision. They have generally entered the market through international tender processes, to carry out large-scale investments. In some utility markets, however, the optimal scale of production has declined and even main providers now consider small-scale low-cost alternatives much more seriously.

**Figure 1** **Potential for diversification of infrastructure service varies**



## Practical challenges for diversification

High standards of quality result in higher costs, limiting access to the service for the poor (Viewpoint 221). Regulators could make services more accessible, if they allow diversification of quality, making it legal to offer poor consumers a service in which acceptable reductions in quality reduced the price. One way to achieve this diversity is to end the main provider's monopoly, permitting alternative providers to meet the needs of poorer consumers at a lower price.

Another is to permit the main provider to diversify its quality, especially since network supply often remains cheaper in the long term than decentralized supply. Electricity supplied through a network, for example, is potentially of much higher quality than electricity from solar panels or diesel generators. Networks' economies of scale and scope make their prices likely to be lower in the long run.

However, there will sometimes be technical limits to quality diversification. For infrastructure services which tend to be jointly consumed (such as water or grid electricity), it can be technically difficult to vary the quality of service for different social groups or service areas. Figure 1 shows a main production plant feeding into the network for the whole of the urban center. Some poor areas (A) are fed from this main network, so quality characteristics such as voltage consistency or drinking water quality cannot be differentiated easily for these peripheries. Only characteristics such as reliable hours of service, payment methods or customer services could be differentiated for these areas. For other areas (B) which are supplied by other plants (which might belong to the main provider or alternative providers), quality of supply could be varied more extensively.

Another difficulty is that cost differences driven by quality differences might be difficult to reflect in tariff terms. If quality differentiation affects the level of initial capital costs, it can be relatively easy to relate quality differences to tariffs by varying the connection charge. However, if quality variations lead to differences in marginal production costs, these might be more difficult to reflect by varying the volumetric charge. In some cases, variations in the quality of service provided through the network are likely to have a relatively small impact on operating costs, and the administrative cost of reflecting these cost differences in tariffs might be higher than the savings. For example, if lower quality means restricted supply hours, sophisticated meters would need to be installed so that consumers could be charged different prices at different times of the day.

In addition, identifying the target group for lower-quality lower-cost service might prove difficult. There is little socio-economic data in most customer registers. Poor customers may sometimes live in well-defined areas as in figure 1, but they are often mixed with very rich ones within the same administrative unit. As in the allocation of subsidies, the important issue then becomes to deliver the lower price (and the associated lower quality) to the population that is most in need.

**Box 1 Cheaper is not always better**

According to a report by the Energy Sector Management Assistance Program, managed by the World Bank, the costs of labor and materials for building a three-phase line can be cut from between US$8,000 and US$10,000 per kilometer to US$5,000 per kilometer (and to US$4,000 per kilometer for single-phase lines) by using higher voltage, using higher quality poles to reduce life-cycle costs, and properly sizing and placing transformers (ESMAP 2000). Single-phase lines are often sufficient to carry the type of loads used in rural areas, and are more suited to business uses than alternatives to network supply, such as solar or diesel generation. However, the study emphasizes that not all construction savings are necessarily efficient. "An initially inexpensive line that needs frequent maintenance, overhauling, and upgrading can require considerably greater investment during its lifespan than a line that has been adequately designed from the outset."

## Some efforts to diversify quality

Despite these difficulties, some main providers have varied service quality in an attempt to make their services more affordable for poor customers. This diversification has taken several forms: the provision of more flexible customer service arrangements or the use of low-cost technologies to reduce the cost of service, at the expense of quality. Consumers have also agreed to receive the service during a reduced number of hours every day in exchange for a discounted

price. In the United Kingdom, for example, electricity and gas utilities have for some years offered pre-payment cards to their customers. This means that supply can be interrupted if the payment is not made. Continuity of service suffers but it allows customers to control their expenses even though the costs may be high.

In some cases, diversification of quality has required entering into agreements with alternative providers or community organizations, which tend to be more specialized in the delivery of low-cost services. For example, Aguas Argentinas, the concessionaire of water and sanitation services in Buenos Aires since 1993, worked in partnership with a low-income community, an NGO, and local government when taking over the low-cost system in the Barrio San Jorge. In this barrio, the community had experimentally developed a double system of water provision: one system connected to the existing network to provide small volumes of potable water, and another which can draw on groundwater sources, too salty for drinking but good enough for washing and bathing. The sewerage system was based on a combination of cesspits within each household and a small-bore pipe network. Aguas Argentinas took over the operation, maintenance, and repair of the system and the residents pay it a fixed rate for these services. The company has since introduced the low-cost sewerage system to other poor areas of the city. The double water system, however, proved too expensive to develop and did not go beyond the experimental stage. To increase the network expansion rate, Aguas Argentinas also takes over networks built by communities at lower costs (but which respect the minimum quality standards) in exchange for which customers receive a discount on the price of the service.

Interesting cases of collaboration between the main providers and small-scale entrepreneurs have emerged in the telecommunications sector through the development of public telephone booths. In Senegal, for example, small private operators run telecentres and rent lines from SONATEL, the national operator privatized in 1998. These telecenters have grown very fast, and produce about four times more revenue per line than individual lines run by SONATEL.

## Conclusion

To increase access for the poor, the regulator of service quality should allow the main provider to diversify the quality of service, and should also allow alternative providers to operate. It should be left to the consumer to decide whether to accept the lower-quality service from the main provider. When regulating service quality for the main provider (privatized or not), governments should allow the delivery of different quality levels to different customer groups, to be identified on objective criteria and enforced. This would help with the problem of under- or over-supply of quality. This possibility should be explicitly allowed in the contract, so that penalties are not unduly paid for sub-standard quality. Flexible payment options should also be explicitly allowed, such as the capacity to phase the payment of the connection charge over a number of years. Main utility providers should also be encouraged to work with alternative providers in order to combine service options. If individual choice is difficult and costly to organize (for example, for service characteristics that are jointly consumed), ways of identifying group preferences should be defined in order to vary service quality at the level of well-identified groups. Several methods for measuring group taste can be considered: the transfer of experiences from other locations, deliberate experiments (for instance, voluntarily varying the quality of service in a number of locations and measuring relative customer satisfaction), group and community consultations, and survey studies.

## Reference

ESMAP (Energy Sector Management Assistance Programme). 2000. "Reducing the Cost of Grid Extension for Rural Electrification." Report 227/00. World Bank, Washington, D.C.

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