

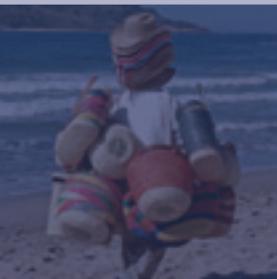


ECONOMIC OPPORTUNITY SERIES



The Role of the Utilities Sector in Expanding Economic Opportunity

Christopher N. Sutton



Written by Christopher N. Sutton
Preface by Beth Jenkins
Designed by Alison Beanland
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Preface

Beth Jenkins, CSR Initiative, Kennedy School of Government, Harvard University

The past fifty years have witnessed a “revolution” in global economic growth. Yet not everyone has participated in this revolution. More than 65% of the world’s population, over four billion people, still lives on the equivalent of less than \$4 per person per day. Even worse, the world’s poor are severely constrained – and often completely lacking – in opportunity to do better for themselves.

The business community has both the capabilities and the strategic, business reasons to play a major role in creating these opportunities. The CSR Initiative’s Economic Opportunity Series, a product of our Economic Opportunity Program, explores this role across a range of industries.

“Economic opportunity enables people to manage their assets in ways that generate incomes and options.”

For the poor, livelihood choices – in employment and entrepreneurship – are constrained by a wide range of interdependent obstacles, ranging from geographic isolation to market failures to political exclusion. This suggests that when we think about eradicating poverty, we should think broadly about creating economic opportunity. Economic opportunity is not, in itself, a solution; instead it is a context in which individuals can create their own solutions. It is a combination of factors that enables the poor to manage their assets in ways that generate incomes and options.

Creating or expanding economic opportunity could rightly be considered a responsibility of governments toward their citizens. But in today’s global market environment, various risks and opportunities provide reason for business to engage.

One key reason, across industries, is for business to leverage its own comparative advantage in society. As Milton Friedman might say, “the business of business is business” – and this is exactly what gives firms the capability and credibility to expand economic opportunity. Business activity creates jobs, cultivates inter-firm linkages, enables technology transfer, builds human capital and physical infrastructure, generates tax revenues for governments, and, of course offers a variety of products and services to consumers and other businesses. Each of these contributions has multiplier effects on development.

In developing countries, companies’ multipliers often fail to reach the scale or leverage of which they might be capable – often due to market failures and governance gaps. More deliberate management attention is required to unlock their full potential.

The Economic Opportunity Series explores four key strategies companies can use to expand economic opportunity:

| | |
|--|--|
| Creating Inclusive Business Models | Involving the poor as employees, entrepreneurs, suppliers, distributors, retailers, customers, and sources of innovation in financially viable ways |
| Developing Human Capital | Improving the health, education, experience, and skills of employees, business partners, and members of the community |
| Building Institutional Capacity | Strengthening the industry associations, market intermediaries, universities, governments, civil society organizations, and grassroots groups who must all be able to play their roles effectively within the system |
| Helping to Optimize the “Rules of the Game” | Shaping the regulatory and policy frameworks and business norms that help determine how well the economic opportunity system works and the extent to which it is inclusive of the poor |

There is enormous variation in the roles companies can play, depending on their industries, their particular business models and relationships, and the contexts in which they operate. The industry reports in the Economic Opportunity Series explore this variation, offering more specific and detailed examples for different industry sectors. The research suggests, in general, that inclusive business models can be the most effective and sustainable ways companies can contribute. Complementary strategies such as developing human capital, building institutional capacity, and helping to optimize the “rules of the game” can also have significant impacts. These strategies are often used in combination with inclusive business models, to enhance both their commercial viability and their development impact.

The research that has gone into this series also suggests that company efforts to expand economic opportunity can draw upon core business, philanthropic, and public donor funding, depending on the balance of business and social benefits expected, the likely timeframe for their realization, and the level of uncertainty or risk involved. Hybrid approaches are increasingly common.

So is collaboration. Complex, systemic challenges like expanding economic opportunity present frustratingly frequent bottlenecks to unilateral action, corporate or otherwise. Even the best-resourced efforts eventually run into limitations on scale somewhere. Collaboration allows parties to share knowledge and information, pool scarce or diverse assets and resources, access new sources of innovation, create economies of scale, and enhance the legitimacy of the parties’ own individual activities. In addition to assembling the necessary resources and capabilities, collaboration can generate new capabilities and change operating environments in ways that create new strategic opportunities.

The Economic Opportunity Series is part of a growing effort within the business and development communities to make the links between business activity and poverty alleviation. Experimentation and learning are happening fast. As a result, the series must be considered a work-in-progress, and readers are invited to share their experience and reflections with us. We look forward to being part of the dynamic growth and development occurring in this field.

1 ■ Introduction

Utilities firms play integral roles in creating wealth in both the developed and developing worlds. Water and sanitation, for instance, are fundamental to human sustenance, health, and dignity, and by extension to economic opportunity. Affordable and reliable energy is integral to household productivity and the development of most industries, from agriculture to finance to health care to communications.

Critical gaps in water, sanitation, and energy services exist in developing countries, particularly among the poor – whether in rural villages or urban slums. Worldwide, at least 1.2 billion people lack access to clean water,² 2.6 billion lack access to basic sanitation services,³ and 1.6 billion lack access to electricity.⁴

While the utilities sector, construed broadly, can include engineering, infrastructure, natural gas distribution, and even telecommunications, this report focuses on water, sanitation, and electricity. Within these sectors, the report focuses primarily on multinational corporations. It is nevertheless important to keep in mind the integral and often predominant roles that local, often publicly-owned utilities play in their home countries. These local firms can offer innovations and best practices of increasing relevance to the industry as it seeks to include the poor as consumers, suppliers, and distributors.

It is also important to keep in mind that the poor have demonstrated their willingness to pay for water, sanitation, and electricity services. Indeed, according to the United Nations Development Programme (UNDP), the urban poor often pay five to 10 times more for bottled or trucked-in water than their wealthier neighbors pay for water piped into their own homes.⁵ In Jakarta, Nairobi, and other developing world cities, poor consumers pay not only more than their wealthier neighbors but also more than residents of London and New York.⁶

2 ■ The Role of the Utilities Sector in Expanding Economic Opportunity

This report rests on the premise that companies' most significant contributions to expanding economic opportunity come from their core, profit-making business activities along with the multiplier effects they engender. This is clearly the case in the utilities sector, where providing safe, affordable water, sanitation, and electricity is not only firms' core competence but also quite probably the most valuable thing they can do to enable human and economic development.

- **Human development benefits.** Water, sanitation, and electricity underpin individuals' abilities to develop their own talents and capabilities through strong links with education. In many low-income communities, children must forego school to travel long distances to fetch water, or because contaminated water has affected their health. The United Nations estimates that the world's children lose 443 million school days per year as a result of water-borne illness.⁷ Sick children who attend anyway underperform on cognitive tests.⁸ Lack of electricity can also fuel these problems. Solid fuels, such as wood, dung, and coal, can cause indoor air pollution and lead to respiratory disease. According to the World Health Organization, this kills one person every 20 seconds, accounting for nearly 3% of the global disease burden.⁹ And students without electricity have difficulty studying in the evening, further disadvantaging them in their educational pursuits. These dynamics constrain economic choices and greatly contribute to adult poverty.¹⁰
- **Economic development benefits.** For the poor, the return on investment in water, sanitation, and electricity is high. In water and sanitation, for example, UNDP has measured \$8 in costs averted and productivity gained for every \$1 spent.¹¹ Averted costs come in two forms. First, there are direct cost savings in the form of lower prices. Without access to conventional utilities, the poor often access water via standpipes, water trucks, or surface water sources. They meet their energy needs via batteries, kerosene, liquid petroleum, candles, firewood, and other biomass. For both water and energy, these methods are often more costly in financial terms – above and beyond the potential human development costs – than conventional methods would be if they were available. As we have seen, slum dwellers can pay five to 10 times more per liter of water than their wealthier neighbors. They may be able to access limited electricity for free, via unauthorized taps, but they may also resort to very expensive methods, such as recharging batteries. This is particularly true in off-grid rural areas. Second, convenient and affordable utilities offer opportunity cost savings, eliminating the need to fetch water, charge batteries, or search for alternative household fuels; the need to miss work as a result of illness; and the need to spend money on medical treatment. Productivity gains can come from improved health and education and, in the case of electricity, making it possible to use machinery rather than manual labor.

