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Mehrotra, Shagun, and Alain Morel. 2019. "Enabling Small-scale Water Providers in Kibera". figshare. <https://hdl.handle.net/2134/28827>.



## Enabling small-scale water providers in Kibera

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THE SMALL-SCALE providers are significant actors in the provision of services to the urban poor. This paper focuses on preparing pragmatic tasks to enable the water providers operating in informal settlements and deals with the issues of price, quality and abstraction. It is conceived in the context of the present government reforms in Kenya and addresses the water needs of the urban poor. This is also part of the present interest of the Water and Sanitation Program (WSP)- Africa that is working with clients to find pragmatic ways to achieve the Millennium Development Goals in Africa.

### Background

In the context of past studies on small-scale private providers (SSPs) and service provision to the urban poor this paper breaks away from the efforts of documenting the various kinds of SSPs. Although the paper derives much of its initial understanding from previous records on SSPs it makes a significant shift in focus by exploring the approach of constructive engagement in issues involving, enabling and regulating operations of the water kiosks—the predominant mode of SSPs in Kibera.

With a population estimated to be 500,000 the informal settlement of Kibera is home to a third of the population of the City of Nairobi. The settlement covers an area of about 250 hectares, with a density of over 2,000 people per hectare. This distinguishes Kibera from other informal settlements in Sub-Saharan Africa making it one of the largest and most densely populated, providing the obvious benefit of economies of scale. Although it lacks the presence of local industrial activity, like similar settlements in Asia; Dharavi, Mumbai, with one million inhabitants on 175 hectare of land has an estimated annual turnover of US \$300–400 million. Kibera has a strong presence of local private entrepreneurs all serving the daily needs of the communities.

A significant constraint in poverty reduction of the people of Kibera is the state of the living environment. This is largely a product of a legal gap, unclear policy framework and lack of effective action to improve living conditions. Inadequate water supply and sanitation are among the most serious environmental concerns posed to the people of Kibera. Most people in Kibera get water from private water kiosks operators who lay long plastic pipes (at times as much as 1,500 meters) from the city utility's main network and transport the water to store in tanks (with 2 to 6 m<sup>3</sup> capacity). Then the water is retailed to the consumers.



**Figure 1: Children collect precious water in the red tub from leaking pipes.**

The picture below (Figure 1) shows one such junction where numerous kiosk operators abstract water from the central utility network in Kibera. Often the pipe is laid amidst garbage and open drains. This results in contamination of the water even before it reaches the storage tanks. The next section provides a brief description of the steps involved in the research.

### Methodology and objective

This action research was initiated with a rapid review of past studies to identify and prioritize significant constraints. As a next step one enabling mechanisms for each of the three stakeholders was prepared (government's licensing, consumer forum and local private sector's self regulation). Then, these mechanisms were discussed with various stakeholders inviting their feedback on the risks and benefits for each of the options. The feedback was through a series of workshops (involving consumers and SSPs) and focus interviews with government representatives. Subsequently the results were presented to the various stakeholders and their comments were incorporated into the research process.

**Mechanism one:** this had the government as the enabler and involved use of licensing and introducing local government offices within the communities in order improve access to the consumer and reduce the response time (similar attempts have shown successful results in Dhaka, Bangladesh).

**Mechanism two:** had the consumer as the central actor and proposed the use of a consumer forum to enable the activities of the water providers.

**Mechanism three:** proposed the use of self-organization by the private water providers (also based on a similar local success in Nairobi where the private waste collectors have formed an association and adopted a code of conduct)

Although these mechanisms (see table one) are not mutually exclusive and absolutely effective in isolation, they were adopted to initiate the study. The responses of the



Figure 2.

government and the civil society group consultations were not restricted to the review of the three mechanisms but they also explored how power groups operate and could adapt to the use of these methods in order to make them effective in the local context. The primary objective of the study was to derive pragmatic tasks, involving stakeholders to addressing the issues of price, quality and abstraction of water in Kibera.

