



Operation and maintenance of water facilities in Uganda – a case for increased funding

POINTS FOR ACTION

- Focus on Management because that is where the biggest challenge is.
- Professionalise CBMS to enhance WUC functionality and accountability.
- Start allocating O&M funds based on the needs of individual districts. Indeed the new DWSCG allocation has been revised on that basis.
- Support HPMA's to turn into viable entities so that they are able to undertake timely monitoring and assessment of sources before they completely breakdown
- Initiate market based approaches and allow the private sector actors to play a more important role in O&M.
- Apply the Life Cycle Cost Approach for all prospective installations.

Introduction

In August 2015, IRC International Water and Sanitation in Uganda and the Uganda Water and Sanitation NGO Network (UWASNET) undertook a documentation exercise, to gather evidence of the key issues surrounding O&M in different areas, with a view to advocate for increased funding towards Operation and Maintenance (O&M) and effective management of water supply facilities.

Ten sources were visited in four districts including: Pallisa; Namayingo; Gomba and Kalungu. It was found that in all districts, age-old challenges persist. While the four selected districts have different access and functionality situations, they still have to grapple with two big challenges including ineffective management of water sources and inadequate funding for operation and maintenance.



Monica Mwangale, resident of Onamudian Village, Pallisa District. Photo UWASNET/Rehema Aanyu

Operation and maintenance (O&M) of rural and urban water facilities is one of the key challenges of water supply in Uganda. While investment in new infrastructure continues, greater attention must be paid to the sustainability of those facilities. Every year, government and non-government actors invest billions of shillings in construction of new facilities, as they strive to attain the national targets for access to safe water.

Take government investment for example. The 2015 Water and Environment Sector Performance Report (SPR) indicates that through the District Water and Sanitation Conditional Grant (DWSCG) a total of 729,868 people were served with new water supplies, in FY 2014/15 at an estimated per capita cost of UGX 116,897. Thus, UGX 94.61 billion was invested in the new rural water supplies, which was an increase in funding compared to the previous years as detailed in Table 1 below.

However, this does not really translate into full access given that as of June 2015, rural water coverage stood at 65%, while urban coverage was at 73%. This is a slight improvement from 64% and 72.8% in June 2014, but still below the national 2015 target of 100% (urban) and 77% (rural). This means that 35% of the rural population and 27% of urban population still do not have easy access to safe water.

Citing Uganda Bureau of Statistics (UBOS), the SPR 2015 indicates that out of a total population of 34.8 million, 82% live in rural areas. With the current water coverage at 65%, nearly 10 million Ugandans in rural areas do not have access to safe water. In urban areas where 15% of the total population lives, nearly 1.5 million people do not have access to safe water. Moreover, the population counted as served stands a risk of losing access to safe water. This is because of the functionality rate, which currently stands at 88% for rural having improved from 84% where it had stagnated for over five years. Functionality for urban water sources currently stands at 89%. In rural areas, out of the estimated 109,000 rural water point sources in Uganda, 16,350 sources are not providing water as expected. Low functionality is a manifestation of operation and maintenance failures.

The National O& M Framework (2011) describes O&M as the sum of activities required to achieve smooth running and continuous sustenance of a water facility to ensure long service, leading to a wide range of benefits to a community such as: Reduced time in water collection especially for women and children who assume a dominant role in water collection; Time saved to participate in other productive activities; Improved health and family well being as a result of easy access to safe water; Less dependence on external organizations that often have limited resources.

Poor O&M, apart from leading to breakdown of sources, contributes to contamination of water hence undermining the goal of improving the quality of life through provision of safe and clean water. When a community member goes to the source and finds it non-functional, it impacts greatly on their health as well as their ability to engage in more productive activities. Often, the people will resort to unsafe alternative sources of water; or they will pay exorbitant prices for an alternative good service; or they will trek long distances in search of the next good source.

In Uganda, especially in rural areas, the O&M of water facilities is largely a community responsibility as provided by the Community Based Maintenance System (CBMS). Users are expected to own and manage their water supply facilities. Where a source has a major break down which the community cannot deal with, the MWE as well as the Local Governments, may come in to support.

