

# How can water and sanitation services to the urban poor be scaled up?



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## Acronyms

<b>AdeM</b>	Aguas de Moçambique
<b>CBO</b>	Community based Organisation
<b>EC</b>	European Commission
<b>FIPAG</b>	Fundo de Investimento e Patromonio do Abastecimento de Agua
<b>IBNet</b>	International Benchmarking Network
<b>JIRAMA</b>	Jiro Sy Rano Malagasy
<b>KVIP</b>	Kumasi Ventilated Improved Pit
<b>LSP</b>	Local service provider
<b>LWSC</b>	Lusaka Water and Sewerage Company
<b>NCWSC</b>	Nairobi City Water and Sewerage Company
<b>NGO</b>	Non-governmental organisation
<b>NRW</b>	Non-revenue water
<b>SSIP</b>	Small scale independent provider
<b>USAID</b>	United States Agency for International Development

## Introduction

Every year, WSUP (Water and Sanitation for the Urban Poor) organises a Project Implementation Workshop, convening its Project Managers, Project Directors and Projects Group together with senior staff from its service provider partners and sector colleagues. The meeting aims to promote cross project and cross sector learning. In 2009, the meeting was hosted in Nairobi, from 2<sup>nd</sup> to 7<sup>th</sup> November, and was attended by project and LSP staff from Antananarivo, Bangalore, Dhaka, Kumasi, Lusaka, Maputo, Nairobi and Naivasha. The workshop included two days of discussions around the question “How can water and sanitation services to the urban poor be scaled up?” This report summarises the findings, and includes examples from WSUP projects and elsewhere.

### 1. Improve utility performance

#### 1.1 Improve benchmarking systems

Benchmarking can motivate utilities and their staff to improve services. They should ideally allow a comparison between the service provided in the formal and informal settlements, and also the sharing of best practice between service providers. Benchmarking should feed into business and financial plans. More use need to be made of international tools like the IBNet. Key indicators for improved services to the urban poor are:

- Hours of supply – either hours of pumped supply, or kiosk opening times.
- NRW
- Dealing with customer complaints
- Number of connections and /or people served

#### ***Benchmarking results are widely published***

Kenya: Golden Indicators for utilities are tracked and published in a league table.

#### ***Utilities are compared on their service to the urban poor I***

Zambia: The national regulator compares utilities with each other regarding their performance in serving the poor.

#### ***Utilities are compared on their service to the urban poor II***

Madagascar: Administrative zones (which have different levels of income) are compared on issues like customer satisfaction and periods of water unavailability.

#### 1.2 Build the capacity of the local service providers to serve the urban poor

To start a successful capacity building programme, the LSP needs to assess their own needs. This gives them ownership of the process. The capacity building programme then needs to be phased in order to fully engage the service provider. Incentives may need to be in place to retain individual beneficiaries of capacity building programmes who will be tempted to move to the private sector with their new skill set.

Placements in utilities which are serving the urban poor well can open the eyes of the utility, and catalyse them to change their operational structure. However, any courses/placements should not just be theory, and should help individuals with the problems their organisation faces.

#### 1.3 Motivate utility staff to serve the poor

If individuals within the company are motivated to serve the poor then a better service will be delivered. Staff salaries should be harmonized with similar jobs in the private sector to ensure staff

are retained. Utility staff should receive incentives if key targets are met, including services to the poor. Programmes to reduce corruption may need to be introduced.

#### **1.4 Follow the example of other sectors in serving the poor**

Water and sewerage utilities are not the only ones providing services to the poor, and lessons can be learned from other sectors, for example mobile phone companies and soft drink distributors, and other businesses that sell small, affordable items to the poor. It may be necessary to organise exchange visits to facilitate this learning.

#### **1.5 Improve the technical skills of service providers**

Technical skills include balancing pressure and flow capacity for distribution and production. This is a key area for capacity building.

