**Abstract/Summary**

The Government of Uganda (GoU) and its Development Partners (DPs) have been exploring options for greater investments in water supply by users themselves (self supply) to complement government efforts in water provision. Over the past 14 years, several activities to promote self supply including research, demonstration studies as well as communication and promotion campaigns have been undertaken. During the process of implementation there have been a number of achievements, while the Government and its partners have also encountered a number of challenges with respect to self supply. These have offered a number of lessons that form the basis of accelerating self supply in Uganda. This paper documents the story of self supply in Uganda, with key lessons relevant to accelerating self supply in Uganda and beyond.

**Introduction**

Uganda has been fairly successful at increasing access to improved water supplies in rural areas, from about 20% in 1991 (Danert 2010) to an estimated 65% by 2011 (MWE 2011). Despite the reported achievement, it is becoming apparent that Uganda may not achieve the Millennium Development Goals and national targets on water coverage. The reasons for failure to achieve the targets include increasing population, stagnating level of funding, an increased percentage of costs required for administrative due to the formation of new districts, the related decreasing economies of scale when implementing smaller construction projects, the running out of cheap water point technology options (springs and shallow wells) for the areas still unserved, and the rising cost of materials and fuel.

Every year, hundreds of rural householders and small groups invest in traditionally dug wells, scoop holes and rainwater harvesting technologies, to provide convenient water supplies which they manage and maintain themselves (Self Supply). Many rural people value these water sources for their convenience, taste, productive use and, most importantly, the actual ownership and control bestowed. However, policymakers tend to regard them as a liability to be replaced rather than improved or augmented, and rural water supply strategies continue to concentrate on communal supplies for groups of 200 to 500 people. Sutton (2008) defines self supply as the improvement to household or community water supply through user investment in water treatment, supply, construction and upgrading, and rainwater harvesting. It is based on incremental improvements with technologies affordable to users.

This paper documents the story of self supply in Uganda and ongoing initiatives to ensure that self supply becomes a mainstream and accepted service delivery model within the Government, donor, community as well as among water users in rural areas.

**Why Self Supply in Uganda**

Self supply is increasingly being accepted as a complementary option for water provision due to the following reasons,

1. **Slow progress to national targets for Rural Water Supply.** In 2011, MWE reported that
access to an improved water supply in rural areas is 65% the same as 2010 and 2009. Access has only risen by an average of 1.5% per year since 2003. If these trends continue, the country will not achieve its National Target of 77% by 2015. Keeping up with the fast growing rural population (3.2% per year) is proving difficult. Further, as coverage increases it becomes increasingly difficult to provide new services and keep old ones working. In addition to the need for additional finance for rural water supplies service delivery, the slow progress suggests that new approaches may also need to be fully considered.

2. **People are already investing in their own water supplies.** Self Supply exists throughout Uganda. Everyone without access to a water supply which has been improved with Government or NGO support uses either: a traditional unprotected water source; a supply which has been upgraded to a certain extent or an improved source which has been paid for by the owners themselves. In addition, people with access to a conventional supply but at distance or with too many users have invested in their own supplies. There are also people who have installed their own supplies because they want to make productive use of water (e.g. for a hotel, livestock watering, brewing, gardening). At a national level, the inventory data collected for the Water Supply Atlas 2010 indicates that private (self supply) funding to water supply amounts to 8.4%. Government funding amounts to 59.8%, and NGO funding amounts to 27.3%; this indicates significant funding by individuals and calls for efforts to further explore this avenue.

3. **Self Supply can reduce pressure on community supplies (hand pumps and piped).** In areas of unreliable piped water supply, there is a push factor to provide back-up supplies for when electricity is out or when pressure on the network is high such that an area does not receive water. For hand pump supplies, the push factor is more that of distance (500-1000m and beyond) and of long queues which result from high user numbers. In both cases additional sources reduce pressure on public supplies and offer back-up.

4. **Few countries manage universal coverage without Self Supply.** In developed countries it is unusual for the public sector to attempt to try and cover everyone for water supply. It is acknowledged that for universal coverage, some people usually more remote and scattered communities, will have to provide for themselves. For example in the USA 22% of rural households (almost 14.5 million people) provide their own supply (American Well Owners Association 2007). In Vietnam Quang Nam province, almost every household has its own well with an electric pump or a shared one with 2-3 households, being used for water-based businesses (Noel S. Soussan J. Thao NP 2006). About a third of Indonesian rural water supply is said to be Self Supply (Source WSP Indonesia) and it is common throughout Asia and Latin America. In these cases government helps with advice, sometimes a subsidy, but most cost is borne by the user.

