

Regulation and Benchmarking

By definition, regulation is about making and enforcing rules for, in this case, the development and management of urban water supplies and sanitation in developing countries. This book focuses mostly on economic regulation, which includes investment, tariffs, and service levels. Other regulation connected with urban water supplies includes water resources and environmental and health regulation, but these are all major fields by themselves.

ADB's water policy notes that, to serve the best interests of consumers and managers of water resources, the pricing and incentive and penalty systems, regardless of their simplicity or sophistication, require regulation. Regulatory systems need to be established to ensure that laws, standards, rules, and regulations are equitably and consistently applied.

This chapter touches on why regulation of water supplies has now become important, its objectives, what should be regulated, how the regulation should be undertaken, and who should be doing it. Some principles of regulation are put forward, and the summary findings from an ADB regional seminar on the regulation of water supplies, held in 2001, are listed. The importance of benchmarking the performance of water utilities is emphasized, and the contribution in this field of ADB's two water utilities data books is noted.

A. Purpose of Regulation

In most Asian countries, the entities in charge of water supply and sanitation are nominally given the responsibility of seeing that government policies and legislation are implemented. What is the reality? In a city-state, like Singapore, there is discipline and commitment by the Government, and the Singapore Public Utilities Board ends up self-regulating and doing a fine job. Many developed countries, although not perfect, operate in much the same fashion. But in many Asian countries, both legislation and policy are overlooked. Elected officials become involved in the development and management of water supplies on a daily basis. The crux of the problem is that water utilities do not have the autonomy needed (even though this is legislated) to manage their own affairs. The result has

been low tariffs, intermittent water supply, a large number of urban poor not being served, and high NRW. This problem has also resulted in corrupt procurement, consultant recruitment, and contracting that have severely threatened economic lives of projects. Even though self-regulation was not working in several South Asian and Southeast Asian countries, until very recently there was no move to introduce independent regulation.

Then along came "privatization," and suddenly it was realized that, in the best interest of civil society, Asia should have regulatory bodies to see that the private sector does not abuse its monopoly privilege. But regulatory bodies take time to develop. So, in the meantime, Asia has effectively had regulation by contract. Private sector contracts have not been based on declared government policies, but on an ad hoc set of rules determined at the time by the contracting parties.

When regulatory bodies were set up, such as in Manila, they were not true regulatory bodies. Instead, they were more like contract administrators. While development agencies generally agree that to enter into a private sector contract without first establishing regulatory arrangements is a recipe for disaster, the reality is that over the last 10 years in most developing countries there was only regulation by contract. The example of Manila is a classic case, but it is typical of what has been happening elsewhere in the world. Of course, in most cases, the private sector wants regulation by contract, because private operators will not then be affected by changes in government policies. But as the private sector found in Jakarta, a contract is little protection from the will of the people. Nevertheless, independent regulation can encourage the private sector to invest in Asian water supplies by providing a more stable, transparent, and accountable environment.

Now let us consider public water supplies in urban areas of Asian developing countries. Can regulation help them? Well, one main purpose of regulation is to gain autonomy for utilities. That starts with transparent government policies. In many countries, transparent government policies and regulatory bodies are both needed for utilities to maintain an arm's length separation from elected officials.

B. Objectives

We can see from the statements above that **one main objective of regulation is to ensure that water utilities have the autonomy needed to comply with government policies and legislation.** But how does this work? First, regulation must have its basis in government policies and legislation. Second, while the regulator does not implement policies, it must monitor the implementation of policies. And, third, a regulator should ask many questions, which might include the following. Is the Government facilitating the implementation of its policies? Is the water utility complying with these? Are private sector contracts also in compliance?

Regulation must apply to all water operators, not just those in the private sector. Regulation brings with it sector transparency, accountability, equitability, and efficiency. Regulatory bodies are the entities that civil society can turn to if it is not getting the services it expects. Regulatory bodies must protect consumer interests. And, they must equally protect operator interests. Regulators should not be tasked with administering contracts. That is between owners and contractors. Regulatory bodies should only be tasked with seeing that contracts conform to policies and that policies are implemented. Regulation is not control.

Another objective of regulation is good governance. This applies to corruption in decision making related to the implementation of water supply and sanitation projects as well as new connections, utility staffing, disconnections and illegal connections, and syndicates like those that control informal service providers of water.