## **2. Use financial resources more effectively and increase affordability**

### **2.1 Set tariffs and taxes wisely so that everyone in the supply chain is paid a fair price**

Tariffs need to be set so that they are affordable to the end user. Particular care needs to be taken in devolved management systems so that the utility is paid fairly for the water it supplies and the water vendors or CBOs have a viable business. Utilities need to recognise that different tariffs are required for direct connections and bulk supply – as kiosk operators need some profit margin, water needs to be supplied to them at a lower tariff than for direct connections in people's homes. CBOs who collect tariffs directly must be convinced of the need to nominate someone to act as the collector keep the records and pay the bill. Assistance in understanding affordability and setting tariffs is a key area for capacity building.

Tariffs for water could also include a charge to coverage sewerage and sanitation, or there could be a separate tax to cover sanitation.

#### **Water tariffs cover pit emptying**

Manila (Philippines): A sanitation fee is included in water bill. This covers the cost of removing the sludge from the pit latrines every five years.

#### **Sanitation can be funded through water tariffs**

Burkina Faso: The funds for sanitation investments are collected through the water authority levy of 2%.

#### **A sanitation tax is levied**

Lusaka (Zambia): There is a sanitation levy which helps to fund the emptying and transporting of the sludge.

#### **Tariffs are set as "pay per use"**

Kumasi (Ghana): Collecting fees for solid waste collection on a monthly basis was found to be unsustainable. The system was changed to 'pay as you dump' and payments were more readily made. This reflects people's cash flow – they do not have sufficient cash to pay a monthly charge, but can pay for a service as they use it.

### **2.2 Make one-off payments for water and sanitation improvements affordable**

One-off payments might include water connection charges, bills for latrine construction, or the fee for emptying a latrine. High one-off connection fees can discourage formal connections to water

and sewerage networks. Instead of one-off fees, costs can be recovered in the service tariff or paid in instalments. If the instalments are small enough households are willing to pay. Prepaid meters provide another alternative. Households may need to be convinced that getting a legal water connection is indeed affordable. Assistance in understanding affordability and setting (or dispensing with) connection fees is a key area for capacity building.

***A range of connection fee payment options increases the number of connections***

Maputo (Mozambique): Phased payments have been put into place to help with connection fees, and the utility has been surprised how many people are able to pay. Pre-payments meter are also working well.

***2.3 Issue loans to make sanitation affordable***

Conventional microfinance savings 'circles' are a method of encouraging saving but do not necessarily generate loans large enough to fund sanitation improvements. However, if a donor provided initial funds to start a revolving loan scheme, community savings might continue the scheme after the donor has withdrawn funding although many donors (like the EC) do not like investing in these schemes as pay back can be poor. The threat of withholding savings may be used as a deterrent to people defaulting on loan repayments. The loan scheme may need to be longer term than for other microfinance initiatives. There is a case for collecting repayments on a weekly basis as this is perceived as being more affordable than repaying a larger amount on a monthly basis.

***Microfinance working successfully for sanitation***

Bangladesh: The Grameen Bank has engaged in sanitation, giving soft loans to assist the purchase of sanitation components in rural areas. The bank relies on peer pressure developing the solidarity of the group.

***Government loans stimulate demand but costs are not recovered***

Kumasi, Ghana: The government issued loans that successfully stimulated demand in sanitation. Beneficiaries paid about 20% of cost of the sanitation infrastructure up front. The remainder was given as a loan and repaid over a period of around three years. However, the total cost recovery was only 60%. There were three reasons that the costs were not fully recovered. Firstly the system for collecting payments was inadequate. Secondly the interest rate was only 10%. Thirdly, the full cost of the system (and hence the amount loaned) was very high as it involved a KVIP and twin pits.

***Commercial lenders investing in development***

Nairobi, Kenya: The commercial bank, K-Rep makes small loans to CBOs to be used for development projects including water and sanitation. These loans are guaranteed by USAID.

***2.4 Use sanitation infrastructure as an opportunity to generate income***

If communal sanitation blocks are installed, there may be additional opportunities to generate income for the operation and maintenance of the blocks. For example, selling hot water, renting space for community events selling advertising space and even selling bi-products of the toilets, including biogas and fertiliser.

