In the rural water supply and sanitation sector, goods and services (technology, training, repair services, financial and technical services, and facility management) are supplied to customers through a supply chain from manufacturers, importers, and service providers through a network of distributors. Payment flows in the opposite direction.

The Supply Chains Initiative is a global initiative led by the Water and Sanitation Program. Collaborating partners include government departments, NGOs, and bilateral and multilateral agencies. The aim of this initiative is to develop practical tools that enable and encourage the private sector to provide goods and services related to rural water supply and sanitation. The initiative’s first phase focused on increasing the understanding of the dynamics of the private sector supply chains for handpumps, spare parts, and sanitation equipment.

Recent years have seen intense donor and government efforts to increase the access of people in rural areas to sustainable water supply and sanitation. While great gains have been made, sustainability remains elusive: often the systems installed only last a few years before they break down irreversibly. There are many reasons for this, and among them is the fact that the vital role of the private sector in ensuring the supply of rural water and sanitation goods and services has been traditionally overlooked, and in many cases stifled.
Rural Markets Pose Challenges

The flow of goods and services is complicated in rural areas in developing countries by the fact that:
- manufacturers of water supply and sanitation equipment may be distant from users, often in other countries;
- the distribution (retail) market may be poorly developed, and very risk adverse;
- communication and transportation links are poor; and
- customers are isolated and poorly informed, and little is known about their demand.

An additional obstacle to greater private sector involvement appears to be that practitioners in the rural water supply and sanitation sector, particularly those in government agencies, feel that their focus should be on meeting basic human needs, often through the direct provision of heavily subsidized services. There is a perception that allowing the market to play a pivotal role is unacceptable, as the objectives of the private sector are at odds with the needs of the rural poor. Many water sector professionals have also been wary of involving themselves in what they see as the ‘business’ of the private sector, which they feel should take care of itself.

For these reasons, many government and donor water supply and sanitation projects have essentially run the ‘supply chain’ themselves: importing the goods, supplying the services, making decisions on behalf of users, and supplying goods and services either free or heavily subsidized. Even when some goods are supplied to projects through the private sector, there is seldom a requirement for continuing backup through an established network of spare part distributors and maintenance providers. In some cases, frustrated by the lack of appropriate technology or suppliers, projects have gone so far as to design, manufacture and distribute their own components. These interventions create vulnerable, distorted and unsustainable supply chains, which seldom survive the end of a project, and are characterized by a lack of incentives to provide appropriate products responding to customer demand.

An example of this can be found in Malawi, where donors have provided the spare parts needed for the standard handpump used in rural areas free to the government. Chipiku, a national chain of stores, is provided with the parts on a consignment basis (that is, Chipiku pays the government after they have sold the parts). Research revealed that when the supply of parts ran out, the stores made little attempt to obtain them from other stores or from the regional warehouses. Chipiku considers selling spare parts their contribution to the government’s attempts to provide spare parts to the people of Malawi, but once the parts are no longer available from the government, it is unlikely that Chipiku will continue to supply them.

As in other sectors, donor and government interventions in supply often stifle private sector initiatives. In Pakistan, it was found that partnerships between the government and donors to introduce the robust Afridev handpump have helped to establish a manufacturing base, but that provision of subsidized handpumps has hindered the development of a local market. It was only when government handpump programs were curtailed a few years ago that suppliers began to explore sales to private customers, and a cheaper hybrid version of the pump emerged. In Bangladesh, the government, assisted by donors, introduced a new handpump called the Tara, designed specifically for the rural areas of the country where the groundwater table is low. However, government procurement, with rigid quality standards and bureaucratic procedures for ordering and payment, created a problem for manufacturers, and stifled innovation and entry into the market. The Tara pump did not establish itself on the local retail market, prices remained high, and the Tara is still perceived as a ‘government’ pump, available only when ordered in large quantities from manufacturers.

People’s preference for private sector suppliers of goods and services is illustrated by the case of the sanitation sector in Bangladesh. Despite subsidies being available for latrine components from government suppliers, people prefer to buy from private suppliers as they offer a wider range of products, suited to the needs and preferences of users, and provide buyers with informal credit. Over the last 20 years, the entry of a large number of small retailers has greatly extended the network of latrine component workshops and has made sanitation much more accessible to rural households.

The small-scale private sector, which offers great flexibility, efficiency and the ability to respond quickly, is constrained by the particular challenges of the rural market. Small-scale providers suffer from inadequate access to credit, poor communications and transportation links, and a lack of resources to study...
and analyze the rural market. This may mean that demand is not well understood, and that the optimum balance between quality and price is not achieved. In Bangladesh, for instance, in response to the growing popularity of a manual irrigation pump, suppliers flooded the market with low-cost, low-quality copycat versions. These performed so badly that the credibility of the pump was damaged. New markets may also be perceived to be too risky; in West Bengal and Bangladesh, where arsenic has been discovered in much of the groundwater in rural areas, the private sector has been slow to respond to the market for arsenic testing devices and water treatment methods. The nature of the crisis has, understandably, prompted the government and donors to build their own supply chains to ensure that affected areas are served quickly. Uncertainty, over which mitigation methods are the most appropriate, or the most effective, plus a lack of information about the nature of the potential market, has created a disincentive for the private sector to become involved. The perception that the government is already serving the market further deters market entry, and a self-perpetuating situation is created.

