

# Drinking water, sanitation, and electricity

## chapter 9

Drinking water, sanitation, sewage disposal, electricity, rural roads, and urban transport influence human development outcomes (crate 1.1). As with education and health services, the impact of infrastructure services on human development is direct (e.g., reducing water-related diseases, which rank among the top killers of children). The impact is also indirect, through economic growth.<sup>452</sup> But like education and health, these services are failing poor people.

Focusing on water, sanitation, and electricity services, this chapter uses the Report's service delivery framework to find out why and to show how things might be improved. The reform lessons from these services, representing both network and non-network services, are also likely to apply to other infrastructure services.

For networked services, such as urban water and electricity, regulating providers and ensuring that poor people have access to affordable services are the main reasons for government intervention. This brings the long route of accountability into play. But poor citizens have a weak voice because water and electricity are particularly vulnerable to patronage politics. Providers end up being more accountable to policymakers than to clients, which breaks the long route of accountability.

The solution is to separate the policymakers from the providers—and to make providers more responsive to clients. Dispersing ownership through decentralization and private participation, promoting competition through benchmarking, ensuring alternative access by using independent providers, and charging for services are ways of separating policymakers from providers and strengthening compacts, client power, and voice.

In rural network and non-network settings, community and self-provision dominate. The policymaker as standard setter and capacity builder in support of the client is missing. To avoid ensuing problems, such as arsenic in Bangladesh's rural drinking water, policymakers need to support clients in ensuring service quality and access.

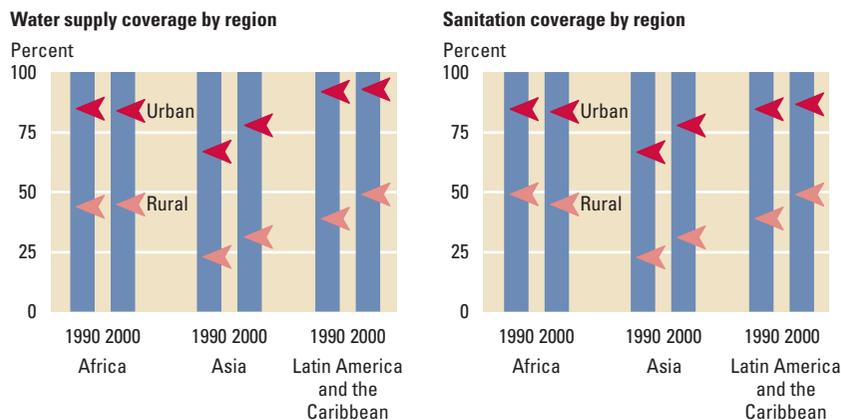
Externalities in sanitation in rural, non-network settings are best contained within the village or community. So supply-side support at the household level should be complemented with interventions at the community level—be it information about hygiene or subsidization of latrines—that are designed to spur household demand and create community peer pressure for behavior that internalizes the externalities. In urban settings, where demand for sanitation services may be greater, property rights and facilitating private response can support collective efforts.

### The state of water and sanitation services

About 2 of every 10 people in the developing world were without access to safe water in 2000; 5 of 10 lived without adequate sanitation; and 9 of 10 lived without their wastewater treated in any way.<sup>453</sup> There have been gains, but despite the many global commitments, notably the U.N. Decade for Water and Sanitation, access to water and sanitation lags far behind the milestones set in the 1980s. Nor do aggregate trends in the 1990s give comfort (figure 9.1). The share of people with access to these services in Africa and Asia—where the world's poor are concentrated—has fallen, remained constant, or increased only slowly.

Innumerable city and town studies confirm the UN-Habitat Report's key message

**Figure 9.1 Little progress in access to improved water and sanitation, 1990 and 2000**



Source: WHO, UNICEF, and Water Supply and Sanitation Collaborative Council (2000).

that water and sanitation services are too often failing communities.<sup>454</sup> Full-pressure, “24-7” water supply remains a pipe dream in many cities. Because a quarter to half (and more) of urban water supply remains unaccounted for, many cities are turned into leaking buckets (figure 9.2). The limited number of network access points must be widely shared, which dramatically increases waiting times and often simply overwhelms the system. Rural infrastructure often goes to seed: more than a third of existing rural infrastructure in South Asia is estimated to be dysfunctional.<sup>455</sup>

Poor people bear a disproportionate share of the impact of inefficient water and sanitation services. Fewer poor people are connected to a network. When they do have access, the installation has to be shared among many more people (figure 9.3). And the prices they pay are among the highest, generally more than those paid by more affluent households connected to the piped system (figure 9.4). The price differential is partly a result of inefficiencies—the inequitable practice of subsidizing piped water, lack of scale economies for independent providers, or worse, providers taking advantage of poor people’s lack of choice. But some of the price differential can also reflect the flexibility and convenience of services offered by independent providers—no connection charges or access to quantities of water that are more affordable for poor people.

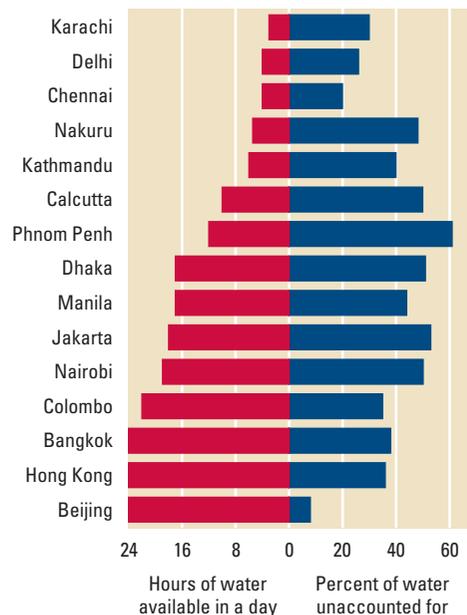
## Infrastructure and the accountability framework for service delivery

Countries are trying different approaches to address failing water, sanitation, and electricity services. These include decentralizing to local governments, private sector participation, regulatory reform, community-driven development, and small independent providers. Some approaches try to make services work for poor people through targeted interventions. Others seek to improve services overall—on the premise that making services work for all is necessary for making them work for poor people. The same approach has worked in one setting and failed in another, and different approaches have worked in seemingly the same setting. What is needed is a way to think about the institutional and political characteristics of infrastructure services to understand what works where and why.

### Accountability in infrastructure services

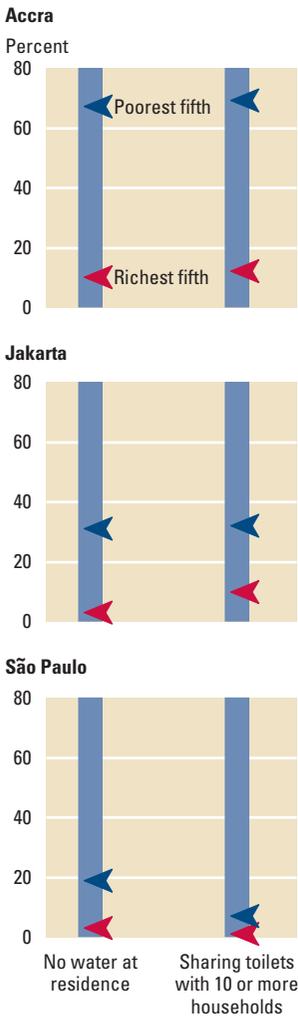
Chapters 3–6 of this Report develop a framework for analyzing how well the actors in service delivery—clients and citizens, politicians and policymakers, and service providers—

**Figure 9.2 24-hour water: a pipe dream**



Source: Human Settlements Program (2003).

**Figure 9.3 Water and sanitation by poorest and richest fifths**



Source: Human Settlements Program (2003).

