

A systems approach to sustainable water operation & maintenance in Uganda

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Abstract / Summary

Non-functional rural water sources are one of the most significant challenges to the water sector in Uganda. Currently it is conservatively estimated that 15% of water points are non-functional (MWE, 2014). GOAL Uganda is currently piloting a markets based operation and maintenance model in Bugiri and Namayingo with the intent to improve water point functionality. The model seeks address key system constraints identified by the market diagnostic survey namely; collection of water user fees, communities collect funds only when the source breaks down. The O&M model is based on three interrelated behaviour changes that are crucial to the success of a more sustainable operations and maintenance (O&M). These comprise of: Private sector to pilot the new maintenance and repair service contract model, Water user committees (WUCs) adopting a new mobile payment system and collect regular water fees, Government to increase its influence in regulation and enforcement of O&M.

Introduction

According to a synthesis of relevant research by the Rural Water Supply Network (2009), approximately 36% of all hand pumps in rural sub-Saharan Africa are completely non-functional. This figure varies across contexts and likely needs to be updated; however, the overall picture is fairly consistent with more recent studies (Improve, 2015). Uganda is no exception, where the Community based management (CBM) model has been codified into law (MWE, 2011). Non-functional rural water sources is one of the most significant challenges to the water sector in Uganda. Currently it is conservatively estimated that 15% of water points are non-functional (MWE, 2014). Each bore hole costs approximately Ugx 24 million (\$8,000), representing a significant loss of investment, approximately \$30million¹. While there has been significant progress in improving access to safe water, these gains are being undermined by an ineffective approach to water operations and maintenance. In Bugiri and Namayingo districts where GOAL Uganda is currently implementing the O&M pilot model the situation is not different while water coverage is low 44% and 33²% respectively, functionality is not good: Bugiri 86% and Namayingo 73%.³ In 2014, GOAL undertook a market analysis to better understand how we could support sustainable water O&M. The program was keen to test the common assumptions held by other development actors. The main ones were that poor functionality was caused by low availability of spare parts, weak capacity of hand pump mechanics and limited access to finance. We found that collection, management of user fees and lack of a maintenance service were the key issues.

To address the issues above GOAL Uganda is piloting a market based operation and maintenance model hinged on three inter-related behaviour changes.

Key findings from the market analysis undertaken in 2014 were;

- The availability of spare parts, technical capacity of mechanics and access to finances are not the key drivers of poor O&M performance.

¹ UWASNET, News letter, March 2016

² Ministry of water and environment sector performance report 2014

³ ibid

- The main issues faced by communities are the collection of water user fees.
- Water User committee’s (WUCs) have very limited funds in fact 62% of WUCs had no funds at all.
- Technicians (Hand Pump Mechanics) provide impromptu O&M services.
- The collection of funds to pay for repairs can take months.
- Water users see no reason to pay for services while the water point is working.
- WUCs find themselves scrambling to collect funds when the water point breaks down.
- There are very few disincentives for non-payment causing significant delays in repair times, leading to reductions in access to safe water.

Context, aims and activities undertaken

GOAL Uganda with support from Charity Water is implementing a project named Sustainable Water Improvement Project (SWIM) planned to run for two years in the districts of Bugiri and Namayingo districts. The interventions focus on addressing three interrelated behavior changes that are crucial to the success of an alternative O&M model. The three behavior changes include:

- i. Water user committees adopt the new contract provided by the O&M service providers’

GOAL Uganda is working with an existing business to pilot a sustainable O&M service that has a greater focus on maintenance through the delivery of a fixed maintenance and repair service for all water points signed onto the O&M contract, in return for a standardized quarterly charge. Additionally, the pilot aims to demonstrate that provision of O&M services, can create profitable income for mechanics.

A business case was developed for a fixed maintenance and repair service. For communities who sign up to the O&M contract, they will receive a quarterly maintenance service and all repairs and spare parts; in return for a standardized quarterly fee of approx. \$70. In order to keep things simple while testing the model, the fee is standard across all community, large and small. If we can demonstrate demand for the service, additional refinements will be made in the future to reduce the fee for smaller communities.

The O&M service provider would be expected to raise revenue and hedge financial risk by aggregating WUCs into the system. The O&M service contract model assumes a conservative repayment rate with the costs for parts based on a breakdown of lifecycle costs, divided by yearly payments

- ii. WUCs adopt a new mobile saving system and collect regular water fees

The market research revealed that non-payment of water user fee is not directly linked to level of household income or ability to pay. 78% of WUC’s said that lack of payment reflects an unwillingness, rather than an inability to pay for water. Our hypothesis is that, if there exists a transparent and secure system to save water user fees, more households will be willing to pay regularly for their water.

GOAL identified a mobile money provider Airtel, who have a mobile money wallet Airtel WEZA, which was originally designed for use with VSLA⁴ groups, and has some additional accountability mechanism appropriate for group savings.