Emerging Lessons

The lessons that are emerging regarding private sector involvement in rural water supply and sanitation goods and services can be summarized as follows:

The private sector needs to be made aware of the potential rural market, and needs help to research it and develop suitable products:
The private sector may simply be unaware the market exists, or understand too little of it to be willing to take commercial risks (as in the case of arsenic mitigation products). The demand/price relationship is often not well understood: is there demand for a cheap product that requires little initial financial outlay, or a high quality and durable product which is correspondingly more expensive? Hybrid products may emerge in response to user preferences; external agencies can help develop these hybrids and bring new products to the market. External agencies can also insist that ongoing, independent support networks back up the supply of goods.

Interventions in supply chains can have a detrimental effect on the market if they are not carefully planned and carried out: Provision of subsidized or free goods and services distorts private sector responses. This has been proved time and time again in cases where handpump spare parts are provided free of cost. Private sector suppliers are unlikely to stock goods that people can get cheaper from the government or a donor, unless, as in the case of latrine components in Bangladesh, the private sector can add some value that makes those goods more attractive. Interventions may be helpful, but having an exit strategy is key – a supply chain is doomed to never being truly self-sustaining if an external agency becomes an integral and permanent part of it.

Marketing support can be a good way to stimulate the market and inform consumers, but it must be done at the correct level: for instance, distributors may need encouragement to stock the goods as well as users to purchase them.

Lack of access to finance is a major barrier to small-scale manufacturers, retailers and service providers:

AN EXAMPLE OF SUCCESSFUL SUPPORT TO THE RURAL PRIVATE SECTOR

An example of a successful intervention in stimulating private sector supply comes from Bangladesh, where a US-based NGO called International Development Enterprises (IDE) has supported private sector involvement in the supply of manual pumps for irrigation and domestic water supply. First, IDE carried out research and development to create new versions of three common pumps, making them cheaper, more robust and better suited to local needs. IDE then worked with manufacturers to improve quality, expand the production base and foster competition. The NGO helped to create demand among users by developing marketing tools for retailers and showcasing the improved pumps in various locations in the country. IDE created a network among dealers (mostly small hardware shops selling a range of products), provided training and helped ensure quality control. When the pumps came to the market, all of them were distributed through private sector retailers, without any direct subsidy to buyers. The result is that there are now sustained private sales of the pumps through a large number of small, independent enterprises. In the case of one of the three pumps, a manual irrigation pump, 1.3 million have now been installed nationwide. Interestingly, IDE’s experience is that its involvement has led to steady sales of higher quality versions of the irrigation pump, suggesting that improved quality is being provided at an acceptable price, and that product promotion is increasing awareness among buyers of the benefits of higher quality pumps.
In developing countries, the formal banking sector is often of little use to small enterprises as it charges high rates, requires substantial collateral, and may regard small, semi-formal enterprises as not creditworthy. In rural areas, barriers to using formal lending institutions are even greater.

Building Healthy Supply Chains

While caution is obviously necessary in intervening in supply chains, there are several things that the implementers of water and sanitation projects can do to support and encourage sustainable private sector supply. These include:

- Helping to conduct market and technology assessments and educating the private sector about possible new markets
- Building relationships between manufacturers, distributors and customers and creating good information flows
- Stimulating demand through marketing
- Supporting technology development and fostering the creation of a manufacturing base
- Providing training
- Facilitating access to finance for start-up, expansion and product diversification (though actual provision of financial services should be left to specialized agencies)
- Helping to establish supporting infrastructure such as road and communication links
- Ensuring that any procurement on projects is done through well-established, independent providers with a sustainable system of spare part distribution and maintenance that will endure beyond the end of the project.

In conclusion, it is possible to encourage healthy private sector involvement in the provision of goods and services, and it is imperative to consider supply chain issues when designing, establishing or evaluating a rural water supply and sanitation project or program. Project designers should not fear allocating budgets to initiatives designed to stimulate private sector involvement and build robust and sustainable supply chains. Practitioners must, however, be aware of the pitfalls of becoming involved in supply chain development, ensure that support activities have a clear time frame and exit strategy, and understand the need to avoid distortions, encourage innovation, and steer clear of becoming a permanent part of any arrangements.

Resources

The following organizations have been active in supporting small- and medium-enterprise development in the rural sector, and can provide additional information and resources:

- InterAmerican Development Bank SME Forum (an interactive site for the exchange of information on the small- and medium-enterprise sector in Latin America) http://lanic.utexas.edu/pyme/eng/
- Swiss Agency for Development and Cooperation – Small Enterprise Development (SED) Department www.intercoor.ch/sed/
- Department for International Development (DFID) (UK Government): Enterprise Development Department, 94 Victoria Street, London, UK SW1E 5JL Tel: 44 020 7917 0263 Fax: 44 020 7917 0797 www.dfid.gov.uk
- International Development Enterprises (IDE), 10403 West Colfax Avenue Suite 500, Lakewood, CO 80215, USA Tel: (303) 232-4336 Ex10 www.ide.org
- Swiss Agency for Development and Cooperation – Small Enterprise Development (SED) Department www.intercoor.ch/sed/
- Department for International Development (DFID) (UK Government): Enterprise Development Department, 94 Victoria Street, London, UK SW1E 5JL Tel: 44 020 7917 0263 Fax: 44 020 7917 0797 www.dfid.gov.uk
- International Development Enterprises (IDE), 10403 West Colfax Avenue Suite 500, Lakewood, CO 80215, USA Tel: (303) 232-4336 Ex10 www.ide.org

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References


Other publications in this series:
1. The Treadle Pump: An NGO Introduces a Low-cost Irrigation Pump to Bangladesh
2. Afridev Handpumps in Pakistan
3. Arsenic Mitigation in West Bengal and Bangladesh
4. The Growth of Private Sector Participation in Rural Water Supply and Sanitation in Bangladesh
5. The Rope Pump: Private Sector Technology Transfer from Nicaragua to Ghana

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