In the developing world, the human and economic development benefits of utilities are limited by a number of factors. These vary with context, but often include:

- **Political sensitivity around private provision, particularly of water.** Access to clean water has emerged as a major development challenge, and the UN has gone so far as to recognize it as a human right.¹² When it comes

to fulfilling the right to water, however, the development community is divided. For many, to profit from providing access to water seems inherently wrong. These stakeholders often prefer that water be provided free or at low cost by governments. Others, in contrast, point out that ignoring the real-life economics of water provision is unlikely to improve access for the poor. These stakeholders are not necessarily opposed to private sector provision or to reasonable levels of profit in the process, but they do have strong demands around equitable access, quality, and affordability.

- **Inadequate physical infrastructure.** Inadequate infrastructure has hampered private firms in bringing the poor into formal utilities systems. There are substantial fixed costs associated with digging and laying water and sanitation pipes, putting up electric poles and wires, purchasing trucks to carry off solid wastes, and so on. In some instances, prices before privatization have been artificially low, unrelated to the costs of operating or maintaining infrastructure. Where firms have been unable for political or other reasons to change these low inherited price points, they have been hindered in reaching profitability with respect to existing customers, much less extending their systems to serve the poor.
- **Informality.** The poor often live and work in the informal sector, lacking legal ownership of land, homes, and businesses. Some one billion people worldwide live in informal settlements in urban areas alone.¹³ Firms have little incentive to make the large capital investments required to extend infrastructure into such settlements, which could be cleared at any moment. In addition, the basic systems that enable firms to charge fees in exchange for services do not exist. For instance, slum dwellers and rural villagers may lack recognized addresses and be un-served by mail services.

3 ■ The Business Case for Engagement

What incentives exist for utilities firms to engage in expanding economic opportunity in developing countries? These firms often contract with local governments in concession agreements to provide services in cities. They must often contend with imperfect information, legacy tariff structures, and crumbling, over-burdened infrastructure. It can be a challenge to achieve and maintain profitability. Nevertheless, utilities firms operating in developing countries – or seeking to operate there – cannot afford to ignore the access gaps and conditions of poverty that exist.

3.1 Managing Cost and Risk

A lack of economic opportunity in the external environment creates cost and risk for utilities firms.

3.1.1 The Cost of Unauthorized Access

Today, water and electrical systems in urban areas suffer large-scale losses as those who are unconnected or cannot afford service essentially steal it – tapping into water mains or electricity wires. This practice not only imposes enormous opportunity cost on utilities firms in terms of lost revenues, but also degrades the quality of service available for paying customers. Unauthorized water taps can introduce contaminants into the system and reduce water pressure. In the case of electricity, unauthorized taps cause “brown outs.”

3.1.2 Reputation Risk

Because their services are accessible mostly to the relatively wealthy, utilities operating in environments characterized by poverty and inequality run the risk of perceived discrimination. Governments have primary responsibility for structuring utility concessions in ways that include or exclude the poor. However, firms are often considered responsible in the public eye. There is now a reasonably long history of activism by grassroots groups, advocacy organizations, and the media against companies and industries whose business practices are deemed unfair. These campaigns are no longer limited to instances of negative impact. Failure to create positive impact, in line with the expectations of society, can also subject firms to attack.

Utilities firms have found themselves in the crosshairs of such attacks in cities across the developing world. In perhaps the most infamous example, in January 2000, Bechtel faced demonstrations by thousands of employees, street vendors, unemployed mine workers, and students protesting rate hikes in Cochabamba, Bolivia. When the protests turned violent, more than 100 were left dead.¹⁴ In Dar es Salaam, protests were calm, but nevertheless led the Tanzanian government to cancel water utility Biwater's concession only two years after it was launched.¹⁵

Where utilities have been privatized, concessionaires often inherit crumbling infrastructure, staggering debt, and bloated, inadequately trained workforces. But addressing these problems through higher tariffs for customers – a natural way to address budget shortfalls, especially in areas where prices have been set by political rather than economic considerations in the past – can cast suspicion on a firm, calling its business ethics into question and raising charges of exploitation. In practice, it does not matter whether tariff rates were unsustainably low in the past or whether economies of scale give the company a natural monopoly: when fees are increased after privatization, political tension can be expected to ensue. Special sensitivity around water as a human right has created particular problems for water and sanitation companies, though electricity companies have been challenged as well.¹⁶ As infrastructure and services in developing world cities struggle to keep up with exploding populations, such challenges will surely continue.

3.1.3 Political and Regulatory Risk

Civil society challenges can often trigger governmental challenges, in the form of public inquiry, heightened regulatory requirements, and non-renewal or even withdrawal of concession agreements. In the water sector, concessions have been withdrawn in places like Buenos Aires, Cochabamba, Dar es Salaam, Manila, and La Paz. Some legislatures, for example in Uruguay and the Netherlands, have banned water privatization outright. The World Bank has ceased to require utility privatization as a condition for loan disbursement to poor countries seeking financial investment.

3.2 Harnessing Opportunity

For the utilities sector, expanding economic opportunity is about more than avoiding cost and risk. Utilities firms have the potential to create new and expanding markets among low-income customers and to use such customers' unique requirements as drivers of innovation.

3.2.1 New and Expanding Markets

The scale of unmet need for water, sanitation, and electricity is enormous. Need is not necessarily a measure of market opportunity, of course, but in urban areas especially, a confluence of factors suggests strong potential for growth. First, most forecasted population growth will take place in the new mega-cities of the developing world. The UN estimates that the urban population in these countries will double by 2030; in Asia alone, there are likely to be 903 cities with populations over 1 million.¹⁷ Second, the urban poor tend to spend much more on water than their rural counterparts, who can rely more easily on surface water and wells.¹⁸ Third, population density reduces the cost of providing service to large numbers of people through traditional, grid-based systems. Finally, it is worth reiterating that the poor have shown their willingness to pay for utilities. Based on household surveys in 30 developing countries, the World Resources Institute and International Finance Corporation (IFC) have estimated the market for water among those at the “base of the economic pyramid” to be \$20 billion, and the market for energy to be \$433 billion.¹⁹

BOX 1 UNMET NEEDS FOR WATER, SANITATION, AND ENERGY

- **At least 1.2 billion people worldwide lack access to water²⁰**
- **At least 2.6 billion lack access to basic sanitation services²¹**
- **At least 1.6 billion lack access to energy²²**

3.2.2 Innovation

Especially in rural areas, where infrastructure is minimal and cost-prohibitive to build, innovative dispersed or “off-grid” water and energy solutions are emerging. In water, these include new technologies for desalination, disinfection, and filtering.²³ In energy, these include small, low-voltage micro-networks supplied by diesel generators; household solar energy systems; photovoltaic generators; small wind turbines; hydrogen fuel cells; and biomass generators.²⁴ Business model innovations are also emerging – such as hybrid public-private funding models that bring in investors requiring different types and levels of return at different stages, and community partnerships that leverage social networks and institutions to administer utilities systems.

BOX 2 BUSINESS MODEL INNOVATION FOR RURAL ELECTRIFICATION IN BRAZIL

Fabio Rosa first identified a strong desire for affordable electricity among poor rural Brazilians during his tenure as agriculture secretary in Rio Grande do Sul state in the early 1980s. He founded a for-profit corporation, Agroelectric System of Appropriate Technology (STA), to address this demand.