5. **Productive water use is easier with Self Supply.** Developing productive use with community supplies usually proves very difficult. Questions of land ownership, who will look after the crops, who will benefit from the sale, how to divide up water, land and/or income all usually prove almost insurmountable difficulties. Some examples can be found but in general the bulk of productive use comes from privately owned wells where the owner can decide how much water to use and when, and gets direct financial benefit which can be ploughed back into further supply up-grading. In Jinja district most of the private supplies identified so far are for productive use or institutions. There are numerous other examples of self supply sources being used to water vegetables, bananas or sugar cane.

**History of self supply in Uganda**
1. Traditionally communities and private individuals have owned and managed water sources with minimal government support. The technologies involved included springs, rain water harvesting on banana stems and collection in containers. During the colonial period large water storage systems were particularly constructed at administrative buildings.

2. 1997 witnessed the unsuccessful re-introduction of institutional rainwater harvesting collection. The limitations in managing these facilities led to the shift to household collection and storage (Domestic Roof water Harvesting). In the same year the Uganda Rain Water Harvesting Association (URWA) was established to promote Domestic Roof water Harvesting technology, and has done much to raise awareness and identify potential and technical solutions.

3. 2003 – 2004 the GoU prepared a strategy for rainwater in Uganda, centering on promotion and capacity building of communities and the development of enterprise to provide facilities. It divided the promotion of the technologies into an NGO delivery mode, involving promotion and capacity building of communities and a private sector mode, which is based on the development of enterprises to provide facilities. Domestic Roof water Harvesting started to be included in the activities of other NGOs throughout the country. Most of these organisations were building facilities for water users. Some were training masons and women’s groups to construct facilities. The usual concept was to support the masons to construct demonstration facilities to trigger other households to invest their own financial resources in them. Traditional savings groups, with revolving loans were among the strategies used by households to finance construction. In 2004 MWE further supported the piloting of Domestic Roof Water Harvesting, through NGO delivery mode, sending signal of growing government support of technology.

4. 2005: scoping study on privately owned ground water undertaken in 12 districts in Uganda. Given that considerable research on Domestic Roof water Harvesting had already been carried out, the scoping study focused on groundwater source improvements, with field work in the east of the country. The study revealed that there was much more household investment in improving groundwater sources than had previously been realised. The study reported that there was sharing of private sources with neighbours often for no charge. The study brought to light several barriers to self supply including official discouragement of what are regarded as poor quality supplies; lack of mechanisms to support individual rather than communal ventures; blind spot/ lack of awareness in recognising what people already do for themselves and the inability of most to reach high enough up the ladder of improved technologies to be able to adopt acceptable technologies in one step. It also developed a scoring system for supplies which gives more weight to users’ values rather than just those of planners/ policy makers.

5. In 2006, District Local Governments were allowed to construct demonstration Domestic Roof water Harvesting facilities and train masons from their Water and Sanitation Conditional Grant (finding transferred from central to local government specifically for water and sanitation project implementation by District Local Governments). Domestic Roof water Harvesting was first included in national safe water coverage estimates in 2006. District local government constructed Domestic Roof Water Harvesting facilities (2199 in 2007/8; 773 in 2008/9 and 810 in 2009/10) (MWE 2008, 2009 and 2010).

6. 2006- 2008 pilot study on supporting households to improve ground water sources undertaken by two NGOs in Bugiri and Amuria districts. The study results indicated the potential of self supply to serve many more people at low cost than through the conventional
approach and with a greater degree of cost sharing between government and the community. The study further indicated a high degree of ownership for self supply sources resulting into high functionality and sustainability, when compared to communal water sources. More information about the process, achievements and lessons learned during the pilot are published electronically on the RWSN website (www.rwsn.ch)

7. 2009 -2011, 32 District Local Governments and 38 NGOs in East and Central Uganda, sensitized in self supply initiatives and several districts and NGOs promoting self- supply initiatives. The promotional activities are however affected by the following challenges.

i) The lack of guidelines on technologies options, specification and technical advice from government,

ii) Inadequate financing mechanisms,

iii) Insufficient promotion and training materials within Uganda

iv) The weak private sector to provide services and products for self supply and

v) The lack of policies and guidelines on self supply which contributes to an enabling environment.

