

Serving the Urban Poor

Improving Water Utility Services through Delegated Management

Lessons from the utility and small-scale providers in Kisumu, Kenya

Utility partnerships with small-scale providers (SSPs) are becoming increasingly important as utilities struggle to serve a growing population and the poor in particular. This article explores a delegated management approach as one type of partnership and introduces a case study from Nyalenda, an informal settlement in Kisumu, Kenya.





An aerial view of Nyalenda in Kisumu

Summary

This Field Note describes a successful technical and management approach for providing safe and affordable water to the informal settlements of Kisumu, Kenya's third largest city. In this approach, which is one of many delegated management models, the water utility sells bulk water to community contractors, who then sell it to households or kiosk vendors.

The main water service provider offers contractors, termed

'master operators' (MOs), a bulk supply tariff. In turn, the master operators are responsible for minor maintenance, such as the repair of small leaks, and the management of customer interfaces.

The advantages to the utility and consumers of such partnerships between utilities and community operators are described and explored. The main advantage is an improvement in the technical and financial performance of water utilities, such as outsourcing of distribution and customer care to private operators or community-based organizations, which

allows the utilities to focus on supplying high quality potable water, as their core business. For informal settlement residents, the advantages are that water is brought closer to their homes and made more affordable, with a number of service options being provided.

The Field Note includes a description of a pilot project in Nyalenda, the largest informal settlement in Kisumu, and concludes with recommendations for scaling up the model in Kisumu and replicating it in Kenya and other countries.

The importance of innovation in service delivery

Africa's urban population increased by an estimated 300 million to 700 million from 1982 to 2003 (Kessides 2006). With the urbanization rate averaging almost five percent per year, more than half of the population of Africa is likely to reside in urban areas by 2020. Much of this growth, which will not be accompanied by equivalent investment in infrastructure, will take place in informal settlements (WUP 2003).

Efforts to provide water and sanitation to the urban poor have generally been piecemeal and limited to the provision of a few standpipes. Utilities struggle to perform optimally, and institutional arrangements for water supply tend to be weak. Customers pay high prices for low levels of service from off-network providers (Tremolet & Halpern 2006), with the result that very little, if any, of this money reaches the utility. The result is a cycle of declining investment, deteriorating services and diminishing financial returns, which translates into poor services for all, and for the urban poor in particular (Kessides 2000).

In the following section, we demonstrate the advantages of a delegated management model (DMM), that is built around a contractual relationship between water services utilities and small-scale private operators who have the financial incentives to increase access and

improve services. The model has been used in cities including Manila (Philippines) and Arusha (Tanzania). The DMM can reduce the proportion of non-revenue water, while increasing revenue for water utilities, and providing higher quality service at more affordable prices.

Delegated Management

The concept of delegated management is not new to the water sector in Africa. For example, Mozambique's water sector reforms and Mali's small town water services delivery are based on a delegated management approach. This article focuses on the application of the delegated management approach to improve services specifically for the urban poor, which is similar to approaches used in Dhaka (Bangladesh) and Manila (Philippines).

Water supply challenges in informal settlements

Impediments to serving poor communities

Informal settlements generally lack trunk infrastructure, and even households that are willing to pay for private connections may not get

access to the services. Services costs are affected by distance to the nearest utility trunk main. Property owners and governments may be reluctant to make improvements if tenure arrangements are unclear.

The poor's perspective

The poor typically face three cost-related problems. First, they generally pay high prices for water. Not only do they purchase in small quantities, such as one 20-liter jerry can at a time, but supplies are limited and water cartels are prevalent in their communities. Second, where access to the water network is possible, the one-time connection fee is prohibitively expensive; and once connected, households with irregular incomes battle to meet monthly water bills. Third, tariff systems penalize high-volume consumers, so the costs for clusters of people who share a connection and those making a business of reselling water - a widespread practice in African cities, are punitive.

Time is another real cost. Household surveys in Kenya reveal that poor household members spend an average of 42 minutes daily collecting water, while the non-poor spend a maximum of 15 minutes (Gulyani et al 2005).

The utility's perspective

While commercial-type reforms to water utilities may lead to increased efficiency in service delivery, this does not necessarily translate into geographical equity or a commitment

Figure 1. Spaghetti Network

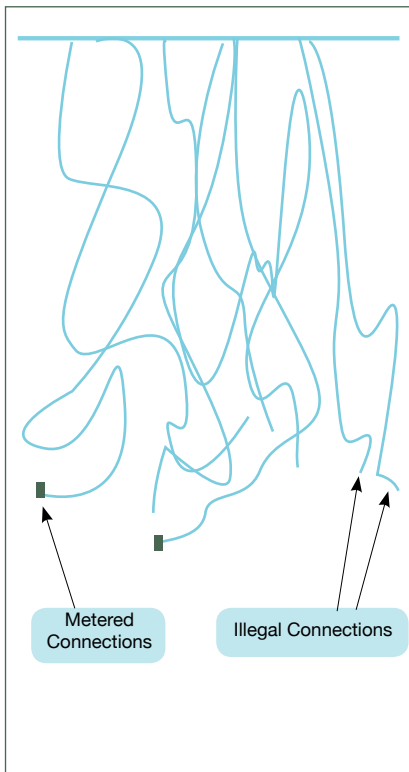
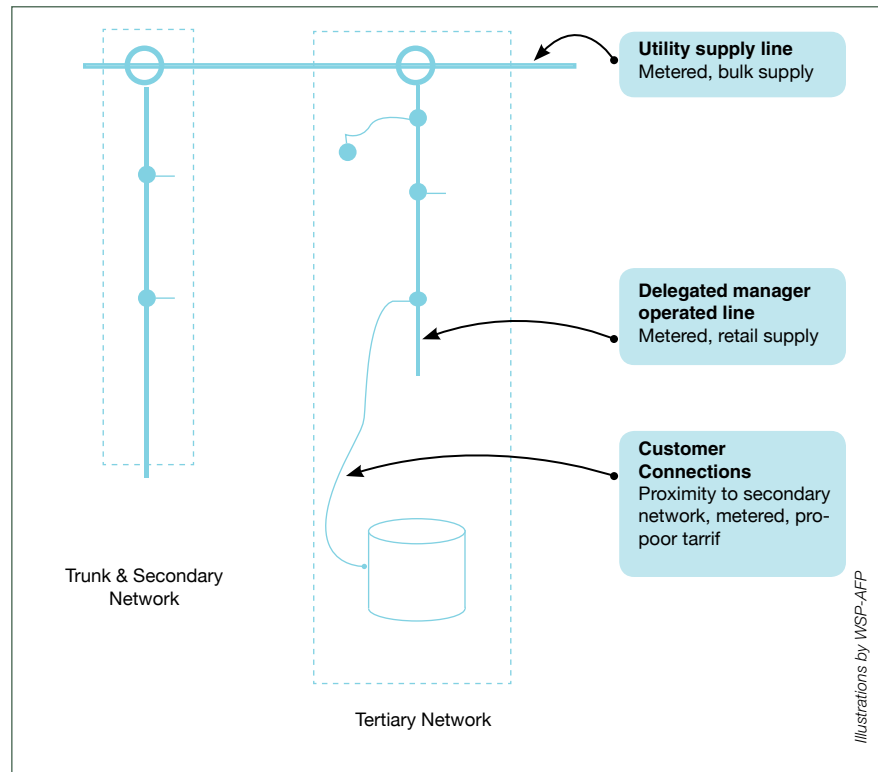


