

Piped schemes: evolution of management models require improved accountability while rural communities in Uganda climb the ladder of rural drinking water services

Like in many other African countries, piped water supply schemes in Uganda are increasingly replacing the traditional point source with the handpump. As the traditional community management and governance model for point sources is not adequate for the piped schemes serving larger populations, a new Service Delivery Model in Uganda has been developed. This model, that we will call here the WSSB (Water Supply and Sanitation Board) model, was originally designed for small towns but later adapted to smaller piped water schemes, with a separation of management, operational and authority functions and with aspirations for higher private sector involvement in the drinking water sector. The model has been rolled out over the past 15 years and although it is showing promising results in the field of cost recovery and general O&M compared to the traditional community managed model, a number of questions remain to be answered. At the moment an estimated 10% of the rural population is served by piped water supply and this will increase steadily overtime with the ambition to reach 45% by 2015! (WSP-AF 2010) But it is clear that for generations to come, a large part of the rural population in Uganda will remain dependent on point sources. Can the WSSB model provide lessons and options for modernisation of the community management model? It is also clear that in practice, many variations of the model are being developed. Can the model accommodate these variations instead of pushing them into the ideal model? Accountability in the model appears to be still weak, in particular towards the consumers. How important is this and can this be improved?

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Uganda rural drinking water services sector

The main service delivery model for rural drinking water services in Uganda is the Community Based Maintenance System (CBMS), which was introduced in 1986 and which gives a central role to the community for both the development and the operations and maintenance (O&M) of their facilities. The CBMS model is developed around the technologies for *point sources* with strong support from Development Partners and civil society, and was formalised in the National Water Policy in 1999. Rural water coverage in Uganda is presently around 65% with an official functionality rate of 83% (MWE 2011b). A recent study on the effectiveness of the CBMS revealed, however, that full functionality of the water supplies stands at only 53% with around a quarter (24%) being only partly functional i.e., functional but with some problems (quality, quantity). Approximately 5% of the water sources are only functional during the rainy season and 18% are estimated to be non-functional (MWE 2011a). The above figures mean that only about 35% of the rural population of Uganda have year round and everyday access to safe drinking water.

Under the CBMS model, the communities are supported by the District Water Office, which in turn is supported by the Ministry of Water and Environment through their decentralised Technical Support Units (TSUs). In general, point sources are regarded as one-off investments and are not expanded, whereas piped schemes in Rural Growth Centres¹ (RGC) can be expanded after construction. The development of piped schemes has gradually been increased with a focus on RGCs and small towns.

¹ Rural Growth Centres are defined as trading centres with populations from 500-5000, traditionally with some institutions such as government offices, schools and health centres. These localities often grow into town councils (small towns) with time and are the target localities for the development of small piped water schemes by the Water and Sanitation Development Facilities (WSDF) (MWLE 2003)

In 1996 a formal service delivery model for RGCs and small towns was adapted gradually by the SWTWSP (South Western Towns Water and Sanitation Project), which is referred to as the WSSB (Water Supply and Sanitation Boards) model. This WSSB model was gradually and not systematically promoted in other projects and in other regions - for example, the WSSB model was only introduced in 2005 in Kabarole District. Before 2005, the piped schemes had a Water User Committee, like under the CBMS model. Piped schemes based on gravity flow for rural areas have also been promoted by NGOs (where there are favourable geographical conditions), which sometime apply the WSSB model, and in other cases the CBMS model. Unlike with the CBMS model and the model for small towns, there is no legal or policy framework for the WSSB model, or guidelines for Districts or town councils. At present, an estimated 10% of the rural population is served by piped schemes, but the government has the ambition to increase the percentage to 45% in 2015 (WSP-AF 2010). In the WSSB model, the community is not directly in charge of the services, but has an appointed representation on the board. The WSSB model and its variations will be discussed in more detail in the next section.