C. Scope of Regulation

The first question to decide is the geographic extent of regulation. Should regulation be carried out on the national, state, provincial, or municipal level? Is a multiple sector regulator best? The second question to decide is what policies will fall under this regulator. Is it possible that a regulator could start with a few things to regulate and in time phase in more and more? Regulation is a process or journey. For example, even now water quality is being more closely regulated every year in developed countries. For economic regulation, the first priorities might be water supply investments, tariffs, service levels, and incentives for and performance of operators. If water supplies are bundled from source to consumer, they will be easier to regulate. In fact, if any operator does not have control over the source of water, it will be very difficult to tie that operator to contractual obligations.

Tariffs, the lifeblood of any water utility, are the first and most important matter to be regulated. **It should be noted that regulators do not set tariffs but approve them after confirming that they conform to government policies.** Political obligations should not influence tariff decisions. Tariff structures may also be regulated in terms of objectives, such as serving the urban poor and demand management.

Investment proposals need to conform to government policies, including economic, financial, environmental, and social feasibility on the one hand and priority locations for poverty reduction on the other. Procurement, consulting, and construction must be audited from time to time to see that they conform to policies.

Service levels need to be defined and operators held responsible for providing those service levels. This includes piped water coverage, water quality, 24-hour supply, and phasing out standpipes. It may also include public toilets, on-site sanitation, and septic tank sludge disposal.

Water utility operator performance needs to be regulated. Performance indicators can include the number of connections, production volume, NRW, 24-hour supply, water quality, staff per 1,000 connections, metering, billing and collection, and operating ratio. An independent public audit of the water balance and of service levels should be conducted from time to time. **Profit or other incentives need to be linked to performance, both in terms of bonuses and penalties.** A regulator must determine which targets are satisfactory by benchmarking over time a utility's present performance against its past performance and the performance of others in the sector operating nationally and regionally.

Competition for water supply contracts must be regulated. While competent operators are necessary, broad competition is desirable also. This has been one major failure of the "privatization" process over the last 10 years. Competition has been limited to a select few contractors.

Groundwater regulation is also needed in most Asian cities. Who should be responsible for this is often debated. One opinion is that groundwater regulation is so intimately linked to the water supply itself that it should come under the economic regulator.

We need specific regulation of service to the urban poor. This will address the payment of connection fees, access to piped water, block tariffs, and freedom of information. It will also address SSWPs.

Water conservation must also be regulated. This can include public awareness, education, watershed protection, rainwater harvesting, reducing NRW, and demand management through pricing. Economic regulators will need to coordinate with water resources, environment, and health regulators on these matters.

D. How to Regulate

There is little experience in regulating water supplies in developing countries. Chile provides perhaps one of the better examples, and the main feature is that this country has considerable financial and human resources to carry out various tasks. It uses a hypothetical model to determine the operator's target efficiencies. It also has introduced direct subsidies to low-income consumers on a means basis. There is, however, no blueprint. Each country, and even each location within a country, will have its own characteristics that need to be considered when deciding how to regulate. It is good to remember that regulation is a dynamic process that takes time. The journey should be designed. Consumers are the ultimate regulators. Regulation should involve monitoring, not control. It should be remembered that regulation already exists, but it is mostly not structured, strong, or independent. Regulators do not provide water. Regulators must have access to information. Most information can be provided by water utilities as part of their management regime. Regulators can independently check this information on a sample or audit basis. It is also very important to agree on the validity of information. For example, how will NRW be estimated when the whole system is not metered and half the meters are not working anyway? There is an old adage: if you cannot measure, you cannot manage. That is very relevant to water supplies of developing countries. Regulators should be involved in the process leading up to the signing of a contract with a private sector operator. This is primarily to ensure that it is compatible with government policies. It has been said that regulatory principles should include social equity combined with financial sustainability in a transparent manner. There is a need to ensure that policy, regulation, and operation are separated. Almost everyone agrees that having relatively high tariffs will mean fewer problems. A rigorous analysis of subsidies will help. In fact, it could be said that **unless governments are committed to higher tariffs, compatible with full cost recovery, as a matter of policy, most regulation will be of little use.** An active consumer body will be healthy for regulators. Civil society in the form of journalists, academics, and NGOs should keep regulators on their toes.