Figure 2. Delegated Management Network Design



to serve the poor, especially in environments that lack incentives to extend services to the poor, or do not have a strong regulatory regime. Also, there is a historical tendency for water utilities in the developing world to focus on large-scale infrastructure and centralized provision (Nillson & Kaijser 2008).

The high capital costs and perceived low returns in serving communities where technical works are substandard and illegal connections rife, leads water utilities to prioritize communities where returns are more secure and there is less need for time-consuming community outreach. The viability of utilities is further

jeopardized by consumers who bribe utility staff to avoid paying for actual consumption.

In the delegated management approach, it becomes possible for utilities to think about informal settlements as markets where services may be provided in a financially viable manner.

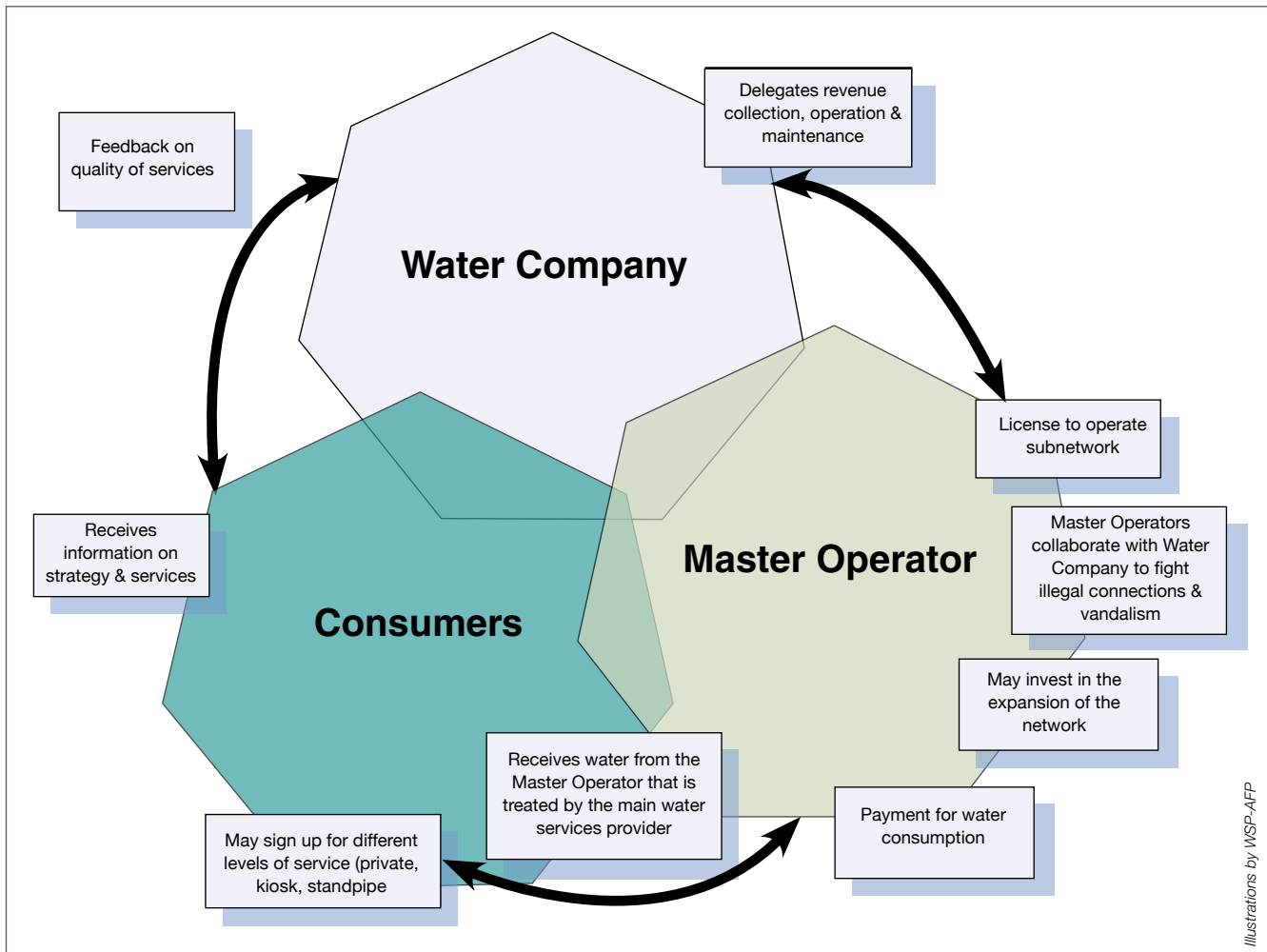
Basic elements of the model applied in Kisumu

In Kisumu, the utility known as Kisumu Water and Sewerage Company

(KIWASCO), sells bulk water to agents contracted to operate and manage part of the network in an informal settlement.