The establishment of piped water schemes and the WSSB model is embedded in a number of trends and developments currently taking place in the Ugandan water sector, such as decentralisation, urbanisation and demand for higher service levels. The sector currently faces a number of key challenges:

- With the rapidly growing population and urbanisation, the sector will require higher investments for both new infrastructure and replacements, and extensions with higher service levels, while in the meantime it is expected that the majority of the rural population will continue to depend on minimum service levels (point sources).
- While the two service delivery models (CBMS and WSSB) have been well tested, the growing diversity of technologies with different service levels and variations in the service delivery models on the ground is creating new challenges for the rural drinking water sector in Uganda.
- Being a relatively well developed and organised sector, accountability between the different stakeholders (from consumers to the Ministry) in the two models for the rural water services is in general still weak. This has implications in many areas: for planning of resources; for payment for water services and support services; for response to problems; and, for how monitoring information is used.

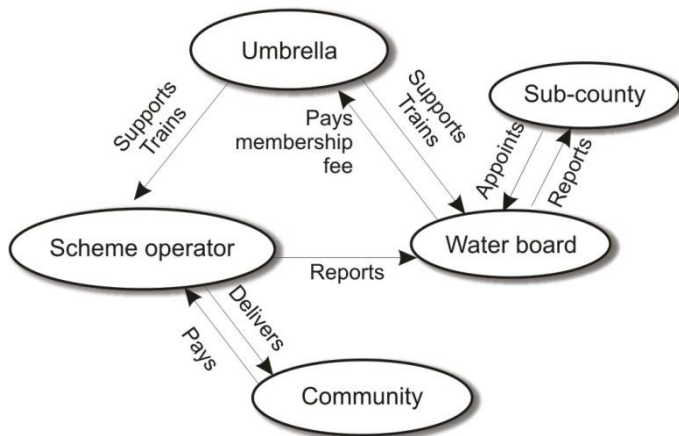
The analysis undertaken for this report raises questions about the extent to which the Sector Strategic Investment Plan (SSIP) fully considers replacement costs for rural water supplies. In addition, the technology mix for rural water supplies given in the SSIP, with its high emphasis on piped water supplies requires revisiting, with full consideration given to existing technologies, water resources and settlement patterns. Suitable management mechanisms for small piped supplies need to be explored further. In the case of urban water supplies, the analysis shows concerns with respect to the financial viability of piped water supplies in small towns. (Country Status Overview Uganda, 2010)

One of the recommendations made during the 2nd Joint Technical Review for Water and Environment in March 2010 in Fort Portal was to re-examine the proposed technology mix for rural

water supplies and examine different management options for small piped water supplies. In connection to this, it is necessary to take a closer look at the WSSB model, which is currently being promoted by the government but is still under scrutiny.

WSSB model and variations in the field

This section will provide a brief overview over the different variations of the rural WSSB model in Uganda. Since the documentation on management models for piped schemes is limited, information is mainly based on a study carried out by Fontes for IRC Uganda in January 2012 (Koestler 2012). Additionally, the Fontes study has a limited scope and doesn't claim to be exhaustive in describing all

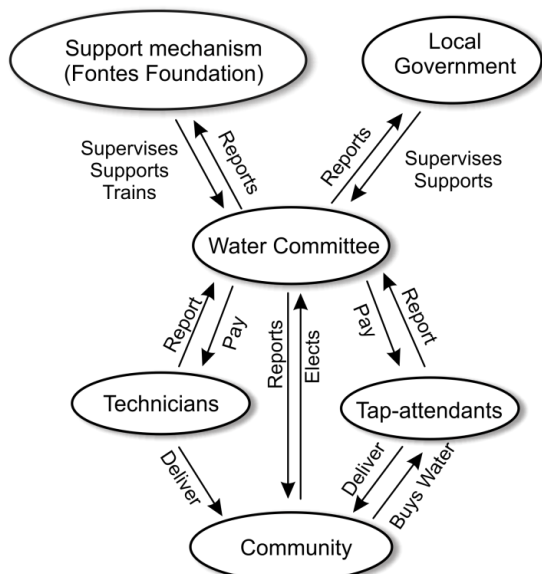


The "Umbrella" service delivery model

the piped scheme management models and variations in Uganda. The only well-documented variation is the one called the "Umbrella model", because it is promoted by the MWE and the different regional Umbrella organisations (see below), which are membership organisations of WSSBs, that provide operations and maintenance support to Water Supply and Sanitation Boards (WSSB). The remaining variations have a number of sub-variations and are only described in general.