***2.5 Convince water utilities of the financial benefits of serving the urban poor***

Many utilities have a perception that supplying water to the urban poor is not financially sustainable. However, some are realising that urban poor settlements do represent their largest base of new customers, even if they do not yet have the capacity to serve these populations. The utilities may

need support in accessing funding and planning investments that will benefit the urban poor. Understanding how to increase customer demand in the urban poor settlements, access funding and plan investments are key areas for capacity building.

***A utility keen to expand its customer base***

Antananarivo (Madagascar): a typical individual connection uses about 30m<sup>3</sup>/month, whereas a group connection uses about 300m<sup>3</sup>/month, so JIRAMA, the local utility, are motivated to provide this type of connection. JIRAMA have a saying: “new customers are good customers!”

***Utilities are apprehensive about investing in informal settlements***

Lusaka (Zambia): LWSC invested some money in the informal settlements, but it took time to collect the revenue and see a return on the investment. Now they are nervous about further investment.

**2.6 Convince water utilities that serving the urban poor will reduce their NRW**

If a utility starts to serve the urban poor, it can reduce its NRW by replacing illegal connections with legal ones. This not only generates additional revenue, but also reduces the amount of water wasted by leakage at poorly made illegal connections. This is probably the best argument to convince water companies to serve the urban poor.

***Reducing NRW motivates service delivery to the urban poor***

Nairobi (Kenya): The primary motivator in forming NCWSC’s Informal Settlement Unit was reducing NRW. They used to have 62% NRW. After engaging with the informal settlements it is 39%. This improvement has increased the company’s revenue.

**2.7 Encourage water trust funds to start financing sanitation**

Water trust funds can be set up to pool donor resources – the donors give their money to a central fund which then distributes it. However, these water trust funds can tend to focus on water and ignore sanitation.

***Even trust funds for sanitation can fail to invest in sanitation***

Kenya: Guarantee funds were set up to support sanitation investment but the funds have tended to be used to develop new plots for rent.

**3. Increase awareness of the rights of the urban poor**

**3.1 Convince utilities of their obligation to serve the urban poor**

There is often a legal or political mandate that requires the water company to supply the entire population including the poor even if this is not financially viable. Where there is no such mandate, utilities might be motivated to serve the poor by their professional pride or moral responsibility not to discriminate, however, this is unlikely to obtain sustainable improvements at the large scale. The wider health and political benefits from serving the poor may need to be highlighted.

**3.2 Encourage municipalities to plan sanitation for urban poor settlements**

There is often no planning culture at a municipal level. There may not be any incentives to put together a sanitation plan. The best incentive to plan at the municipal level may well be a requirement at the national or provincial level that each municipality produces a plan. However,

other concerned agencies may find that advocating for improved planning complements their work on the ground. The first and most important stage in such advocacy is identifying the ministries and departments with both a mandate for sanitation planning and funding for sanitation provision. These ministries and departments may need considerable capacity building, but if they are involved in the process of planning directly, they will own the plan and be more likely to implement it. Detailed mapping of the city may need to be undertaken to facilitate planning. The plan needs to have a long-term perspective but should also address the need for immediate action. This can be achieved by developing a short-term action plan linked to a longer term 'strategic' plan. The different types of housing and household characteristics need to be identified and workable sanitation options need to be developed for each one. Care should be taken to have an explicit focus on low income areas. In cities where the low-income settlements are unplanned and unrecognised, city level planning may not deliver improvements for the poor and settlement-level plans may need to be developed.

***The government requires a sanitation plan***

Ghana: Government legislation states that individual towns should have medium term development plans, which are developed for a five year period and updated at yearly intervals. These are developed from the bottom up through community consultation, which should mean that the needs of the informal settlements are met. However, often there is insufficient funding to implement the plans, and the money is distributed so widely that the impact is not felt.

***Plans helping to attract funding for sanitation***

Lusaka (Zambia): LWSC has the responsibility for sanitation, not just sewerage, although it has limited capacity to facilitate on-site sanitation. However, it has developed a three year sanitation strategy with support from the WSP "Sanitation Marketing and Hygiene Programme". The plan is divided into one year action plans. This plan is being linked to wider municipal planning efforts. There is a strong emphasis on the need to identify how the various aspects of the plan are to be funded, which gives a framework within which funders can engage with the problems of the city.

