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Rural Water Supply in the 21st Century: Myths of the Past, Visions for the Future

Topic: *Sustainable Rural Water Supply*

Short Paper

Title: Donor District Coordination: The Key to Sustainable Rural Water Supply

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Abstract/Summary

Many donor funded water point projects have taken place in the Mwanza District of Southern Malawi. The difference in the sustainability of the projects is staggering when comparing those who coordinated with the District Water Development Office (DWDO) and those who did not. Two examples of donor organisations side stepping the DWDO yielded low functionality rates due to construction of an inappropriate water point type and lack of community training. In 2009, a project constructing three gravity fed schemes and 70 shallow wells was completed but only parts of two schemes and less than 50 percent of the shallow wells still function three years later. Another organisation brought in a new pump type which cannot be maintained at the community level. Water points constructed by donors through coordination with the DWDO have shown higher functionality rates as they were implemented within the operation and management system of the district, and took regional characteristics into account.

Introduction

The climate in Mwanza District, Malawi is tropical and mainly falls into wet and dry seasons. The wet season starts from November to April and the dry season is from May to October. The average rainfall ranges between 800mm to 1,200mm although it has been erratic and difficult to predict in recent years. The topography of Mwanza District is mountainous and hilly with several areas having slopes of more than 12 degrees and no large areas of flat. The soils are sandy-clay, permeable and well drained. These local conditions have often proved to be barriers in the provision of rural water supply in the district, as they narrow the spectrum of appropriate water technologies that can be implemented effectively.

There have been several interventions in Mwanza District in the sector of Rural Water Supply by various organizations with various approaches. Some of these organizations have unknowingly compromised the integrity and sustainability of their interventions due to a lack of strong partnership with the district government. Coordination with the district amongst development partners is vital in all development projects at all levels-at the national, district and even the community level, so as to improve the implementation of water programmes.

Case Study – Approach

Three case studies are outlined so as to compare and contrast the outcomes relating to rural water supply sustainability when different levels of donor-district communication occur.

Action Aid

In 1999, Action Aid initiated a project to construct gravity fed schemes (GFS) and shallow wells in Nthache, one of two Traditional Authorities in Mwanza District.

The goal of the project was to provide safe and clean drinking water to the beneficiaries in its impact area. The planning stages did not involve the DWDO to get an overview of the needs of the area. After the initial stakeholder's meeting with the District Executive Committee (DEC), all communication ceased between Action Aid and the relevant district offices including the DWDO.

Action Aid planned to install shallow wells fitted with Malda pumps as well as 3 gravity fed schemes. Malda pumps are generally used where the water table is high and GFS are used in areas with

elevation differentials. Action Aid determined that there was potential in the Nthache area for the gravity fed scheme and shallow wells to reach many rural communities.

Overall, the project spanned over 11 years from 1999 to 2010 providing 2 GFSs and 1 incomplete scheme as well as 122 shallow wells. A water point mapping exercise conducted in 2010 shows that the GFSs are less than 50% functional and the shallow wells are less than 10% functional. Field visits in 2011 from district staff verify these results. Action Aid made no indication to the district water office in regards of follow up activities although a report was sent to the water office shortly after the project's completion, which described the facilities that were constructed.

Action Aid is currently still operational in Malawi in some selected districts. They are not, however, active in the field of Water and Sanitation.

Play Pumps

In the year 2010, an organization introduced a new pump technology, the play pump, into Mwanza District. For this new technology, primary schools were targeted as the beneficiaries. The pump is designed to lift water into a tank (about 3 metres high) as the school children are playing on the base wheel.

Before the commencement of the project, there was no formal communication with the DEC and the project was framed as a pilot reaching out to only 8 schools.

During implementation, rather than drilling new boreholes, the organization removed functional Afridev pumps and refitted the borehole with the play pumps. This new technology was considered by the implementing organization as one of the most innovative ways of pumping and storing water.

The project reached 20 schools in Mwanza. Interviews with teachers in the impacted schools show that in the whole project cycle, there was no involvement of the communities or the responsible district office.

Contact numbers for a maintenance team based in the city of Blantyre (115Km away from Mwanza) were left at each pump should the pumps require maintenance. No district staff were trained in the repairs of the new pump.

Currently in 2011, of the 20 play pumps installed, 6 are functional, 10 are non functional, 2 were uprooted by angry communities and 2 were abandoned. There have been formal complaints to the district from some of the schools demanding back their previous facilities due to the difficulties in the operation of the pump and injuries to numerous children.

UNICEF

UNICEF has been working in Mwanza District for over 10 years. They provide ongoing support for rural water supply projects. To date, they have provided funds for 480 boreholes in the district. Reports from the Area Mechanics in the district show that an average functionality rate of 90% is currently maintained.

UNICEF has worked alongside the district in the planning, implementation and follow up process of the implemented activities. Mwanza District has a coordinating team that is responsible to identify appropriate technologies for the area, allocation of the facilities, mobilize the community and supervise the construction process.

The role of the water office and UNICEF remains that of quality assurance in line with the set

standards by the Ministry responsible for water supply and sanitation, and for making sure that the communities are trained in how to manage the facilities.