There are roughly four main variations of the model used for the management of small rural piped water schemes in Uganda.

Besides the Umbrella model, a second variation uses an elected Water User Committee (WUC) instead of the appointed water board (by local government), which employs technicians and tap-attendants. This model is promoted by different NGOs, such as the Fontes Foundation, or has grown out of the CBMS model (see below). A third variation has an overall WSSB, but tap-committees for



The "Fontes" service delivery model

each water tap. The committees are responsible for the running and maintenance of the tap, and pay a share of the collected money to the overall board. This model is popular for Gravity Flow Schemes (GFS) where user fees are collected on a household basis, and not on a pay-as-you-fetch basis. The last model is the traditional Community Based Management System (CBMS) model, where management is done on a voluntary basis by an elected committee which collects household fees. In all four variations, the community is made up of water users that pay for the service. Most piped schemes sell water in 20 litre containers at public taps, or through metered private and institutional connections. However, in a large number of schemes, money is still collected on a household

basis (a flat fee per month per household), and in some schemes, money is only collected when something breaks down. A steady flow of revenue is one of the preconditions for the rural WSSB model, and schemes that are not metered, and where revenue collection is sporadic, represent huge challenges for adequate service delivery (MWE 2008b). In fact, the Mid-Western Umbrella currently discourages the tap-committee model due to the weak finances of the schemes.

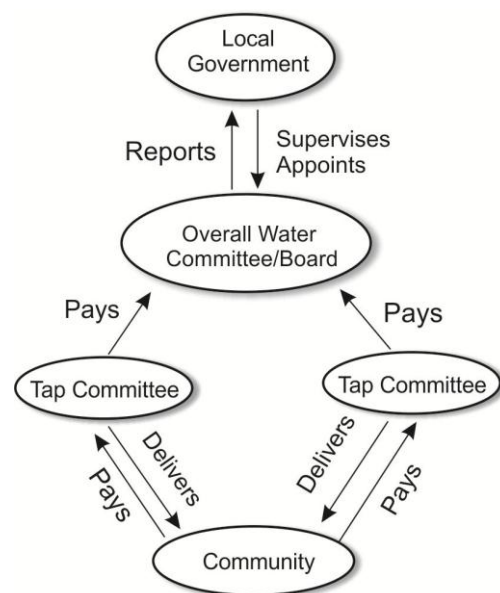
In the Umbrella model, the Water Supply and Sanitation Board (WSSB) is the entity with overall responsibility for the delivery of water to the water users. The main role of the WSSB is to deliver water on a continuous basis, in adequate quantities and of good quality. The WSSB is appointed by the Sub-County and consists of the Sub-County Chief, one member of the executive at town council or Sub-County level in charge of social services (such as a councillor in charge of health or water) and three representatives of consumers. It is therefore the Sub-County council or town council that has the role of service authority in the model. The members of the WSSB are paid either a percentage (normally 5%) of the total income or sitting allowances. The board meets on a monthly basis, and is responsible for reporting and supervision of the scheme operator. The WSSB and scheme operator have a joint account for receiving payments of users and making payments for O&M, salaries and membership fees to the Umbrella.

Other variations have an elected WUC with 5-9 members. The responsibilities are the same as those of the WSSB: overseeing the scheme operator, technicians and tap attendants, keeping records, reporting and ensuring continuous and sustainable service delivery. In some cases, water committee members receive sitting allowances when they hold meetings, in others members work on a voluntary basis.