In its market research, STA found that nearly 70% of families interviewed paid approximately \$11 per month for traditional energy sources.²⁵ Confident that he could provide reliable energy for a comparable price, Rosa began work with McKinsey and Ashoka to analyze risk and competition and to develop a market plan. The resulting project, called The Sun Shines for All, consisted of a photovoltaic solar home system that could be rented for \$10 per month plus an initial installation fee. By renting instead of buying, customers save the 50% sales tax that would be required if they purchased the systems.

4 ■ Business Strategies for Expanding Economic Opportunity

For utilities companies operating in developing countries, the creation and utilization of innovative models seems particularly important considering the expense of increased infrastructure investment, the politicization of utilities themselves, the corruption that surrounds old, public utilities firms, and the poverty of the communities they need to reach. Working with community groups or cooperatives to install water infrastructure, partnering with microfinance institutions to help the poor purchase home solar energy systems, and utilizing donor funding to leverage company investment in untested projects are just a few of the non-traditional ways in which companies have demonstrated their flexibility to meet the needs of the developing world's underserved communities.

Four strategies utilities firms are using to expand economic opportunity in developing countries are described below: creating inclusive business models, developing human capital, building institutional capacity, and helping to optimize the “rules of the game.” Of these four, inclusive business models may prove most important for the sector, as financially self-sustaining approaches will be required to meet the scale of unmet need. While each of the four strategies can be undertaken individually, most of the initiatives represented in this report use two or more strategies in combination to ensure their success.

4.1 Creating Inclusive Business Models

As defined in the United Nations Development Programme's forthcoming *Growing Inclusive Markets* report, inclusive business models include the poor – whether as employees, entrepreneurs, suppliers, distributors, retailers, customers, or sources of innovation – and are or have the potential to become financially viable.²⁶

In the utilities sector, inclusive business models have involved the poor as customers, employees, contractors, and distributors. Some interesting themes include:

Involving local citizens and community organizations in administration has helped several water and electricity companies serve low-income customers affordably and profitably and enhance their legitimacy in the eyes of the public.

- Manila Water has installed “mother meters,” in addition to individual meters, in low-income neighborhoods in metro Manila. The company bills entire neighborhoods collectively, based on mother meter readings, and community organizations are responsible for collecting the individual payments of each household. This collections structure has helped reduce the volume of “non-payment water” in Manila Water's concession area.

- COELBA, the private electricity provider in Salvador, Brazil, worked with a local non-governmental organization (NGO) to establish and operate an intermediary organization tasked with recruiting, selecting, employing, and supervising local COELBA Community Agents. These agents bill customers, investigate potential grid extensions, and report electricity theft. Self-policing has proven to be a powerful tool in preventing theft, thereby increasing the quality of service provided to customers.
- In Argentina, Brazil, and other countries, Suez's Water for All program required neighborhood associations to petition for and help construct water infrastructure. This approach has motivated government officials to respond, reduced construction costs for Suez, and ensured that local communities understand and want water service in their homes.

Innovative payment schemes have helped energy companies tap into poor customers' considerable willingness to pay despite the low and variable income flows available to them.

- In Sri Lanka, Shell Solar works with Sarvodaya Economic Enterprise Development Services (SEEDS), a local microfinance institution, to provide low-income households and small businesses with access to financing for the purchase of self-contained solar electric systems.
- Many of South Africa's low-income citizens live without permanent addresses. In addition, in its initial attempts to reach out to these citizens, Eskom found they did not always understand the correlation between electricity usage and the cost of their monthly bills. In response, the company installed pre-payment meters in homes, which residents operate with pre-paid cards available in a wide range of convenient retail outlets.
- In Barranquilla, Colombia, the Spanish utility Agbar simplified monthly bills in a newly-privatized concession area in order ensure greater transparency to semi-literate customers. In addition, the company enabled weekly – and in some cases daily – bill payment to accommodate the limited cash reserves of the poor.

Empowering small- and medium-sized enterprises (SMEs) has enabled companies to reach low-income customers where distribution chains previously did not exist.

- EDF has worked to electrify the rural reaches of Mali and Morocco through household solar energy systems. The company created local companies to take responsibility for identification of new customers, billing, and maintenance, in effect creating new downstream value chains for its products.

4.2 Developing Human Capital

In the utilities sector, human capital development activities targeting customers, community-based enterprises, and SMEs in companies' value chains have contributed vitally to the success of their inclusive business models. For example, local entrepreneurs and SMEs initially often lack the technical expertise and management experience required to partner with large utilities companies. In EDF's work in Mali and Morocco, described above, the company has worked to train local talent to manage the new companies it has created, and eventually plans to transfer all shares in those companies back to locals. Similarly, in South Africa, Eskom has worked to enhance black-owned business competitiveness by holding financial management and other business trainings. Where community groups, rather than small businesses, are playing distribution and administration roles, companies have provided similar training to them as well. For instance, in Tanzania, ABB has trained residents

of the Ngarambe village in the operation and maintenance of their newly-acquired mini-grid, imparting both technical and management skills. Upon extending water infrastructure in low-income areas of La Paz, Bolivia, Suez trained new customers about the sensitivities of the system and how to maintain it.

Utilities firms have also contributed to overall human capital development by offering community education programs on subjects such as hygiene and environmental preservation, as well as supporting basic education and public health systems. For example, in Morocco, Veolia Environment has teamed up with UNICEF and the French Committee for UNICEF to combat the causes of school drop-out, which include poor student health and inadequate sanitation infrastructure in schools. Backed by the Moroccan government, the team provides hygiene and health education for families, students, and teachers. The team also works to improve sanitation in schools, deficiencies in which often lead girls especially to stay home.

4.3 Building Institutional Capacity

Strong institutional capacity among governments, civil society organizations, and community groups is important in the utilities sector, where partnership with government is often a regulatory requirement and community mobilization is such a key factor in making inclusive business models work.

- Through the E8, an international NGO organized and supported by eight leading companies, the electricity industry has conducted workshops with developing country governments and international development organizations on topics such as the Clean Development Mechanism (CDM) and Power Sector Development. For example, working with the UN Department of Economic and Social Affairs (DESA), the E8 has conducted sessions aiming to enable developing countries to participate effectively in the CDM and meet their individual sustainable development goals. E8 also engages in projects that build institutional capacity directly within local developing country electric utilities.
- Water and Sanitation for the Urban Poor (WSUP), founded by RWE Thames Water and others, assists local developing country service providers by helping to design systems and building consortia of stakeholders to engage in their implementation. After implementation, WSUP remains engaged with water and sanitation service providers to ensure that technical details and good management practices are followed, drawing on the expertise of RWE Thames and its other partners to provide needed assistance.

BOX 3 CH2M HILL: POST-AUTHORITARIAN REORGANIZATION IN UKRAINE

The dissolution of the Soviet Union left a void in the maintenance of infrastructure, as the various new countries struggled to reorganize their state enterprises. In the new political environment, many pre-existing regulations, tariff structures, and plans became irrelevant.

In this context, CH2M Hill worked with the US Agency for International Development (USAID) on a contract to help the Lyiv water authority maintain and improve its water system, monitor water usage and flow, and obtain a World Bank loan. The company also worked with eight municipalities to develop strategic plans for their respective water systems and to involve their constituencies in the process. As part of the project, CH2M Hill emphasized the importance of public participation with training on best practices and stakeholder engagement activities such as focus groups and media events. In addition, CH2M and its partners trained staff from water utilities on proper machine operation and maintenance, as well as computer modeling. Collectively, these efforts have contributed to building human and institutional capacity in a new operating environment, while reinforcing to local service providers the importance of including their communities in effective water governance.

4.4 Helping to Optimize the “Rules of the Game”

Utilities firms can influence regulatory and policy frameworks in ways that promote economic opportunity by engaging in policy dialogue with government representatives on such issues as tariff structure, concession arrangements that serve poor areas, land tenure laws, and more.

