The Enterprise Resource Management System for Water Service Providers in Cambodia

More than two-thirds of the water suppliers in Cambodia are unlicensed, unregulated private businesses that often provide untreated water at substandard quality. One of the foremost challenges in converting informal water suppliers in Cambodia to formal, licensed suppliers is capacity building. The World Bank Cambodia Water and Sanitation Program (WSP) has designed an innovative project to combat this problem. This SmartLesson describes our capacity-building program for domestic private water supply providers to help them develop the right skills and competencies. The program includes some useful tools, such as the Enterprise Resource Management System (ERMS), a special integrated software application created by collecting all the lessons learned from water supply utilities in capacity-building projects funded by the WSP, and also a performance improvement toolkit that will function not only as a road map for the capacity development of new and existing water providers but also as a tool for the government to use in developing official standard operating procedures (SOPs).

Background

In Cambodia, the Ministry of Industry, Mines and Energy (MIME), which is responsible for piped water supplies, manages 23 provincial water utilities. Outside the provincial capitals, private-sector suppliers are encouraged to establish water supply operations, and the government would like to see an increase in (domestic) private investment in water supply operations. There are a number of bottlenecks in expansion and improvement of such services. On the supplier side, these include technical, financial, and operational constraints. On the government side, these include weak regulation and limited support capacity. These constraints have created many informal operations in water supply.

There are estimated to be more than 300 private water providers, 70 percent of which are informal water service providers without legal licenses that are distributing untreated water to users through piped connections, pushcarts, and house-to-house delivery. A further 102 water utilities are licensed by the government. These utilities have a broad range of capital investment, ranging from $5,000 to $400,000 and service coverage varying from fewer than 100 connections to more than 3,000 connections, with an average tariff of $.50 per cubic meter of water sold. Service standards vary widely, many of the suppliers do not operate 24 hours a day, and water supply operations typically do not meet recognized SOPs.

In 2005, WSP designed a 38-month pilot program, the “Capacity Development Project for Domestic Private Water Suppliers in Cambodia.” Ten water suppliers were selected based on differences in size—both in terms of the number of their water service connections as well as their workforce and in degrees of informality. Prior to the project’s launch, none of the owners had received any formal training in business or financial management, although some have since received basic technical training. The project’s aim was to improve the business performance of the water utilities,
which in turn, would result in an expansion of water distribution to meet an increasing customer demand and an improvement in water quality and safety. The following three main outcomes were expected:

- to improve the awareness of the value of keeping accurate records and the know-how to use benchmarking and financial statements to review business performance;
- to improve operational and financial (billing and accounting) systems; and
- to gain basic knowledge regarding designs for network expansion and water safety.

The training intervention conducted under the pilot program was by two different organizations: one for business and financial management, and the other for technical performance. In addition, the interventions focused on a field coaching visit every month, a field exposure visit to each water supply site, and a plenary session every three months. With the stated objective of transforming these suppliers into formal and qualified operators within the sector, the desired result was an expansion of water distribution to meet an increasing customer demand and an improvement in water quality and safety.

The training provided skills transfer in technical performance so that these domestic private water suppliers would have sufficient ability to perform troubleshooting independently within their own business. In addition to technical performance, business management and financial management courses were delivered concurrently to make the water suppliers aware of their business value and the benefits of a sound financial management system.

Even though the program is on track to improve the capacity of water suppliers, many challenges exist, especially when the suppliers’ level of participation is low. Most of the suppliers have multiple businesses that are loosely related to water supply. For example, some water supply sites also engage in ice production, fish and animal breeding, or the bottling of fresh water. These activities are time-consuming and tend to decrease the suppliers’ ability to participate.

Through the implementation of the capacity-building project and application of some of its key tools, both suppliers and the government acknowledge the capacity-building project as a key factor in improving water supply operation competency. For suppliers, this has meant that they now have specific knowledge about how to improve their business and financial management by reducing errors, time, and costs and also the technical competency in managing water treatment, distribution, and other components. From the government perspective, its staff has a better understanding of the private water provider industry, which in turn can improve the government’s regulatory role and its capacity to provide knowledge to both new and existing private water utilities.

Lessons Learned

1) Locate all useful information in one convenient place.

One of the most innovative designs of this project is the ERMS, which integrates customer management, accounting systems, inventory and fixed asset management, as well as staff management, technical monitoring, and a reporting and benchmarking dashboard with mechanisms for simple and effective business planning. The ERMS Web site aims to enhance the capability of private water providers to improve their operational efficiency and to develop sound, convincing business plans to improve their future ability to access affordable financing.

The integrated ERMS was further developed into a benchmarking Web site that is replicated from the IBNET Web site, a benchmarking Web site offering water supply indicators and other useful data, and is managed by an independent organization. It is subdivided into categories of various menus, designed to be a user-friendly tool and classified by typology.

