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**Stakeholders' perceptions of self supply in the  
Ugandan rural water supply sector**

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## **Abstract**

The research aimed to provide further understanding of stakeholders' perceptions of self supply in the Ugandan rural water supply sector. Self supply refers to the self-financed initiation or incremental improvement of a water source by an individual or group of individuals without (or with little) support from government or an NGO. The objectives of the study was: (1) to identify and classify the perceptions from key stakeholders from 5 districts and 5 sub-counties; (2) clarify the definition of, barriers to, opportunities for and uptake of the Self Supply concept; and (3) provide recommendations to specific stakeholder groups for introducing self supply support in Uganda. This was achieved through stakeholder semi-structured interviews and observations.

Barriers for introducing self supply support exist from the implementers' perspective at various levels but reside often in misconceptions. Indeed, most stakeholders expressed great interest and showed significant potential in the conceptualisation of a self supply support strategy, particularly at local government level. Opportunities exist both for government and NGOs to develop support strategies but will require further definition of where self supply support programmes are viable and the support of self supply concepts by the donor community and development partners. Further research is required, particularly at community level to provide sufficient evidence-based arguments for the uptake of the self supply concept.

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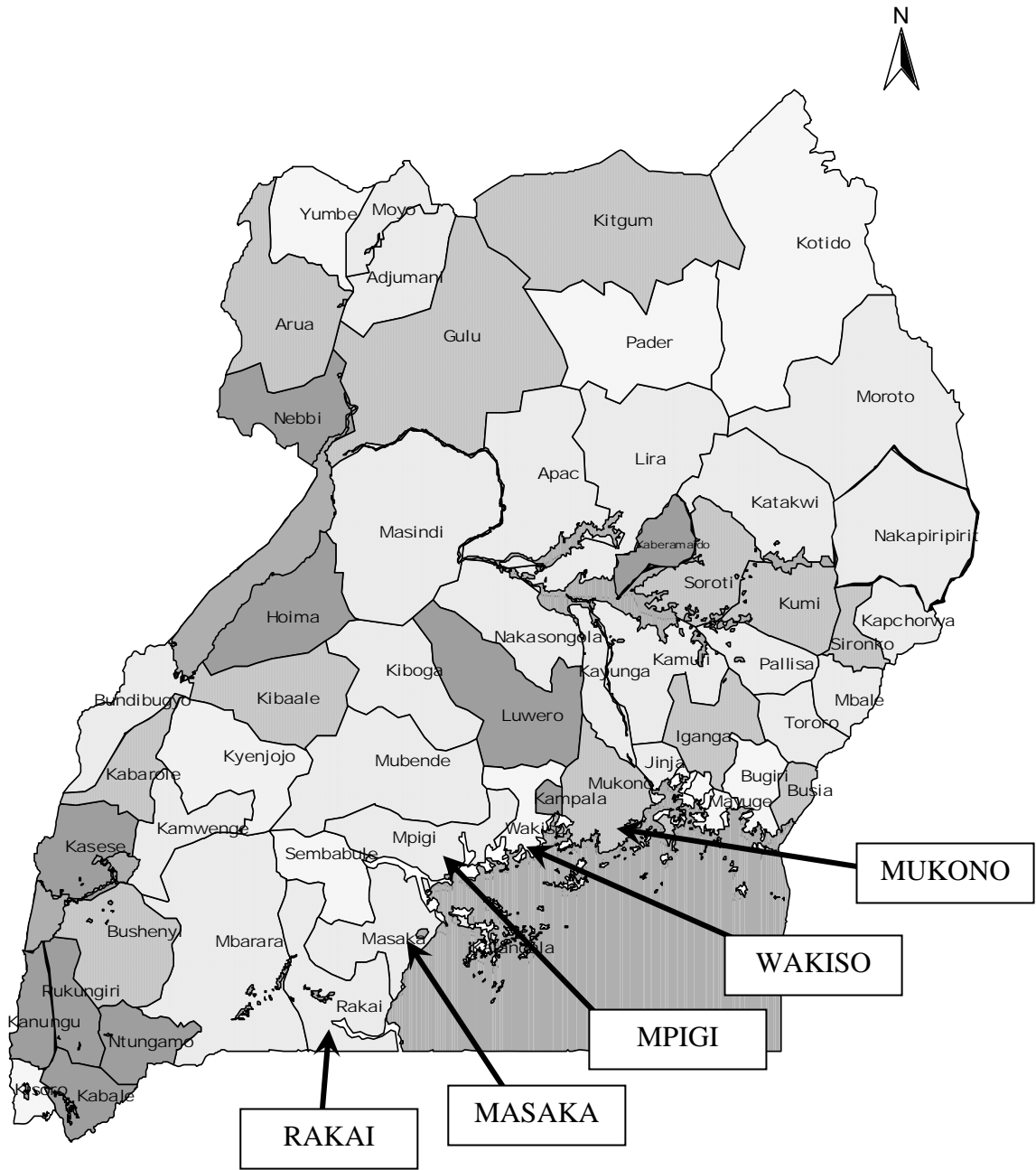
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## Glossary of abbreviations