- Severn Trent Water, the World Bank, and the British, Swedish, and Finnish governments collaborated to address declining water and wastewater service quality in the Russian Federation, helping the government to consider issues of ownership, regulation, and private sector participation in the delivery of water and wastewater services.
- Electricity companies, individually and through industry groups, provide input to the United Nations Commission for Sustainable Development (UNCSD) through the Business Action for Energy alliance. As part of this alliance, companies speak with a common voice on the private sector’s role in expanding access to services in the developing world.
- In South Africa, Eskom created procurement policies that scored all of its contractors on their performance empowering black employees and shareholders in accordance with the government’s black economic empowerment agenda. As a first-mover in this regard, Eskom helped shape the legal framework in which other South African companies now operate.

5 ■ Future Opportunities

Opposition to privatization has brought the private sector's role in water, sanitation, and electricity provision into question, adding sensitivity around companies' work with low-income communities in particular. In the research undertaken for this report, several themes emerged as key considerations for companies in expanding economic opportunity in developing countries:

1 Engage in integrated approaches. As a result of the difficult, often controversial nature of managing utilities as well as the sheer scale of demand, integrated approaches combining two or more of the strategies described in this report – creating inclusive business models, developing human capital, building institutional capacity, and helping to optimize the “rules of the game” – seem to have the greatest potential for financial viability and development impact. Utilities have particular needs to work simultaneously at the local community and government policy levels.

2 Collaborate. Collaboration is key for utilities for both operational and political reasons. On the operational side, the initiatives represented in this paper go beyond securing concessions from governments or philanthropically supporting community causes. They all represent collaborative approaches to doing business with low-income customers and local business partners. For instance, local SMEs and community-based organizations are charged with core business functions such as customer identification, billing, collection, and maintenance. International agencies can provide networking and financial assistance. Whereas inclusive business models in other industries have succeeded on the basis of fairly narrow partnerships, for example between a company and a microfinance institution, in the utilities sector collaborations tend to involve broader ranges of stakeholders, including governments, international agencies, NGOs, community groups, and low-income individuals, sometimes all at once. The levels of trust- and relationship-building required raise questions about replicability and scale: are there “efficient” ways of doing these things? Are successful collaborations personality-driven or is collaboration a capability that can be institutionalized within organizations of all kinds?

On the political side, collaboration is critical beyond the need to secure concessions or rights-of-way from governments. Broad-based support, especially among low-income communities themselves, creates and preserves the “social contract” under which a company operates – an important requirement in a sector in which human rights and access issues play so prominently in public debate. Transparency can help generate such support. For example, public opinion polls in Peru found that support for electricity privatization increased by nearly 40% when it was made clear that the deal would be transparent and tariff increases would be subject to regulation.²⁷ As the World Economic Forum has stated, “Direct involvement of civil society organizations as substantive partners in public-private partnership contracts can play a part in reducing political risks – the commercial and reputational consequences of politically-inspired events for private companies.”²⁸

A 2007 Gallup-NOI poll in Nigeria found that the number one demand of citizens to their governments was job creation (27%), followed by improving access to water (17%) and electricity (14%).²⁹ These findings broadly align with the priorities of the poor as expressed in studies such as the World Bank's *Voices of the Poor* and the World Resources Institute and International Finance Corporation's *The Next Four Billion*.³⁰ To meet these priorities, private sector utilities, together with governments and low-income citizens themselves, must play a leadership role.

6 ■ Case Profiles

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6.1 MANILA WATER

Background

Before privatization, piped water reached only about 60% of households in metro Manila in the Philippines. In addition, Metropolitan Waterworks and Sanitation System (MWSS), the public water utility, had the highest rate of “non-revenue water” among major Asian cities, losing approximately two thirds to leaks and unauthorized connections. The high incidence of non-revenue water contributed to quality problems for formal customers, including intermittent service and low water pressure.³¹

Manila Water Company, Inc. (Manila Water) won the concession to administer water and wastewater services to the eastern half of Manila in 1997 in one of the largest water utility privatizations ever undertaken. Manila Water is part of one of the Philippines’ largest companies, the Ayala Corporation, and was founded in 1995 in partnership with United Utilities, the largest private operator of water and wastewater systems in the United Kingdom, with further investment from Mitsubishi and Bechtel. The company implemented its takeover in the face of serious debt and efficiency issues at the former public utility.³²

Drivers

A number of drivers led Manila Water to address water provision to the city’s poor:

- Reduction of non-revenue water rate with its attendant costs and quality implications
- Compliance with the concession contract’s near-universal service requirement
- New customer acquisition and associated revenue growth

The poor in Manila represented nearly 40% of the population, and they had a demonstrated ability to pay for water services: those without access (legal or illegal) to the Manila Water system were paying as much as seven times more for low-quality, informally-provided water than their wealthier neighbors paid for higher-quality, formal service.³³

Activities

To address the gap in the Manila water market, Manila Water developed a flagship program, *Tubig Para sa Barangay* (TPSB), or Water for the Community, which aimed to provide low-income communities with quality water service at affordable rates. As part of this program, the company either identified pre-existing or helped organize new local resident cooperatives that collectively took responsibility for community water connection and metering schemes. Each community organization elected a leader, who became an employee of the city government. With the community organization and leadership in place, Manila Water typically installed a “mother meter” for the whole community and individual sub-meters serving four or five households each. The community as a whole was then held accountable for paying the gross water consumption read from the mother meter and each family settled its own bill with the community representative according to the sub-meters. The program reduced illegal connections while lowering maintenance costs and providing clean water at a lower cost than the new customers had previously paid.³⁴

The success of the TPSB program moved Manila Water to engage in poor communities in other ways. The company developed *Kabukayan Para sa Barangay*, or Livelihood for the Community Program (KPSB), with the Bank of the Philippine Islands to offer microfinance loans to low-income entrepreneurs. Since 2005, the company has modified the program to specifically target the development of its own supply chain. Its first major partnership was forged with a pipe re-threading cooperative that supplied meter protectors and other small piping components directly to Manila Water. A second partnership with a printing cooperative is under development. In total, KPSB has provided small loans to more than 350 low-income families for start-up businesses.³⁵

In addition to offering high-quality water service to low-income customers, Manila Water has sought to expand economic opportunity for its own employees, working to build the technical and management capacity they need to advance within the company. For instance, Filipino managers took part in an exchange program with United Utilities in the United Kingdom, where they received training. The company also established a “cadet” program for junior employees, designed to promote skills development for aspiring managers.³⁶ In Manila Water’s early days, United Utilities assigned experienced engineers and managers from the UK to provide technical assistance. By 2003, there remained only two expatriates on staff, who serve today as Group Directors within the company.³⁷

Results

Manila Water's customer base had doubled to 741,000 households by 2006; 170,000 of those were connected as a result of the TPSB program.³⁸ Manila Water also now works with three cooperatives as part of the KPSB program, which financially benefits approximately 650 families while reinforcing a local supply chain.

Non-revenue water has dramatically decreased, from 63% to 36%. The ratio of employees to service connections, a measure of operating efficiency, has also decreased.³⁹ And there has been a veritable revolution in reported customer satisfaction and water quality: in 2006, 96% rated service as "good" or "very good," up from a mere 3% in 2001.⁴⁰

Manila Water's primary ongoing challenge in expanding economic opportunity for residents and employees relates to the tariff structure stipulated in its concession agreement. On one hand, this structure prevents the company from optimizing its business model for serving the poor. Government-required block tariffs designed to benefit the poor have, in practice, proven to penalize them, since many are serviced through communal connections. With multiple homes connected to a single meter, total consumption per meter is high. Because the tariff structure stipulates a higher rate for meters consuming higher amounts, each household ends up paying more than it would have with an individually-metered connection. At the same time, the disconnect between dictated price points and the company's need to earn a profit from operations means Manila Water must look for other sources of revenue and growth.

6.2 ESKOM

Background

In post-apartheid South Africa, the government has encouraged corporate adoption of Black Economic Empowerment (BEE) policies focused on blacks and other minorities. The South African electricity provider, Eskom, has served as a leader in its work to empower black-owned and -managed businesses within its supply chain, making BEE a key component of its business operations.