**Short route of accountability.** In a simple market transaction, the buyer holds the seller accountable for the product bought, rewards the seller by repeating business, or penalizes the seller by choosing another provider. This accountability is “short” because the client can hold the provider directly accountable, without any intermediaries. Small, independent providers in water and sanitation and their clients are usually in such a market relationship.

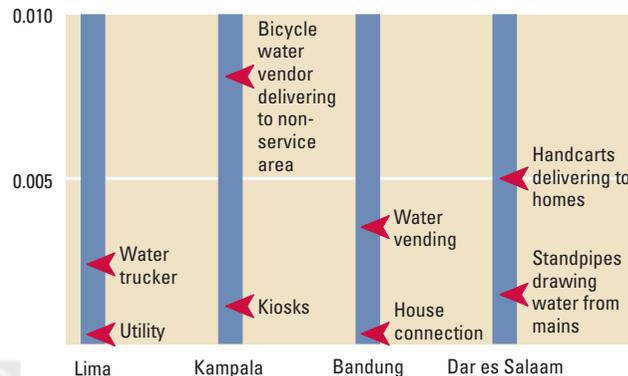
In Dar-es-Salaam, Tanzania, a cholera outbreak in 1996 forced the sewerage and sanitation department to loosen its monopoly on cesspit cleaning and allow private providers in. There is now an emerging competitive private market for cesspit cleaning—households can choose a provider based on price and (easy-to-monitor) performance. Besides allowing entry and implementing regulations on sewage disposal, the city’s role has been small.<sup>456</sup> But service and market conditions that automatically give clients power—through choice, ease of monitoring, and market enforceability—are not always present for infrastructure services. So the route of accountability has to be long.

**Long route of accountability.** Governments worldwide deem it their responsibility to provide, finance, regulate, and in other ways influence infrastructure services. They do it for two good reasons: market failures and equity concerns. First, networked infrastructure services exhibit

hold each other accountable within four relationships (figure 9.5):

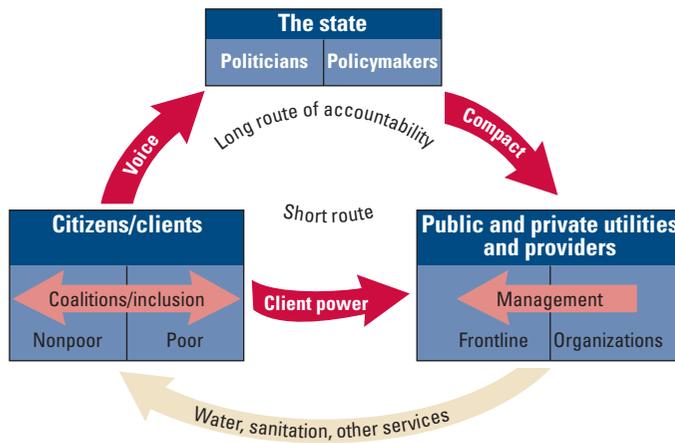
- *Client power* connects service users with providers.
- *Voice* connects citizens with politicians and policymakers through the political process.
- *Compacts* connect policymakers through implicit or explicit contracts with providers responsible for services.
- And *management* connects provider organizations with frontline across-the-counter providers.

**Figure 9.4 Alternative sources of water: poor people pay more**  
Price of water per liter, U.S. dollars



Source: Human Settlements Program (2003).

Figure 9.5 Accountability in infrastructure services



economies of scale, or network externalities, that make it technically more efficient to have a single distributor of the service. In sanitation the externalities come literally from spillovers. Yes, households in Dar-es-Salaam were willing to pay for improved sanitation with larger health benefits to the city. But free-rider problems, where one person's behavior hurts others with impunity—as in the case of runoff from open defecation in many parts of Asia and Africa—require community or government intervention. Second, societies care about equity, and governments often redistribute resources—such as a lifeline water subsidy—to ensure the minimum equitable service access that markets cannot.

Network externalities, collective action problems, and distributional goals thus provide powerful reasons for the government to be involved. The arrangements then are no longer primarily between the client and the provider, and new accountability relationships become important. The first of these arrangements is voice—citizens delegating to politicians the responsibility to ensure the infrastructure services they want. The second is through the compacts between policymakers and providers—to design the service delivery framework, choose a provider, and ensure that it meets citizen expectations. Voice and compacts together become the “long route” of accountability. In Bangladesh the prime minister and her power minister are, in principle, accountable to citizens for the performance of the Power Development

Board, a corporation owned and operated by government.

The short and long routes of accountability need to work together. Indeed, even for cesspit services in Dar-es-Salaam, government regulation was necessary to ensure that the small private operators complemented the public provider and complied with sewage disposal guidelines. Effective solutions are likely to be a strategic mixture of the short and long routes of accountability as a system in which the clients, the policymaker, and the provider are linked in accountability relationships that make services work for poor people.

### *Why infrastructure services fail poor people: patronage*

*Because the family has been without daytime water for the past decade, the children have never seen water come out of their home faucets. . . . The faucet flows only between midnight and 4 a.m. in most of Baryo Kapitolyo. MWSS, you know that. Did you care?*

Dahli Aspillera, a citizen of Manila, on the eve of the privatization of Manila's public water agency, Metro-Manila Waterworks and Sewerage System (MWSS), in 1997

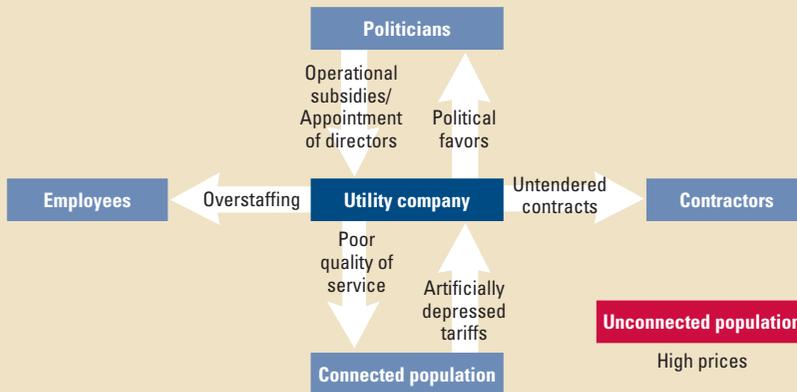
Where water, sanitation, and electricity are publicly managed, the accountability to citizens is achieved when the state ensures that utilities, boards, and government departments provide efficient and equitable services for all citizens, including the poor. When the state is unsuccessful and the voice relationship is not effective, the long route of accountability has failed.

In 1997 the MWSS was typical of service utilities, boards, and government departments that consider politicians and policymakers as their real clients. Politicians—responding to equity concerns or, more likely, to short-term political gain—often keep prices for infrastructure services well below those for cost recovery. This makes service providers dependent on politically motivated budget transfers for survival—or when transfers are not forthcoming, on service cutbacks that attract no penalties from policymakers.

State-owned water and electricity providers then cease to function as autonomous service providers.<sup>457</sup> They become

### BOX 9.1 *Clientelism in service delivery*

#### Patronage weakening accountability in the citizen-provider chain



With patronage, the compact between the politician and provider—the utility or board—is neither transparent nor determined by universal client needs. Politicians exert their control by appointing (and dismissing) company directors and by providing public subsidies to finance investments and prop up ailing enterprises. In return for this patronage, water companies are often obliged to supply political favors in the form of excess employment, the depressing of tariffs, political targeting of new investments, and the distribution of contracts on the basis of political criteria. The consequences: spiraling costs, low ser-

vice quality, and precarious finances. The scarcity of resources for investment leaves much of the populace without adequate services and forces them to rely on expensive or inconvenient alternatives.

The clientelist model broadly describes the politics of urban and rural regional utilities in both water and electricity sectors. It also applies to local administrations in charge of urban or village-based services (funding of piped networks or community toilets or even public investment in deep tubewells).