ADWO	Assistant District Water Officer
DCDO	District Community Development Officer
CDA	Community Development Assistant (Sub-county level)
DHI	District Health Inspector
DE	District Engineer
DRWH	Domestic Rainwater Harvesting
DWD	Directorate for Water Development
DWO	District Water Officer
FPO	Focal Point Officer
GoU	Government of Uganda
HA	Health Assistant (Sub-county level)
MoWE	Ministry of Water and Environment (previously MoWLE)
MoH	Ministry of Health
NGO	Non-governmental Organisation
O&M	Operation and Maintenance
P.Eng	Principal Engineer (DWD, Central Government)
PDC	Parish Development Committees
RWH	Rainwater Harvesting
RWS	Rural Water Supply
RWSN	Rural Water Supply Network
S/C	Sub-county
TSU	Technical Support Unit
Ushs	Ugandan Shillings (£1 ~ Ushs.3400, US\$1 ~ Ushs.1800)
WSC	Water and Sanitation Committee (new term for WUC)
WUC	Water Users Committee



# Map of visited areas



# 1. Introduction

## 1.1. Introduction to Self Supply

In sub-Saharan Africa, over 85% of those without access to improved water supply live in rural areas. At the current rate, a UN report points out that for Africa “*the goal of reducing by half the proportion of people without access to improved water will not be achieved until the 2050s*” (UNDP, 2002). The projected coverage in 2015 for sub-Saharan Africa is estimated at 68% (WHO, 2005). These figures show that the conventional communal approach to rural water supply has left a significant amount of the sub-Saharan African rural population (over 240m<sup>1</sup>) to either walk tremendous distances or to find their own way to access water without the intervention of government or NGOs.

*“Self supply builds on the widespread desire of the rural poor to invest in solutions which benefit their small group or household directly, rather than as members of what are often scattered or discordant communities. Its components include improved availability of water from increased numbers of supplies (traditional source promotion, rainwater harvesting), improved water quality (source protection, improved water collection and storage practices, household water treatment), and improved water lifting for productive use”.* (Sutton, 2004)

### Box 1.1.1 Ideas behind Self Supply

Some if not many of these ‘unserved’ people have initiated or improved their own source, either by digging and maintaining a traditional well, maintaining their scoop hole or valley-bottom pond, collecting rainwater or treating their water by boiling and filtering it. In other cases, the failure of community managed systems has simply led users return to their ‘traditional source’. Both categories of ‘unserved’ can be supported through an alternative approach which focuses on the user’s will, capacity, priorities and effort for water supply (see Box 1.1.1 above). Such efforts have not received proper recognition from sector professionals and policy makers despite its potential contribution towards improved access to water supply and associated health and livelihood improvements.

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<sup>1</sup> The estimated unserved rural population of sub-Saharan Africa in 2002 was 244,804,000 (45%) of a total unserved population of 287,944,000 (58% of total population) (WHO, 2005)

In an attempt to further understand how the sector can support such initiatives, this study focuses on the perceptions and attitudes of stakeholders – from the Ugandan rural water supply sector – towards self supply and potential self supply support.

