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## **Lessons from the implementation of pre-paid metering technology as a tool for improving access to safe water for informal settlements in Kampala, Uganda**

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**WATER AND CLIMATE RESILIENCE**

**Lessons from the implementation of pre-paid metering technology as a tool for improving access to safe water for informal settlements in Kampala**

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**Water supply in Kampala, Uganda**

**Background**

National Water and Sewerage Corporation (NWSC) in Uganda is a publicly owned utility supplying safe water and sewerage services in over 270 cities and towns countrywide. In the country's capital, Kampala city, NWSC services are administered through the Kampala Water operational office. Of the 1.7 million residents in Kampala [1], about it is estimated that about 55% live in informal settlements or slums [2], which is a significant proportion of NWSC's customers. In this respect, NWSC places a significant and deliberate effort in serving the urban poor populace in a manner befitting their income levels and willingness to pay.

This customised service includes a special pro-poor tariff UGX 1,060 (USD 0.27<sup>1</sup>) and additionally operates an urban pro-poor unit (UPPU) which is headquartered in Kisenyi, one of the prominent informal settlements in the city, to serve the residents of the informal settlements of the Greater Kampala Metropolitan Area<sup>2</sup> (GKMA).

**Challenges of service provision to the urban poor**

Water supply service provision to informal settlements is complicated by the unplanned nature of the developments, characterised by dense and congested housing patterns, with limited or no space for service lanes for utilities between buildings. Many settlements are built in swampy sections of the city with high water tables encourage easy contamination of ground water sources from unsafe on site sanitation facilities, majority unlined pit latrines, shared between households [3]. Poor solid waste management and hygiene practices (such as hand washing) often exacerbate the situation, and vulnerable groups such as women and children are most affected.

**Implementation of the pre-paid metering system**

**The pilot urban pro-poor project**

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<sup>1</sup> Bank Of Uganda Exchange Rate for the USD for 29 February 2024;  
<https://bou.or.ug/bouwebsite/ExchangeRates/>

<sup>2</sup> The Greater Kampala Metropolitan Area (GKMA) comprises Kampala City and key municipalities in the neighboring districts of Mukono, Mpigi, and Wakiso.

In 2006, NWSC commenced a pilot to improve access to clean water in informal settlements in Kampala. This need had stemmed from several outbreaks of water borne diseases such as cholera in these communities. With support from the German government through the KfW Development Bank, NWSC conducted a feasibility study that identified Kisenyi and Ndeeba as the informal settlements most in need of the interventions. In 2007, over 600 Pre-paid meters were procured and installed in the communities and residents were able to access water at a reduced fee.

### **Upscaling the intervention to the Greater Kampala Metropolitan Area**

Given the success of the project, many other development partners such as the World Bank, private organisations such as banks, clubs, and businesses, supported further outreach to all informal settlement with in Kampala city, and a few in the GKMA. A new interventions currently being implemented by NWSC is targeting a total revamp of the system for better operation and maintenance, and improved service delivery through providing alternative payment options for users.

### **Impact on climate resilience**

The system offers a number of benefits that positively impact on climate resilience such as: 1) robust clean conveyance and dispensing infrastructure that safeguards the integrity of the water quality; and 2) increased disposable income for the residents of the slums due to cheaper water – savings can be used to pay for safe disposal of solid waste.

### **Lessons learnt**

The following key lessons have been learnt during the implementation of the pre-paid metering system: 1) Affordability of water is crucial in improving access in urban slum settings; 2) Proper administrative systems are required to keep the system running and upscaling the interventions; 3) Gender and social inclusion must be taken into account for holistic reach; 4) selection of technology, civil infrastructure and location are critical increasing resilience to climate change; 5) community engagements including education and social marketing are essential to increase uptake of interventions; 6) middlemen at water points of sale greatly impact decisions of households to use safe water sources.

### **Conclusion**

Implementation of an appropriate water dispensing technology can significantly improve the climate resilience of a water supply systems to informal settlements and pave the way for achievement universal access to safe water for urban poor communities in Uganda and other developing countries.

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