The Umbrella model has a scheme operator who is responsible for management. The scheme operator is normally a locally selected individual, who is trained to perform the daily running of the scheme such as switching on and off pumps and generators, doing routing maintenance checks, fixing small pipe leaks and replacing taps. The scheme operator can have other people working for him, such as plumbers, guards, casual labour and tap attendants, or these people can be directly employed by the WSSB or WUC. The scheme operator normally signs a simple contract with the WSSB or WUC; however, in many cases the contracts are not up-to-date or non-existent. The scheme operator can be paid in different ways: either he gets a percentage of the total revenue (in the South West, this is currently between 40 and 45%), or he is paid a flat fee every month.

If there is no scheme operator, the WSSB or WUC can employ technicians and tap attendants directly. The main difference is that it is not the scheme operator but the WSSB/WUC who does the financial management as well as the fees collection and record keeping..

The local government entities, such as Sub-Counties and town councils, are supervising the WSSB or WUC, either through their direct participation as members of the board or as the “owners” of the infrastructure. Representatives should participate during meetings, and funds for repairs that exceed

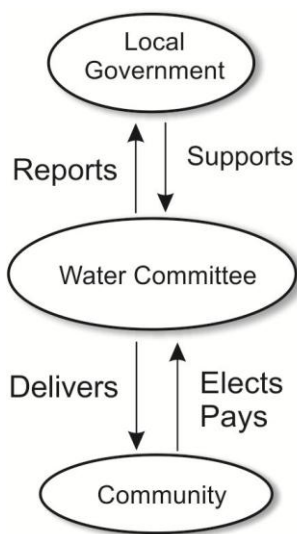


The "Tap committee" service delivery model

the capacity of the WSSB should be mobilised by the Sub-County or town council. Town councils are also supposed to have engineers who can provide technical support; however, this is not always the case. In general, both financial and technical capacity at Sub-County and town council level is still weak.

Although the District Water Offices are mainly in charge of rural water supplies, they also provide support to these piped schemes. The role of the Districts is mainly in monitoring; however, they can provide technical support in some cases. They can also provide money from the Conditional Grant for extensions or repairs, although focus is normally on the construction of new point water sources. The Districts also have a role in mobilising and sensitising the WSSBs, WUCs and communities on management and good hygiene and sanitation practices. The District Water Offices are supported by the Technical Support Units through capacity building and guidance, and TSUs also regularly visit piped schemes.

It is widely recognised that the rural WSSB model requires a support mechanism (WSDF-C undated, MWE 2003, Koestler 2008). This is mainly because being selected locally, scheme operators and WSSB members do not have the technical and financial capacity to manage the water systems efficiently. In addition, the support provided by local government is limited due to poor financial and technical capacity. Under the South Western Towns Water and Sanitation Project (SWTWSP), the South Western Umbrella for Water and Sanitation (swUws) was formed in 2002 to provide this support.



Since then, schemes that are members of an Umbrella have shown significantly higher functionalities than other schemes (MWE 2008b), and the Ministry of Water decided to roll out this approach to the rest of the country as well. Today, three regions (South West, Mid-West and East) have functioning Umbrella organisations, and the two remaining (Central and North) are currently being set up.

Umbrellas are membership organisations of WSSBs which select an executive committee that employs a permanent secretariat. The secretariat consists of engineers and other professionals who provide continuous support to the WSSBs. Some of the main functions are capacity building, technical support, legal aid, support with supervision of contracts for extensions or rehabilitations, water quality monitoring,

CBMS service delivery model

financial audits and monitoring and reporting (MWE 2008b). Other functions include direct support with running costs in case of emergency, spare parts distribution and interest-free loans for large repairs and replacements. In practice, Umbrella staff should visit each scheme at least every quarter to carry out a water quality check, go over the management books and help the WSSB and scheme operator with any other problems. The South Western Umbrella currently has 50 operational member schemes (MWE 2011b) and employs five permanent staff (MWE 2008b). WSSBs report to the Umbrella on a monthly basis.

