



Channels for Change: Private Water and the Urban Poor

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Summary

Providing safe and affordable water to the rapidly expanding urban population of the developing world is fundamental in promoting decent living conditions, improved health and economic outcomes, and working towards the Millennium Development Goals (MDGs). Given the challenges involved, successful provision will require new and innovative models. The case studies presented here demonstrate that private firms can generate successful models by harnessing the dynamism of both the private sector and low-income urban communities.

Two case studies of private sector involvement in water provision are presented: The Manila Water Company's Water for Poor Communities (TPSB) Programme and the Water & Sanitation for the Urban Poor (WSUP) Partnership. The two models share common elements of innovation: a multi-sector approach to service expansion and provision, including partnerships with local authorities; strong community involvement in option selection, design and operation; appropriate service levels to reduce costs; flexibility in the type of service provided. This paper proposes that these models could be replicated in other cities, whilst acknowledging that their success will depend upon strong regulatory frameworks, a cooperative government, and target populations that have sufficient income levels for business initiatives to be commercially viable.

Introduction

Water is a human right; it is essential for health, but also for livelihoods – a lack of access to water reduces people's ability to participate fully in economic activity. Urban water provision will play a key part in working towards the Millennium Development Goals, particularly: to achieve a significant improvement in the lives of at least 100 million slum dwellers by 2020; to halve the proportion of people without sustainable access to safe drinking water and sanitation by 2015. This paper discusses the role the private sector can play in providing a clean, affordable and adequate water supply to the urban populations of developing countries.

It is estimated that 154 million urban dwellers in sub-Saharan Africa, Asia and Latin America and the Caribbean currently do not have access to safe water³, while urban populations are expanding rapidly.

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The world urban population is predicted to increase from 3.3 billion in 2007 to 6.4 billion in 2050⁴, with much of the growth taking place in informal settlements. Providing services in poor and informal settlements is challenging due to: the costs of network provision and service expansion; lack of formal land tenure; lack of space and access for placing infrastructure. New and innovative models will be required to meet water provision targets.

The potential business opportunities of meeting the needs of poor consumers are increasingly recognised. The size of the markets for water and sanitation services for the four billion poorest is estimated at \$20bn.⁵ The urban poor often pay more for water than nearby wealthy consumers that are connected to municipal supplies, as they are forced to obtain water from private vendors at inflated rates⁶. Contrary to widespread perceptions, many poor urban dwellers are willing and able to pay for a clean and reliable water supply at a rate which makes such initiatives very interesting business propositions.

Private sector involvement in water provision has proved controversial, but it is already a reality in the developing world; one study finds that Public Private Partnerships now represent more than 40% of the developing country market⁷. This is, therefore, a critical moment to re-examine and improve business models. A key challenge of private sector involvement is identifying commercially viable ways to extend infrastructure and services to poor urban communities that are currently 'un-served'. Mandatory service provision targets are often included in the contracts of private concession holders (i.e. firms operating under a long-term management contract from the local authority), but these can be difficult to meet because:

- Poor consumers often cannot afford the full cost of connection.
- Revenue generation during service provision may not be sufficient to recover network expansion costs under typical investment criteria.
- Informal settlements create challenging and costly legal and logistic problems for expanding the service.
- Disenfranchised poor citizens who have little faith in government / public services may be a difficult group to engage with.

This paper presents and analyses two case studies which demonstrate that private sector provision can create a win-win situation in which poor people gain access to high quality, affordable services, while companies gain access to new and profitable business opportunities. The paper recognises that the success of these models is context-dependent.

New business models for service extension

The two case studies presented are innovative models for the extension of water and sanitation services to the urban poor:

- 1. Manila Water Company's Water for Poor Communities (TPSB) Programme
- 2. The Water & Sanitation for the Urban Poor (WSUP) Partnership

A summary of the case studies is given in **Table 1**. A discussion of the issues and challenges associated with these models is presented in the **Analysis** section.