## ***1.2. Description of the research project***

### **1.2.1. Background and context**

Previous self supply research has been undertaken in Zambia, Mali and Uganda supported by the Rural Water Supply Network (RWSN). These studies have focused on potential for self supply support specifically looking at source types, existing programmes and indicators for self supply potential and framework ideas. No studies explicitly focus on stakeholders' perceptions of self supply and their attitudes towards potential self supply support. These perceptions and attitudes are key to understanding the opportunities and barriers for self supply as well as defining viable support strategies and policy integration.

There is a wide range of stakeholders involved in the rural water supply sector, each influencing its orientation and complexity at different levels. The key stakeholders identified are individuals from the community, sector professionals from government, NGOs and the private sector, and donors. Due to research timeframe and logistical limitations, particular focus is given to analysing the perceptions from government and NGO professionals and sector donors. Further research with local development groups and local private sector would be ideal and contribute significantly to the development of self supply support strategies.

Running concurrently to this study, a self supply pilot is under preparation in Uganda, funded by the government of Uganda and WaterAid and undertaken by two NGOs with local and international technical support. The objective of the pilot is to “*determine the scope for incremental self improvements to existing (unimproved or partially improved) water sources by water users themselves through improved knowledge, technical support and very small subsidies*”.

### **1.2.2. Aim and Objectives**

The **aim** of the research is to gain an improved understanding of stakeholders' perceptions of Self Supply in the Ugandan rural water supply sector.

The specific **objectives** are:

1. Identify and classify the perceptions from key stakeholders from 5 districts and 5 sub-counties.
2. Clarify the definition of, barriers to, opportunities for and uptake of the Self Supply concept.
3. Provide recommendations to specific stakeholder groups for introducing self supply support in Uganda.

## **2. Literature review**

### ***2.1. The Ugandan rural water supply sector***

The Ugandan rural water supply sector is characterised, effectively, by a top-down approach despite a demand-responsive policy. Technology choice is limited to high-cost technologies which require significant technical and financial support. With decentralisation still in progress, capacity at the district and sub-county levels is limited. Coupled with challenging budget release timeframes, continuous restructuring and limited human and financial resources, the sector faces significant challenges. NGOs contribute significantly to the sector yet, a part from a few large national and international NGOs are not coordinated and can often lack continuity.

This seemingly grim picture is somewhat balanced by the considerable effort from government, NGOs and donors to tackle these challenges. They are also considering sustainable approaches for rural water supply including considerations for ‘appropriate technologies’ such as domestic rainwater harvesting. Capacity building of districts has increased and software components (pre-construction mobilisation and post-construction social infrastructure) are given more focus. Furthermore, the rural budget has increased by 50% in the recent financial year and lessons from the early days of the sector-wide approach (SWAP<sup>1</sup>) are being learnt and translated into more efficient and effective financial planning (MWLE, 2004).

#### **2.1.1. The Government**

Many ministries are involved, directly or indirectly in the rural water supply and sanitation sector. Appendix 2 provides a diagrammatic illustration of the description below.

#### **Description of the government context**

The central government body in charge of rural water supply is the Directorate for Water Development (DWD) administered under the Ministry of Water and Environment

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<sup>1</sup> Sector-wide approach to planning (SWAP), initiated in 2000 and adopted in 2002, means that “*within a decentralised delivery system all significant public sector funding follows a common approach, is within a framework of a single sector expenditure plan and relies on government procedures for disbursement, accounting, monitoring and reporting on progress*”. (MWLE, 2002)

(MoWE)<sup>1</sup>. In the process of decentralisation Technical Support Units have been set up temporarily to provide strategic capacity building to local governments (GoU, 2001). The 77 districts<sup>2</sup> are divided into 8 Technical Support Units (TSU)<sup>3</sup> headed by Focal Point Officers. Since the Fiscal Decentralisation Strategy (FDS), budgets are managed at District level through a single Conditional Grant, but verified (in terms of procedural compliance) by the Focal Point Officers at the centre, who still provide significant guidance to districts. Key staff at the District water office include: a District Engineer, a District Water Officer (DWO), and several Assistant District Water Officers (ADWOs). The structure also provides for County Water Officers (CWOs). Each district can follow one of the 3 staffing models suggested by DWD to the Ministry of Public Services (Issue paper 2, 2003). There is no social scientist or health specialist at the district water office as they are expected to coordinate activities with the Community Development and Health Departments. This was raised as problematic by DWD to the Ministry of Public Services during restructuring. Relevant staff from these departments include: the District Community Development Officer (DCDO) or Senior Community Development Officer and a Health Inspector (HI) respectively.