E. Choosing Regulators

There are perhaps three schools of thought here. One is that one person should be appointed as the regulator. This person does not necessarily need to be an expert in anything, but he or she should be regarded highly by most people from most political parties. The regulator would have a team of experts in law, water, finance, economics, and social capital to collect and analyze information and advise him or her. The second school of thought is that a regulatory body should be formed by the experts themselves, totaling not less than three or more than five persons. The third school of thought is that the regulatory body should comprise people representing the stakeholders, including industrial and domestic consumers, operators, and local governments. Common to all these is the thought that **there should be appropriate gender representation in the regulatory body, since women are often the main providers of water at the household level.** The regulatory body needs adequate finances to function properly, and it is commonly believed that these should be sourced from tariffs to retain independence from government and should be in the order of 1–2% of the revenue gained from tariffs. Most agree that the success of a regulatory body could depend on its having (i) a clear mandate, (ii) autonomy, (iii) accountability through arbitration, (iv) transparency, (v) stability, (vi) professionalism, and (vii) objectivity. Whoever the regulators are, they need continued education and the ability to network with other regulators in the Asian region. ADB has been supporting this approach.¹⁶ Other advice indicates that regulators should be of the highest caliber and possess great personal integrity to resist political overtones.

F. Principles of Regulation

Regulation must be based on a transparent government policy. Private sector contracts must also be based on that policy. Regulation by contract is not a solution. Regulation should apply to all water supply operators, be they private sector, national authority, or local authority. Regulation is needed to provide autonomy to the water utility and to improve governance. In doing this, it will encourage private sector investment. The principles of accountability, efficiency, equitability, and transparency should be objectives of a regulatory body. Without a government policy that embraces the provision of incentives to operators for performance and a commitment to much higher domestic tariffs, the

¹⁶ Regulatory Systems and Networking of Water Utilities and Regulatory Bodies (ADB, 2001b).

benefits of a regulatory body will be negligible. A summary of findings from a regional seminar on regulatory systems, held at ADB in 2001, is given in Box 15.1.

G. Benchmarking

It is necessary to differentiate between metric benchmarking and process benchmarking. The former is a quantitative aspect and includes collecting and analyzing data leading to the identification of areas of relatively good and poor performance. The latter concentrates on improving the current work process to meet or exceed the targets set by metric benchmarking.

Process benchmarking does this by breaking down current work practices into a series of small steps that are then compared with best practices in other organizations outside the industry.

The ADB *Water Utilities Data Book—Asian and Pacific Region* (1993) and *Second Water Utilities Data Book—Asian and Pacific Region* (1997) provide information that allows water utilities to assess their rank among themselves in terms of various performance parameters. They also allow one utility to assess its own performance over time. A good way to get started is for every utility to set itself no more than 10 performance targets that are manageable (see Box 15.2). If tariff

Box 15.1 Summary of Findings—Regional Seminar on Regulation of Water Supplies

- Sound regulation will attract investment.
- In Chile, the head of the regulatory body is appointed directly by the President.
- Regulation of water vendors is needed, too.^a
- Five caveats: equitability, efficiency, accountability, transparency, and sustainability.
- Three more: performance standards, incentives, and competition.
- Regulation is based on policy and any PSP or other contract must comply with policy.
- The PRC has National Tariff Guidelines and a Municipal Price Bureau.
- Having a transparent policy that the public is aware of is itself a regulatory function.
- Legislation is necessary but not sufficient. A regulatory body can oversee.
- **Civil society is the ultimate regulator.**
- What we have today is the information age, including the Internet, E-mail, and mobile phones. The media can tap into this to bring information to the grassroots level. Therefore, we have an opportunity for transparency. But are all governments ready for transparency?
- Active consumer NGOs can serve as watchdogs.
- Operators must have contracts for performance. Regulators may suggest actions to be taken to improve performance.
- Benchmarking water utilities at country, regional, and international levels is important. This information must also be made available to the public, so it can see how one utility is doing compared with others (ADB water utilities data books).
- If you cannot measure it, you cannot manage it.
- Protection of customer interests is important.
- Regulators must have access to information.
- Regulation in Colombia is based on principles of social equity, financial sustainability, and transparency.
- Regulation in Zambia includes a board of stakeholders and team of experts. Policy came first.
- It is important to get strong skills in a regulator.
- There should be a code of practice for operators with obligations to consumers.
- Regulation is a dynamic process. The journey needs to be designed. Start simple.
- Regulation needs flexibility .
- Anything can work if there is a strong political will. (ADB, 2001b)

^a The latest thinking is that this should be limited in the short term to registration.

policies and loan covenants are to include references to O&M, it is essential that every utility clearly defines O&M. Likewise, it is important to differentiate between NRW and UFW (see Chapter 9). Preparation and timely publication of an annual report on operations are essential for the accountability of the utility to the government and the public. This report can include the information listed in Box 15.2.