8. 2010, -2011 a comprehensive self supply guiding framework was developed and is currently being operationalised. The framework sets out a road map for accelerating self supply in Uganda by addressing or eliminating the above mentioned challenges. The major strategies in the framework include the following:

a. Production of a set of guidelines on options for water source improvements for Ground water sources and Domestic Roof Water Harvesting technologies

b. Community sensitization / mobilization, communication and promotion to be preceded by the development of a Mobilization Strategy, awareness materials (posters, signposts, films, pamphlets, radio materials), and technology models.

c. Construction of demonstration facilities in at least 6 focal districts to demonstrate low cost step by step incremental improvements in water supply.

d. Capacity building of local private enterprises (masons, hand pump mechanics, artisans) as well as local government extension staff (County water officers, Community Development Officers, Health Assistants), political leaders and other key institutions in technical, business, promotion and marketing skills for self supply.

e. Monitoring, documentation and dissemination of results, experiences, and lessons learnt as well as the challenges of implementing this approach from the perspective of users, local enterprises, local government extension staff and politicians.

Main results and lessons learnt

Main results

Data from the Uganda Water Supply Atlas 2010 indicates that private funding to water supply amounts to 8.4%. Government funding amounts to 59.8%, and NGO funding amounts to 27.3%. This indicates significant funding by private individuals/ households. This significant level of private investment is attributed to demonstration, promotional and capacity building initiatives undertaken by government and its partners as well as households own initiatives.

Local Governments and NGOs are advertising and marketing the concept of self supply to district politicians, technical officers and communities. This has resulted into acceptability and appreciation of the self concept within local governments and communities as a viable option for accessing safe and reliable water.

As a result of the above, the number of enquiries from private individuals/ investors on how to
develop private water sources has increased within districts. District water officers and extension workers are in addition offering technical expertise to private water source developers.

200 Hand Pump Mechanics (HPM) in 52 districts have been sensitized to appreciate and support the incremental step by step improvements in water supply development. HPMs have in addition been given basic training on installation of appropriate technology water lifting devices including the windlass, and the rope pump.

Baseline surveys of private supply owners have been carried out in Jinja and Iganga districts, showing significant contribution of private supplies to coverage. Data from Iganga district shows that private supplies equal some 10% of all supplies in the district, with about half of them reaching standards which can be counted as contributing to access to safe water statistics, as defined by the Government of Uganda.

A local NGO in Soroti district Pentecostal Assembly of God (PAG) has assisted communities to improve over 120 wells by offering technical support and a few materials which the communities cannot afford.

A workshop in Katwe- Kampala (WATCOM technical services) has fabricated and installed 60 rope pumps for private individuals and NGOs in Uganda.

**Lessons**

Self supply has the potential to improve access to clean and safe water if supported by government. It is therefore prudent that governments mainstream self supply initiatives as one of the available service models for water delivery.

**Sustained advocacy, demonstration and mobilization** are required to convince politicians, policy makers, development partners, opinion leaders and communities. These require evidence to prove that new approaches can work. In Uganda’s case it has been 20 years of advocacy and demonstration that has resulted into increase appreciation and investment in self supply.

District and NGOs need a lot of help with communicating and reporting. It is important for the NGOs and Districts to document and communicate their experiences and thoughts for purposes of tracking progress, learning and sharing within the sector. Simple reporting formats could be a starting point towards improving the documentation and reporting.

The major challenge of the conventional approach to rural water supply is the achievement of long-term functionality. It is far easier to construct water supplies than to ensure their continued functioning in a good state of repair. With self-supply on the other hand, the actual individual ownership (notwithstanding the fact that so-called “private” water sources are nearly always shared) is a foundation for of functional sustainability. The owner has a strong personal stake in the continued functioning of the source, whether or not she is making a small charge for water supplied to neighbours. This individual ownership offers a stronger likelihood of on-going functionality than communal management.

**Supporting institutions.** The existence and availability of supporting institutions to promote, demonstrate, train and avail technical expertise to local enterprise and communities, offers a strong
impetus for accelerating self supply. For the case of Domestic Roof water Harvesting, self supply has done well within districts and regions where NGOs have supported self supply. A similar situation is currently being echoed within districts that have been sensitized and have taken up self supply initiatives.

**Financing self supply initiatives.** In Uganda’s case District Local Governments have mainstreamed self supply activities in the planned and budgeted water and sanitation software activities including coordination and advocacy meetings, training of private sector and monitoring. For the aforementioned activities, no additional, specific self supply expenditure was undertaken. However some self supply activities including demonstration and material support to the poorest sections of the community may require specific budget lines for self supply.

**Conclusions**
Self supply has potential to improve access to water among the un-served rural communities. Self supply should be viewed as complementary option for water service delivery. Governments and development partners should therefore mainstream self supply in water sector operations, for purposes of accelerating access to safe and reliable water supplies.

**References**
Noel S, Soussan J, Thao NP (2006) Productive use of water, a household level study from Vietnam, WEDC 32nd conference proceedings

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