



# Functionality of water supply systems key to sustainable national development



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Every 22<sup>nd</sup> March, the world commemorates World Water Day with a view to reflect on and highlight key issues around the significance of Water as a finite resource. This year, Uganda joins the rest of the world to celebrate World Water Day with the theme: Water and Sustainable Development. The Government of Uganda, through the Ministry of Water and Environment recognises the fact that adequate water supply to the citizens can contribute significantly to national development. As such, the government always sets aside resources to invest in water supply systems in order to increase the size of the population with access to safe water especially for domestic use.

While such investment continues, there is always concern about the sustainability and functionality of the water supply systems. As of June 2014, functionality stood at 85 % for rural water facilities and 87% for urban facilities. The Ministry of Water and Environment uses the term "functionality" to define the proportion of improved water supply sources (facilities) that are found working (functional) at the time of spot check in a given survey year. Functionality is an important indicator that provides information on the status of water supply. In the excerpts below, **Commissioner Rural Water Department, Eng Joseph Oriono Eyatu** explains the significance of functionality and the strategies that government is undertaking to ensure continuous improvement in functionality and sustainability of water services to all Ugandans.

## What is the significance of functionality of water supply facilities, especially to national development?

Functionality is basically about the number of water supply facilities that are operational at any given time. If you are a user and you go to a source, what are the chances that you will find it working? As of June 2014, we had 109,000 point sources serving the rural community in the whole country. The significance of functionality is reflected in the reliability of those systems. People feel frustrated when they go to a source and they don't find water. How does that impact on the health of the people? How much does it

impact on their ability to engage in economically productive work? Overall functionality affects accessibility and productivity.

In terms of investment, if we are operating at 85% functionality, it means that close to 12,000 of the sources are not working at any time. We have invested resources and we are not using them which means there is idle capital. We must ensure that whatever we invest is utilized. The higher the functionality rate, the better for national development. If functionality is lower, then the net effect of the service we are providing is reduced. This can easily result into a multiplicity of negative effects on citizens and on national development. Such is the significance of functionality of water facilities.

## What is the status of functionality of water supply facilities in Uganda?

Currently, springs are the most reliable water supply systems, operating at functionality rate of 88%. This is closely followed by boreholes at 87%. The lowest functionality is among shallow wells at 84%. Many of them are drying up. The challenges rotate around technical issues like (corroded pipes, silted wells, dropped pipes), siting problems and quality issues. The low rate of functionality of shallow wells lowers the national average significantly.

But it is also important to focus in the factors that influence functionality.

**Availability of alternatives:** If there are alternative sources within easy reach, community members will not be bothered about operation and maintenance. They keep moving from one source to another – if one source is not functional they quickly go to the alternative one.

**Quality of materials used to construct water supply systems:** Materials of a poor quality affect water quality. For example, some materials corrode and cause the water to change color and odor. Once users see a different color of water, they are affected psychologically and they may end up abandoning the source.

**Water quality:** In some areas it has been reported that the water tastes salty. These include areas in Lango region, areas around Lake Kyoga and some areas in Rakai. You find that people abandon water sources in such areas and search for water of acceptable quality.

**The dependency syndrome:** In many communities in Uganda, people wait for handouts from outsiders and donors. Many communities appeal to their political leaders to provide water supply systems. When they receive the free systems community members don't pay adequate attention to operation and maintenance. They do not take the initiative to ensure continuous functionality because they know that there will always be someone to provide for their water needs. Politicians use the water supply systems as a campaign ticket. Water users on the other hand threaten to vote out their leaders if they don't provide water. Unfortunately this is not sustainable. However this trend is not common in water stressed areas. In areas where the only source of water is either a borehole or a spring well, they will do whatever it takes to maintain the source. Functionality in such areas is close to 100%.

## Looking at the past fifteen ten years, functionality increased from below 70% to over 80%. MWE and other actors must have done something right. What factors led to such a high score on functionality?