***The absence of a sanitation plan can mean that sanitation standards remain low***

Naivasha (Kenya): The municipality does not have a plan and developing one is unlikely to become a priority in the foreseeable future. The public health section of the municipality is mandated to enforce the regulations that require people to have latrines. However, they lack the capacity to do so as there is a poor working link between the urban planning departments and the public health departments. This results to failure of developers to adhere to the approved designs, or construction without approvals due to corruption. It then becomes very difficult for public health officers to enforce latrine construction in an already inhabited area. There is also no engagement with the issue of dealing with the sludge.

***3.3 Bring the needs of poor to the attention of politicians***

Promising improved services for the urban poor can gain politicians large numbers of votes, as the urban poor are a large proportion of the population, and likely to remain that way. Providing better services for the urban poor may also increase national security, as unrest in the urban poor settlements will be reduced. However, politicians need to clearly understand the issues or they will make unrealistic promises in their manifestos. Politicians tend to underestimate the time and investment required for improved services, for example they may promise free or unrealistic tariffs.

There may be key issues to lobby politicians on, for example the inclusion of urban water and sanitation in a country's Poverty Reduction Strategy Paper.



To make politicians aware of the needs of the urban poor, agencies can invite politicians to workshops or to commission new facilities. Politicians need to be given quantifiable results of successes to use in speeches, e.g. “5km of pipe laid, 15 new water kiosks opened and 3,000 additional people provided with clean, piped water at regulated prices”

***Politicians can motivate utilities to provide better services***

India: There are high profile annual awards given by the country’s President to the best performing utilities; one of the categories is service to the urban poor.

***Lobbying success***

Ghana: Increased political awareness of the inadequate sanitation experienced by the urban poor has led to the creation of the Directorate of Sanitation within the Ministry of Local Government. There are ongoing efforts to revise the National Sanitation Policy and develop funded action plans for improving sanitation.

***Service providers recognise the political importance of the urban poor***

Maputo, Mozambique: FIPAG (the asset owner) have recognised that the urban poor form a huge political block. As a result, they have agreed to let AdeM (a private operator) receive connection payments in three instalments. For some households FIPAG subsidises 90% of the connection cost. Both of these measures ease the financial burden on the poorest households.

***3.4 Bring the needs of poor to the attention of the media***

Regular media reports on the issues facing the urban poor can encourage better services. For example, there could be a weekly column in a newspaper. This raises the profile of the urban poor and promotes understanding about issues that affect them.

***The urban poor in the media***

Kenya: Citizen Report Cards have been used to gather information on utility performance. These results have been published in the media.

***3.5 Involve all stakeholders in plans to improve services for the urban poor***

Stakeholder involvement starts with identifying all the relevant stakeholders, including primary stakeholders (who must be involved in the process) and secondary stakeholders.

Stakeholders include the local government, local service providers, the regulator, CBOs, NGOs, Ministries, Asset Owners, Private Sector companies and local and national politicians. Initial meetings should just involve the stakeholder and implementing agency, to present concepts and hear concerns. Once their support is obtained, others can be involved. Key questions that need to be asked during stakeholder analysis are:

- Who has the legal obligation to provide water services to the urban poor?
- Who should convene the stakeholder forum?
- Who has the capacity to convene the stakeholder forum?
- Who will be a catalyst for change?
- Who has access to resources?
- Who wants change?

The answer to all these questions is unlikely to be the same organisation. Water utilities are the natural leaders, but support from local politicians (mayor, councillors) is essential.

## 4. Involve communities in water and sanitation improvements

### 4.1 Create a demand for sanitation

Government and NGO interventions on sanitation can only affect a small proportion of the population. Once some community members have improved sanitation, even if it is subsidised, the more affluent community members may fund sanitation improvements themselves as they want to be seen to be “keeping up”.

Communities, landlords or plot owners need to make the decision to use land, labour and financial resources to install latrines. Identifying who is the final decision maker with regard to resource allocation, both within the community and within the household, must form the first stage in any sanitation marketing campaign. Insights into household-level decision making are often not captured during baseline surveys. Once this decision making process is understood, specialist marketers may need to be employed to design the marketing campaign that tailors different messages to different audiences.