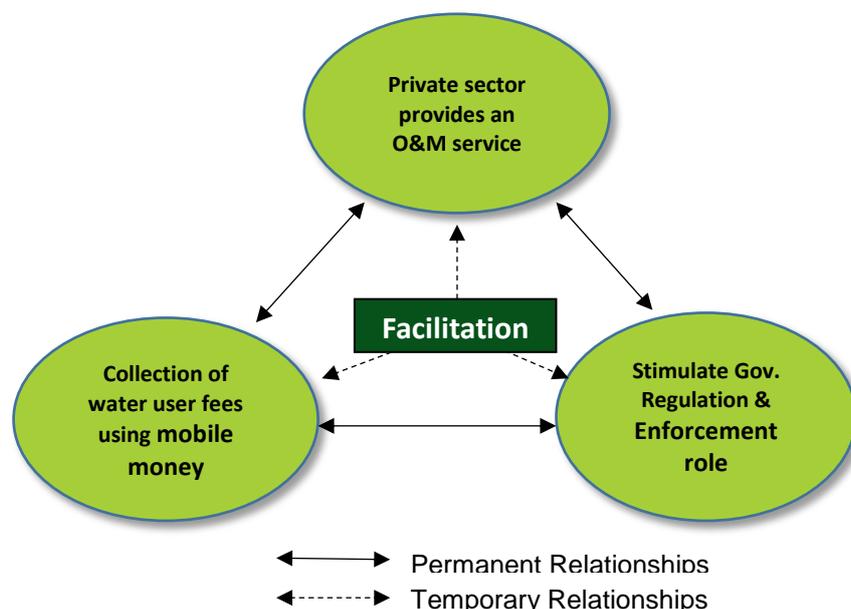
GOAL and Airtel (a mobile telecom company) are working together, to increase adoption and enable WUCs to join the network of Airtel WEZA in Bugiri and Namayingo Districts. Airtel promoters are targeting the general community to increase demand for Airtel mobile money services so as to safely save and manage water user fees. This in turn enables them to have sufficient funds to pay the O&M service provider.

⁴ Voluntary Savings and Loan Associations

- iii. Government increases its influence in regulation of O&M service provider and enforcement of water user fee collection

GOAL is working with district local government (DLG) to support their regulatory and enforcement roles. The national government ties 70% of DLG WASH budget to new water and sanitation infrastructure, leaving only 30% of the budget for all other activities including repair and maintenance of water points and all other software activities. It is evident that unless there is a significant policy shift towards maintenance and repairs, LDG will never have the resources to pay for water point maintenance and repairs. Therefore it's vital for the DLG to work in partnership with the private sector to leverage financial resources and expertise to address O&M issues which are underfunded. The SWiM project directly addresses this systemic issue by ensuring that LG regulates the O&M service provider and enforces the payment of water user fees.

Figure 1. A three pronged approach to stimulate more sustainable O&M



Through the pilot project GOAL Uganda is stimulating community demand for O&M services to enable them pay for O&M services, whilst supporting a more sustainable O&M service.

Main results and lessons learnt

The pilot project is still in initial stages so far we have preliminary results which cannot be confirmed until early 2017.

O&M service provider has adopted and is marketing a new O&M service contract with WUCs.

GOAL Uganda identified GEMA Investments Ltd as the O&M service provider given their existing technical skills and experience in the provision of water maintenance and repairs, level of trust within the community and local government and the perceived ability to manage O&M services using a business model.

GEMA currently works with the best existing mechanics under an ‘out service’ model to provide services and geographic coverage across both districts. A total of six mechanics have signed an agreement to work with GEMA. To date GEMA has signed O&M contracts with 24 WUCs which have paid their first quarterly instalment. The company has conducted 24 major repairs in the first quarter and 20 minor repairs in the second quarter for the boreholes.

GEMA is continuously promoting the O&M contract to communities and several WUCs will be signing contracts in the coming months.

WUCs are adopting a new mobile payment system and collecting water fees.

To date, 44 WUCs have been registered on Airtel WEZA, 28 are actively saving water user fees and the other groups are waiting activation. Airtel WEZA has enabled the WUCs to accumulate water user fees hence make payments to the O&M service provider. A total of UGX 2.9 millions (USD 906) has been saved on airtelweza platform. There are some teething problems with the new wallet, and GOAL is working closely with Airtel’s regional and national agents to resolve these problems.

In addition, GOAL has recently significantly revised the WUC’s training. Training is now specifically targeted to early adopting WUC’s and is focused on collection of water user fees, linkages to O&M service providers and simple book keeping. Communities facilitate the training costs with GOAL / partner providing the trainer. This is considered central to increasing demand for reliable O&M services.

Government has increased its influence in regulation of private sector and enforcement of payment of water user fees.

GOAL Uganda supported GEMA to develop the O&M contract collaboratively with the government’s regional WASH Technical Support Unit (TSU) and Bugiri and Namayingo district local governments (DLG). The contract details the terms and conditions as well as roles and responsibilities for each party. The O&M contract was formally approved by Chief Administrative Officers of both district local governments.

In addition the district water officers of both districts have endorsed the memorandum of understanding (MOU) signed with GEMA and the mechanics as part of their regulatory role. The MOU details the terms and conditions of the contract and roles and responsibilities for both the mechanic and GEMA. The company is working closely with the district water offices and reports regularly on the O&M contract work.

Conclusions and Recommendations

GOAL introduced the service contract model in early 2015 and therefore is cautious to draw upon any results prematurely. Many preliminary activities were required to be undertaken before actual implementation, for instance, market research, developing a business model, partner identification and due diligence among others. However, GOAL plans to track the contracts signed, the satisfaction of communities, the length of interruptions to water service and the number of breakdowns fixed successfully. In addition, GOAL will track the number of WUCs signed up to Airtel WEZA and that are actively transacting.

The strategy for viability is that successful service providers will build on their reputation and grow the number of communities that they serve. To support and reinforce the relationship between service provider and communities, GOAL is working with the local government to help it play a stronger regulation and mediation role. As the provision of water is a public good, the mediation role involves agreeing to the service charge rate, ensuring that service providers provide a good service, and that communities continue to pay their regular fees.

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