³ Chapter 7 - Competing Needs in an Urban Environment in: Water for People, Water for Life: The United Nations World Water Development Report (2003) United Nations Educational, Scientific and Cultural Organization (UNESCO), Berghahn Books

⁴ World Urbanisation Prospects: The 2007 Edition: Highlights (2008) New York: United Nations

⁵ Hammond et al. (2000) *The Next 4 Billion: Market Size and Business Strategy at the Base of the Pyramid*, International Finance Corporation & World Resources Institute.

⁶ United Nations Development Programme (2006) *Human Development Report - Beyond scarcity: Power, poverty and the global water crisis*, UN, New York.

⁷ Philippe Marin 2009 Public-Private Partnerships For Urban Water Utilities: A Review Of Experiences In Developing Countries. PPIAF

Case study 1: Water for poor communities - Manila⁸

The Manila Water Company, Inc. (MWCI) is the private concessionaire that operates, manages and maintains the waterworks and sewerage facilities for Eastern Manila. In 1998 MWCI launched the Tubig Para sa Barangay (TPSB) or Water for Poor Communities programme. Since that date, the TPSB has expanded services to 1.3 million individuals or 214,000 households. The TPSB program offers various service options to poor communities, with the most common option being a group tap where two to five households are serviced through one metered connection.

Prior to this program, piped water was reaching less than two-thirds of the population in Manila. Connecting to a piped water service was unfeasible for many low-income groups due to the stringent connection application requirements, including land title. Poor households faced long queues at public taps, or were forced to buy from private vendors at up to 10 times the cost of piped water service. There were many instances of illegal tapping of the system, resulting in non-revenue water levels of 60 per cent against the industry standard of 30 per cent. Water-borne diseases and mortality due to unsafe and inadequate water connections were common.

The TPSB programme has a strong emphasis on partnerships with local government and community organisations. MWCI's role includes identifying and assessing the TPSB area, organising and coordinating with the recipient community, implementing the scheme chosen by the community and monitoring daily operations. Local Government Units (LGUs) and Community-Based Organizations (CBOs) are MWCI's partners in implementing the programme. Their roles include mobilising the community, deciding what TPSB scheme is appropriate for the community, giving endorsements and permits to facilitate construction and providing support to MWCI during project development and implementation. For community-managed water connections, LGUs or CBOs are also responsible for the day-to-day management of the TPSB facilities including repair and maintenance, monthly billing, and collection and remittance of the households' water consumption charges.

One of the most innovative aspects of the TPSB is the key role of the poor – the final consumers – in programme design and operation. Poor households are active decision makers in the process, and are responsible for choosing the connection scheme and collection arrangement for their community.

The programme has had the following benefits:

- Poor households are able to connect to piped water services due to changes in connection application requirements. Most significantly, land title requirements can now be waived and flexible payment schemes have been introduced.
- Poor households pay less for their water and payment of fees has been made easier through lower connection fees, varied instalment schemes, reduced monthly water charges, and socialised water rates.
- Public health in poor communities has improved; in particular incidences of diarrhoea have declined.
- The participatory approach of TPSB has created enhanced social inclusion and community development.
- Putting the poor in charge of their own destiny and giving them responsibility for important aspects of service provision empowers them to improve their quality of life, and builds their capacity to manage projects. Community participation in selecting the scheme improves the likelihood of an appropriate final solution. This approach gives community members a sense of ownership of the infrastructure, which increases the likelihood that it will be well maintained, and hence that the project will be sustainable.

⁸ Material is drawn from Baclagon, M.L. (2004) *Pro-poor Water and Wastewater Management in Small Towns - Water for the Poor Communities (TPSB) Philippines United Nations Economic and Social Commission for Asia and the Pacific (UNESCAP)* and *Manila Water Sustainability Report* (2007).

• TPSB has helped MWCI fulfil its service obligations, increase its revenues and improve its operational efficiency (90 to 95 per cent collection efficiency), proving that strong financial, institutional and operation benefits can be derived from pro-poor projects.