KIWASCO selects and recruits these sub-network agents (the MOs), through a publicly-advertised and competitive process. The MOs, (in the capacity of private entrepreneurs or community-based organizations) (CBOs), enter into a contract with the utility to bill customers, collect revenue and perform minor maintenance in a given area. Having paid the utility a bulk rate for consumption, master operators can retain any surplus revenue.

Figure 3. Relationship between the water company (utility), master operators, and consumers



Illustrations by WSP-AFP

Through delegating in this way, the utility reduces administrative costs and brings services closer to the customer. The model offers consumers a few options to select their level of service: private connections, shared standpipes¹, and commercial kiosks².

KIWASCO has reduced the one-time connection fee, which may be paid

in installments. Commercial tariffs are flat, which means that they do not increase with rising consumption.

Comparative advantages

The combination of the technical design and delegated management structure makes this model unique.

The design rationalizes the network by shifting from spaghetti lines (Figure 1) to a structured network (Figure 2). The management design of the DMM improves the customer-orientation of services. For one thing master

¹Those standpipe customers who are tenants make arrangements for the landowner to pay the bill on their behalf; alternatively each household is given a meter.
²Some kiosks are operated by master operators and others by independent kiosk operators.

operators, unlike utility staff, can be more readily contacted out of working hours. The utility, while defining the technical standards and terms of ownership, may allow the operator to invest in expansion of the network. In combination, the technical and management designs makes it practically impossible for utility front-line staff to collude with consumers, since these staff members have no interface with end-consumers, and no access to household meters. Customer meters are locked inside a chamber which only the operators can open, so tampering with them is difficult. The management model decentralizes services to the community level and allows for private investment in the network.

As shown in Figure 3, the utility retains a dominant position even though it has committed to provide piped water only through the master operators, and align all existing customers into this framework. Consumers still receive the utility's high quality, potable water and may direct any complaints to the utility. Finally, the MOs have the legal backing of the utility to address vandalism and illegal connections.

The regulatory environment

The model is built around a contractual relationship between the utility and small-scale operators who have financial incentives to increase access and improve services. It works best in a policy environment

Table 1. Snapshot of KIWASCO's operations (2006)

Date established	2003
Services provided	Water and sewerage
Type of utility	Company operating under commercial law and wholly owned by the municipality
Population in area	425,000
Coverage level	36 percent
Pop living in informal settlements	60 percent (or 255,000 people)
No. of water connections	7,852
No. of sewerage connections	4,914
Annual production	6.5 million m ³
Annual production per capita	15.29 m ³
No. of staff	240
Staff per water connection	32.7
Non-revenue water	67 percent

that recognizes the domestic private sector, including small-scale providers. The utility sets the end-price for consumers. In Kisumu, the end users' tariffs are clearly specified in the MO's contract, which may be revoked if violated, and are also posted in the MO's office.

In Kisumu the water company has outsourced some of its tasks to an agent (Master Operator) who performs the functions of distribution and customer care more efficiently in an informal settlement. In this case, three key ingredients allow for retention of the agent and for keeping retail prices low: (i) the official recognition/licensing of the Master Operator; (ii) the sale of water at fixed bulk rates; and (iii) the regulation of the end price to consumers.

The typical structure of unregulated vendors selling water from kiosks,

which is prevalent in informal settlements, fosters high prices. Normally these vendors do not have access to bulk water rates and tend to control prices by limiting supply. An increased volume of water and number of water points through the DMM has had the effect of increasing competition among informal vendors and lowering average prices.

The Kisumu experience

Nyalenda, the largest informal settlement in Kisumu, has a population estimated at 50,000³.

³The Government of Kenya 1999 Census reports a population in Nyalenda of 49,375 residents (UN-Habitat, 2005. Cities Without Slums: Situational Analysis of Informal Settlements in Kisumu. Kenya Slum Upgrading Program, Nairobi). There is no data available on population growth since 1999 although some estimates are as high as 60,000 people.

While Nyalenda is not an ‘illegal’ settlement, as landowners have freehold titles, it is nonetheless grossly underserved in terms of basic services.