Stakeholder	Mechanism	Risk
Public sector Civil society	Licensing Consumer forum	Rent seeking Lack of voice – tenants Cartels
Private sector	Self-organization <sup>2</sup>	

**Findings**

Some of the critical issues from the stakeholder perspectives were:

**Government**

As the consumption of water by the residents of Kibera was a small fraction of the total cities water supply (<10%) and the revenue officially collected was an insignificant amount (<1% of the SSPs officially pay their dues) there was relatively less incentive to initiate effective action. What summarised the government’s perspective on enabling water kiosks is well represented in an article titled “Rogue water vendors are put on notice” (see figure 2). This was issued to reduce unaccounted for water (UFW) due to theft and leakage but appears to be a very unilateral and harsh approach towards the SSPs.

**Consumer**

As most of the resident in Kibera are tenants and the kiosk owners landlords, the consumer lacked voice and indicated the use of mod justice or media as options for them to take

action under circumstances of extreme water shortage (a time when the prices sore exceptionally high, as much as 20 KES<sup>3</sup> for a 20 litre jerry-can, see figure 3). Besides, there is evidence that the consumers in Kibera together pay about 2.4 million KES every day<sup>4</sup> for the water they consume (probably a significant amount if compared to the average revenue collected by NCC expressed as collection per day).

**Private sector**

Despite facing significant constraints in the registration process and incurring high costs (due to official and unofficially fees) the small scale providers are concerned with improving the service. It is in their interest to reduce constraint in the operations in order to expand their business. Over 80% of the water providers are landlords and the estimated capital investment by each private vendor is about 2,000 US Dollars (or total of US\$ 1.2 million for Kibera; a per capita cost of about US\$ 2.6) where at least a quarter of it is paid as bribe.

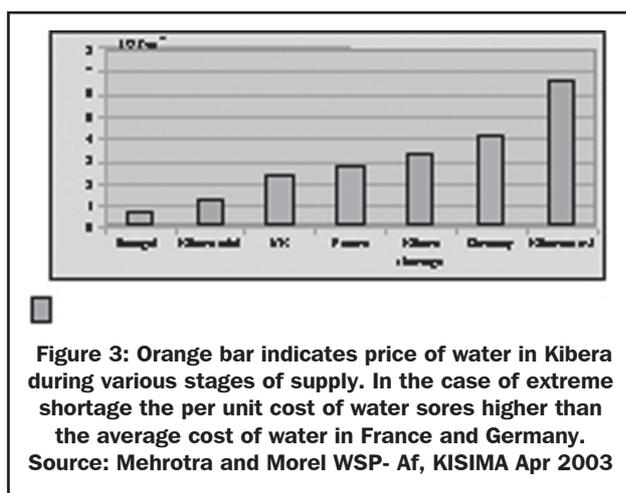
**Discussion**

The action research had intense engagements that lead to the independent formation of *Maji Bora Kibera* (MBK, Better Water for Kibera in Swahili) – a self-organization of water Kiosk owners. The true effectiveness of this association would be revealed with time and would require a monitoring of the activities of the organization. The association intends to organize constructive negotiations between the stakeholders – public, private sector and civil society – in order to form effective enabling mechanism that adopt an incentive and penalty (carrot and stick) approach in a pragmatic manner.

**Incentive and penalty approach, an example**

Expanding service and increasing competition may be an incentive for the government, as it would lower the price of water and improve access to the people, but may also be a little penalty for the kiosk owners as it may initially affect their income. On the other hand reducing rent seeking would be an incentive for the kiosk owners as their investment and running costs would reduce and a little disciplining for the government staff as their informal revenue would decrease. This approach would provide incentive for various stakeholders to gain something while they are made liable to comply with some enabling methods. The mechanism of self-organization tends to offer some benefits while posing some risks as well. Some of these are listed in table two that follows:

<b>Risk</b>	
1.	Formation of Cartels
2.	May not lead to a price benefit to end users
3.	Still dependent on central utility
<b>Benefits</b>	
1.	Sustainable as driven by enlightened self interest
2.	Effective as regulated through peer pressure
3.	Uses a Incentive and penalty approach



## Lessons learned

Some of the key erudition is stated below:

- Many problems have origins in the public sector:** Although not recognized to the fullest by the utility, rent seeking is a critical issue and is evident with the allegation made by the Kiosk owners (they claim that 10 million KES were found in the account of the meter reader). Besides this managing shortages of water yield s power to various interested groups leading to channels for extortion, thus making it a self perpetuating cycle of shortage, veiled power and rent seeking.
- Structural reforms:** Like the present efforts in the water sector in Kenya it can become a self generating activity and may loose its initial purpose - like in some organizations with more than 800 employees there can be enough work internally to keep people totally occupied. Also the past efforts in utility reform have indicated that change in the administrative structure may not automatically result in the change of mindsets. Thus it may be relevant to indulge in strategic interventions and target reforms to enable existing systems that work – for example enable kiosk rather than replacing them.
- Voice:** There is a need to provide the local private enterprise involved in water vending – essentially Kiosks – with a platform to effectively negotiate on issues of rent seeking, bulk pricing and billing with city council (the present utility operator).
  - Media**, an effective option to express voice specifically for issues that cannot be resolved locally by individual vendors.
  - Mob justice**<sup>5</sup> and demonstrations have proven to be an effective last resort. Something that raises serious concern as it amounts to taking the law in their hands.
- Power groups:** the power of local social institutions need to be explored as an alternative means of introducing effectiveness in enabling frameworks for service delivery practices.
  - Reaching out through religious institutions and families applying social marketing strategies

- Finding systems that benefit from the coordination of administrative (Village Chief) and political (Councillor) efforts rather than be counterproductive. At present there is a conflict of interest in their activities as the former represents the interests of the government while the other represent those of the people.
- Other areas of interest:** that emerged as results of this action research are:
    - The role of SSPs in the context of future utility privatisation.
    - The role of SSPs in delivering sanitation facilities in a similar market based venture.
    - What roles would the consumer and the government play in self-organization by kiosk owners?
    - How this approach can be up-scaled and replicated in other parts of Kibera, Kenya and Africa?

## Orientations

Some pragmatic tasks to peruse

- PRICE:** Regarding the issue of price the study sums up with the understanding that the two significant actions that need to be taken are:
  - Reducing price of bulk water** from 34.5 KES (as presently paid by various kiosk owners) to 10 KES (as officially required by the city council tariff structure).
  - Reducing rent seeking** that result from constraints in registration and O&M.

This would require a sit down discussion between the kiosk owners in the association (MBK) followed by a constructive negotiation between the city council and MBK representatives. As it is in the common interest of both the organizations to rapidly address the high per unit price paid by the consumers in Kibera it is likely to happen quickly (although it is conflicting with the interest of the lower level utility staff that benefit from informal payments, at present there is substantial commitment at the senior level managers to address these issues). It may also result in a better officially recorded payment rate and reduction in investment costs of the kiosk owners leading to a quick drop in price for the consumer.

- QUALITY:** Here we refer to contamination during supply (in plastic pipes laid by kiosk owners), storage and handling during sales in Kibera
  - Egg for garbage campaign:** as observed during field work it is evident that the issue of water quality is largely effected by the poor waste management and the laying of water supply pipes along open sewers. To address this it is proposed to initiate a quick clean up exercise in Kibera. On one end it would require some incentive to the communities to gather solid waste and on the other hand some coordination by a private/public garbage collection organization to take it to the landfill sites. It is proposed to launch an egg/banana for garbage exchange. This is only an option; any other technique that works is also welcome (another example was the Saturday whistle where an NGO use to send a volunteer who would go every Saturday and whistle reminding neighbourhoods that it was time to clean up and it worked, although it has

not sustained.)