Case study 2: Water and sanitation for the urban poor (WSUP)

WSUP is a multi-sector partnership that brings together local and global expertise to provide sustainable water and sanitation solutions for poor urban communities. Solutions are implemented through the local service provider, normally the local municipal authority. The partnership provides support in designing and delivering water and sanitation solutions and mobilising funding / finance to support implementation. Its membership consists of large multi-nationals, NGOs and an academic institution. Thames Water, the UK's largest water and wastewater services company, and Halcrow, a multinational engineering consulting firm, provide design and project management resources to the partnership at cost price. The NGOs provide expertise in stakeholder participation, particularly community engagement.

WSUP aims to make private, public and not-for-profit expertise available to local service providers in order to build their capacity to serve the poor, whilst ensuring the involvement of the community at all stages. A principle of 'good enough' but sustainable services is adopted, balancing public health, environmental risks and subjective demand with affordability, willingness to pay, technical feasibility and economic sustainability. Differing service levels are offered for the differing requirements of end users. The design is developed within an integrated water resource management (IWRM) framework to ensure the sustainability of water resources, and is linked into local community health, natural resource management and capacity building initiatives.

The WSUP Project portfolio now consists of nine projects in eight countries across Africa and South East Asia. Anticipated long-term benefits include increased capacity of local service providers and more sustainable management of water resources.

Business Model Components ⁹	Manila Water Company TPSB	WSUP
Target customers	Nominal customer: the municipal authority.	Nominal customer: local service provider.
	Primary focus on the un-served poor as customers.	
The value proposition offered to customers	High quality operator of water and sanitation services for a large municipal authority with the capacity to extend services to citizens currently without connections.	Integrated support to local service providers in designing and delivering water and sanitation solutions to poor consumers and mobilising funding/ finance to support implementation.
Key Innovations	 Appropriate service levels to reduce costs. Strong community involvement in option selection, design and operation. Flexibility in the type of service provided based on community needs. Multi-sector partnership approach in implementation (in the case of WSUP, both within the organisation and with external partners). Strong focus on operational sustainability. 	
		Flexible core WSUP model developed to be replicable in different locations.

Table 1: Business Model Analysis

⁹ Derived from <u>http://business-model-design.blogspot.com/2005/11/what-is-business-model.html</u> (accessed 8th April 2008).

Business Model Components ⁹	Manila Water Company TPSB	WSUP
Commercial Drivers	 Meeting contractual service obligations Increase revenues Decrease in non-revenue water Social risk management 	Not for profit, but strong income generation imperatives to secure resources for the functioning of WSUP and its project activities.
Reducing cost of installation/ connection	Community meters and supply systems (cheaper than individual connections).	'Good enough' but sustainable service provision principles.
How costs of additional connections are covered	 Success of the TPSB programme justifies investment of company resources in expanding the programme. In some instances capital support is provided by local government. 	 Infrastructure costs are generated by leveraging external donor funding / finance.
Implications for operation of the service	 Requires a management system at the community level to oversee operation and bill collection. Risks and responsibilities for management and maintenance 'after the meter' are borne by the community management system. Socialised water rates still applied in some instances to support affordability. 	• Dependent on selected option, but sustainable operation of the service is a fundamental consideration when making the selection.

Analysis

The primary measure of success for the business models presented here is the increase in the number of people with access to safe, affordable drinking water. In ten years, the TPSB Program has expanded services to over 1.3 million people (214,000 households) in East Manila. WSUP is at an earlier stage of development, but had a target to reach 0.5 million people by the end of 2008; it is currently screening its projects to verify whether this has been achieved. It is too early to fully assess the sustainability of these models over the long term, but both programmes have a strong sustainability focus in design and operation.

MWCI and the WSUP partnership have one clear difference: MWCI is a private service delivery operator working under concession to a public authority, whereas WSUP is a 'third party' providing an integrated service to assist the local operator (public or private). Both examples are valuable. MWCI provides an example of a successful business model for private operators to expand services to the poor; essential in overcoming preconceptions that poor urban communities are not commercially viable markets. The WSUP partnership has an important role to play where urban water services are not run by private operators, or where private operators do not have the internal capacity to develop and implement a programme like TPSB. In these cases, WSUP can provide expert knowledge and lever financial support to expand service provision and improve quality.