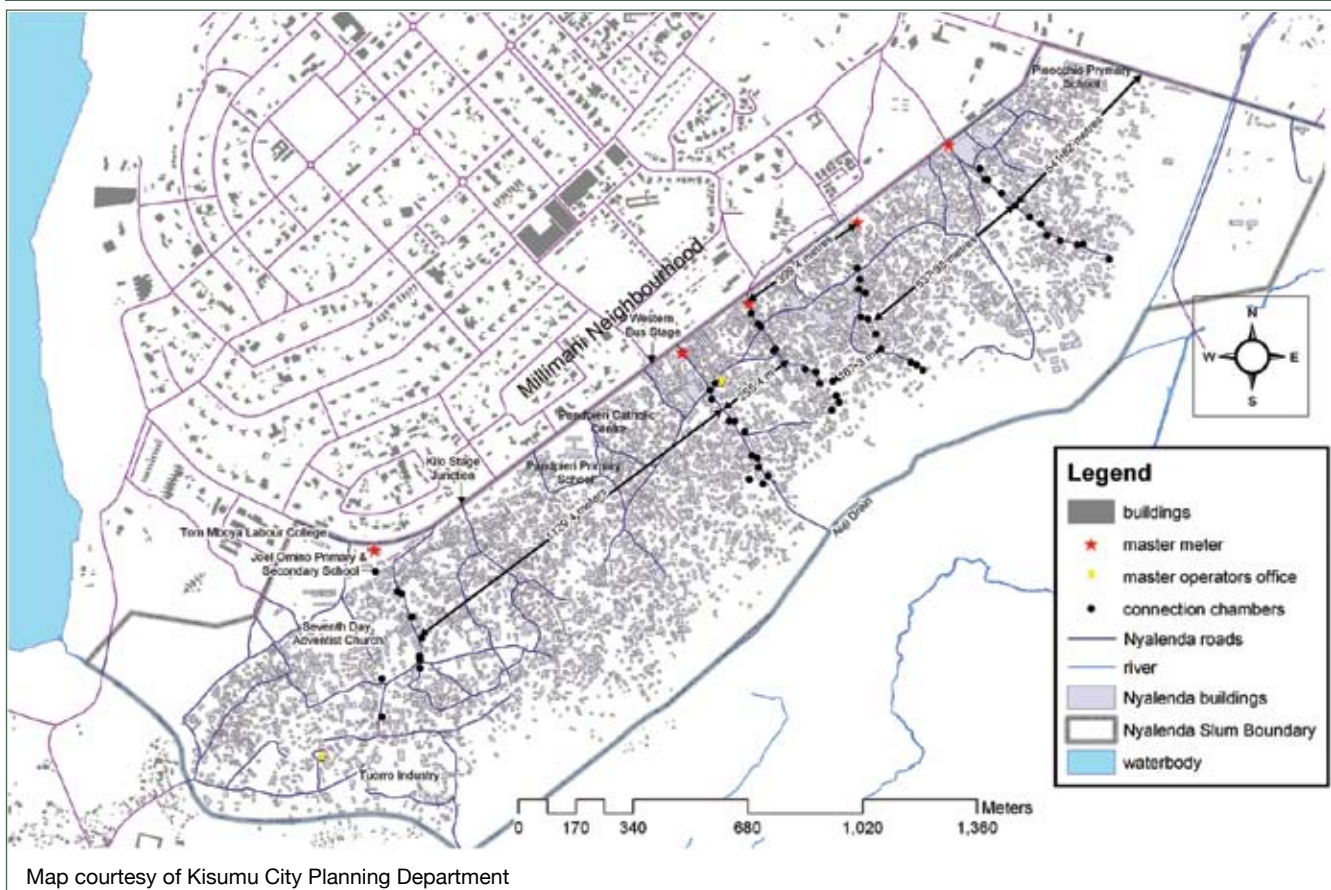
In 2004, KIWASCO developed the DMM with the Water and Sanitation Program-Africa (WSP-Africa) and the French Embassy in Kenya. KIWASCO and the French Embassy (through its Social Development Fund) co-financed a pilot DMM project in Nyalenda. The goal was to refine

a model by which utilities could extend and improve services to the urban poor, while reducing careless consumption, waste and theft. WSP-Africa facilitated the process and provided technical assistance throughout. In particular, WSP - Africa supported the coordination between the utility, the donor and the community. It also developed a communication strategy and sample contracts, advised on the tariffs, and trained Master Operators in the technical and business skills required

to manage a small water scheme. The French Development Agency (AFD) later expanded the DMM through an investment project in Kisumu and CARE Kenya has also replicated the concept in Kisumu.

Table 1 provides a snapshot of challenges facing KIWASCO. These are: low coverage (36 percent), high non-revenue water (67 percent) and low volumes of water production per capita (15.29 m³/year).

Figure 4. DMM Phase I - KIWASCO - Nyalenda Water Services Project



Map courtesy of Kisumu City Planning Department

The project environment

Several policy and institutional ingredients were crucial to the success of this project:

- Availability of water supply, (this was a major problem at the beginning of the project; AFD investment program has since increased water production).
- A sector that allows a far-reaching level of decentralization.
- The legal recognition of private sector participation and small-scale providers.
- Favorable commercial incentives for the operators.
- Political will of the Lake Victoria South Water Services Board (the asset holder), and KIWASCO (the water company), to improve services for the poor.
- Improved performance of the water company/utility through: (a) human resources and staff capacity building programs; (b) an increased culture of learning; and (c) a commitment to improving customer service.

The Nyalenda settlement was already connected to the utility mains but for the most part, it was through sub-standard pipes found just below or above the surface. Many of these connections were illegal, with leaks and contamination being common. The haphazard nature of the network meant that the utility lacked a clear map of all consumer connections. Utility staff could easily collude with illegally connected off-the-map

Table 2. Pipes, fittings and labor – who pays?

Item	Responsible party
Trunk infrastructure	Utility
Secondary network - trunk to chamber	Utility or Master Operator
Meter chamber	Utility or Master Operator
Tertiary line - chamber to waterpoint	Customer

customers. The price of water for consumers purchasing from kiosks was high by any standards, soaring up to 5 KES or even 10 KES⁴ for a 20-liter jerry can during water shortages.

From the design stage KIWASCO intended to transfer all existing customers to the MO's supply lines, but lacked adequate funds. The utility finally managed to secure funds from AFD to cut off the entire spaghetti network, both legal and illegal connections, and transfer legal customers to the MO lines. Illegal customers were encouraged to formalize their connections, and many have since connected to the MO lines or depend on MO kiosks.

Project design and cost

Phase I consisted of the installation of five parallel pipelines (600 meters each), connected to and metered from KIWASCO's mains. The five pipelines serve approximately 10,000 residents, or 20 percent of Nyalenda's population. Nine additional lines, and lateral extensions of existing lines, which fill the service gaps (illustrated

in Figure 4), came into operation in November 2008.