Each district is divided into 15 to 35 sub-counties<sup>4</sup>. The main actors in rural water supply at sub-county level are the extension workers, namely Community Development Assistants (CDA) and Health Assistants (HA) coordinated by their respective departments. Not only is there no provision for specific water office staff at sub-county level, but the number of CDAs and HAs and available resources (facilitation and transport) are insufficient for the expected extension work (community mobilisation, supervision and follow-up) (MWLE, 2002). The recent restructuring and guidelines still need to be absorbed by the districts which is a slow and difficult process, hindering sector performance (MWLE, 2005b).

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<sup>1</sup> Restructuring of the Ministry occurred following the recent re-elections of President Museveni. The Ministry previously included Lands (Ministry of Water, Lands and Environment)

<sup>2</sup> The number of districts in Uganda has increased over the years from 39 in 1991 to 77 in 2006, as an attempt to bring the local government closer to the people.

<sup>3</sup> The TSUs structure will change from 2007 as the country will be divided into the 4 regions.

<sup>4</sup> The number of sub-counties per district has reduced with the increase of number of districts

## **Policy, strategy and operation**

The sector goals and targets are (MWLE, 2004):

1. *“To promote coordinated, integrated and sustainable water resources management to ensure conservation of water resources and provision of water for all social and economic activities.”*
2. *“Sustainable safe water supply and sanitation facilities, based on management responsibility and ownership by the users, with an 80%-90% effective use and functionality of facilities to 100% of the urban population and 75% of the rural population by the year 2015”.*
3. *“To promote development of water supply for agricultural production in order to modernise agriculture and mitigate effects of climatic variations on rain-fed agriculture”*

The Sector Schedules (MWLE, 2005a) outline sector policy, strategy and operational documents. Key documents are the Rural Water Supply and Sanitation Strategic Investment Plan 2000-2015 (SIP-15) and the 5 year Operational Plan for the Rural Water Supply and Sanitation Sector 2002-2007 (OP-5). Its overall purpose is to operationalise the SIP-15.

*The SIP-15 outlines key strategy concepts for the sub-sector which include Demand Responsive Approach (DRA), Decentralized implementation, adoption of Sector-Wide Approach to Planning (SWAP), Integration of sanitation and hygiene with water supply, Sustainability and Financial viability.*

### **Box 2.1.1 Rural Water Supply and Sanitation Sector Investment Plan (SIP-15)**

Rural water supply implementation takes place in a decentralised and privatised environment where technical solutions are limited to hand-dug or auger shallow wells, boreholes, spring protections, gravity-fed systems, valley tanks, communal rainwater harvesting systems and piped water. A construction capital community contribution is expected (fixed cash amount depending on technology). Operation and maintenance is to be financed in full by the community, following a 7 year O&M plan that they are expected to write (DWD, 2002b). These constitute 2 of the 6 critical requirements established to *“guide the local government institutions and their agents in the private sector and make the principle of sustainability operational”* (DWD, 2002b) (see Box 2.1.2)

- |   |
|---|
| 1. A signed Memorandum of Understanding       |
| 2. Participation of women                     |
| 3. Sanitation and hygiene promotion           |
| 4. Capital contributions                      |
| 5. Settlement of land and ownership conflicts |
| 6. Operation and maintenance plan             |

**Box 2.1.2 Critical requirements (OP-5)**

**Coverage**

The Sector Performance report (MWLE, 2005b) gives 4 figures for rural water supply coverage which reflects the inconsistency of data. The most realistic figure being around 50%<sup>1</sup> (see Table 2.1.1).