A further distinction between the two models is that MWCI is a commercial operation, while the WSUP partnership is not currently run on a fully commercial basis. However, as discussed further below, WSUP does need to respond to commercial imperatives. For this reason WSUP can be analysed as a "business model".

The two models share many **key innovations** that underpin their approach to meeting the challenges of service extension, as summarised in Table 1.

Of particular importance is the involvement of the community in both these models. Community participation in infrastructure planning, design, delivery and operation is critical for enhancing the propor outcomes of infrastructure provision¹⁰. Infrastructure services provided in this way are more likely to meet community needs, and more likely to secure community support and "buy in". This is particularly important for models such as the TPSB programme, which rely on community involvement in management and maintenance to support the viability of the business model.

Commercial drivers

Business models require **strong commercial drivers** in order to be effective and replicable. The TPSB programme has strong commercial benefits in terms of increased revenues and improved operational efficiency. TPSB leverages the investment of external public funds to support network expansion and achieve its contractual targets. The proven success of the program in commercial terms provides a sound basis for MWCI investing further funds in the TPSB programme.

Further, the TPSB programme supports MWCI in managing **social risk** around its investment. By proactively addressing the needs of poor consumers, MWCI reduces the risk of public opposition to their operations. The potential risks should never be under-estimated; public opposition has already led to the cancellation of contracts or forced the concessaire to withdraw in other parts of the world¹¹.

WSUP is not run on a fully commercial basis, but its viability as an organisation depends on its ability to raise revenues to cover its activities and to leverage capital funding for the projects it has designed. WSUP's future attractiveness to donor organisations will depend on the success of its current projects.

The private sector members of the WSUP partnership stand to make substantial gains from their contribution, despite providing expertise at cost price. Commercial benefits include demonstrating leadership in corporate responsibility, and enhancing brand and reputation in local and international markets.

Sustainable development outcomes

Engineers Against Poverty has identified key characteristics of sustainable pro-poor infrastructure¹²:

Box 1: Engineers Against Poverty: sustainable pro-poor infrastructure¹³

- Provides access for the poor to affordable services that meet their basic human rights and needs, reduce their vulnerability to natural disasters and allow them to participate in economic activity;
- Supports *substantive freedoms*¹⁴ for individuals and communities to participate in decision making that affects their wellbeing and livelihoods;
- Minimises the consumption of natural resources and the impact on biodiversity and natural systems;
- Enhances employment generation in construction, operation and maintenance;
- Is economically & operationally sustainable in the long term; and
- Is designed and operated through holistic consideration of social, environmental and economic costs and benefits.

¹⁰ OECD, (2006).

¹¹ For example, Cochabamba, Bolivia: Multinational Company Thwarted by Local Bolivian Community (2000) [Online] Available from: <u>http://www.bbc.co.uk/worldservice/business/story_fdh210700.shtml</u> [Accessed 1 February 2010]

¹² Based on: United Nations (UN) (1992) *Agenda 21*. United Nations Conference on Environment and Development (UNCED), Rio de Janeiro, Brazil, 3 to 14 June 1992. UN, New York, as well as other sources

 ¹³ Engineers Against Poverty & Arup (2009) ASPIRE Research and Development Report [Online] Available from: <u>http://www.engineersagainstpoverty.org/ db/ documents/ASPIRE - R&D Report.pdf</u> [Accessed 2 January 2010]
 ¹⁴ Sen, A. (1999) Development as Freedom, Oxford University Press, Oxford.

Both business models perform well against these criteria. They provide affordable services and empower communities to participate in decision making processes; they expand employment opportunities in construction and operation, and require operational sustainability as a key component of project design.