First, nonprofessionals (the public) can surf for general information and announcements about water supply works, as well as the project’s progress in Cambodia. Second, domestic private water suppliers can access more specific information regarding financing opportunities, training, government regulations, and performance improvement toolkits. They also have the ability to access their own database. Suppliers have their own passwords to log in to the ERMS Web site. However, there are limitations to having a personal database for each domestic private water supplier: They must be licensed, which in turn influences nonregulated suppliers to become formal.

Third, the government can access general information and upload forms and new policies, announcements, etc. Lastly, financial institutions can better serve the sector by accessing
this site to obtain general information about water works and the information, profiles, and financial statements of domestic private water suppliers.

Although the ERMS program has benefited water suppliers in reducing time and costs as well as increasing accuracy, the application still faces challenges that include the requirements of maintenance, data backup, and the availability of power during working hours. As a consequence, all utilities using the ERMS tool must have an employee with some level of computer fluency.

2) Rather than reinventing the wheel, study ways to improve possible function.

Soon to emerge from the capacity-building pilot program are performance improvement toolkits that will absorb the key lessons of water utilities in capacity-building projects from other organizations.

Drawing on lessons learned about business and financial management and technical performance from domestic private water suppliers in the pilot program, as well as benchmarking from similar toolkits for small water utilities in the Philippines and other global experiences in the sector, the toolkits will be designed for water suppliers that range from small to large operations. Included in the toolkits are modules covering business management, financial management, and technical performance.

When the performance improvement toolkit is available in 2012, it will be a unique tool for informal private water suppliers, as well as for other organizations working in the water supply sector who hope to apply the capacity-building program in water supply to their clients.

More importantly, the toolkit will be endorsed by the government as a capacity development document for public-private water utilities in Cambodia. In applying the toolkit, the government may require water providers to have sufficient training documents as one of procedures for regulating the water utilities before awarding licenses to suppliers.

Use of the performance toolkits is expected to present among partners working in supporting capacity building for water utilities, and the capacity-building program will apparently be embedded in the government regulatory body so that the application of these skills will be open to all public and private water utilities. Other capacity-building initiatives for the private water supply sector in Cambodia are described in Box 1.

3) Partnership and relationship are critical to the success and sustainability of innovation.

The project came to realize that sustainability relies on a multi-sector partnership that includes the domestic private water suppliers, the local capacity building organizations, the financial sector, and relevant regulatory bodies. Since the beginning of the projects, the involvement of development partners in supporting the sharing of technical knowledge and best practices in capacity building experiences in other countries has progressively increased.

In order to move forward, the participation of government to create an enabling environment for the projects by promoting this program to private service providers and will influence greatly the importance of the ERMS innovation. Since the program is designed to transform the informal service providers into more formal ones and to equip private providers with the capacity to provide clean and safe water to people, the government can support the effort to have suppliers meet quality standards.

To ensure sustainable success, it is critical to work on building confidence in the change process among stakeholders, establishing an agreement of values that underpins the partnership and change process, and most importantly, building an equitable and trusting relationship that enables...
an open and honest conversation that is necessary for changes and improvement.

**Conclusion**

Capacity building is paramount to effecting changes within the informal water supply sector in Cambodia. Capacity-building experiences can be replicated in different ways that will apply to various water utilities and can prove to have a major impact on people’s health because of improved water quality and safety.

The result of this particular capacity-building project is to foster the sustainable operation of public and private water utilities in Cambodia. Thus, even though affordable access to clean water is widely accepted by the Cambodian people, the strong willingness and support from donors in capacity-building programs to the private sector will lead to a dialogue of reform in of the government’s regulatory framework that could attract further investments where the capacity of water suppliers currently does not exist. In addition, when the capacity-building program is approved and embedded officially into licensing policy by the government, it will be a benchmarking tool as a learning platform that other countries can replicate.

**Box 1: Another Capacity Building Initiative for Private Water Supply in Cambodia: The Small Scale Piped Water Supply System Program (MIREP in French: Mini Réseaux d’Eau Potable)**

The MIREP program, funded by French donors from 2000 to 2005, had the objective of supporting privately invested and managed small-scale piped water systems through the provision of a subsidy for a water treatment facility. In addition, MIREPs provided technical assistance for establishing contractual arrangements and for all technical, institutional, and managerial aspects of the projects carried out at town level. This project has been developed in a total of 14 towns with service areas comprising approximately 30,000 people. During the project intervention, the project conducted basic training on technical issues and general troubleshooting to entrepreneurs in water supply operations. The learning process of the MIREP project has supported and inspired all entrepreneurs to apply for licenses because they have realized that they have suitable capacity in technical and business management to request legal identity and to reap the benefits as such. In this respect, the progressive understanding of this business was effective due to the effort of promoting the value of skills in water supply, formulating the legalization process and promotion of participation (attracting users, clarifying and keeping track of their demand, and commitment of all relevant stakeholders in this sector). In this project, the challenges arose from the private water suppliers’ inability to apply standard methods of operation. Three issues, commonly mentioned as constraints to this business, were no access to funds, limited technical and management skills, and high cost, particularly due to high energy prices and corruption.