**Table 2.1.1 Estimated coverage for Rural water supply**

Estimated Coverage	
<b>1. DWD-MIS (Revised 2005) Approach</b>	
Assuming 100% functionality	61.3%
Assuming reduced functionality <sup>2</sup>	49.7%
<b>2. District Situation Analysis Approach</b>	
Assuming 100% functionality	57.6%
<b>3. Density Approach (assuming 100% functionality)</b>	
1.5 km	55.7%
1 km	52.6%
0.5 km	36.0%
<b>4. NSDS (2004)</b>	
Wet season	60%
Dry season	52%

*Based on (DWD, 2006)*

**Sector issues and focus**

During the first Joint Sector Review<sup>3</sup> in 2001, the following sector issues were highlighted (GoU, 2001):

- Subsidies in the rural water sub sector exceed 95%;
- Approximately 30% of the existing facilities are not working;
- Community based maintenance system is not functioning as designed;
  - The demand responsive approach has in some cases not been successfully followed

<sup>1</sup> The coverage statistics (excluding NSDS figures) refer to Government implemented sources. NGO and self supply sources are not counted.

<sup>2</sup> springs - 100%; handpumps - 70%; GFS taps - 90%. These are averaged values based on spot checks.

<sup>3</sup> The purpose of the Joint Sector Review (JSR) is to review and assess the performance of the water and sanitation sector and provide budgetary and policy guidance in support, socially and economically viable, environmentally sustainable and participatory water and sanitation services in Uganda with focus on the poor (MWLE, 2005). The first JSR took place in 2001 and occurs every year in September.



- Use of inappropriate technology options could also be a complicating factor.
- Poor availability of spare parts and water user groups that are not cohesive enough to implement cost recovery
- NGOs and community-based organisations have a role in making the demand driven and community based approach to operation and maintenance more successful.

Operation and Maintenance of point water sources still remain a challenge today (MWLE, 2005b). Central government is trying to tackle it through O&M Workshops in attempt to re-disseminate the OP-5 guidelines. In addition, DWD has enabled up to 12% of the district budget to be spent on ‘software’ and piloted the use of NGOs for software activities (DWD, 2006). DWD has also recognised the significant contribution of self supply in responding to the O&M challenge (see Box 2.1.3)

*“When calculating access, consideration should be given to households which are currently considered as un-served but draw water from sources that they have developed or improved themselves. Such sources can be upgraded to even safer supplies which offer great security of supply. Considering such water sources also overcomes the problem of trying to “develop a sense of ownership” in order to ensure that O&M requirements are met. Sources which have been developed by their users are actually owned by the users themselves. This provides one solution to the ongoing issues of O&M and limited available public finances.” Recommendations in the Sector Performance Report (MWLE, 2005b), p41.*

**Box 2.1.3 DWD recommends self supply acknowledgement**

### **2.1.2. Non-Governmental Organisations**

Non-government organisations exist in various forms and sizes. Some large NGOs follow a top-down approach despite significant resources and continuity. Smaller NGOs or CBOs tend to understand the communities better and have greater potential for sustainable solutions, yet technical capacity, financial continuity and high staff turnover are significant challenges. Over 100 NGOs are registered with the Ugandan Water Supply and Sanitation Network (UWASNET). The role of the Network is mainly coordination and capacity building (UWASNET, 2003). The Network has the potential to play a key role in the sector yet has a significant way to go before achieving its objectives. Indeed, only a few NGOs have the capacity, as a member, to contribute

significantly to the Network which tends to be guided by a few large NGOs and the Government. Furthermore, UWASNET is mainly government funded which can make it difficult to take on an advocacy role and properly represent NGOs in policy debate.

Many Community Based Organisations (CBOs), Parish Development Committees (PDCs) and women groups contribute to the sector either working in partnership with larger national NGOs or international NGOs. The exact contribution of NGOs, CBOs and community groups in the water supply and sanitation sector is unknown, yet a study undertaken by the network in 2004 (UWASNET, 2005b) estimated NGO/CBO contributions at Ushs.37bn or one-fifth of total sector spending<sup>1</sup>. UWASNET has appealed for increased involvement of the NGO/CBO sub-sector considering this level of contribution (UWASNET, 2005a). This appeal is further substantiated through the success of NGOs during various projects such as the domestic rainwater harvesting and software pilots (DWD, 2006; URWA, 2005).