Both models conserve natural resources by integrating expanded service provision into the existing municipal system, creating economies of scale and using scarce resources efficiently. Building on the existing municipal system also serves to centralise control over the source water resources and the management of sanitation and sewage effluent, which allows for more controlled and integrated water resource and environmental quality management.

Challenges

Selection of communities for participation in service extension presents a major challenge. Project selection is often driven by where the model will work, rather than by the needs of the poorest and most vulnerable. Where there are large underserved populations and high levels of poverty, other mechanisms of service delivery may be required.

The success of these models is dependent on a supportive regulatory environment. The TPSB Programme relied on a waiver of land title requirements for connections, and the WSUP Programme only selects projects where the regulatory environment is supportive to implementation. These regulatory constraints highlight the **role of government** in implementing appropriate policy measures to support private involvement in water and sanitation provision. Where governance is weak and regulatory frameworks are poorly developed, simply including targets in agreements with private operators is unlikely to provide well-functioning solutions to service expansion.

A further constraint is the time and resources required in the early stages of implementation, which may act as a disincentive for organisations considering trialling similar models. Developing a successful model, negotiating with partners and addressing problems that arise in early implementation all require significant resources and management will.

An attractive feature of the TPSB model is that the responsibility for management, operation and maintenance is transferred to the community, so they carry a great deal of the operational risk. However, this feature has the disadvantage that it reduces the control of the operator over the quality of service delivery. In the TPSB model, the community leader has some discretion over charges, and there have been instances of overcharging. It is important to provide appropriate capacity building for the community, and to build transparency and accountability into management to enable end-users to detect and prevent overcharging.

There are some equity issues with the TPSB model. Connection charges are levied only for households not fronting roads, which are usually the poorer households. Where the standard increasing block tariff structure is retained, the TPSB customers sharing a connection tend to pay more than households with individual connections¹⁵. However, the popularity of the scheme suggests that poor consumers still see the service as affordable. Further, where there is sufficient government capacity, local authority interventions could help to reduce these inequities; in fact socialised water rates for the poorest customers are incorporated in the TPSB model.

Replication of outcomes

The WSUP approach has been designed as a flexible model, intended to be replicable in different contexts. WSUP projects are currently being implemented in eight different countries; the results will

¹⁵ Cuaresma, J.C. (2004) *Pro-Poor Water Services in Metro Manila: in Search for Greater Equity.* Centre on Regulation and Competition Working Paper Series Paper No. 81. Centre on Regulation and Competition, Institute for Development Policy and Management, University of Manchester.

enhance understanding of the replicability of the model. It is possible that as WSUP's activities expand it may begin to exceed the capacity of the private sector members of the partnership to contribute "at cost". This may put pressure on WSUP to move towards a fully commercial model.

Many of the problems faced by MWCI in East Manila are common to urban areas across the developing world, and key elements of the TPSB programme could be replicated. The commercial benefits of the TPSB programme provide a sound business case for other private operators to experiment with similar models. For the programme to be a success, the challenges identified above will need to be addressed within the local context.

Both approaches require a greater investment in project planning and design than business as usual, but compensatory benefits are realised in more effective and sustainable outcomes. Service providers and governments may become more willing to make these investments as these initiatives continue to demonstrate their success. Private firms in other sectors, including energy service provision, could learn from the methods used by these models in meeting the needs of un-served poor consumers within their areas of operation.

Conclusion

TPSB and WSUP are innovative models that have been successful in extending water services to the urban poor. The innovative features of the models include: a multi-sector approach partnerships to service expansion and provision, incorporating partnerships with local authorities; strong community involvement in option selection, design and operation; appropriate service levels to reduce costs and flexibility in the type of service provided. Where appropriate regulatory frameworks are in place, governments are supportive, and target clients are able to pay rates that make water provision commercially viable, TBSP and WSUP are examples of sustainable business models for provision of water services to the poor that could be replicated in other urban contexts. By adopting a multi-sector approach that harnesses the dynamism and capabilities of the private sector and recognises the key contribution to be made by local communities, projects implemented using these models could make a significant contribution to efforts to achieve the Millennium Development Goals.