The 1994 Reconstruction and Development Program (RDP) instituted by the new, black-led South African government outlines national development priorities, emphasizing the importance of economic growth to the creation of a more politically and economically equitable state. More specifically, the government committed to focus on capital investment to spur development. A larger, more sophisticated power grid capable of lighting the country's poorer and more rural areas became a key aspect of this investment plan. At the same time, the RDP recognized the need to encourage growth and integration of private sector enterprises owned and managed by previously disadvantaged groups in order for the economy to grow.

Drivers

The South African socio-economic landscape changed dramatically in the early 1990s as black citizens gained full legal equality and an opportunity to reach equal economic status as well. While the RDP was not binding on Eskom, these dramatic societal changes necessitated a matching shift in business strategy.

Activities

In 1994, Eskom established a formal BEE policy that culminated in the creation of a Small Medium and Micro Enterprise (SMME) Development Section. Eskom tasked this Section with developing a system by which such enterprises could effectively participate in the tendering process. After a year of research and stakeholder dialogue, the Section circulated its first major working directive, which required that all sections and services of the company reach 25% procurement from SMMEs within one year and at least 50% each year thereafter.⁴¹

Eskom regularly sources goods and services such as legal and management consulting, graphic design, coal, food products, engineering works and electrical contracting. The company transparently advertised all of its tenders. But in the years immediately following apartheid, there existed few BEE enterprises able to meet Eskom quality standards; to address a lack of experience and skill among black entrepreneurs, the company set out specific procedures and processes as outlined in Table 1. Because traditional financial institutions find new suppliers risky investments, to facilitate their access to finance, Eskom has also found it helpful to undertake long-term contracts with its BEE suppliers.⁴²

TABLE 1. ESKOM RESPONSES TO CHALLENGES FACING BEE ENTERPRISES

| BEE and SMME Challenges | Eskom's Response |
|---|--|
| Securing financial capital | <ul style="list-style-type: none"> Reducing lag time in payment of invoices from industry norm of 120 days to 30 days Assistance in securing capital |
| Small scale | <ul style="list-style-type: none"> Breaking up of traditionally large contracts into smaller parts Set aside of contracts for bidding only by BEEs Price matching. In instances where white-owned enterprise has provided the lowest price, Eskom reserves the right to offer contract to BEE if it is able to meet this lowest price |
| Confusion over Eskom standards and requirements | <ul style="list-style-type: none"> Establishment of Tender Assistance Centers, which offer technical assistance including information on procurement mechanisms, standard terms and conditions, price schedules, invoicing and payment processes, and delivery, lead time and delivery rate schedules |
| Lack of business experience | <ul style="list-style-type: none"> Eskom's Tender Assistance Centers also offer training in subjects such as financial arrangements, negotiations to obtain competitive prices from raw materials suppliers, sharing resources, marketing, managing working capital, factory layout and production planning, procurement, productivity improvement, and cost accounting |

Source: Sutton, Christopher N. Forthcoming. "Eskom's Preferential Procurement Policies." In United Nations Global Compact. Forthcoming. *Embedding Human Rights in Business*, Vol. 2. New York: United Nations Global Compact.

In later restructuring of the company, line management took control of preferential procurement; because this effort took division resources away from their core duties, the restructuring effectively de-emphasized the development focus of the program.

However, the new structure offset this shift in emphasis by bringing Eskom's largest subcontractors, which had previously escaped notice from the SMME Development Section, into the limelight. Eskom began evaluating its largest suppliers – including those based overseas – according to their black empowerment policies.⁴³

In 1996, the government introduced its 10 Point Plan, spelling out a comprehensive points-based system by which companies could implement BEE policies in their supply chains. Instead of adopting the non-binding government plan, Eskom's Board of Directors called for a simplification of the system. Eskom's points-based system measures suppliers in terms of black ownership, black management, skilled black personnel, procurement from other BEE suppliers, black female managers, disabled black employees, and other attributes Eskom regards as significant. In order to qualify as a BEE supplier, a company must score at least one point each on black ownership, black management, skilled black personnel, procurement from other BEE suppliers, and black female management.⁴⁴

Results

Eskom continues to grow its reliance on BEE suppliers. In 2006, the company purchased goods and services worth approximately 11.4 billion rand from BEEs, ten-fold increase from 1998. Overall, the company has exceeded its BEE projections by more than 30%. Its supplier database registers approximately 14,000 black-owned and -controlled companies, and at any given time utilizes approximately 30% of these potential contractors.⁴⁵ In 2006-2007, the company projects that approximately 67% of its discretionary expenditures will go to BEE suppliers.

Eskom's policies have helped previously disadvantaged individuals and communities to participate in the mainstream economy and to acquire necessary business and technical skills. In so doing, the company helps them to realize core economic, social and cultural human rights.

Eskom is also proud of the impact its policies have had on its business partners – helping to change the ownership and management of large foreign companies. Demonstrating the impact that a corporate customer can have on its partners, some of the world's largest companies have been motivated to sell parts of their South African operations' equity to BEE firms in order to remain Eskom suppliers.⁴⁶

Eskom believes its BEE success owes to the leadership and support of company executives and its Board of Directors, as well as its increasingly well-articulated objectives and mission. Another key success factor has been the company's strong focus on supplier development, enabling emerging suppliers to ensure their own sustainability.

Challenges

Eskom continues to face challenges. The company has had to come to grips with "fronting," in which contracting companies misrepresent themselves to Eskom in order to win points in their bids for contracts. Eskom has attempted to blacklist fronting companies, but these companies often emerge as other enterprises under different names. Because the company has limited resources to audit each company competing for a contract, it has come to rely on targeted investigation and self-policing by competing contractors.⁴⁷

Eskom leadership has highlighted another challenge that continues to confront the company: a lack of skills among many BEE suppliers, especially when it comes to the most technical services. A high percentage of Eskom's spending is on these types of services.⁴⁸

Finally, new government policies that seek to streamline private sector implementation of BEE policies differ from Eskom's commitment to supplier development initiatives. The South African government's move toward broad-based BEE Codes of Good Practice allows companies without black ownership to receive preference, which, if implemented at Eskom, could compromise the company's commitment to developing black-owned businesses and lead to a redirection of support to other suppliers.⁴⁹

6.3 ELECTRICITÉ DE FRANCE

Background

Only 10% of Mali's 12 million inhabitants have access to electricity in their homes; in rural areas only 2% have such access.⁵⁰ Households in these areas use car batteries, kerosene lamps, and candles to light their homes and operate appliances, which often proves expensive per kilowatt and in terms of time spent recharging batteries.

In this context, with input from the World Bank, the Malian government promulgated a Poverty Reduction Strategy Paper outlining key areas requiring attention in order to enhance economic growth. The government concluded that electricity – for its role in household electrification as well as in water procurement through wells – should be prioritized. Energy of Mali (EDM) is the traditional provider of water and electricity in Mali, and was the only one until Electricité de France entered the market.⁵¹

In 1999, Electricité de France (EDF) partnered with Dutch energy company NUON and French energy company TOTAL to form Mali's first Rural Energy Services Company (RESCO), called Koraye Kurumba, with support from the French Agency for the Environment and Energy Efficiency. At the request of a group of Malian immigrants living in Paris, the joint RESCO sought to provide energy to clients in Western Mali.⁵²

In 2001, EDF and NUON formed a second RESCO called Yeelen Kura. This RESCO sought to provide low-cost electricity to two rural regions through solar home systems or small, low-voltage village micro-networks supplied by diesel generators. Backed by a new institutional framework created by the Malian government with the help of the World Bank, the partners hope to scale this RESCO model from the 2,000 households it currently serves to reach a total of 10,000 rural village households, or approximately 150,000 people.⁵³