A number of factors continue to undermine the effectiveness the CBMS and hence O&M for water facilities. These range from inconsistent government policies; dysfunctional Water User Committees (WUC); inadequate numbers of Hand Pump Mechanics and lack of tools for them; shortage of hand pump spare parts as well as dealers in the spare parts; inadequate technical support from district and sub county staff; unclear ownership of facilities; inappropriate technology choices; inadequate community mobilization and training and gender-related challenges that put women and girls more at risk.

Table 1: Trends in DWSCG and MWE investment in new water supplies over the last five years

	2009/10	2010/11	2011/12	2012/13	2013/14	2014/15
No of people served with new improved water supplies	743,414	637,100	597,496	560,786	643,516	729,868
Cost per new person saved (DWSCG and MWE expenditure) – Uganda shillings (UGX)	66,036	112,000	109,457	92,200	122,853	116,897
Total expenditure on new persons served with improved water supplies (UGX)	69.838bn	71.415bn	65.4bn	51.7bn	79.06bn	94.61bn

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Table 2: Rural Water access and functionality statistics in four selected districts

District	Access %	Functionality %
Gomba	75	84
Kalungu	93	58
Namayingo	33	73
Pallisa	52	97

While the four selected districts have different coverage and functionality figures, it was found that they had common O&M issues as elaborated in the case studies.

Community attitude towards O&M

In a situation where CBMS is the primary model for O&M of water facilities, the attitudes and practices of water users are crucial. Some communities are very positive and enthusiastic when it comes to taking care of their sources. Other communities will not be bothered.

Dependency syndrome

In some areas, community members wait for handouts from the government and from donors. Many communities appeal to their political leaders to provide water. When they receive free systems, community members do not pay adequate attention to O&M because they know that there will always be someone to provide for their needs.

This was the case in Nasimu Village, Banda Sub County, Namayingo district, where residents fetch water from a protected spring which was provided under the Local Government Development Programme (LGDP) in 2004. But there are no efforts to maintain the source in good working



James Wanyama a Hand Pump Mechanic of Banda Sub County, Namayingo District, attends to Buwoya village borehole which broke down in May 2015. Photo IRC Uganda/Lydia Mirembe

condition. The surroundings are bushy, dirty, littered with sugarcane husks and half eaten mangoes. Some residents do their laundry at the source. The waste water is not properly drained and the walls need a touch up. Whoever tries to mobilize users is suspected of harboring political ambitions and is soon discouraged. This source was given by the government so residents believe that only government has the right to tell them what to do. Recently, a leakage was observed. Rather than collect the funds to repair it, users believe the local government will soon come to their rescue.

Availability of alternatives within easy reach

In such situations, if one source is not functional, the community members quickly go to an alternative one. But in areas where the only source of water is either a single borehole or a spring well, the users will do whatever it takes to maintain the source. In such areas, the functionality rate of



Residents of Kigaaju village, Rwabenge Sub County, Kalungu District fetch water from a valley dam which was constructed in 2004, but the water later became too murky. Photo IRC Uganda/Lydia Mirembe

water sources is high.

In Gomba district, one borehole has been functioning without interference since 1994. This borehole in Mamba village, Kyegonza Sub County serves three villages, which are highly populated owing to their location near Lake Wamala. This single borehole was offered by a politician when the area was hit by a dry spell which drove the residents to fetch water from the lake – whose shoreline had also receded. Since then, residents have consistently paid their user fees and continue to participate in all matters concerning their source. The local council chairman has faith that this borehole will serve for years to come because it has been Mamba’s lifeline for over 20 years.

Vandalism

Some sources are vandalised, often by community members themselves. This is especially common in areas which do not have the vegetation to provide trees for firewood. When poles are used to build a protective fence around the source, some people

come by night and steal the poles to go and use them for firewood.