Some countries now specify that any new water supply system must be accompanied by a proposal for a sanitation system. However, the water suppliers may not have the relevant expertise to put together such a proposal.

Where people are using public toilets, there may be a need to sensitize them to the possibility of moving to household toilets, emphasizing that this will save funds in the long term.

#### ***Governments can allocate resources to sanitation marketing, not just implementation***

Bangladesh: Local governments have a budget for promoting sanitation. The Ministry of Information is also involved, providing films, documentaries and dramas

#### ***Targeted sanitation marketing can stimulate demand***

Naivasha, Kenya: Here, the landlords live on plots with their tenants. A sanitation marketing campaign targeted at these landlords resulted in the excavation of many pits. It highlighted the business case for them to provide sanitation – i.e. that they will be able to charge higher rental fees for their property if sanitation is provided.

#### ***Tenants lobby their landlords for improved sanitation***

Ghana: Agencies have facilitated tenants to unite and lobby for sanitation improvements. These tenants are even prepared to pay part of the cost of the improved facilities.

### 4.2 Reduce infrastructure vandalism

To reduce infrastructure vandalism there needs to be respect between the utility and the community. This can be achieved if the utility provides a good service to its customers and is seen to respect the community, for example not accusing them of stealing. If community members can be employed by the utility this will also increase the community's respect for the infrastructure. Incentives can be provided to the community not to damage the infrastructure, for example providing water free of charge to the very poor. A good communications strategy is essential. Lessons can be learned from other sectors, for example mobile phone companies whose services are widely used and infrastructure rarely damaged.

### 4.3 Use media campaigns to reach large communities with hygiene promotion messages

The capacity of those delivering behaviour change messages, including teachers, primary health care providers and community health agents needs to be built. However, there is an argument that resource intensive community based person-to person hygiene promotion is not scalable and should be limited to areas where media reach is limited. Opportunities to tap into the corporate

marketing campaigns (for example, soap manufacturers) should be taken. External events like outbreaks of cholera and swine flu can catalyse a hygiene promotion campaign. However, any hygiene promotion work should be owned by the local governments. The role of other agencies is simply to steer and inform the process. A balance needs to be achieved between hygiene promotion and hygiene hardware installation, as these two factors are interdependent.

## 5. Encourage alternative service delivery models

### 5.1 Consider devolving the management of water supplies to local operators

Water companies can devolve the management of water supplies to local operators, for example CBOs or water vendors. A CBO may be better placed to connect with an urban population as they may engender trust in the local population, and give them a greater feeling of ownership of the infrastructure. In addition, the water company does not have to invest in final delivery infrastructure. This can be a barrier to service delivery if there is no land tenure. Having many suppliers will introduce competition and hence price reduction.

With such a system, the utility or the regulator still needs to control and guarantee the tariffs, water quality and times that water is available (e.g. kiosk opening hours). This control and guarantee should be passed all the way along the chain, even if there are several tiers of delegated management. Otherwise there is a risk that, for example, the local operator increases the price so that services are not accessible to the poorest. The utility or municipality need to be the asset owner, whilst the role of the local operator is in operation and maintenance.

Delegated management is a scalable model. Scale would have to be achieved both by increasing the population served by individual operators, and increasing the number of operators. The former could be achieved by increasing the funding of the local operators, by grants from local government or other agencies and support to the water company to develop their infrastructure.

#### ***Delegated management enables fair pricing***

Maputo (Mozambique): The main utility (AdeM) provides bulk supply to a small operator (EMA). The tariffs are set carefully – individual households pay a connection fee and a volumetric tariff. Water kiosks just pay a volumetric tariff but it is higher than for house connections. Once the long term contract is in place, EMA will also be responsible for billing and revenue collection.

#### ***Delegated management reduces illegal connections***

Lusaka (Zambia): Small community providers have been used. The buy-in from community is good – they respect a local provider. There are few illegal connections because they are quickly found out.

#### ***Delegated management empowers the community***

Nairobi (Kenya): Kiosk operators supply water to the market at a small margin. These kiosk operators are forming representative associations. Through these they can raise issues with the water company.