Drivers

As part of the company's sustainable development commitment, EDF developed its Energy Access program, aiming to "help provide energy to developing countries' populations."⁵⁴ Improving rural and peri-urban development, reducing negative impact on the environment, and using and promoting renewable energy technologies are all components of this program.⁵⁵

Activities

In the mid-1990s, EDF began exploring ways to help electrify Mali's rural areas sustainably and profitably. The company implemented socio-economic, technical, and environmental feasibility studies on rural electrification in Mali with NUON and TOTAL in 1996-1997.⁵⁶

Business Model

In the RESCO model, EDF and its partners develop plans to install and manage local electricity generating systems. These systems are expected to operate on a commercial basis and be run by local employees. RESCOs are also designed to have strong links with their communities. Each one is an independent Malian company with Malian managers; EDF and others provide intense technical assistance and training, development of appropriate equipment, and management support.⁵⁷ EDF's goal is eventually to transfer all shares to trained Malian managers.⁵⁸

The Malian government granted a license for private provision of electricity and for the RESCO model specifically in the late 1990s. The Malian Agency for the Development of Household Energy and Rural Electrification (AMADER), with support from the World Bank, the German Reconstruction Credit Institute (KfW), and the African Development Bank, has worked to develop a supportive legal, regulatory, and fiscal environment for rural electrification by private operators and arbitration of potential conflicts between operators and local communities.⁵⁹

Malian immigrants in Paris contributed start-up costs for the original RESCO, Koraye Kurumba. Because of the difficulty of coordinating payment between the France-based immigrants and the beneficiaries in Mali, Koraye Kurumba now charges a tariff to customers. This has resulted in a higher payment rate for services than the original system.⁶⁰

EDF and NUON provided most of the initial financing for Yeelen Kura, though the Dutch government covered 30% of start-up costs.⁶¹ Initial feasibility studies showed that this donor subsidy would be essential to the viability of the project, by enabling the RESCOs to charge lower, more affordable rates.⁶²

Customers travel to their respective company offices to pay fees on a payment frequency that suits them. Customers usually pay once a month, but Yeelen Kura allows some flexibility for farmers, whose resources come in bulk amounts during specific times of year, by providing annual payment options.⁶³

RESCO sets their own tariff rates and are computed to make service as affordable as possible, while ensuring that the company can cover its operating costs. Two major factors help keep tariff rates down: first, fixed monthly rates do not require the installation and monitoring of individual meters, and second, since customers' electricity needs are relatively modest, so are the installations themselves. New investments by the Malian government are expected to allow the RESCOs to offer even lower rates, thus opening access to electricity to even poorer people.⁶⁴

Products and Services

Koraye Kurumba provides a wide range of services, from street lighting to household lamps. Approximately 90% of electricity is provided through small, low-voltage micro-networks supplied by diesel generators, and the remaining 10% is provided through solar kits.⁶⁵

Yeelen Kura relies exclusively on solar kits. In this model, each dwelling is fitted with a solar home system comprising a solar panel, a battery, and a controller. The solar panel converts the sun's rays into electricity, which is then stored in a battery. The battery can be used night and day, and includes a socket for a television, a radio or a mobile phone charger. It is regulated by an electronic controller, storing enough power to last up to five days – which allows the equipment to run even in inclement weather.⁶⁶

In addition to introducing solar technology, Yeelen Kura has set up approximately 15 local energy stores. Each store employs at least one person responsible for installing, maintaining, and repairing solar home systems in their areas, as well as tracking accounts and collecting fees. Staff in the head office coordinate all of the company's overall operations.⁶⁷

Expansion

Originally, the RESCOs were not profitable; EDF had to work with the Malian government to develop the institutional framework to support operations and expansion. Donor funding was required to pay for generating systems, but it had been possible to increase tariffs enough to cover ongoing operations and maintenance costs.⁶⁸

In July, 2006, EDF began finalizing plans with the government to significantly expand the customer bases of Koraye Kurumba and Yeelen Kura. The larger companies are expected to serve 80-90% of the villages in which they operate. AMADER will finance up to 70% of the initial investment in installing solar home systems, which will enable the RESCOs to reach profit margins between 12-15% while maintaining low tariff rates for customers. With the planned expansion, EDF projects that the RESCOs will achieve profitability by 2008.⁶⁹

Results

Yeelen Kura has connected 1,700 households, for a total of about 30,000 rural people (in Mali, a typical rural household consists of 15-20 people). Koraya Kura has connected 510 households, or approximately 10,200 people.⁷⁰ Partly as a result of the RESCOs' experiences, a new legal framework has been developed, enabling private operators to provide electricity through either concessions or spontaneous candidacy. With World Bank support, Mali has developed regulatory mechanisms and financing schemes for RESCOs, which subsidize investment costs but require minimum levels of investment by the companies themselves. In 2006, the government signed agreements with over 50 small providers, thus enabling additional private energy provision at the village level.⁷¹ These have created business opportunities for small firms and employment opportunities for their staffs, as well as expanded access to electricity among citizens.

The two RESCOs have created approximately 55 jobs, a figure that could double as operations expand.⁷² In addition to these new jobs, new business opportunities have emerged in the energy value chain.

Key Lessons

The RESCOs' major challenges may be divided into six categories:

- *Accessibility for the poorest.* The poorest members of local communities cannot afford the tariff rates as they current exist.
- *Legal and regulatory issues.* Initially establishing the RESCOs required various government authorizations, requiring significant time and energy to go through bureaucratic proceedings. The Malian government, with assistance from the World Bank, has since created a more supportive institutional framework.⁷³
- *Technical and operational issues.* Because the two companies operate in areas characterized by low population density, transaction costs have been high.
- *Clients.* Clients often had high performance level expectations for their new electric systems, but little knowledge of the maintenance required. EDF trained customers on system installation, maintenance, and theft prevention.⁷⁴
- *Human capacity.* Rural Mali lacks experienced business managers. EDF thus had to embark on significant programs to train local RESCO managers and village leaders on the new electricity model, while also communicating to villagers the necessity of tariff charges.⁷⁵
- *Customer resources.* Because of economic difficulties in Mali, one of EDF's RESCOs had to reduce tariffs (and appeal to public subsidies to compensate) in order to attract customers. For both RESCOs, many customers install their own systems in order to save money, which has resulted in unsafe installations. The RESCOs now offer microfinance to spread the cost of professional installation over several months.⁷⁶

In addition to the creation of a new institutional framework for energy provision in Mali, there have been three major factors in the RESCOs' success. First, flexibility has allowed them to provide different services based on different customers' needs and preferences. Second, local ownership has encouraged local leaders and authorities to become involved, strengthening community relations.

Third, EDF has been willing to partner with a wide range of stakeholders, each of whom has contributed significantly to the RESCOs' success. In addition to the Malian government, the World Bank, and other donor agencies, the French Agency for the Environment and Energy Efficiency (ADEME) has played an important role with each RESCO by helping ensure that the businesses benefited the poor without undue harm to the environment. ADEME has also provided community orientations and trainings.⁷⁷

Once the RESCOs become sustainable, EDF plans to sell its shares to local Malian companies, thus recovering its investment costs and ensuring local ownership. In addition, EDF plans to reinvest earnings from the sales in similar projects in areas where it can build partnerships with local operators.⁷⁸

6.4 SUEZ ENVIRONMENT

Background

In the early 1990s, citizens' groups and political authorities condemned the quality of water services in Buenos Aires, which had deteriorated as the debt-ridden public utility became increasingly unable to maintain, upgrade, and expand infrastructure. Furthermore, lack of access by millions of low-income residents threatened public health and economic development: only 66% of the population had access to water; 53% had access to sanitation.⁷⁹ As a result of these deficiencies, Buenos Aires launched a public bid for water and sanitation service provision – thought to be the largest water concession in the world at that time. The city judged bids according to three metrics: restoration of quality service, expansion of service to all residents within the concession area, and protection of the environment.⁸⁰ Aguas Argentinas, a subsidiary of Suez Environment, won the bid and set up initial operations in 1993.