Despite the successful and timely handling of minor and major repairs, as well as improved management through capacity building and management support, the Umbrella approach still faces many challenges. For example, it is heavily reliant on donor support, and 95% of the budget of the South Western Umbrella is subsidised (MWE 2008b). In addition, new Umbrellas are finding it challenging to replicate the swUws in other areas of the country, where people are even less used to paying for water and where a number of different approaches are used for management of small

piped water schemes (MWE 2008b and Koestler 2008). Additionally, the Umbrellas are taking over many roles traditionally carried out by Districts, such as monitoring, reporting and technical support. In some cases it is not entirely clear who is responsible for the different tasks, and some District Water Offices feel bypassed by the Umbrellas.

Another challenge is that the Umbrellas are anchored in the Water Authorities Division in the Urban Water Supply Department of DWD. However, schemes operating in rural localities (not town councils) still represent the large majority of Umbrella members. This means that whereas the Rural Department is still largely responsible for the development of small piped water schemes for rural areas, the Urban Department is responsible for their follow up, monitoring and reporting through the Umbrellas. In addition, Water and Sanitation Development Facilities (WSDFs) have been established in four regions of the country to build small pipe water schemes in small towns and RGCs. These facilities are created to develop the systems on behalf of the local government, which is lacking the technical capacity for WASH infrastructure development. During a 6-month transition period the management of the schemes is formally handed over to the local government and support is still provided by the WSDFs. After this period the support role is taken over by the Umbrellas. This means that the rural WSSB model does not have a clear “home” at the national level.

The Umbrella variation of the WSSB model is the version that is currently being promoted by the Government for the management of all small piped water schemes. New systems are introduced to the management model from the start through the involvement of the Umbrella organisations. However, a large number of piped schemes still exist using other models, and the transition will require a large effort in terms of sensitisation and capacity building. This is especially true for the “new” Umbrella regions.

The Umbrella WSSB model is based mainly on the model used in Uganda for the management of small towns, which was then adapted to fit smaller schemes with a smaller consumer base and less complex technologies. The main difference between the small town model and the WSSB model is that the Town councils, being the Water Authorities in the small town model, contract the management to private companies which are selected through competitive tenders. The companies are called Private Operators, and 95 schemes are currently operated under this model in Uganda (MWE 2011b). The small town first has to go through a “gazetting” process to do this, where the Ministry creates a Water Authority and gives it the mandate to sub-contract service delivery. A performance contract is signed between the Water Authority and the Ministry, and a management contract is signed between the Water Authority and the Private Operator. The contracts are long and complex and specify a number of responsibilities of the different parties, such as reporting, compliance with laws and regulations, financial management etc. Due to their limited size or the lack of a sufficiently large water supply network, many small towns are not gazetted and use the WSSB model for the management of their water supply. However, small towns using a private operator can also be members of the Umbrella organisations and receive the same support as schemes managed through the WSSB model.

How does weak accountability affect the (Umbrella) WSSB model?

While the WSSB model appears in different shapes, each have in common that they are affected by the occasionally weak accountability mechanisms. This section looks into some of these accountability issues that happen in the practice of the WSSB model. The observations made here

are based on limited interactions in the field during the Fontes study, a few other field visits and reports. The 'water services that last' initiative of IRC in Uganda is planning to research the issues more thoroughly.

Consumers have little influence on their services

In the WSSB model there are three (and sometimes more) consumer board members. These members, however, are not elected but appointed by the Sub-County. The guidelines for small towns (also used in this case for the WSSB model) stipulate that the appointees should represent different categories of consumers (domestic, institutional, industrial) but in practice they often represent different areas of the town, or are appointed on other grounds. This is seen as a flaw in the model by many. There seems to be a general feeling among the consumers of not being represented in the WSSB board. Complaints vary from whole areas not covered by the piped schemes to vandalism of pipes by people where the main line passes their home without providing water. Consumers are not able to get information about how to apply for a private connection and complain that there is lack of transparency about how many funds are collected and what they are spent on. There is sometimes mistrust that revenues collected from the piped scheme are diverted to other activities, and that Sub-County officials appoint their cronies for financial or political gain. All these complaints, in principle, point to the issue that there is a lack of legitimacy in respect to the users since the boards are appointed and not elected. A possible solution to this comes from the suggestion by the Mid-Western Umbrella Organisation, which is to establish tap-committees for the rural piped schemes to provide a platform for the consumers. As long as these tap-committees are not represented on the board, however, this will not make the boards accountable to the consumers.