### 5.2 Value the service provided by SSIPs

SSIPs exist to serve the areas unserved by the utilities, which does not just include the urban poor, it also includes areas on the periphery of the cities to which the network does not extend. They typically consist of borehole operators who can supply groundwater to areas where there are no piped supplies. They can operate at a variety of scales, and may be efficient or inefficient. They can be community managed or privately operated. They may form a long term solution or simply facilitate a transition towards more formal supplies. As a utility expands into the urban poor

settlements, they should consult widely to ensure that the independent suppliers understand the likely effect on them.

***Utilities and SSIPs not existing together***

Manila (Philippines): When Manila Water expanded its services to include the urban poor, it took over the independents

***SSIPs filling the gaps left by utilities***

Ghana: Private operators fill the current gaps in supply, and will move on or cease to exist when piped water supplies are installed.

***SSIPs provide water to a significant population***

Lusaka (Zambia): The SSIPs are significant suppliers within the city.

***Efficient SSIPs may not welcome utility provision***

Maputo (Mozambique): In this city there are 400 independent providers who provide services to 31% of the peri-urban population. The way they supply water varies between them – in 2005, 15% had no household connections, whilst 17% had over 100 connections. Some provide a good service for up to 200 people. They are efficient and fix their standpipes quicker than the utility!

***SSIPs can provide a better service than community managed projects***

Naivasha (Kenya): The community managed boreholes which served this community used to take a long time to get repaired. SSIPs that rely on the income from the service they provide are more motivated to get repairs completed quickly. They have also modernised the system, for example replacing donkey carts with pipes.

***SSIPs may provide cheaper water for non-consumptive use***

Maputo (Mozambique): The borehole water supplied by the SSIPs is not of high enough quality for drinking, but in some places it is cheaper than the piped supplies, so is used for watering plants and washing.

***5.3 Increase capacity to supply sanitation infrastructure***

Often there is significant demand for sanitation infrastructure, but there is no mechanism for meeting this demand. To increase the capacity for supply, firstly the suppliers need to be identified. They may include masons, CBOs, private contractors, the municipality and the water provider. Secondly the appropriate range of products needs to be identified, which may include on plot latrines, shared and communal blocks (for a few families or a larger community), public latrines and bio-centres. The suppliers may need capacity building to produce a higher volume of sanitation products, for example they may need training in business skills or advice on how to take advantage of economies of scale. If the key supplier is the sewerage utility or municipality, they may require a lot of capacity building and awareness-raising as providing on-site sanitation may be marginal to their main activities. This attitude may be ingrained within the management structures. If there is little evidence of the utility supplying on-site sanitation, it may not be appropriate for external agencies to interfere; it may be best to work with other suppliers instead. Partnerships with other local institutions may be beneficial (hospital, local industries). Care should be taken to work within current regulation and legislation regarding sanitation.

***Capacity building of sewerage utilities***

Malawi: WSP have been working in Blantyre and Lilongwe to build the capacity of the sewerage utility to provide on-site (non-water borne) sanitation, as part of a large EIB funded project

#### **5.4 Develop sustainable technologies for latrine emptying**

There are no good examples of urban latrines emptying projects working on a large scale. The most prominent contenders are the “vacutug” and the “gulper”, but these have only worked at a small scale and do not involve sludge treatment. A successful large scale project would probably incorporate a good pit emptying technology, transfer to an intermediate station where some treatment may occur and final transfer to a treatment works by a utility or municipal tanker. The use of eco-sanitation needs to be explored further. This involves the separation of urine and faeces. The sludge is then dried in sun and sold as manure.

##### ***Manual exhausters may be the only available option***

Bangalore (India) and Nairobi (Kenya): The pit latrines are emptied by hand, and the workers have no protective equipment.

##### ***The gulper is being trialled***

Tanzania and Nairobi, (Kenya): The use of the gulper is being trialled.

##### ***Vacutug successfully operated at a small scale***

Maputo, (Mozambique): One vacutug is owned by the municipality and used to exhaust pit latrines in the peri-urban zone. There are septic tanks operated privately; these provide an intermediate station from which the sludge is collected by a larger tanker and taken to a lagoon.