Main Results and Lessons Learnt

Action Aid

The low functionality of the gravity fed schemes and the shallow wells installed by Action Aid can be attributed to lack of community involvement and inappropriate technology choice respectively.

Although the gravity fed scheme was perhaps an appropriate technology choice in the area due to the difficulty in drilling boreholes, problems of community mobilization lead to the non functionality of the scheme.

Due to lack of community mobilization there was no demand created for the construction of the GFS. The community preferred boreholes to GFS and thus were not willing to construct the channels for pipe laying for the third GFS.

The lack of demand from the community led to lack of community ownership for the two schemes that were constructed. This resulted in problems such as cultivation up stream of the water source and vandalism.

Cultivation upstream of the water source creates sediment in the water and will clog the system. This blocks the system pipes and the water becomes unfit for drinking. Vandalism occurs in the form of theft with communities re routing the pipes to use for irrigation thereby cutting off the water supply down the system.

Had Action Aid coordinated with the district throughout the implementation of the project, community mobilization would have been prioritized.

In the case of the shallow wells, the main problem is that most of them have dried up and yield little to no water. Due to low water table and poor rains, the regional characteristics of Mwanza do not support the use of shallow wells as there is little surface water to recharge the wells. Consultations with the district during the planning of this project would have discouraged the use of this type of facility.

Play Pumps

The non functionality of the play pumps is due to the difficulty in their repair. Because no district staff or community members were trained in the maintenance of the play pumps, there is little that the water office can do to fix a broken pump. Furthermore, the maintenance plan that does exist relies on a maintenance team that is based in another district and is responsible to work on repairs for every one of the 13 districts in Southern Malawi. The maintenance team does not have the time or the resources to ensure high functionality of each of the play pumps installed.

The facilities that have been abandoned by communities have been so because they are difficult for women and elderly people to operate. The community cannot always rely on the school children filling the tank on weekends or on holidays. Even when children are present, it takes an average of 10 minutes to fill the tank, in contrast to less than 1 minute it takes to produce water from an Afridev pump.

Had the implementing organization consulted the water office during the planning process, they would have been made aware of the true service area of the pumps and would have been advised that the sector is moving away from non Village Level Operation and Maintenance (VLOM) systems

due to many of the reasons discussed above.

UNICEF

The non functional boreholes in UNICEF funded projects are generally common breakdowns resulting from use over time. The functionality of the projects is made sustainable by the fact that they fit into the water office's operation and maintenance system. If a borehole becomes non functional, there are methods in place to repair it.

UNICEF fosters involvement of the communities the provision of safe water supply. Once UNICEF has provided a facility to the community, they ensure that the communities are trained on how to undertake simple repairs. When a common breakdown occurs, they are taken care of by the community members themselves without the involvement of the District office. If the problem is beyond the capabilities of the community, the problem is referred to an Area Mechanic. In many UNICEF districts, Area Mechanics are trained to undertake major repairs on boreholes. If the problem is beyond the capabilities of the Area Mechanic or if there are no Area Mechanics in the district, the problem is referred to the district office.

Because the district had much of the decision power throughout the project, they are able to ensure that the projects implemented appropriate technology (Afridev pumps) for the regional characteristics of Mwanza as well as involve community participation – especially in the follow up stages.

By using appropriate technology, broken water points are not beyond the capacity of the water office to repair. Furthermore, by mobilizing the community before the installation and conducting community based management trainings afterward, the percentage of the facilities functional at any point in time is comparatively high.

Conclusions and Recommendations

As seen in the Action Aid and Play Pump case studies, when the donor organization does not involve the water office and the community in its planning and implementation of their projects, they fail to understand the regional context of the district which can lead to inappropriate technology choices and lack of community participation. These factors are key to maintaining sustainable rural water supply projects.

In the Action Aid case study we see that a lack of coordination with the water office resulted in the implementation of inappropriate technology for the region, as well as a loss of potential for an appropriate technology due to lack of community participation and ownership.

In the play pump case study we see that without consultation with the water office, they did not have an understanding of the community structure and thus did not foresee that the area that play pumps serve extends beyond the school ground. Furthermore, in the case where the technology choice had been a good one, DWDO staff should have been trained to service a pump type that currently lies outside of the operation and maintenance capacity of the DWDO in order to create a more sustainable water source.

The UNICEF case study shows that when a donor works with the water office and fits their projects into the existing operation and maintenance system, a more sustainable and reliable water source is able to be maintained.

When a donor works with the relevant district office the likelihood for success of that project is far greater than when the donor works in isolation. By using the knowledge and experience of the district office the donor is more likely to have a high value return for their investment as the outputs are sustainable.

There must be continuous partnerships between the donor and relevant office from planning through to evaluation of the project activities. There must be a shared responsibility between the district office and the donor to facilitate a good working relationship for each project.

The district office should create an environment conducive for partnership. They should inform the donor organization of how the system currently operates and what sort of resources they can offer to the donor's project (community mobilization, trainings etc.)

It is recommended that donors should go through appropriate procedures when bringing in new projects to the district. The donor should be willing to fit the projects into the current systems in the districts as much as possible. They should consult the relevant office before implementation and throughout the life span of the projects.

References

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