### **2.1.3. Private Sector**

The portion of the private sector which is of most interest to self supply is the local private sector which includes well diggers and artisans. The private sector study describes them as individuals who “*undertake work for communities, individuals, registered companies and NGOs. [Their] income depends on the availability of work, which is not constant. [They have] no capital [and] tend to live hand to mouth. [They] tend to work close to home area (e.g. in same sub-county) unless employed semi-permanently by an organisation.*” (DWD, 2003)

Another part of the private sector is that which focuses on supplies, such as pump spares or rainwater harvesting components (guttering, prefabricated tanks or jars) requiring a better business organisation. Knowledge of their existence and capacity exists at sub-county and district levels, yet little support exists in terms of business training and credit.

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<sup>1</sup> NGOs contributions is extrapolated from 6 months water and sanitation budget from one-fifth of UWASNET's membership (UWASNET, 2005b)

#### **2.1.4. Donors**

With government budget support from donors exceeding 50% for the sector (MWLE, 2004), their influence in policy orientation is significant. The two main grants supported by donors are the Joint Partner Fund (JPF) which is managed and spent at central government level and the District Conditional Grant (CG) provided to Districts by central government through the Poverty Action Fund (PAF) (MWLE, 2004). Main donors or ‘development partner’ include Austria, Denmark, U.K., EU, Germany, the Netherlands, Japan, Sweden, UNICEF, World Bank, ADB.

Following the sector wide approach to planning, a “budget support” approach has allowed the government to focus on longer term and sustainable strategies rather than project-based programmes from individual donors, each with their own procedures and timeframes.

International and national NGOs are financed through their own channels which can include international agencies, churches, international private donors, Northern NGOs or governments.

## ***2.2. Self Supply***

### **2.2.1. Previous self supply studies and supporting literature**

#### **Self supply, a non-conventional approach**

Self supply basically refers to the self-financed initiation or improvement of a water source by an individual or group of individuals without or with little support from government or an NGO. The technologies employed are usually low cost and locally available. It is distinguished from the *conventional* approach of governments and NGO, illustrated in Table 2.2.1.

**Table 2.2.1 Comparison of Conventional systems and upgrading of self supply**

<b>Conventional communal systems</b>	<b>Self supply source up-grading</b>
Best suited to nucleated, homogeneous communities, with good leadership	Suited to individual households and small groups
Technologies available for wide variety of conditions, greater flexibility in siting	Easily established where water is within 15 meters of surface or rainwater adequate
Focuses on outside knowledge and remote technologies	Builds on local knowledge, attitudes, and skills
Serves large numbers of people, who may or may not form a community	Serves households or small groups forming natural management units
Safety and quality of water usually assumed, not always correctly; perceived value among users may be less than assumed	Significant improvements in water quality, comparable to fully protected communal shallow wells but at much reduced cost; high perceived value among users
Generally marketed for health benefits; income generation often difficult because of communal ownership	Often generates multiple benefits including income, improved nutrition, and local employment
Depends on committee management which is not traditional and may take time to develop	Well-defined ownership and management by individual or well-established group
Provides good water within 0.5 to 1 kilometers, but households may have nearer alternative sources	Provides good water, usually within household boundary or within 100 meters
Requires large investment per unit, and very high subsidies (usually around 95 per cent; typically US\$15–30 per capita)	Low unit cost means that subsidy can be less than 50 per cent (Zimbabwe 20 per cent) (typically \$3–5 per capita)
Rapid construction, but construction teams not usually involved in maintenance unless with outside funding	Rapid small changes, slower process to reach final product, construction teams also do maintenance
Long-term maintenance is expensive, requiring heavy equipment and transport	Regular and long-term maintenance can be carried out by local artisans, including progressive re-deepening at low cost
Higher standards from the start but sustainability may be low	Gradual steps towards high standards, each bringing sustainable improvement
Often donor driven	Develops directly from local demand

Source: (Sutton, 2004)

### **Upgraded Family Wells in Zimbabwe**

The focus on traditional source improvements goes back to the 1990s with the Upgrading of Family Wells (UFW) in Zimbabwe (Morgan & Chimbunde, 1991) which holds the fundamental principles behind the recently conceptualised “self supply” idea: self-built and self-financed sources. In the early nineties, UFWs were supported by various external agencies and by 2002 an estimated 50,000 UFWs were serving half a million people in Zimbabwe (WSP, 2002). Self supply support principles relevant to this study are presented in Table 2.2.2.