Source: Foster (2002).

extensions of policymakers. The policymaker and provider begin to fuse into one role. When this happens, policymakers can no longer hold providers accountable for delivering to all citizens, services deteriorate, and poor citizens as clients are left powerless.

The dynamics of this relationship can be even more debilitating for poor clients. Over time providers become a strong political force, influencing the policymaker. In effect, providers capture the policymaking process, exerting pressures through organized labor or their ability to control service delivery for the politician. With deteriorating service levels, policymakers and providers ration access. This has an important implication when lumpy investments are needed to gain access to services—whether through an electricity grid, a village water network, or even a stand-alone

system, such as tubewells. Citizens or their groups respond to rationed access by supporting politicians who favor them as their clients over politicians who push for universal access. This strengthens the ability of politicians to use patronage. The accountability linking clients, politicians, policymakers, and providers is displaced by patron-client relationships—clientelism—on both legs of the long route of accountability (box 9.1).<sup>458</sup>

In such settings, the breakdown in voice for poor citizens is reinforced by their loss of client power. Dahli Aspillera's question—did you care?—reflects both a sense that the client cannot penalize the provider for poor service and a deeper reality that the long route of accountability has failed the *citizen*. If failure of voice is at the root of weak service delivery in water, sanitation, and electricity, what are the options for reform?

## Urban water networks

*Who is the Water Board accountable to?*

Question asked of the Managing Director of the Hyderabad Water Board by a consumer, Hyderabad, September 2002

In cities and towns, where scale economies prevail, water systems have major network suppliers—generally a public sector provider, such as the Lagos water board in Nigeria, or a small municipal water department, as in Chapai Nawabganj in Bangladesh. Some of these providers belong to local governments—as in the case of the Johannesburg water utility; some to a state government—as is common in India; and some—like MWSS in Manila—to central governments. For all, the relevant questions are whether there is a clear delineation of roles between the policymaker and the provider—and whom the provider is accountable to, the policymaker or the client? When voice and politics fail, the distinction between the two is blurred, and the provider is accountable to the policymaker.

Four reform strategies can potentially separate policymakers and providers: decentralizing assets, using private participation in operations, charging for services, and relying on independent providers to give clients choice. The first two aim to influence contracts, the second two to strengthen client power. All are politically difficult to implement. That is not surprising, since strong political forces—not technocratic failures—blur the roles of policymakers and providers. The issue is whether these strategies can pro-

vide incentives to remove patronage and compensate for the weak voice of poor people.

### ***Strengthening the compact: decentralizing assets***

Devolving responsibilities to different tiers of policymakers and separating powers between them can create the right incentives to improve service delivery. First, by having service and political boundaries better coincide, decentralization can strengthen voice and accountability. Second, when the center is in charge of both regulatory and service delivery responsibilities, it has few incentives to hold itself accountable. Devolving services to another tier of policymaker triggers incentives more compatible with having the center (or an upper-tier government) oversee the regulatory framework. Finally, devolution creates an opportunity to benchmark performance and use fiscal resources and reputation as rewards to support efficient service provision. The contestability for resources in this context requires a tier with fiscal capacity and without service provision responsibilities—appropriate for the center (or a state in a federal system).

Devolving responsibilities to local governments has had mixed results in water and sanitation, often leading to the loss of scale economies, eroding commercial viability by excessive fragmentation, and even constitutional conflicts between municipalities and upper-tier governments.<sup>459</sup> The historical experience of industrial countries offers lessons for addressing these problems (box 9.2).

### **BOX 9.2 *Decentralization and the water industry—in history***

In France water assets have historically been devolved to the commune—the lowest tier of government. Clusters of communes have integrated the industry by delegating water and sanitation services “upward” to private or semi-public companies. The functional boundaries of the companies cut across several communes, which continue to own the assets but contract out the management of services.

In the United States water and sanitation assets are also devolved to local governments. Where local governments have been carved up into small political jurisdictions and individual water works are impractical, privately owned companies have emerged to provide regional services covering several local governments.

Examples include Elizabeth and Hackensack, both in New Jersey.

Interestingly, for France and some areas in the United States, the limited capacity of the smaller local governments provided the incentives for private companies to serve clusters of political jurisdictions. In both France and the United States the multijurisdictional coverage prevents the water provider from being captured by any one local body—thus maintaining the separation from local policymakers.

The approach was different in England and the Netherlands. At the outset of the 20th century in both countries, oversight and direct provision of water services were in the hands of local authorities. In the Netherlands these were

under company structures, mostly owned and run by municipalities, but many were under private operation if not ownership. In England the national government consolidated the local water systems into regional bodies, moving from 1,400 in World War II to 187 in 1974 and 10 in the 1980s, all eventually privatized. In the Netherlands, also under central government mandate, the municipal companies were converted to regional companies to support the expansion of services to rural areas. But the companies remained under the ownership of municipalities and provinces.

Sources: Lorrain (1992); Seidenstat, Haarmeyer, and Hakim (2002); Jacobson and Tarr (1996).

Fragmentation and the loss of scale economies can be partly addressed by permitting interjurisdictional agreements. In the French *syndicat* model, municipal jurisdictions can cede the right to provide water and sanitation services to a company jointly owned by several local authorities. Bolivia's water law explicitly allows for multi-municipal companies. Colombia empowered its regulator to enforce mergers of nonviable local water agencies, but ironically exempted the smallest of the municipalities that would have benefited most from this rule. Brazil's state companies were created through voluntary agreements with municipalities, financed by central funds.

These examples suggest an important approach for aligning general decentralization with sectoral priorities. When authority is being decentralized, a window usually opens for central government to influence the restructuring of local services. Decentralization gives the center the ability to negotiate the restructuring of devolved assets through fiscal incentives—say, by deciding to retain the liabilities while devolving only the assets.

Where devolution has already happened, the center can provide incentives such as fiscal grants to subnational governments that are dependent on milestones of institutional reform. Australia's federal government provided grants to states to reform the water sector. The South African government is also using central fiscal incentives to support municipal restructuring and to influence reform of urban services, including water and sanitation. India's federal government is exploring a similar policy instrument—the City Challenge Fund—to create incentives for general urban reform, including municipal services.

Such fiscal incentives are more effective if allocated competitively to local tiers of government. But this requires information so the center can compare the performance of different local governments, promoting competition and accountability. It also requires that the policy and legal framework enable local governments to have the flexibility to reform service delivery—to form regional companies and use contracting, for example. Countries such as Pakistan and South Africa that have recently embarked on decentralization have adopted such legislation.

The bottom line: upper-tier governments can influence the design of compacts at the local level through legislation and incentives. However, as demonstrated by experience in Latin America, decentralization processes have not always been designed with sufficient care to allow these kinds of benefits to be reaped. The success of managing service reforms during decentralization will depend on whether broader decentralization policies can ensure that local politicians and policymakers bear the consequences of policy decisions. Ensuring that decentralization can separate policymakers and providers at the local level requires that it also separate roles and responsibilities of the different tiers of government (chapter 10). Without that separation, decentralization may simply transfer patronage to local levels.

### ***Strengthening the compact: using private participation in operations***

Over the past decade, private participation has grown significantly in water, sanitation, and electricity in different forms and across many regions (box 9.3). In general, private participation in infrastructure has been advocated for many reasons, including accessing management expertise and private investment and introducing incentives in the operations of infrastructure services. Private participation is also a direct way of separating policymakers and service providers through two aspects of the accountability chain—compacts and voice.

In the design of compacts, private providers generally require explicit contracts that define up front the service responsibilities of the provider and the policymaker, the regulatory and tariff parameters, and issues of access by poor households. In addition, the process of contracting private providers can strengthen the voice channel, particularly if advocacy groups and public information mechanisms are involved in the process. Indeed, service delivery standards and services for poor people are often explicit in the policy debate on private participation in water and sanitation.