Suez is one of the oldest continuously operating multinational corporations in the world, tracing its history to the early 19th century. The company has operations in water and wastewater management, electricity, and natural gas supply. International water and wastewater services account for €1.6 billion of Suez's €11.4 billion in revenues.⁸¹

Drivers

As Kristian Breton, Chong-Lim Lee, and Melisa Lima explain in a book chapter on the subject, Aguas Argentinas had several business reasons for to devote time and energy to expanding service in low-income areas. These included:

- *Contractual obligation:* When Aguas Argentinas took the helm, regulated service was concentrated in Buenos Aires' affluent suburbs, leaving 22% the population (2,020,000 people) within the concession area unconnected to water, and 42% (3,820,000 people) unconnected to sewerage. The concession agreement stipulated a 30-year target connection rate of 100% of the population.⁸²
- *Corporate commitment:* Aguas Argentinas acknowledged the fundamental role of adequate water and sanitation services for social and economic development, and in addition to its contractual obligation to do so, felt an internal corporate commitment to universal service.⁸³
- *Community development as a business strategy:* Worldwide debate on water privatization led Aguas Argentinas to recognize the danger of alienating local community groups. Such perceptions could impact not only the company's public image, but also its cost of operations. Previous experience had shown that service delivery without community consultation can fail to bring beneficial or sustainable results; a company's approach to water provision must be integrated with local cultures, institutions, and systems in order to be successful. Aguas Argentinas also wished to demonstrate through such an approach that social responsibility and the profit motive are not mutually exclusive, an assumption underlying opposition to privatization of state services.⁸⁴

Activities

As a newcomer to Argentina, Aguas Argentinas recognized the need to better understand the needs and requirements of local communities. In 1994-1995, the company partnered with the International Institute for Environment and Development-Latin America (IIED), an NGO, to analyze the geographic distribution and social stratification of households by income level. This initial work proved instrumental to the company in developing a partnership model that was later used to expand access to water in low-income neighborhoods.⁸⁵

After its work with IIED, Aguas Argentinas defined its approach to low-income neighborhoods around a public-private participation model developed in conjunction with Argentine civil society. This model, called the Participatory Management Model (MPG), was embodied in nearly 40 projects that leveraged the resources of the company, the government, and citizen's groups to achieve full-scale expansion of water services in designated neighborhoods.

In order to initiate a new MPG, the community itself first had to request water service. 80% of a neighborhood had to agree in writing in order for an MPG project to proceed. The neighborhood had to organize itself, choose

representatives, and provide manpower to undertake water infrastructure installation when the work stage arrived, including laying pipe and making connections to local homes and businesses.⁸⁶

Next, the municipality had to commit itself contractually to the project. The municipal government had to distribute tools to neighborhood builders and provide heavy equipment services (such as digging trenches with backhoes) itself. The municipality was also responsible for distributing national government subsidies of 150 pesos per month to heads of household participating in the building projects.⁸⁷

In addition to standard water provision and network maintenance, Aguas Argentinas bore responsibility for technical and financial feasibility studies, providing certain building materials, and offering technical training to community members working on the project. Furthermore, the company committed to hold weekly stakeholder meetings to update residents, NGOs, and government authorities on progress and issues, and to listen to community concerns.⁸⁸

The roles of the various parties were institutionalized in a three-way agreement among the company, the community, and the municipality. The regulatory agency, whose role was to authorize and supervise the negotiation process and authorize the resulting partnership agreement, would then approve the project.⁸⁹

When the network was ready for use, households connected to their new access points and ensured that the plumbing inside their homes met minimum requirements. At that point, households were part of the formal water system, and began paying bi-monthly fees for their services.⁹⁰

Results

Suez estimates that 150,000 inhabitants from 60 under-served or slum communities connected to the formal water network through MPG projects between 2003 and 2005.⁹¹ In addition to providing access to affordable, safe water for drinking and other uses, the projects contributed to economic and social development through technical, health, and hygiene training; temporary direct employment during construction; and new businesses that were able to spring up in project areas. MPG projects were often the first interactions between low-income citizens and government officials, and they have led to greater sense of solidarity and accountability between these two groups.⁹²

For the company, benefits included higher bill collection rates; in low-income neighborhoods where the community has been involved in handing out and collecting bills, payment rates were actually higher than in wealthier neighborhoods.⁹³ These benefits point to the effectiveness of the company's collaborative model, and the related sense of ownership and pride on the part of residents.

Notably, the MPG model inspired President Kirchner to launch a large-scale water provision program for La Matanza, Buenos Aires's largest slum, home to 1.6 million people. Through this program, called Aguas Más Trabajo (Water and Work), the Argentine government created and funded local cooperatives that hired local staffs to coordinate with the local government and Aguas Argentinas on water provision. Aguas Argentinas established 500,000 connections to the formal water grid through Aguas más Trabajo.⁹⁴

The MPG program proved viable even in economic crisis. In fact, the December 2001 peso crisis required Aguas Argentinas to engage even more intensively in MPG projects, since they were less costly than traditional water projects. In addition, the image effects of the MPG program helped the company in its relationships during a very politically tense time.⁹⁵

Challenges

According to Breton, Lee, and Lima, the MPG model was not without its challenges. Some of the most significant included managing expectations, replication, informality, managing expectations, and expanding services to include sanitation in addition to water.

- *Informality.* In informal settlements, homes are built and existing homes sub-divided frequently, and outside legal channels. Keeping track of and adapting to these changes is critical to sustaining water quality and infrastructural integrity. In addition, traditional billing is difficult in neighborhoods without formal mail systems.⁹⁶

- *Managing expectations.* Significant power has been decentralized to the municipal government level in Argentina. These municipalities had problems prioritizing within growing workloads and citizen demands. As a result, they sometimes failed to respond to communities' requests to work with Aguas Argentinas, which resulted in anxiety and misunderstanding.⁹⁷
- *Replication.* Pilot projects were chosen according to strict criteria, such as strong community organizations, specific physical conditions, and favorable political environments. Replication on a large scale meant that adhering to such strict criteria would not be possible in every case; in different contexts, the standard MPG model could be less effective. New projects could require more customized approaches.⁹⁸
- *Sanitation.* Sanitation systems are difficult and expensive to design and install. Furthermore, while the existing water infrastructure had spare capacity to accommodate large numbers of new customers, the sanitation system was already at capacity when Aguas Argentinas won the concession contract.⁹⁹

Conclusion

In 13 years of activity, Aguas Argentinas extended drinking water services to 2 million previously unconnected inhabitants and sanitation to 1 million. But while the MPG model was successful, Aguas Argentinas faced significant challenges in its overall operations. For example, the company found that it needed to invest significantly more than originally estimated in order to meet its concession obligations. Its estimates had been formulated without the benefit of information about the capacity of existing infrastructure or the extent of repairs that might be needed. New information – as well as developments like the currency devaluation and high inflation – threw commercial viability into question at prevailing tariff rates. This became a contentious issue in negotiations with the Argentine government, which became increasingly sensitive with the politicization of water privatization at domestic and international levels. Ultimately, the company was unable to reach an agreement with the government, and the concession contract was terminated in March 2006.¹⁰⁰

6.5 SHELL SOLAR

Background

Shell is one of the largest energy companies in the world. The company's main business is exploration, production, processing, transportation, and marketing of hydrocarbons – oil and gas. Shell also has a significant petrochemicals business, Shell Chemicals, and a small renewable energy sector developing wind, hydrogen, and solar power opportunities. Shell Solar sits within this latter group of companies.¹⁰¹

Shell Group realizes that there is a wealth of applications for solar energy. It has identified three business areas where it will concentrate its efforts to develop commercial opportunities:¹⁰²

- Rural electrification,
- Grid-connected solar systems, and
- Powering remote industrial locations that require stand-alone energy supplies.