Principal stakeholders

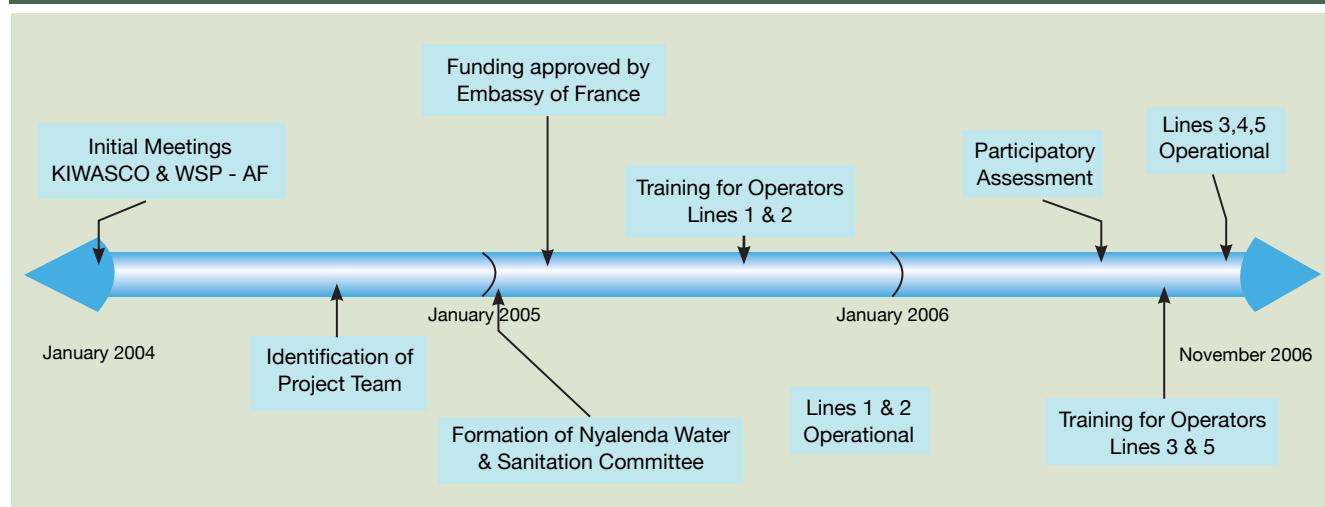
The key stakeholders of the DMM pilot are the water company (KIWASCO), the MOs, the Nyalenda Water and Sanitation Committee (NWSC), the residents of Nyalenda, and the Lake Victoria South Water Services Board (LVSWSB). The relationships range from contractual to less formal. The stakeholders' roles and responsibilities are summarized in Table 3.

KIWASCO and the Nyalenda Water and Sanitation Committee advertised the MO positions, and interviewed the best-qualified candidates. The timeline (Figure 5) gives the sequence of key events. The start dates of the first two supply lines and those of 3, 4 and 5, were staggered, to allow time to analyze the performance and solve teething problems on the first two lines before proceeding. The MO on lines 1 and 2 are community-based organizations. For the next three lines KIWASCO opened the selection to

Table 3. Roles and responsibilities of stakeholders

Representative	Actor	Roles / Responsibilities	Relationships
The State	Lake Victoria South Water Services Board (LVSWSB)	<ul style="list-style-type: none"> • Asset holding organization • Licenses service providers in the region • Monitors and evaluates service providers 	<ul style="list-style-type: none"> • Contractual with service providers • Non-contractual with community through forums
The Provider	Kisumu Water and Sewerage Company (KIWASCO)	<ul style="list-style-type: none"> • Service provider within the city of Kisumu • NWSP implementer 	<ul style="list-style-type: none"> • Contractual with LVSWSB • Contractual with Master Operator
Citizens/ clients (characteristics of both)	Nyalenda Water and Sanitation Committee (NWSC)	<ul style="list-style-type: none"> • Represents community interests and promotes participation • Advises in appointment of Master Operators 	<ul style="list-style-type: none"> • Elected by the community • Non-contractual with KIWASCO • Non-contractual with Master Operators
The Provider/ Citizen (characteristics of both)	Master Operator (MO)	<ul style="list-style-type: none"> • Manages water services in Nyalenda • Potentially extends network with guidelines and authorization 	<ul style="list-style-type: none"> • Contractual with KIWASCO • Contractual with community • Client/service provider relationship with community
Citizens	Nyalenda Community	<ul style="list-style-type: none"> • Protects the assets of LUSWSB • Pays for water services / consumption 	<ul style="list-style-type: none"> • Customer contract with Master Operator

Figure 5. Timeline of the DMM project in Nyalenda



local private entrepreneurs, resulting in entrepreneurs operating lines 3 and 4, while a CBO operates line 5.

Six months after lines 1 and 2 became operational a participatory assessment revealed that consumers were not connecting to MO - administered lines as rapidly as expected. It was established that the MO lines were still competing with illegal connections, and that residents had not been adequately informed about the MO system. As a result, KIWASCO cracked down on illegal connections and worked closely with MOs to implement a marketing campaign.

Financial implications

A recent tariff study of Kisumu City established that the MO scheme is a viable business for both the MO and KIWASCO. The MOs pay KIWASCO a bulk rate of 25 KES/m³ (US\$0.36). The authors of the tariff study recommend that the tariffs for both non-DMM kiosks and the DMM schemes be limited to an eight percent total increase (Economic Consulting Associates & NorKen International 2008).

Table 4 shows the viability of the MO's business in two scenarios: one that serves 115 customers, while the other 350 customers, through a combination of kiosks and private connections. Experience has shown that the MOs can indeed cover their expenses. One of the MOs has even invested in network expansion with a combination of internal revenue and donor support. KIWASCO has a policy

Table 4: Economics of DMM Model

Design Parameters	
15 kiosks	350 households
60 household connections	1,520m ³ per month
Monthly gross margin if design demand levels apply	
Master Operator	Kiosk operator (15 in all)
KES 20,500 out of which wages, repair and maintenance costs have to be paid	KES 1,140 if selling at KES 1/jerrycan KES 5,340 if selling at KES 2/jerrycan KES 9,550 if selling at KES 3/jerrycan
Monthly gross margin if design demand levels apply	
Master Operator	Kiosk Operator (8 in all)
KES 7,710 out of which wages, repair and maintenance costs have to be paid	KES 570 if selling at KES 1/jerrycan KES 2,880 if selling at KES 2/jerrycan KES 5,200 if selling at KES 3/jerrycan

Source: Economic Consulting Associates & NorKen International. 2008

on private investment in infrastructure to encourage private investment. The policy clarifies ownership and acquisition issues.