In many industrial countries the involvement of the private sector in service delivery enabled governments to develop the

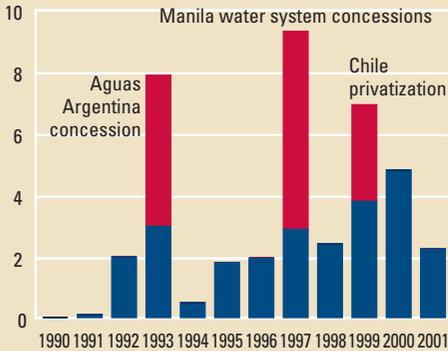


**BOX 9.3 Trends in private participation: water, sewerage, and electricity**

**Investment commitments in projects with private participation in developing countries, 1990–2001**

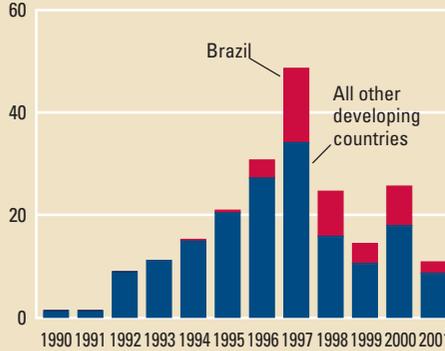
**Water and sewerage projects**

2001 U.S. dollars (billions)

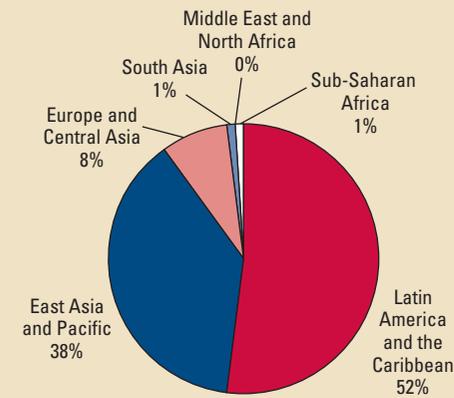


**Electricity projects**

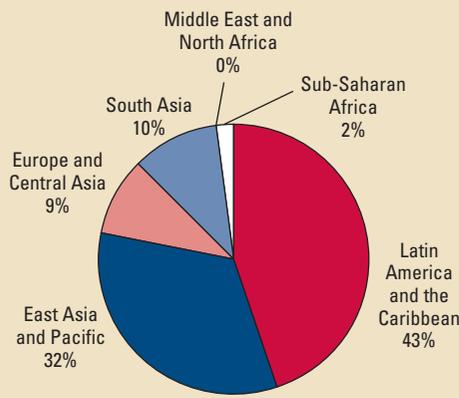
2001 U.S. dollars (billions)



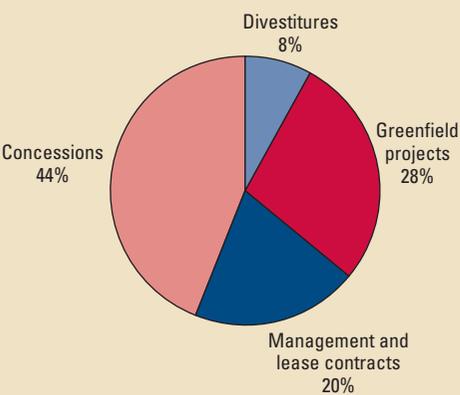
**Cumulative investment, water and sewerage projects (total \$40 billion)**



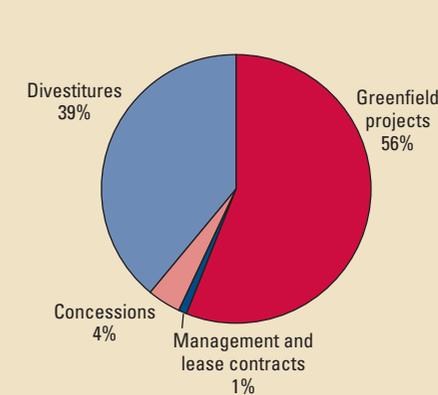
**Cumulative investment, electricity projects (total \$213 billion)**



**Water and sewerage projects by type (total 202 projects)**



**Electricity projects by type (total 832 projects)**



Private investment has been far higher in electricity than in water and sanitation. Not surprisingly, the decline in private investment in the late nineties was more pronounced in electricity. In both sectors, the impact of “large deals” and country specific changes are visible—reflected also in the geographic concentration—East Asia and Latin America—of pri-

ivate investment. Finally, in electricity privatization dominates; in water, management contract and concessions—public ownership—remains the norm.

Source: World Bank, PPI Project Database.



### BOX 9.4 *Private participation—in history*

**England.** In London private companies supplied water for more than 400 years with little government restriction on entry. Companies competed against each other, invested in service and quality innovations, and increased household connections. By the 19th century London's extensive water system helped make that city "one of the best housed and healthiest cities in Europe, with a death rate lower than birth rate by about 1800, at a time when most European cities were devourers of men." Ninety-five percent of London residents received piped supply from the private companies, and a majority had direct home connection.

Technological change led to significant price competition, industry consolidation, and higher prices. And the improved water supply increased demand for flush toilets, which created problems of sewage removal. Parliament responded with regulation, and by 1908 the private system was nationalized. (In the 1980s England shifted back to private provision.)

**Holland.** Between 1853 and 1920 the water sector was dominated by private water supply

companies, which were then progressively taken over by municipalities and operated as public utilities. The amalgamation was promoted by central regulation and facilitated by municipal politics. A major motivation was to use the companies to deliver services more regionally to rural areas. By the time the public sector took over, principles of economic management of water services had become well embedded in the political system. Arms-length management of public utilities by municipalities became the norm.

**United States.** Between 1800 and 1900, U.S. cities experienced a tremendous growth of water works. Initially dominated by private owners, half of them were public by 1900. The shift to public ownership emerged because of contracting problems between municipalities and companies over water for fire fighting. The difficulties of establishing contracts when cities were growing rapidly, and several urban conflagrations, offered opportunities for both private companies and governments to evade performance targets or force renegotiations of contracts. A lack of metering and direct charg-

ing led to conflicts over fiscal transfers from municipalities to companies. Not surprisingly, public ownership increased, and with it the public system inherited the tradition of managing and regulating water as an economic good.

**France.** Starting with private provision of water at the local government level and maintaining it from the mid-1600s onward, France evolved toward public ownership and private provision through different types of management and lease contracts. The reasons: scale issues (small local authorities), the history of the French legal system, and the role of voice in controlling policymakers. The issue of fire fighting did not come up in France, perhaps because cities were built with vastly different materials and densities.

Sources: Tynan (2002), Schwartz and Maarten (2002), Crocker and Mastens (2002), and Lorrain (1992).

capacity and political setting to regulate, price, and manage water in public and private contexts (box 9.4). But in today's developing countries private participation is being flung into a context of institutional rigidity, not necessarily conducive to the organic growth of formal private participation. Using private provision to drive a wedge into patronage makes managing private participation intensely political—but potentially powerful for increasing accountability.

The proof of this potential is already evident. Formal private participation in water and sanitation has led to greater demand for accountability—this, despite accounting for a small part of total investment in water and sanitation. During the 1990s private investment accounted for only 15 percent of total investment in water and sanitation, covering less than 10 percent of the world's population. Even in Latin America, where private provision has made the greatest inroads in the water sector, it only covers 15 percent of the continent's urban population.<sup>460</sup> In addition, in contrast to electricity, for example, public ownership and not divestiture of assets remains the norm in the sector.

Ultimately, like decentralization, private provision offers an opportunity to influence the relationships of accountability. And like decentralization, its success depends on design and implementation (box 9.5). Experience so far suggests that regulation and information—two interlinked parts of overall sector reform—are important in successfully implementing private sector participation in water, sanitation, and electricity sectors and in promoting greater voice in service delivery.