In Pallisa district, Butebo and Kayinja Sub counties, vandalism is a common threat to O&M efforts. At three sources visited in the two sub counties members, of the WUC reported that whenever a protective fence is erected around a borehole, some community members come by night and steal the poles. Apparently, with the vegetation in these areas – mainly swamp and shrubs – firewood is hard to come by. At Kayinja borehole, they were planning to put barbed wire on the poles to stop thieves from stealing them. At Kituba, they don’t bother to replace the fence anymore because they could not cope with the vandalism.

Technical breakdown of facilities

This includes wearing out of pipes and other parts which may be unaffordable to the community of users. There is also the issue of ageing water supply networks of gravity flow schemes and inadequate resources for major rehabilitation. Equally important is the quality of materials used to construct water supply facilities. Materials of a poor quality affect water quality. For example some materials corrode and cause the water to change colour and odour. Once users see a different colour of water, they are affected psychologically and they end up abandoning the source. In yet another scenario, people abandon water sources if they find the water quality unacceptable.

In Namayingo district, Buwoya village, people have abandoned boreholes in favour of spring wells, because they say the borehole water tastes salty. Similarly in Kigaaju village, Kalungu district people fetch water from a large valley dam which they share with cows. When the dam was constructed in 2004, a provision was made for a hand pump, where users would fetch clean water. Soon after construction, the hand pump failed because its pipes were blocked by silt from the dam. They had to fetch directly from the dam. Only recently, the MWE started constructing a new dam which they hope will not have technical issues.

The urgent need for O&M finances

Amidst such challenging factors, stakeholders agree that O&M of water facilities largely boils down to financial resources. Almost all activities around O&M require financial and human resources:

- Community members are expected to contribute a monthly user fee so that O&M funds are readily available when required.

Communities also need finances to engage Hand Pump Mechanics and purchase spare parts. But with issues of household poverty and lack of accountability by WUC members, user fees are hardly ever collected.

- At district level, the local governments require funds to facilitate personnel and to undertake water source monitoring and to continuously sensitize communities. The level of community dialogue and sensitization required to change water users' attitudes and behaviours requires resources.
- At national level, the government needs funds to allocate towards different activities relating to construction and rehabilitation of water facilities. Apart from funds through the DWSCG and training of WUCs, the MWE has also been considering the idea of sending funds directly to the sub county to facilitate activities relating to water supply.
- Even for private sector and civil society actors, availability of funds determines the investments and interventions. For example, the Hand Pump Mechanics maybe private sector actors, but they require enough financial resources to carry out analysis and repair of water supply facilities, and also support district water offices with data collection.

O&M is largely about funds. However the current financing towards O&M is far from adequate. For example, in the process of developing a business model for HPMAs, it was established that districts invest less than 10% of the ideal cost for major maintenance and rehabilitation (Triple-S, 2012).

There are ongoing efforts to provide resources towards O&M, and improving functionality. Government acknowledges that some of the major reasons for failure of O&M are technical and beyond the community. That is why the MWE has increased the funds allocated for O&M from 8% to 11% and currently to 13% of the District Water and Sanitation Conditional Grant.

According to the National Development Plan (NDP II) the government aims to attain universal access to safe water, by first of all ensuring that each village has at least one improved source. But it is also important to invest time, financial and human resources to ensure that the gains are not lost, when sources cease to function and are not rehabilitated. But then again, the kind of technologies required to construct facilities that can attain 100% functionality are quite expensive.



Residents of Kayinja Village, Kasodo Sub County, Pallisa district, erect a new fence around their borehole. The old fence was vandalised by people who want to use the poles for firewood. Photo UWASNET/Rehema Aanyu

For example MWE's Rural Water Department is pursuing the possibility of using solar technology to reduce congestion at boreholes. The Department is also trying to move water from areas of plenty to water stressed areas, especially in Eastern Uganda. They are also trying to intensify the drilling of wells. All these interventions are possible and they would reduce pressure on water sources hence increased functionality. However, the technologies are expensive and available financial resources inadequate.