Political interference and consumers (not) paying

The fact that many WSSB-managed schemes seem to be able to collect the water fees without great difficulties counters the often heard argument that people are not paying because they believe that water should be provided for free. Cases of how WSSB handle non-payment show, in fact, that the WSSB in general is capable of enforcing fee collection if they are strict enough. Many of the stakeholders at the decentralised level complain that it is actually the politicians that interfere with the policies of tariff setting and influence the mind-set of consumers towards the belief that water should come for free. The reason frequently expressed for the interference is that the politicians are looking for their own political gains with their message that they bring 'free water'. It should also be noted that most of the WSSBs are still relatively weak and prone to political interference. The technical staff appointed to the board from the Sub-County are frequently transferred and replacements may take a lot of time and the new members are, in general, not conversant with WSSB roles and responsibilities. Another example of the political interference comes from the Mid-Western Umbrella Organisation, which advocates for a "pay-as-you-fetch" system with water kiosks instead of a flat monthly fee and communal taps. They report that this often meets with strong political resistance.

Who looks after the WSSB?

A possible bigger concern is that there is no clear split between the Sub-County role as service authority and the WSSB as the body that manages the services. It is the Sub-County that appoints the consumer members of the board and in addition appoints two members, representing the Sub-County (the Sub-County Chief and an elected Councillor). There are even cases where the political

head of the Sub-County actually wants to be the chair of the WSSB. This makes an independent oversight of the WSSB virtually impossible, and at the same time there is no independent voice from the consumers. It is therefore very unlikely, for example, that a WSSB will be replaced or corrected for its underperformance by the Sub-County.

This lack of separation of roles between the WSSB and Sub-County also contributes to mistrust. Consumers question if the WSSB is acting in their interests or those of the Sub-County. Questions are raised on how monies are spent (e.g. for diesel for a generator), which are often not answered. On the other hand, it is observed that WSSBs often operate quite efficiently when they have contracted a scheme operator who is paid a percentage of the fees collected and does proper reporting to the WSSB.

If the WSSB is a member of the Umbrella Organisation in their area, they are obliged to report quarterly (most even report on a monthly basis) to the Umbrella organisation on their performance. The Umbrella trains the WSSB members, carries out regular monitoring and support visits for water quality, sensitisation of consumers and has a stock of spare parts. It also carries out a quarterly financial audit and facilitates access to finance for scheme expansions or major repair works. However important the role of the Umbrella is, it is a role of quality control and doesn't improve the accountability mechanism of the WSSB model.

The Sub-County and its role as Water Authority

The main role of the service authority is to ensure that the entity that is managing and delivering the services is doing a good job. This mainly means overseeing the finances and quality of operations. An important element is that, in principle, all consumers of the constituency of the authority have equal rights and access to the services. Of course, in practise, conditions such as population density, geographical characteristics and financial limitations make this never 100% possible. There are, however, indications that the Sub-County still see themselves more as scheme managers than service authorities. First, as was described above, they are heavily involved in the WSSB and don't have the necessary distance from the board. Secondly, in all of the locations visited for the Fontes study, the Sub-County did not seem to have a clear vision and awareness about their responsibility beyond the consumers served by the water supply scheme. Issues such as people resorting to unsafe sources and requests for expansion to cover a larger number of consumers are not taken up pro-actively. Interestingly, the District Water Officer (DWO) of Kabarole also acknowledged this situation. In his vision it would be much better if a WSSB would not only be responsible for a particular scheme, but have the responsibility for *all* water services in one Sub-County, including the point sources.