**Regulation.** A regulatory system in this Report's framework is best defined along the dimensions of accountability between the policymaker and the provider—delegation of responsibilities and finance, information about the performance of the provider, and enforcement (chapter 3). The regulator could be responsible for specific elements of the accountability chain—just providing information on performance or also ensuring enforcement. Sometimes the policymaker is the regulator, and sometimes a dedicated third party has this responsibility. Sometimes even an association of providers can self-regulate. Whichever method is followed, the regulatory

### BOX 9.5 *Private participation in water and sanitation can save poor people's lives, and money*

In the 1990s Argentina embarked on one of the largest privatization campaigns in the world as part of a structural reform plan. The program included local water companies covering approximately 30 percent of the country's municipalities. Child mortality fell by 5–7 percent in areas that privatized their water services. The largest gains were seen in the poorest municipalities, where child mortality fell by 24 percent. Overall, privatization of water services prevented approximately 375 deaths of young children each year.

Aggregate data from other sources on the distribution of new water connection by income quintile from three countries in Latin America confirm the results of the pro-poor impact of private sector services. As the data show, 25–30 percent of the network expansion was targeted at the lowest 20 percent of the income profile.

#### Distribution of new connections following private sector participation in water and sanitation services



Source: Foster (2002).

Responding to the need for alternatives for reaching poor people, one of the Manila concessionaires has developed a system for water delivery in densely populated, hard-to-reach slum areas. In the Bayan Tubig ("Water for the Community") program, the use of appropriate technological standards, client participation in maintenance, and community-based organizations in intermediation and mapping of the network reduced water costs for poor families by up to 25 percent. To increase affordability, the concessionaire has introduced an interest-free repayment scheme over a period of 6 to 24 months. Between 1991 and 2001, the program provided water connections to more than 50,000 households—this despite the fact that the contract of one of the Manila concessionaires is under review.

Source: Galiani, Gertler, and Schargrodsky (2002); Water and Sanitation Program (WSP-AF) (2003).

process has to separate policymaker and provider and preserve its own independence.

**Organizing regulation: one size does not fit all.** Where voice is strong and supported by an effective legal system, the policymakers and the judiciary do the regulating. In France, where the compact for water is between municipal policymakers and a private company, regulation is done primarily through municipal monitoring of contracts, with some support from central authorities.

In countries without a tradition of separating policymakers and providers and with discretionary policymaking, credible regulation requires a third party—an agency—to set or interpret regulatory rules. Several formal safeguards can support the independence of a regulatory agency from political influence.<sup>461</sup> Some examples: earmarking funds for the regulatory agency, hiring staff from the market without being restricted by civil service rules (competence and capacity are important elements of gaining credibility and independence), ensuring that the hiring and firing of regulators are protected from the political interference of the executive and legislative branches, and not linking the terms of staff to electoral cycles.

A multi-tiered governmental structure offers additional scope for protecting the independence of a regulator by placing it at the

national level, or at the state level if policymaking and provision are done at the local level. Another option in a multi-tiered government is to use local regulation but have the appeals process at a different level. In the United States the Constitution provides an overall framework for property rights while state regulatory commissions oversee the operations of privately owned local utilities. Local governments regulate public utilities directly.

**Regulation and sector reform.** The accountability framework clarifies the conditions under which a regulator will be effective in supporting sector reforms. Just as accountability is blurred if any one of its relationships is broken (see chapter 3), the effectiveness of a regulator is abridged if delegation of responsibilities and finance between the state and the provider is incomplete. That is the case in the electricity sector in some states in India. In other words, an independent regulator is needed to enforce the separation between policymaker and provider, but if the separation is not initiated through general reform to begin with, the regulator may well be ineffective. A regulator cannot substitute for broader sector reforms.

At the same time an effective regulator can help sustain sector reform. A recent study of about 1,000 concessions in Latin America showed that even a moderately well-func-

tioning regulator can temper opportunistic renegotiations of contracts.<sup>462</sup> The study concludes that where a regulatory body exists in a country, the probability of a renegotiation is 17 percent; where none exists, the probability is 60 percent.

**Regulating the public sector.** Sector regulation is often discussed in the context of private sector participation. But issues of monopoly behavior and service performance are also relevant for public sector provision—perhaps even more, because the contracts between the policymaker and the public provider are often not explicit. Independent regulation of public providers is therefore equally important. But unless public providers have operational flexibility and are brought under explicit compacts—and unless all the relationships of accountability are applied—it is not clear how regulation of the public providers would have an impact on service standards. In particular, because most of the instruments of modern regulation are based on financial incentives, in the absence of user charges regulation of public providers would be ineffective. In Chile public sector regulation was introduced in the context of sector reforms, which included greater provider autonomy in operations and economic pricing of water. This helped catalyze regulatory capacity in the public sector—an important asset, now that Chile has privatized water services.

**The role of information.** With private provision more needs to be done to deliver on the demand for greater voice—informing communities about the why and how of private sector contracting. A public opinion poll in Peru found support for privatization of electricity among only 21 percent of the citizens. But when informed that privatization was to be undertaken through a transparent process and tariff increases would be regulated, support increased to 60 percent.<sup>463</sup> In Manila the concession process was preceded by a widespread public campaign by President Ramos, who convened “Water Summits” to bring together different stakeholders.<sup>464</sup> In South Africa Johannesburg’s water management contract was also undertaken after significant—and often difficult—consultation with

communities, labor unions, and other interest groups. Neither process was flawless, but both opened the door to greater accountability. An open process is needed to broaden the participation of communities in the policy debate on private provision—otherwise narrow interest groups can capture the information and representation.

Community involvement is also essential in the regulatory process—but it has not been sufficiently encouraged. A review of urban water utilities in Latin America and Africa concludes that giving consumers little information about the process of reform and tariff setting—and limiting their opportunity for comment before taking regulatory decisions—weakens the regulatory process and the credibility of reform, and makes tariff changes—however justified—difficult to implement.<sup>465</sup>

Organizing consumers is, however, not an easy task. There are major free-rider (and related financing) problems in developing countries that prevent consumers from organizing themselves to a degree where they can be an articulate voice in the regulatory process. The problem is even more severe for poor consumers. In industrialized countries, relatively well-developed consumer associations perform this role reasonably effectively. Where competent and effective consumer associations are absent, the asymmetry between consumers and providers becomes more acute, and the regulator risks being captured by the provider.

Examples exist of regulatory bodies engaging communities—especially poor communities—more actively. In Jamaica the regulator reaches out to communities through local churches; in some cases in Brazil special consultative or advisory bodies have been created; and in Peru regulators have made extensive use of the radio to engage and communicate with communities.<sup>466</sup> But these are few examples only—much more needs to be learned about how to organize and access communities in the regulation of services.

Managing private participation also requires information on how private players are performing relative to their contract and the performance of other public and private providers. This information, which is critical for regulators, also strengthens the

relationship between citizens, politicians, and policymakers. For private provision to have a catalytic impact on the sector, information is essential on the performance of both the public and private sectors. But too little information has been available on the performance of the public sector and through few credible sources. Leveling the playing field between public and private providers—as discussed later—and benchmarking their performance are essential in getting the best out of private participation in the sector.

Overall, the impact of private sector participation is best leveraged within a broader reform context—greater separation of policymakers and providers for all public providers; greater participation of communities in the process of private participation and in the regulatory framework; and greater use of benchmarking of both public and private providers. The Australian approach is instructive. An enabling framework and a national competition law level the playing field for all public and private providers. Sectoral legislation provides guidelines for service provision. The central government provides fiscal incentives to support change at the state level. A variety of delivery approaches are supported—corporatization (Melbourne), management contract (Adelaide), vertically integrated public utility (Sydney), multi-utility (Canberra). Regulation differs between states and is backed by independent regulatory agencies as well as benchmarking done through an association of water providers.