Recommendations

In view of the current O&M trends and challenges, what strategies should be adopted to ensure increased funding towards operation and maintenance of water facilities?

- i. Focus on Management because that is where the biggest challenge is. Members of the WUC are not professionals. They are community-based volunteers. Government should engage professionals to manage the delivery of water services. Just like health

and education, water is a social service which people expect the government to deliver.

- ii. Start allocating O&M funds based on the needs of individual districts. Indeed the new DWSCG allocation has been revised on that basis. Rather than restrict O&M to 13% of the funds allocated, each district will be allowed to use funds basing on their needs.
- iii. Professionalise CBMS to enhance WUC functionality and accountability. For example, scale up the formation of Sub County Water Supply and Sanitation Boards. Once they are formed, the Boards' capacity should be enhanced to enable them be more efficient in records management, financial management, accountability.
- iv. Support HPMA's to turn into viable entities so that they are able to undertake timely monitoring and assessment of sources before they completely breakdown. Once they become self-reliant, HPMA's can focus on the business of providing more services to ensure continued functionality of water sources.
- v. Initiate market based approaches and allow the private sector actors to play a more important role in O&M. For example, Water for People has piloted the metering of boreholes to enhance collection of water user fees and ensure more effective management of those boreholes.
- vi. Apply the Life Cycle Cost Approach (LCCA) for all prospective installations. The delivery of sustainable services requires that financial systems are in place to ensure that infrastructure can be replaced at the end of its useful life and to extend delivery systems in response to increases in demand. This is the 'life-cycle' at the heart of the life-cycle cost approach (LCCA) – what costs are needed to sustain, repair and replace a water system throughout its cycle of wear, repair and renewal so it provides a service forever?



A child returns home with water fetched from Lake Wamala, Mamba village, Kyegonza Sub County, Gomba District. Photo IRC Uganda/ Lydia Mirembe

Water is a social and economic good. When people don't have access to safe water it impacts on their health and their ability to engage in economically productive activities. When water supply facilities are not functioning it means there is idle capital. If functionality is low then the net effect of the service provided is reduced. This can result into a multiplicity of negative effects on citizens and on national development. Such is the significance of O&M and it must be prioritized by all actors, especially the Government of Uganda.

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This briefing note is part of the WASH Advocacy Challenge, which is an initiative of three organisations including WASH Advocates, ACRA-CCS and Fundación Avina.

The WASH Advocacy Challenge is a small grants program which aims to improve water and sanitation policy by providing direct support to grassroots organisations to hold service providers to account. The Challenge aims to catalyse change by strengthening political will for safe, affordable and sustainable access to safe drinking water, sanitation, and hygiene (WASH). The goals of these small grants are to build on the knowledge and skills provided in the WASH Advocacy Strategy Workshop and continue communication and networking among participants.

IRC Uganda received a grant to participate in the WASH Advocacy Challenge in 2015. Working with UWASNET, IRC has developed a set of communication materials with a view to support government to advocate for increased funding for operation and maintenance (O&M) of water supply facilities in Uganda.

- ACRA-CCS is a lay and independent non government organization working to remove poverty through sustainable, innovative and shared solutions. Particular attention is focused on the peripheries of the planet and the marginalised segments of the North and South of the world. For more information please visit <http://www.acraccs.org>
- IRC is an international think-and-do tank that works with governments, NGOs, entrepreneurs and people around the world to find long-term solutions to the global crisis in water, sanitation and hygiene services. At the heart of its mission is the aim to move from short-term interventions to sustainable water, sanitation and hygiene services. For more information please visit www.ircwash.org
- Uganda Water and Sanitation NGO Network (UWASNET) is the national umbrella organisation for Civil Society Organisations (CSOs) in the Water and Environment sector. UWASNET is crucial in helping government realise its targets of alleviating poverty through universal access to safe, sustainable water and improved sanitation. UWASNET plays this vital role in partnership with other key sector players such as the Government of Uganda, Development Partners (DP's) and the private sector. For more information please visit www.uwasnet.org