The MOs have been able to run a viable business while at the same time making water more affordable. Poor residents in Nyalenda now pay less for their water, compared to the high and middle-income earners in Kisumu, a path-breaking achievement and in sharp contrast with Nyalenda residents' previous situation. Table 5 shows that MOs' connection costs are 63 percent cheaper than KIWASCO's price.

While the number of connections has been increasing steadily, it is still lower than expected, due to the continued existence of illegal spaghetti connections. Nevertheless, as of February 2008, the MO lines accounted for 23 percent of water billing in Nyalenda. Comparing the collection efficiency (i.e. revenue collection divided by billing) of MO lines and KIWASCO direct customers, the difference is miniscule. On average, between June 2006 and February 2008, it was 88 percent for the MOs and 89 percent for KIWASCO.

The competitive advantage of the DMM is revealed by the “undetected” consumers on KIWASCO’s line. Whereas KIWASCO distributes large amounts of water that is neither metered nor billed, all of the water that enters the community through MO lines is metered and billed. In addition, MOs identify and repair leaks promptly because they have the responsibility to pay for all water that flows through the bulk meter. This level of control and urgency is not present on the spaghetti system. The MO lines had an average non-revenue water rate of 5 percent from January 2006 to March 2008. KIWASCO is unable to quantify its non-revenue water in Nyalenda because it does not have zonal meters, but it estimates that it recovers payment for only 40 percent of the water pumped into Nyalenda. The 60 percent estimated lost is largely due to illegal connections and leaks.

A prepayment system in the DMM design further reduces the risk of nonpayment. The MO pays a deposit of KES 15,000 (US\$242) to the utility. Domestic customers pay a deposit of KES 1,000 (US\$16) to the MO. Kiosk customers pay a deposit KES 5,000 (US\$81) to the MO. The MO and the utility have the right to withhold these deposits in case of default. The prepayment system protects the finances of the utility and that of the MOs.

Performance of the MOs

As of March 2008 there were 155 connections on the MO lines. In

Table 5: Tariffs and fees through MO lines vs. KIWASCO

Domestic Tarriffs (USD)			
m³	Master Operator (US\$/m³)	KIWASCO (US\$/m³)	Reduction for consumers (%)
0-6	0.40	0.44	9%
7-20	0.47	0.53	13%
21-40	0.67	0.67	0%
41-60	0.67	0.67	9%
60 & above	0.67	0.80	17%
	Minimum of US\$2.40/month	Minimum of US\$2.67/month	
Consumer Tarriffs (USD)			
m³	Master Operator (US\$/m³)	KIWASCO (US\$/m³)	Reduction for consumers (%)
0-10	0.53	0.73	27%
11 & above	0.47	0.73	36%
	Minimum of US\$2.40/month	Minimum of US\$2.67/month	
Other Costs			
	Master Operator (US\$/m³)	KIWASCO (US\$/m³)	Reduction for consumers (%)
Connection fee	20.00	53.33	63%
Deposit - Domestic	13.33	24.00	44%
Deposit - Commercial	66.67	133.33	50%
Deposit - Construction	133.33	133.33	0%
Meter Rent/month	0.93	2.00	53%

1US\$ = 75KES | KES = Kenya Shillings

Nyalenda, the number of connections per line varies from 19 to 73, with a lower number of connections (comprised largely of kiosks) in the poorest zones and higher numbers of connections (comprised primarily of private household connections) in higher income areas.

Consumption patterns on the MO lines show that the majority of customers are reselling water. The average consumption per connection was 33m³ between January 2006 and March 2008. Calculating by the average national consumption for the poor segment of the population (30.1 liters per capita per day) this means that one connection serves approximately 36 people, or seven households (Gulyani et al 2005).

Experience therefore shows that whether the MO is a CBO or an individual, it is not as important as

having an entrepreneurial spirit, business acumen, strong community relations, and remuneration of personnel (since volunteerism is not sustainable). While CBOs may add another layer of bureaucracy, they offer a wide support network for tasks such as patrolling the network. Approximately 25,000 people benefited from improved water services in the pilot phase. Clearly, this model is commercially viable for the utilities and MOs, and enables low-income consumers to spend less on water.

Challenges and recommendations

The main factors undermining the DMM are occasional vandalism of works, and illegal connections on the main network. Vandalism is not confined exclusively to the DMM as

meters are stolen throughout the city, or to the water sector, as electricity cables are frequently stolen in Nyalenda.

However, the DMM approach is novel because both private operators and the utility share the risks of vandalism and theft, and work together to fight them.

The DMM experience has revealed the magnitude of water cartels and illegal connections in Nyalenda. Existing water vendors may be to blame for the vandalism and thefts because they feel threatened by KIWASCO's hard line on illegal connections. Fortunately, vendors are starting to cooperate and regularize their connections by operating kiosks on the MO lines. However, there is still more work to be done in engaging with vendors. KIWASCO and MOs have broadened their partnership



Meter chamber on Line 1



Office of the Master Operator - Line 4

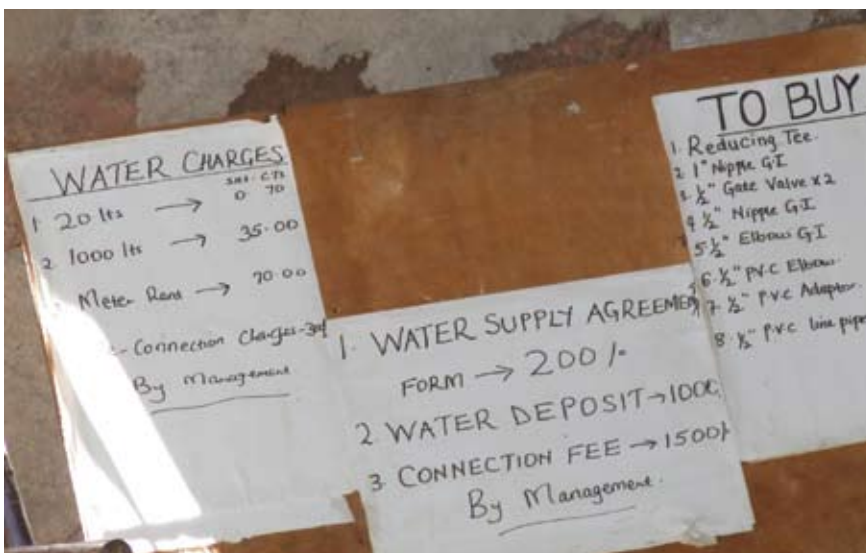
and work closely with local police to identify and disconnect illegal connections.