### BOX 9.6 *Charging for water—in history*

Treating water as an economic good and charging for services enabled France and the Netherlands to use private provision to jump-start the sector's development. In France the private sector remains the major service provider of water and sanitation services. In the Netherlands the system shifted from the private to the public sector. But in both countries charging users for water remained the norm, which enabled providers to sustain service delivery at arm's length from local government and gave them greater incentives to be responsive to the needs of the clients.

Sources: Lorrain (1992); Blokland, Braadbaart, and Schwartz (1999).

### *Strengthening client power: charging for services*

User charges provide operational autonomy for the provider, support client power, and elicit greater accountability from the state (box 9.6). Without access to enough revenues from the clients, service providers depend on the policymaker for fiscal resources to maintain service provision. In addition, if the seller is not dependent on the buyer for at least some part of revenues, the provider will have little incentive to respond to the client. At the same time, given the politics of water pricing, implementing user charges can quickly elicit a consumer response—as in Johannesburg, Manila, and very visibly in Cochabamba, Bolivia.

*Implementing user charges.* Drawing on the power of user charges to leverage accountability in service delivery requires, as discussed earlier, effective regulation to address monopoly provision. But more importantly, the critical policy issue is how to increase tariffs. There are two implementation issues: the first is synchronizing tariffs with quality improvements, and the second is ensuring that there is a safety net to safeguard basic affordability.

In many countries, bringing the tariffs to cost-recovery levels would require significant adjustment and rebalancing of tariffs among residential, business, and industrial customers. In Indian cities the charges on residential users are less than a tenth of the operating and maintenance costs. Industrial users pay ten times more but are below the benchmark for operating and maintenance costs in two-thirds of the metropolitan cities and 80 percent of smaller cities.<sup>467</sup> Even if there is a willingness to charge, how can the transition to prices be managed?

Charging cannot be assessed independent of the broader policy framework and the credibility of service providers. Policymakers are obviously concerned that services will not improve enough to justify the price increases. Central to a price increase is what comes first—the increases or service improvement? Guinea entered a lease contract for water services in its major towns and cities in 1989. During the first six years of the contract, the government subsidized a declining share of the private operator's costs while tariffs were adjusted gradually toward cost recovery,

which avoided a major tariff shock. This jump-started the move to cost recovery and better service delivery. It also gave the reform credibility in a region that had little experience with private provision.<sup>468</sup> For various reasons the lease contract expired in 1999 and was not renewed, but the pricing strategy remains relevant for other countries.

Similarly, subsidies to poor people could be better targeted and designed, which would enable user charges to be implemented overall. Chile has a nationally funded household water subsidy. Colombia uses geographic targeting. South Africa has a national lifeline tariff system that guarantees each household 6 kiloliters of water a month.<sup>469</sup> Given the substantial divergence between piped water prices and the high cost of the inferior alternatives that many of the poorest are forced to use, there is often a strong case for giving highest priority to connection subsidies rather than subsidizing the use of water by those who already enjoy access to the piped network. Connection subsidies also have the advantage that they are easier to target (since lacking access to service is already a strong indicator of poverty) and cheaper to administer (since relatively large one-time payments are involved). Generally it is more efficient to subsidize the connection costs for low-income households, but there are alternative options for designing connection and consumption charges that benefit poor people.

Ultimately, tariff adjustment and subsidy mechanisms are technocratic tools that can be designed and applied in many ways. What is critical is to turn payments for services into a political tool for reducing patronage and strengthening client power of poor people.

### *Strengthening client power: relying on independent providers*

As the example of pit operators in Dar-es-Salaam suggests, small independent providers are a common feature in providing water and sanitation services across income groups. Their organization varies from household vendors of water, small network providers, and private entrepreneurs to cooperatives. In some cases they are the primary suppliers, and in others they supplement the formal provider. In some cases they are part

of a competitive market, and in others they are controlled by a few groups.

Enhancing the role of independent providers as part of the short route of accountability is a key policy challenge. How can this be achieved?<sup>470</sup> By recognizing independent providers and giving them legal status, by ensuring that network providers are not given exclusive supply, by enabling greater partnership between formal public and private network providers and small independents, by ensuring that the regulatory framework for network providers gives the flexibility to enable contracting with independent providers, by enabling small-scale provider associations and working with these umbrella bodies to introduce appropriate levels of regulation, and by enabling poor people to gain access to multiple independent providers while keeping their regulation more focused on health and issues related to groundwater depletion.

Of particular concern is the effect of bringing in a formal private provider in an area dominated by independent providers. This issue was not addressed in the design of the Cochabamba contract—where the private provider was given exclusivity rights—and it contributed to the contract's cancellation.<sup>471</sup> In reality, if coverage targets are defined in such a way that they can be met with the services of small independent providers, the operator will have an incentive to encourage their involvement.

### **Rural areas: network and non-network systems**

Rural settings are complex in their settlement patterns, ranging from dense settlements in South Asia to dispersed communities in many African countries. Suppliers include household systems in Bangladesh, water vendors in Laos, and community-managed local piped water systems in Ghana. Across all situations, the client-provider link is the norm. Understanding why the long route of accountability is needed to support this client power, and how this can be done, are the main service delivery challenges in rural areas.

### *Community-managed networks*

In countries as diverse as India and Kenya, water boards or engineering departments

have traditionally been responsible for delivering water services to rural communities. Top-down in their approach, with little skill in community mobilization, and backed by fiscal support from central government, the boards scaled up physical investment. But they had little success in ensuring sustainable operations and maintenance. Indeed, these boards face the same problems of state capture inherent in the patronage model of service delivery.

Given the failures of top-down institutions, some countries are shifting to community-managed systems—often supported by donors, as in India and Ghana. Communities are involved in the design and management of their water systems, paying for operations and maintenance costs. Governments, generally central governments, pay a significant part of the capital costs. Donor-funded project management units, backed by not-for-profit organizations, often form the technical and organizational backbone of these systems.

The client-based model puts the client at the center of the accountability relationship, but many challenges remain in scaling it up.<sup>472</sup>

- Communities require technical support in the medium to long run to manage water systems, and donor-funded project management units are not well suited for this.
- Communities pay for current operating costs, but replenishing capital investments and covering higher tariffs—to pay for rising power costs, for example—are not easily managed through group contributions.
- Communities are not homogeneous—problems of exclusion and elite capture can be the same as in government systems. And different communities may have differing abilities to form cohesive groups.
- Efficient technologies that require scale economies are not selected because of the focus on village-level associations.

### *Supporting client provision*

Three approaches—local governments, regional utilities, and independent providers—

provide examples of institutional mechanisms for supporting community-based systems. They are all “works in progress,” and learning from them will offer insights on how to advance rural community-based systems of delivery.

Local governments can form the institutional and financial support for expanding community-based systems. With access to a tax base, local governments can provide resources to cover periodic capital expenditure, provide temporary fiscal support to communities to adjust to economic shocks, and facilitate access to technical assistance. Uganda and South Africa provide examples of arrangements in which local governments are part of a larger fiscal decentralization program with own resources and greater autonomy. Local governments thus strengthened can support community-based programs. Even in India, where local *panchayats* do not have as much autonomy, the relations between local governments and user groups are evolving. Where neighboring small towns have effective providers, these can be contracted in by rural local governments to support their communities.

In Côte d’Ivoire a national utility run by a private partner has responsibilities for urban centers and smaller towns. The national utility uses cross subsidies—with the capital city providing the fiscal surplus—to support the smaller urban centers. Expansion of its responsibilities to rural areas is now being tried. The early lessons have not been successful but the approach is still evolving.<sup>473</sup>

Finally, communities can contract with a third party or an independent provider to manage local network systems. In China formal cooperatives (rural companies) run on commercial principles with very high cost recovery.<sup>474</sup> In several African countries village entrepreneurs manage water systems under contract. In East Asia small independent providers are being organized to take on operational responsibility on a concession basis. In each case, the process is organized through group consultation and endorsement. While small systems can be contracted by community organizations, villagewide systems may again require the support of policymakers at the local level.