- b. **Peep shows & consumer rating:** allow consumers to freely peep into the tank prior to procuring water from the kiosks. This would create better awareness among the consumer and would be an incentive for the kiosk operators to regularly maintain their water storage tanks. Along with this if the consumers has an opportunity to rate the service in their village and put it in the newspaper or announce it over the weekends on RADIO KISS (local radio channel) or other popular media it would be an effective means of providing the consumer with a voice. There is a need to involve the media, as it would significantly facilitate in strengthening the consumer's voice while maintaining some degree of, much required anonymity.
3. **ABSTRACTION:** this refers to the process of withdrawing water from the central utility.
  - a. **Stop the leakage campaign:** need to encourage the identification of leakage points in order to reduce UFW. This could be done through community participation.
  - b. **Engagement:** an organized discussion between the kiosk owners regarding their constraints in price, quality and abstraction and a preparation of a clear and precise agenda should be followed by a constructive negotiation between the city council and the kiosk owners association.
4. **GENERAL SHORT-TERM ACTIONS**
  - a. **Getting MBK organized** – MBK may require a few more consultations and workshops in order to get the association organized and if necessary registered.
  - b. **Engagements with NCC/ Maji House<sup>6</sup>** – it would be critical to facilitate the meeting of MBK with the city council and when relevant the regulatory board to discuss the issues mentioned above and work towards a mutually acceptable solution.
  - c. **Strengthening the consumer:** as many of the consumers are tenants and kiosk operators are land lords there is a need to strengthen the voice of the consumer through the effective use of local media (a unique strength of Kenya is the critical and open media).
  - d. **Educating the Kiosk operators:** an effective method to address the issues of price, quality and abstraction would be to hold training programs for the kiosk operators to educate them on the health and environmental implications of their business, the social side of their economic activity and work with them to address these concerns. It may be worth investing in training and capacity building of the local private enterprise (most of the past effort have focused on the public sector).

It is the author's conviction that the most effective solution shall be a result of constructive negotiations between the stakeholders and should not be academic propositions. Thus the penalty and reward approach that is recommended would be best elaborated with the results of real engagements. Although the recommendations of this action research have been considered for implementation, the effectiveness shall be evident with the due course of its execution and a smile from the little children who roam the streets of Kibera.

## Conclusions

As the SSP are most affected by the present set-up, the study indicates that they are interested in improving water services. Contrary to popular belief they are keen on reducing the price of water and improving their service, as they see an opportunity to expand their business and enter other sections of the sector like, pay and use showers and sanitation units. The issue is not the availability of capital (as demonstrated by the investment made by the local private enterprise) as much as it is of considering the local power structure and initiating mechanism that involving a dialogue between the three key stakeholders, serving their interests and applying a simple incentive and penalty approach. The solutions would best evolve as a result of stakeholder engagement in constructive negotiations and premeditated academic propositions should be avoided.

## References

1. WSP, (1997), Kibera rapid needs assessment- Urban Environmental Sanitation Issues, Report by WSP-Africa, The World Bank, Nairobi. And WSP, (1998) page 5. The Water Kiosks of Kibera, Working paper, WSP-Africa, The World Bank, Nairobi, various pages.
2. Sharma, K., (2000). Rediscovering Dharavi: Stories from Asia's Largest Slum, Penguin Books India, New Delhi, Penguin as in <http://www.himalmag.com/may2001/review.html> page 3 of 5.
3. Mehrotra and Morel, (2003, forth coming), "Regulating small-scale providers for water supply: A case study in Kibera, Nairobi" Nairobi, a paper by WSP-Africa, The World Bank, page 6 and 7.
4. Robinson, D., T. Hewitt and J. Harriss (eds), (2000), Managing development, Understanding Inter-Organizational Relationships, (Chapter 10), London, Sage, page 226.
5. The Nation (2003), Rogue water vendors are put on notice, The Nation – Kenyan English newspaper –, February, 21, page 5.

## Footnotes

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- <sup>2</sup>Urban Team Leader - Water and Sanitation Program Africa. The World Bank, Kenya.
- <sup>3</sup>KES Kenyan Shillings approximately 75 to a US\$ as in Apr 2003
- <sup>4</sup>Estimated below is the approximate amount of money paid by the Kibera consumers each day for their water needs.  $40,000 \times 0.6 \times 50 \times 2 = 2.4$  million KES per day [Where: - 40,000 m<sup>3</sup>/d is the estimated amount of water supplied to Kibera by NCC - 0.6 is the estimated network efficiency - 50 is the number of jerry can per m<sup>3</sup> - 2 KES is the minimum selling price of a jerry-can]
- <sup>5</sup>Term used by the residents of Kibera to indicate acts when the people take the law into their own hands
- <sup>6</sup>Nairobi City Council (NCC) is the present utility operator and Maji House is the Ministry of Water Government of Kenya.