KIWASCO has also faced the challenges of building staff capacity

to manage the program and ensuring adequate community mobilization. To interact with the community, the company helped to form an elected oversight committee known as the Nyalenda Water and Sanitation

Committee. In hindsight, while the company did need a legitimate partner at the outset, its expectations of this voluntary committee were unrealistic. KIWASCO should not have depended entirely on the Water and Sanitation Committee to mobilize and sensitize the community, and the community should have been more involved in the planning stage. The committee's roles and responsibilities could have been better defined, but since this was a pilot project, roles were evolving as the company was learning. The committee's involvement has since been reduced to participating in the recruitment and selection of operators.

In the future, the utility should consult with communities before construction begins, and communicate a set of clearly defined messages. KIWASCO should consider contracting an NGO for this consultative phase, building the capacity of its own staff to engage effectively with communities, and hiring social scientists.



Water fees and cost of materials (1US\$ = 75KES)

Communication challenges

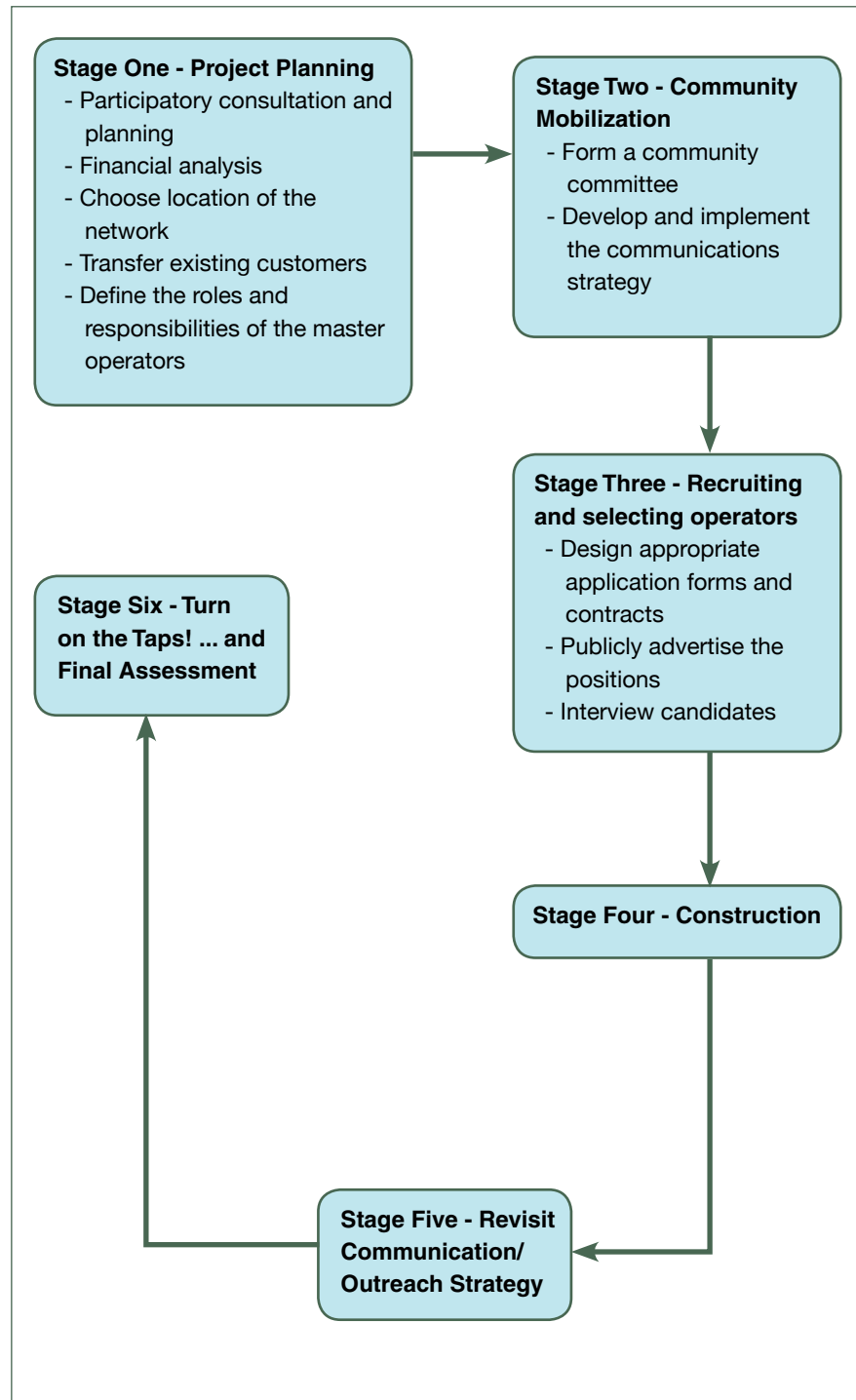
Identifying the most effective channels through which to communicate the benefits of the DMM to decision makers was a major challenge for KIWASCO and MOs. Some reasons for this were: (i) household decision makers were home only on weekends and evenings; (ii) many landlords did not live in the area; (iii) the local administration's weekly meetings were not attended by a representative

sample of the community; (iv) existing vendors preferred not to engage formally with the company; and (v) many KIWASCO field staff were spreading contradictory messages.