**Self-provision.** Households managing wells and hand pumps are common in large parts of rural Asia and Africa. Nowhere is self-provision more dramatically showcased than in Bangladesh, where shallow aquifers and the market provision of hand pumps enabled households to directly manage water services and replace pathogen-contaminated surface water with groundwater. Service delivery improved—less waiting time, no quantity limits, and the convenience of household connection. And the health impact, which included a decline in diarrhea-related deaths, was remarkable.

Missing was any attempt to monitor water quality. Finding arsenic in the groundwater caught everyone by surprise. The government had withdrawn from the rural water sector, assuming that access was now fully addressed by the private market and household efforts directly. In addition, in a unitary system of government, there was no local government to respond to the crisis. In rural Bangladesh today, a policymaker is needed to support communities, manage externalities, and understand the technological choices for addressing the arsenic crisis (box 9.7). More broadly, for a collective good such as the monitoring of water quality, a partnership between clients

and providers will not suffice; policymakers are needed to support communities

## Sanitation

Policy issues in sanitation need to be discussed in the context of the private and public goods dimensions of the sector. To the extent it is primarily a client-provider relationship, households invest in sanitation systems and contract independent providers for the removal of excreta. To the extent the public goods dimensions are dominant, policymakers need to support collective action to change behavior at the household and community levels, and organize common infrastructure for excreta removal.

Access to sanitation services has often been seen as an issue of subsidizing latrines and prescribing latrine technology. This supply-driven approach, emphasizing the fiscal and engineering aspects of sanitation, has failed. In response, some countries have been shifting toward “complete sanitation”—focusing on community and household behavior and sanitation practices.<sup>475</sup> This involves breaking the fecal-oral chain by encouraging households to change behavior—shifting away from open defecation, washing hands, keeping food and water covered, using safe water, focusing on

### BOX 9.7 *Fighting arsenic by listening to rural communities*

The arsenic contamination of shallow aquifers may be undoing the success of rural drinking water provision in Bangladesh. While the number of individuals showing symptoms of arsenic poisoning is still low—despite the high concentration of arsenic in the water—between 25 and 30 million people may be at risk in the future.

The first response to the crisis by government and many donors was denial. This was followed by an effort to test all water sources and hand pumps. There were various technological and logistical problems—which is not surprising in view of the fact that arsenic contamination of this scale has not been faced anywhere in the world. These problems were further complicated by a lack of coordination and blurring of roles among government, donors, and nongovernmental organizations (NGOs).

The efforts so far have revealed that surface water does not contain arsenic and that not all

aquifers are contaminated. Government, donors, and NGOs are advocating several options: shifting to alternative water sources, including some surface sources; sharing of uncontaminated tubewells in villages; sinking deep tubewells in public areas; and promoting household filtering technologies. The latter, if successful, would preserve the use of shallow tubewells—decentralized, household means of water access—that have defined the “water miracle” of Bangladesh. In all of this, little effort was made to understand the preferences of rural households.

A WSP-BRAC (Water and Sanitation Program–Bangladesh Rural Advancement Committee) team undertook a comprehensive survey of household preferences for different approaches to arsenic mitigation in selected areas of rural Bangladesh. The results reveal that communities place a high premium on convenience. Unless the alternatives are as convenient as the current hand pumps, the shift to dug

wells, well-sharing, and other mechanism may not work. Indeed they have not yet been successful as solutions.

Communities strongly indicated a preference and willingness to pay for centralized, community-based filtering systems, such as local piped-water systems with a central filtering point for chemical and biological contaminants. The piped water network systems introduced in the Bogra area by the Rural Development Academy suggest the potential of such systems in Bangladesh. This has been confirmed by preliminary data, which show the cost effectiveness of piped water in settlements that have 300 or more households. If implemented broadly, this approach would dramatically change the nature of water institutions in rural Bangladesh—a change that communities are willing to undertake.

Source: Ahmad and others (2002).

children's hygiene behavior and maintaining a clean environment. The use of hygienic latrines is a result of this process of changing behavior.

Because the health impact of a household's sanitation practices is affected not only by the household's behavior but also by the practices of the community, there is a collective action problem. The provider's role in ensuring information and social support to households through community structures becomes critical. Success depends on making people see themselves as a community, where every member's behavior affects the other—a daunting challenge and perhaps the reason why sanitation has always lagged behind demand for water.

### *A participatory focus in rural areas*

Because communities need to manage sanitation collectively, innovative participatory approaches are required to generate demand for it, especially in dispersed settlements. The shift from open to fixed-point defecation may be motivated by health, safety, and privacy concerns—issues of importance to women, who bear much of the burden of poor sanitation practices. In the approach practiced by Village Education Resource Center (VERC) and WaterAid in Bangladesh, an external group triggers community-wide recognition of the need for better sanitation practices. The community then takes responsibility for self-regulation—motivating households to strive for complete sanitation. In East and South Asia this has even led to innovations in latrine technology and micro-credit financing for investments in latrines and associated infrastructure.

*Subsidies.* The community focus also changes the approach to latrine subsidies. In Bangladesh, villages in the VERC/WaterAid project did not require any external subsidy. To assist low-income households, higher-income households provided resources. Once communities focused on the need for collective responsibility, assisting individual households to reach community goals was more readily accepted. In Vietnam the participatory approach was supported by a subsidy targeted at poorer households.

But even if a subsidy is required, the fiscal contribution could be delivered to the community, rewarding collective action, self-regulation, and the elimination of open defecation. Take one of India's largest states—Maharashtra state, with 97 million people. It subsidized latrine construction by households below the poverty line only to discover that close to 45 percent of the latrines were not being used. So it shifted its subsidy to a competitive scheme (the Gadge Baba scheme) that rewarded communities for good sanitation practices, using an information campaign to define the principles of sanitation and publicizing the names of winning villages. Reputation, recognition, and community rewards became the catalyst. Over a short period an estimated 100,000 household latrines were built, and for every rupee of state resources, local spending on sanitation and related infrastructure increased by 35 rupees.

*Local compacts.* Making the shift to better sanitation practices is the first objective—but sustaining the shift is equally important. The local externalities and the need to understand and draw on local conditions and knowledge suggest that local governments are the appropriate policymaker tier. In Vietnam and West Bengal, India, local governments have supported community participation and ensured its continuity by financing the work of the service provider, usually a not-for-profit organization. In Vietnam some local governments have used a program similar to Maharashtra state's Gadge Baba scheme to acknowledge village and individual achievements.

### *Responding to demand in urban areas*

Households in urban settlements with high population densities often show a greater demand for better sanitation facilities. The condominium systems in São Paulo, Brazil, and the community sanitation systems of Orangi in Karachi, Pakistan, and Parivartan in Ahmedabad, India, suggest that informal urban communities may be willing to manage and pay for efficient systems of sanitation and waste disposal. Small independent

providers serving households directly, as in Dar-es-Salaam, show that urban households do invest in sanitation. So what are the impediments to expanding these approaches?

The answer may lie outside the realm of water and sanitation—and in the regulatory domain of urban centers. First, the formal recognition of informal communities by governments and the provision of some form of tenure have strongly influenced community willingness to invest in household infrastructure and to work collectively on community infrastructure (La Paz in Bolivia, Ahmedabad in India). Research on garbage collection in informal settlements in Indonesia provides empirical evidence of the negative relationship between incomplete property rights and community investment in local public goods.<sup>476</sup> It suggests that improving tenure security increases the probability of garbage collection by 32–44 percent.

Second, in dense urban areas the municipal government's willingness to allocate some public land to sanitation systems has enabled communities to develop community facilities, contracting them with a third party to maintain and operate them (Pune in India). Use is restricted to the community through a monthly charge collected by the community and paid to the operator.