There was a time when the network of sources had gone into a state of decay because they had been ignored. People had a feeling that everything should come from the centre, but that did not work. The water supply sector went through a series of reforms and every actor agreed that communities should play a role. In the years that followed there was focus on supporting communities to play their roles in operation and maintenance of water facilities. After attaining the high levels of functionality it became apparent that the remaining challenges were no longer about community issues. The major reasons for functionality failure were now technical, E.g silting of wells, which cannot be easily handled by communities. That is why MWE has decided to increase the amount allocated to functionality in the District Water and Sanitation Conditional Grant. The amount of funds allocated for functionality has increased from 8% to 11% and now to 13 % of the grant. The district local government is supposed to use the funds to support communities – which are already doing a lot of work on their own. Now financial limitation is the challenge partly responsible for the slow pace of improvement in functionality which has been observed over the last five years. It would not be wise to put all resources to repair the non functional sources and abandon construction of new sources for the unserved. We bear in mind that there are people who don't have any water supply systems. We have to strike a balance between maintaining the functional facilities and ensuring that those who don't have also get a service; while also ensuring that the communities remain involved in O&M.

## Over the past five years, functionality for both rural and urban facilities has remained above 80%, how has MWE been able to maintain that; to ensure that there is no decline?

We have done a number of things. First we have tried to increase the funding through the District Water and Sanitation Conditional Grant. There has also been a remarkable level of innovation and focus in the sector. We are continuously innovating. For example, we undertook to form and operationalise Hand Pump Mechanics Associations (HPMAs) at district level. Some of the mechanics had started over charging communities; others had lost interest in their job. By bringing them into an association we are helping to give them more work and to keep them focused. We have also been working with our partners to provide refresher training for the mechanics. All these make the hand pump mechanics realize that they still have roles to play.

The Ministry has also been highlighting functionality as a key area in the sector. For example in the last three years, the yearly undertaking for rural water has been on functionality. We celebrate the success but we are not comfortable we want to move further. Our target is 90% functionality. We are trying to combine efforts with the local governments. This year alone The Ministry of Water and Environment is planning to repair 800 sources on top of the ones to be repaired by the districts. We are focusing on those technical issues that need heavy equipment beyond the district capacity. It is cheaper to repair a borehole than to build a new one which costs 20 million. Even if one

overhauled a whole system, you might spend only 5 million to repair it. So repair and maintenance is value for money that is why we are focusing there.

## How does the 15% functionality shortfall affect people and national development as a whole?

The longer the distance that people have to walk the more time they spend on fetching water. The more crowded the source, the longer it takes for people to fetch water. That affects their ability to perform any other economic activities. It affects children who have to go to school. In the evening, if girls stay long at the source they can easily be waylaid and molested by rogue characters. The situation may also lead to domestic violence whereby a husband gets suspicious if his wife takes long fetching water. Worse still, there is a tendency for people to revert to unprotected and unsafe sources. For example the older women who cannot endure the distance and the queues will end up looking for the nearest source regardless of its safety.

In some areas, sources are non-functional because of issues relating to the quality of water. Such sources have either been abandoned or they are used for purposes other than domestic consumption. Users are not bothered about the maintenance of such sources.

In other areas, it may not be about the crowding at the source. Rather it is about the fact that there are too few sources and people have to share them with animals. Among the pastoral or nomadic communities, people leave functional sources and go searching for pastures far away from the source. The effect is that people accept the bad situation as normal. This must change especially for children, women and elderly who are more vulnerable. All those effects can be addressed if we give the people more reliable water supply systems.

## What strategies does the MWE have in place to meet that functionality targets set in the National Development Plan and in Vision 2040?

One of the outstanding things about the Ministry of Water and Environment is its responsiveness and ability to transform. Currently, we are pursuing solar technology to enhance rural water supply. We are trying to fit the boreholes with solar energy. This is in response to the increase in population. The technology will ensure that we abstract more water hence reduce congestion at source. We are also trying to move water from areas of plenty to dry areas. This is especially in the Eastern Region where we intend to build systems to take water from Mount Elgon and distribute it to dryer areas. We are doing the same in the areas bordering South Sudan, Agoro and Lamwo. Similarly in Ntoroko, we are trying to tap water from the hills and bring it to low lying areas suffering water scarcity. In all these interventions, we are using reusable energy which is also environmentally friendly, and we are going to reach more people. We are also intensifying the drilling of wells with a view to provide one source of water per village. I must say that are areas where we can cover 100% functionality by drilling only. The ground water potential is high and the quality is good. There are areas like Manafwa where we can supply 100% of the population with Gravity Flow Schemes. All these things are possible except the technologies are expensive, but they would be more reliable and sustainable and enable us to reach and even supersede the national functionality targets.