With the guidance of WSP-Africa, KIWASCO developed a communication campaign with the slogan *Maji Bora Pamoja-Nyalenda* (Together Better Water - Nyalenda), which expresses the goal of 'improved services', and the method 'through partnership'. The company identified: (a) the groups that were most crucial to the DMM's success (landlords, influential members of the community, vendors, KIWASCO customers, non-customers, LVSWSB, KIWASCO staff); (b) the information needs of each group; and (c) the most effective tool, forum and language for communicating with each group. The company rolled out the campaign with a series of workshops, meetings, brochures, radio shows and a door-to-door campaign, all based on this strategy.

Based on the many lessons that the pilot has yielded WSP-Africa developed the methodology illustrated in the diagram to guide the replication of the DMM⁵.

Figure 6. DMM methodology



⁵WSP-Africa has developed a detailed set of guidelines for replication of the DMM in Kisumu.

⁶Although billing efficiency has improved overall in Nyalenda, the exact level of non-revenue water cannot be determined due to a lack of zonal meters.

Conclusion

Although the DMM in Nyalenda is targeted to low-income consumers and is on a smaller scale than many other delegated management arrangements in the water sector, the critical principles for success remain the same. These principles include: (a) transparency in the bidding process; (b) clear contractual arrangements; and (c) the right financial incentives for all parties. The Nyalenda experiment shows that the model has clear merits, as has been demonstrated in other contexts such as Manila in the Philippines, where the utility is privately run (Inocencio 2001).

In Kisumu, the approach has given the water company the confidence to move into a low-income area and formalize services. It has also helped the company to reduce non-revenue water⁶ and improve the quality and affordability of services to the poor in a financially viable manner. The overriding lesson from the Kisumu case is that the utility must commit to transfer the existing customers, eliminate illegal connections, and invest and take the lead in community outreach.

The results to date are very encouraging, but the full benefits of the delegated management model in Kisumu will only be seen when all the consumers are served through the MO lines. The DMM should be scaled up in Kisumu and it could well be replicated in other countries that have a supportive policy framework and adequate supply of water.



Master Operators undergoing hands-on training

⁶Although billing efficiency has improved overall in Nyalenda, the exact level of non-revenue water cannot be determined due to a lack of zonal meters.

Serving the Urban Poor

This series of field notes on Serving the Urban Poor aims to provide lessons to public sector decision-makers, managers and implementers, and their private partners, to tackle the challenges of service delivery to the urban poor. The series is concerned with the key issues and actions necessary to improve the scale and rate of progress towards the MDGs in urban areas: making utility reform work for the poor; enhancing the role of local private providers; promoting incentive driven, predictable enabling environments; and strengthening consumer voice and mechanisms to improve the accountability of service providers.

References

Economic Consulting Associates & NorKen International. 2008. Financial Analysis of Kisumu Water and Sewerage Company's Tariffs. Prepared for the Lake Victoria South Water Services Board, Kenya.

Gulyani, Sumila, R., Mukami Kariuki, & Debabrata Talukdar. 2005. Water for the Urban Poor: Water Markets, Household Demand, and Services Preferences in Kenya. Water Supply and Sanitation Sector Board Discussion Paper Series. Paper No. 5. World Bank. Washington, D.C.

Inocencio, Arlene B. 2001. "Public-private partnerships in Metro Manila, Philippines," *Waterlines* 21 (3): 9-11.

Kessides, Christine, et al. 2000. *Cities in Transition: Urban and Local Government Strategy*. The World Bank. Washington, D.C.

Kessides, Christine. 2006. *The Urban Transition in Sub-Saharan Africa: Implications for Economic Growth and Poverty Reduction*. Cities Alliance. Washington, D.C.

Nilsson, David, & Arne, Kaijser. 2008. "Discrimination by default: The post-colonial heritage of urban water provision in East Africa." A Chapter for Castro E. & J. Heller (eds.), *Water and Sanitation Services: Public Policy and Management*. Earthscan, UK. [Re-submitted April 2008].

Tremolet, Sophie, & Jonathan Halpern. 2006. *Regulation of Water and Sanitation Services: Getting Better Service to Poor People*. The World Bank. Washington, D.C.

UN-Habitat. 2005. *Situational Analysis of Informal Settlements in Kisumu*. Kenya Slum Upgrading Program, Nairobi.

UN-Habitat. 2006. *State of the World's Cities Report: 2006/07*. Nairobi, Kenya.

Water Utility Partnership for Capacity Building (WUP) Africa. 2003. *Better Water and Sanitation for the Urban Poor: Good Practices from Sub-Saharan Africa*.



Water and Sanitation Program - Africa

World Bank
Hill Park Building
Upper Hill Road
PO Box 30577
Nairobi
Kenya

Phone: +254 20 322-6306
Fax: +254 20 322-6386
E-mail: wspaf@worldbank.org
Website: www.wsp.org

May 2009

WSP MISSION:

To help the poor gain sustained access to improved water and sanitation services.

WSP FUNDING PARTNERS:

Australia, Austria, Denmark, Finland, France, Ireland, Luxembourg, the Netherlands, Norway, Sweden, Switzerland, the United Kingdom, The World Bank, and the Bill and Melinda Gates Foundation.

ACKNOWLEDGEMENTS

This field note was prepared by Vivian Castro based in part on an article written by Vivian Castro and Alain Morel for *Waterlines Journal* (Volume 27 Number 4). It was peer reviewed by Sam Kayaga, David Nilsson, Jean Doyen and Piers Cross. The following WSP staff also provided comments: Harriet Nattabi, Dennis Mwanza, Peter Hawkins, Wambui Gichuri, Toni Sittoni, Rosemary Rop, Antti Inkinen, Valentina Zuin and Lilian Otiego.

Sincere thanks to Anthony Owiti, William Mboya and David Onyango of the Kisumu Water and Sewerage Company and to each of the master operators for sharing their data and experiences. Christalle Gemon assisted in updating the financial data. Mindy Stanford edited the document and Toni Sittoni managed the editing and production of the Field Note.

Photo Credits: Vivian Castro