For those living in rural areas, solar home systems are sometimes the most satisfactory way to provide energy needs. Batteries are expensive to purchase and recharge, and other methods utilized to provide light and cook food – such as biomass and kerosene-based methods – are fire hazards and generally also produce carcinogenic by-products. Home solar systems enable households to move away from these problems. While solar energy is relatively expensive in the developed world, it is currently the safest and most economical option in many rural parts of the developing world.

Drivers

Shell's projections suggest that renewable energies could supply a significant proportion of the primary energy mix by 2050.¹⁰³ In this context, Shell invested \$1 billion in renewable energy from 1995 to 2005. The company has focused primarily on wind and solar photovoltaic (PV) technologies.¹⁰⁴

Approximately two million households in Sri Lanka lack access to the electricity grid. Shell Solar Lanka is targeting this market segment where potential customers can save money over the lifetime of a solar home system by moving away from the inconvenience and recurring cost of battery charging, kerosene lanterns, candles, and biomass alternatives.¹⁰⁵

Activities

The World Bank and the Global Environment Facility have given Shell Solar a grant subsidizing the cost of its solar panel systems, reducing the price for the customer to approximately \$500. The grant allowed the company to recruit and train staff, establish rural branches, and hold stock. This public funding helped offset initial losses, enabling a profit-oriented business to enter a relatively risky activity.¹⁰⁶

This subsidized price was still prohibitive to many Sri Lankan households, particularly in rural areas. To address this barrier, Shell developed a credit scheme in conjunction with local banks, including Sarvodaya Economic Enterprise Development Services (SEEDS), a microfinance institution, enabling customers to make initial deposits of approximately \$100 and subsequently pay \$10 per month over five years.¹⁰⁷

Results

The company successfully grew sales from 350 units in 1999 to more than 20,000 in 2003, while also creating over 450 jobs in its Shell Solar Center sales and maintenance shops throughout rural Sri Lanka. The project was a milestone as Shell's first distribution model that proved to be financially viable, reaching break-even in 2001.

Bringing all of the required parties together – including the Global Environment Facility, the World Bank, local government, and microfinance institutions – was a main challenge for the company. The lack of infrastructure in rural areas has also posed significant logistical barriers, as has the tenuous security situation in the country.¹⁰⁸

6.6 WATER & SANITATION FOR THE URBAN POOR

Background Water & Sanitation for the Urban Poor (WSUP) is a not-for-profit company that aims to address the lack of access to water and sanitation in urban and peri-urban areas around the world. The company was officially founded in 2005.¹⁰⁹

WSUP is an open partnership company that maintains a holistic approach to the provision of water and sanitation services, partnering with a variety of municipalities, NGOs, and corporate partners to develop transparent and effective solutions to a major development problem. WSUP's mandate requires that it "support local service providers around the world to deliver affordable and sustainable water and sanitation services to poor people in urban communities."¹¹⁰

WSUP works with both civil society organizations and corporations. Its civil society members seek to scale up access to urban water and sanitation, while helping to ensure that projects implemented are demand-driven and appropriate for local community contexts. Current civil society members include the World Wildlife Fund, Care International, WaterAid, and Water for People. WSUP's private sector members provide technical expertise and experience in formal water and sanitation services provision. Private sector members currently include Thames Water, Unilever, and Halcrow Group, a large engineering consultancy.

Drivers WSUP was founded in the wake of the 2002 Johannesburg Summit on Sustainable Development, during which participants emphasized the importance of collaborative partnerships across the private, public, and non-profit sectors. WSUP also came about at a time when large-scale water and sanitation privatization schemes began a backslide and several high-level water privatization schemes failed. While the donor community has since the early 2000s backed away from such privatization schemes, leaders at Thames Water recognized the need to combine private sector technical expertise with locally driven solutions that build and utilize community support and perspective in the solutions-development and administration processes.¹¹¹

Activities WSUP projects bring partners together with local communities and government agencies to assess the quality and reliability of local water and sanitation systems, and begin negotiations regarding ways to improve. WSUP's commitment to facilitate solutions by combining private sector expertise with local stakeholder perspectives from the outset sets its approach apart from other efforts to scale utility projects in low-income areas.¹¹²

WSUP projects proceed in three stages, including a needs assessment, solutions design, and implementation.

Stage 1: Identify the Need¹¹³

WSUP undertakes a needs assessment before further developing full-scale programs. First and foremost, local stakeholders must express clear interest and commitment. The project must have the potential to reach at least 70,000 users. It should be technically feasible and have the ability to attract donor funding, as well as strong prospects for financial self-sustainability in the operational stages. Furthermore, land tenure – often a stumbling block for water provision projects – must be manageable.

Stage 2: Design Solutions¹¹⁴

WSUP follows a set of design principles that guide it as it works with its partners and local communities to develop water and sanitation programs. Among others, these include:

- affordability
- accountability
- replicability
- local integration and ownership, and
- monitoring and evaluation

*Stage 3: Implementation*¹¹⁵

Implementation is managed by local service providers. WSUP facilitates access to funding, shopping the opportunity around to possible donors and investors; the company also remains closely involved in order primarily to ensure that local citizens' needs are met.

Results

WSUP aims to reach one million people by 2008.¹¹⁶ To do so, the company estimates that it must implement approximately five projects. Pilot projects are underway in Kenya, Madagascar, India, and Mozambique, with additional possibilities in the pipeline in Brazil, Nicaragua, Zambia, Kenya, Bangladesh, and Ghana.¹¹⁷

Funding is a significant challenge for WSUP. As a not-for-profit company affiliated with major corporations, it has found that major donors such as the World Bank and other multilateral and bilateral agencies are reluctant to provide backing. Indeed, negative past experiences with private sector water projects has led these donors to take extremely cautious views of WSUP.¹¹⁸

Because obtaining funding directly has thus far proven difficult, WSUP is considering other ways of obtaining international support for its projects. One possibility is that the company could conduct its assessments with local communities and then approach local governments to develop formal plans to obtain international funding. In such cases, WSUP would serve as technical advisor to programs led by governments. Ultimately, WSUP hopes to find a viable funding model that enables it to help bring large-scale water solutions to the poor.¹¹⁹

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Jane Nelson

■ About the Author

Christopher N. Sutton is a Research Associate with the CSR Initiative at Harvard's Kennedy School of Government. Before coming to the Kennedy School, he spent four years working on international development issues related to political elections and civil society development at the Carter Center and the International Republican Institute (IRI). At IRI, Mr. Sutton helped develop, procure support for, and lead an \$80 million initiative that implemented political polling, civic advocacy, and voter education campaigns in preparation for Iraq's series of elections in 2005. He also engaged in election observation in Kyrgyzstan, political institutions analysis in Bangladesh, and rule of law training in Guyana. Mr. Sutton has work experience in nine countries and received his undergraduate degree from the University of Virginia.

About the Corporate Social Responsibility (CSR) Initiative

Under the direction of John Ruggie (Faculty Chair) and Jane Nelson (Director), the CSR Initiative at Harvard's Kennedy School of Government is a multi-disciplinary and multi-stakeholder program that seeks to study and enhance the public contributions of private enterprise. It explores the intersection of corporate responsibility, corporate governance, and public policy, with a focus on the role of business in addressing global development issues. The Initiative undertakes research, education, and outreach activities that aim to bridge theory and practice, build leadership skills, and support constructive dialogue and collaboration among different sectors. It was founded in 2004 with the support of Walter H. Shorenstein, Chevron Corporation, The Coca-Cola Company, and General Motors and is now also supported by Abbott Laboratories, Cisco Systems, Inc., InBev, InterContinental Hotels Group, Microsoft Corporation, Pfizer, Shell Exploration and Production, and the United Nations Industrial Development Organization (UNIDO). Visit the Initiative's homepage at <http://www.ksg.harvard.edu/m-rcbg/CSRI>

Corporate Social Responsibility Initiative
John F. Kennedy School of Government
Harvard University
79 John F. Kennedy Street
Cambridge, MA 02138
USA
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