Third, municipal laws need to support flexible standards and ensure that communities and households can make arrangements with independent providers. Laws that permit exclusive service provision need to be replaced by laws that permit different approaches and standards.

A concluding caveat is, however, necessary on the discussion about sanitation. Historical evidence suggests that demand for water and sanitation follows a sequencing—water first, followed by sanitation and then demand for waste water treatment. Experience also suggests that this sequencing is influenced by many factors of which service delivery arrangements in the sector is only one. In this context, policymakers must remain realistic and patient about how far they can catalyze the demand for sanitation through external interventions. Unless embedded in a demand-responsive approach, throwing subsidies at latrines will not resolve the challenge of scaling up sanitation.

## Electricity

Like water, electricity has urban and rural components—and issues of managing grid and off-grid systems. In the grid setting, the issues of separating the policymaker from the provider, charging for services, using private providers, and developing effective regulatory systems are similar to water network issues (box 9.8).<sup>477</sup> A key difference is unbundling (rather than decentralizing) services.

For electricity in rural settings, the extension of the grid network provides lessons for managing non-network systems in water. And the emerging use of off-grid electricity systems can draw on lessons from community-managed water in rural settings.

**Grid systems.** The experience from Latin America, Eastern Europe, and South Asia suggests that unbundling the electricity chain into generation, transmission, and

### BOX 9.8 Are pipes and wires different?

**Electrification rates by region**



**Electricity losses, selected countries**



Unlike water and sanitation coverage, electricity coverage has increased significantly over the past decade. But like water and sanitation, electricity faces daunting challenges in South Asia and Africa and rural areas across most regions in the world. And as in the case of water and sanitation, increased electricity coverage does not automatically imply efficient service delivery. The problems of theft, intermittent supply, shared access—captured broadly under the heading of electricity losses—make wires no different from pipes in the context of creating accountability in service delivery.

Source: International Energy Agency (2002).

distribution components is critical to reforms in the sector—but only if the market is large enough to support multiple electricity generators, and hence genuine competition.<sup>478</sup> Unbundling provides scope for competition in the relevant sectors, primarily generation. Separating the components also creates scope for getting better information about the cost structure of each part of the chain. The competition and the information add to client power.

But transmission and distribution functions are monopolies, and without effective regulation it may be difficult to ensure the separation of policymaker and provider, and even reduce the scope to introduce competition in generation. Unless distribution is transferred to different types of ownership, a national or regional government as a sole owner will not have much incentive to separate its policymaking responsibilities from the operations of the distribution system.

Privatizing distribution is a common policy approach, but decentralizing electricity assets to local governments is not generally considered. Even where local governments own distribution systems—as in South Africa—the policy discussion is about consolidating into regional distribution systems. This is driven by economies of scale and scope, and perhaps also by policy decisions to cross-subsidize from urban to rural settings and to keep the cross subsidy in the sector. Interestingly, in Mumbai and Kolkata, India, where electricity is under local governments, electricity provision has long been under private operation. Even in Delhi—in effect a city-state—power distribution is now private.

**Rural grid.** The extension of the grid into rural areas offer insights for rural water and off-grid electricity with regard to reestablishing the relationship between policymaker and service providers. A model of rural cooperatives has emerged in the United States and is being adapted in Bangladesh and the Philippines. A regional or national provider organization contracts with community cooperatives to be village-level distributors. In Bangladesh the Rural Electricity Board (REB) supports the village cooperatives through technical assistance and fiscal

transfers for a part of the capital costs. This would be similar to using regional water utilities to support community-managed water systems. Importantly, the owner of the distribution is not the policymaker but the clients. Unbundling the national REB into regional REBs, with some form of benchmarking, could support the clients in breaking a possible monopolistic relationship between the REB and the cooperatives.

**Rural off-grid.** Rural provider organizations—or local governments—can also support off-grid systems in villages, in many cases using renewable energy to generate power. Donors have traditionally advocated solar household systems—not unlike the technology push in latrines. But today's renewable systems can support villagewide grids—similar to villagewide piped water systems—to provide AC electricity for household appliances of various types. Depending on local conditions the systems can also be wind-powered, solar, tidal, bio-gas, or hybrid, with fossil-fueled generators as backup.

## Moving the reform agenda forward

*India is revolting and the Thames stinks.*

Slogan in London, 1857

*The result: Chadwick and the sanitary revolution in the United Kingdom.*<sup>479</sup>

Given the weak voice relationship between citizens and politicians in the water, sanitation, and electricity sectors, deep institutional reform often comes from broader stresses in the economic, political, and institutional machinery of a country. In London pollution was such a cause. In Johannesburg the city's bankruptcy was the impetus. In cities in Africa and Latin America a core impulse for reform of urban water and sanitation is the combination of sector problems and a macroeconomic crisis.<sup>480</sup>

Society's view of economic development is also important. In Australia, Chile, and Peru, growth-driven economic development strategy provided the impetus for improving the performance of water and power markets. So the possibilities for sector reform seem greatest when there is a confluence of natural challenge, fiscal crisis, and institutional reform-

mindfulness.<sup>479</sup> Opportunities for reform may well arrive only by chance, when broader changes in turn catalyze sectoral reforms. What are the potential interim measures? Can incremental change be strategic?

For urban networks, change will require separating the delivery functions from those of benchmarking and regulation. Keeping the latter with an upper-tier government—central or regional—while dispersing ownership of water and sanitation assets to lower-tier governments and the private sector could create this separation. Without ownership responsibilities, the upper-tier policymaker would have greater incentives to use fiscal instruments, benchmarking, and regulation to promote improvements in service provision. Such incentives are less inherent in a model where the regulator, provider, and owner are one and the same. Charging users for services strengthens this separation by directly involving clients in the service chain through the short route of accountability.

Where the introduction of private sector participation is tempered by politics or other factors, strategic change may have to come first through changes in ownership and relationships of accountability between tiers of the public sector. Interestingly, the history of some industrialized countries suggests that local ownership can trigger a more credible path to private sector participation, especially if local governments are effective in strengthening voice.

Where local governments exist and water and sanitation services have been devolved to local governments, the challenge of improved service delivery would lie in making decentralization work. Where local governments do not exist, the lever of decentralized ownership would be lost, but benchmarking and regulation of the public sector would remain. But for such a strategy to be effective, charging for water would become even more critical. It would enable providers to achieve some independence in operations, but more importantly it would give clients a role in sus-

taining the separation and ensuring that the regulation of public providers is effective. In this context, introducing private players in a few of the utilities would enhance the effectiveness of benchmarking the public providers.

Where this broader approach of making services work for all is not possible, a targeted approach for serving poor people using small independent providers is still an option. Indeed, increasingly independent providers may, at the margin, emerge as a critical lever for making services work for poor people.

For rural systems—community-managed systems and self-provision—the challenge is to seek mechanisms for the policymaker to support client power, using local governments, regional utilities, and independent providers. This is similar to the model of the rural electricity cooperatives supported by a provider organization that provides a technical and fiscal hub. Where local governments provide this hub, the voice channel is direct; where utilities are the support mechanism, the voice channel is indirect. Where these options are not possible, the approach—however unsatisfactory—of targeted community projects remains.

For sanitation, the focus is on collective action—to change behavior and mobilize communities to invest in community infrastructure. To support this, compacts between policymakers and NGOs may be more appropriate. In urban areas, where greater demand for sanitation services may exist, policymakers can support client power by allowing independent providers to function and by supporting tenure in informal settlements. A more incremental version would be similar to that in the rural water sector—with a public provider organization supporting NGO delivery in targeted areas.

But if the failure of voice is why infrastructure services have failed poor people, targeted intervention cannot form the basis of institutional reform. Reforming the relationships of accountability would remain the policy challenge.