The District local government also does not systematically receive reports from the Sub-County on the WSSB managed schemes, which points to another weakness in how accountability is organised in the WSSB model. Where the WSSB reports quarterly to the Umbrella Organisation, it only reports informally to the Sub-County, mainly because the Sub-County is strongly involved in the WSSB. The Umbrella Organisation reports to the Urban Water Supply Department at the Ministry, although dealing mostly with rural areas. The DWOs and Sub-County report on rural water, but mainly cover the point sources. This leads to some confusion in monitoring as well as a lack of clear responsibility for the piped schemes; schemes that are members of an Umbrella are followed up and monitored by the urban department, whereas non-members are the responsibility of the rural department.

Areas for further research and debate

There are a multitude of approaches used on the ground for small piped water schemes in rural Uganda, and only four have been described here. There are no clear guidelines or frameworks that are given by the government to the districts or NGOs; however, a certain consensus seems to be developing around the Umbrella WSSB model. At least at national level, this seems to be the way forward and the model is being promoted through the Umbrella organisations. The model has some important features that will increase service levels and sustainability, such as the focus on pay-as-fetch. However, there are still areas for improvement and debate:

Consumer voice. The involvement of users is crucial to maintain willingness to pay and avoid vandalism. However, in the Umbrella model (and the small towns model as well), the link to the consumers is very weak. Appointed members do not have the same legitimacy as elected ones, and the procedures in place to ensure accountability towards users are often absent. It should therefore be carefully considered whether to use elected water boards instead of appointed ones, and the roles and responsibilities of water boards in terms of keeping users involved and informed should be better defined. Linked to this discussion, a possible role of tap-committees should be considered as well.

Strengthening of oversight. It is necessary to carefully re-think the role of government in the oversight of these models. There needs to be a clearer separation of roles between the Sub-County (and DWO) as the service authority on one hand, and the role of the WSSB as the service provider on the other. In this context it may also be considered how the Sub-County can have a more integrated oversight over all the water services to all consumers in the Sub-County where the Sub-County moves away from the role of manager of services.

A home for rural piped schemes. Another concern is the anchoring of the rural piped schemes at the Ministry. In the end, it is probably not important whether they fall under rural or urban. However, it is necessary that the WSSBs and the support structure of the Umbrella Organisations are clearly linked to the local government structures (Sub-County and the DWO). The current situation where they report only through member organisations to the urban department hinders a more integrated approach for rural water services where a mix of technologies is used. This would avoid the double counting of data that takes place now. In addition, roles and responsibilities between the different stakeholders (DWOs and District Water Supply and Sanitation Coordination Committees, TSUs and Umbrella Organisations) in terms of monitoring and post-construction follow up should be streamlined and clearly outlined, so that resources can be used more efficiently and the communities have fewer agencies to deal with, as has already mentioned by the feasibility study on the Umbrellas in 2008 (MWE 2008).

References

Koestler, L. (2008). *Private Sector Involvement in Rural Water Supply – Case Studies from Uganda*. Water Engineering and Development Centre, Loughborough University, UK.

Koestler, L. et al (2012). *Development of Service Delivery Indicators for the Water Supply and Sanitation Boards (WSSB) Service Delivery Model*. IRC Uganda.

MWE (2008b). *Feasibility Review of the Umbrella Organisation Model of Operation and Maintenance of Small Towns and Rural Growth Centres Water Supply and Sanitation Systems*. Ministry of Water and Environment, Uganda.

MWE (2011a). *Updated National Framework for Operation and Maintenance of Rural Water Supplies in Uganda*. Ministry of Water and Environment, Uganda.

MWE (2011b). *Water and Environment Sector Performance Report 2011*. Ministry of Water and Environment, Uganda.

MWLE (2003). *Preparation of Long Term Strategy for Investment Planning, Implementation and Operations and Maintenance of Water Supply and Sanitation in Rural Growth Centres*. Ministry of Water, Lands and Environment, Uganda.

WSDf-C (undated). *O&M of Water Facilities in RGCs, Operation and Maintenance Arrangements, Water and Sanitation Development Facility Central Region*.

WSP-AF (2010). *Uganda Country Status Overview 2 for the African Ministerial Conference on Water - AMCOW*, based on data from the Sector Investment Plan (MWI – Jan 2009).