Box 15.2 Suggested Indicators for City Water Supply

- Population in city (persons)
- Piped water production (m³ per day)
- Number of household connections (persons per household)
- Number of standpipes (persons per standpipe)
- 24-hour supply in service area (%)
- Per capita consumption from house connections (l/c/d)
- NRW (percentage of production)
- Average actual domestic tariff (\$/m³)
- Operating ratio (expenses against revenue)
- Utility staff per 1,000 connections

H. Evaluation of Water Utilities

This is becoming more and more important as a means of determining whether a utility represents a good investment for development agencies or the private sector. The evaluation needs to be made in two parts. The first part relates to the degree of autonomy of a water utility in terms of governance. These are factors normally outside the control of a utility. The second part relates to aspects under the control of a utility, such as consumer satisfaction, water management, and accountability.

Tables 15.1 and 15.2 can be used as a basis for deriving detailed evaluation criteria for each subheading, so that it is then possible to compare “apples with apples” each year. Development agencies can prepare their own detailed evaluation criteria, so that they can compare utilities on the same basis.

Table 15.1 Evaluation of Water Utilities (Part A)—Governance

• Transparent Policies	20%
• Independent Regulatory Bodies	10%
• Private Sector Participation	10%
• Civil Society Involvement	10%
• Subsidies (low)	10%
• Tariffs per Policy	20%
• Utility with Autonomy	20%
	100%

Table 15.2 Evaluation of Water Utilities (Part B)—Utility Performance

Consumer Satisfaction		40%
Coverage	10%	
Water Availability (24 hours)	10%	
Service Level	10%	
New Connection Fee	10%	
Water Management		20%
Metering	5%	
NRW	10%	
Consumption	5%	
Financial Management		20%
Self-Financed Investments	5%	
Operating Ratio	10%	
Accounts Receivable	5%	
Human Resource Management		10%
Staff per 1,000 Connections	5%	
Management Salaries	5%	
Accountability		10%
Annual Report	10%	
		100%

I. Public Audit

From time to time, but not less than every 5 years, it will be necessary for regulatory bodies to conduct independent public audits on the water balance and on water service levels. This will establish clearly the elements of NRW, so they may be appropriately addressed, and ascertain where the focus should be placed with regard to capital works designed to connect those people not connected to piped water. It is important to conduct these audits at the same time, so that a check on compatibility of findings can be made.

Utility water audits should of course follow the elements shown in Box 9.2. But under “Authorized Consumption” there should be a further breakdown into (i) Illegal Connection for Own Use and (ii) Illegal Sale. Likewise, “Metering Inaccuracies” can be broken down into (i) No Meters, (ii) Meters Not Working, (iii) Meters Not Recording Accurately, and (iv) Meters Misread.

Audits of water service levels must start with total populations of cities and account for all people by noting their sources of water (often more than one), the quantities of water consumed monthly from each source, and the amounts paid for that water.

The different categories audited may include (on the source side) water utilities (legal), water utilities (illegal), groundwater (own), and groundwater (others). For service levels, there will be a range of possibilities, including house connection; shared house connection; purchase from neighbor, public tank, public tap (standpipe), tanker, or water vendor; public dug well; public tubewell; own dug well; and own tubewell. To have good public audits of service levels, it will be necessary to register all SSWPs.

Regulation and Benchmarking in a Nutshell

- Regulation and benchmarking should be based on transparent government policy.
- The objective is autonomy and good governance through accountability, transparency, equitability, and efficiency.
- Why, what, who, and how must be addressed.
- There are three options: (i) one regulator, (ii) body of experts, or (iii) body of stakeholders.
- Civil society is the ultimate regulator.
- PSP contracts should be based on policy, not on regulation by contract.
- PSP and public water supplies should be regulated.
- Information technology improves transparency.
- Operators need incentives based on performance.
- Stakeholders should design the journey, which is a dynamic process.
- Benchmarking is fundamental to regulation.
- Evaluating utilities on governance and performance is desirable.