**Table 2.2.2 Self Supply principles from the UFW programme (Zimbabwe)**

Principle	Description
<i>Financing</i>	
<b>Mostly self financed</b>	The supporter (in this case a the Mvuramanzi Trust) provides a seed grant of 30% to construct the well, while the households pay 70%.
<b>Limited per capita capital investment</b>	UFW's per capita cost is about one-tenth of a borehole and handpump.
<i>Operation and Maintenance</i>	
<b>Affordable and accessible maintenance</b>	Some structural repairs, periodic replacement of bearings of windlass (made from old car tyres) and of the chain and bucket.
<b>Familiar technology</b>	The traditional windlass was widely used and all components are 'simple' and locally available

Based on (Cardone & Fonseca, 2003; WSP, 2002)

### **Community-led water source improvements in Zambia**

More in-depth research on self supply was undertaken in Zambia between 1998 and 2002, funded by DFID. The research focused on low-cost traditional source improvements leading to capacity building of government and integration of self supply approaches into national policy (Sutton, 2002; Sutton & Nkoloma, 2003). The findings related to water quality are of significant interest and encourage similar research to be undertaken in Uganda (see Box 2.2.1).

**Bacteriological water quality** of sources having received low-cost improvements was similar to source with conventional 'full' protection  
**Limited deterioration** of water quality was noted between source and point of consumption

**Box 2.2.1 Water quality findings in the Zambia self supply study**

### **Potential for self supply in sub-Saharan Africa**

A preliminary desk study of potential for self supply in sub-Saharan Africa (Sutton, 2004) was undertaken in order to determine the factors which affect the potential for self supply, and evaluate the Africa-wide potential with focus on Malawi, Moçambique, Uganda and Zambia. The study pointed out the key distinctions between the conventional communal approach and self supply source 'upgrading' (see Table 2.2.1). Sutton also identified the following indicators for source up-grading potential (see Table 2.2.3 which include the author's comments). These provide a starting point for investigation of self supply potential but require further ground research in order to

elaborate the *community and source categorisation* part of a strategy framework for self supply support.

**Table 2.2.3 Self supply potential indicators based on preliminary desk study**

Indicator	Comment
Groundwater	
<b>1. Water within 15m of the surface</b>	Significant potential for self supply but can also be subject to shallow well programmes from government or NGOs which can influence community expectations. May require technical capacity building in terms of lining.
<b>2. High numbers of wells serving small groups of houses or individual families</b>	May be limited in non-nucleus communities. Sharing of private sources with neighbours very common and part of tradition, with the exception of some sources for productive use (such as farmers)
<b>3. Low functioning of conventional systems</b>	Resulting from reluctance or inability to maintain. Where no alternative source exists low-cost options are the ideal potential for self supply. Where alternatives are available, self supply potential will still depend on user expectations and priorities.
<b>4. Population density</b>	Land use patterns (nucleus vs. scattered communities) can differ significantly yet do not necessarily affect private source sharing.
Policy environment	
<b>5. Technology standards</b>	Significant barrier or opportunity for government uptake of self supply approaches. Low-cost options in pump standardisation, shallow-well drilling/construction and rainwater harvesting technologies provide a recognised 'toolbox' for self supply support strategies.
<b>6. Technology choice</b>	Effectively, despite demand responsive approaches, technology choices are limited. Nevertheless, as Sutton points out " <i>Mali allows communities to choose whether to up-grade what they have or go for a higher level of supply, and Zambia and Zimbabwe, Sierra Leone and Liberia all have acknowledged the high level of grass roots demand for up-grading alongside the demand for replacements, and have been able to carry out thousands of source improvements with owners as the lead player.</i> " There are significant lessons to be learnt and disseminated between policy makers to support source improvements.
House hold water treatment	
<b>7. Type of supply</b>	Very little consideration is given for contamination during transport or storage, even when sanitation and hygiene behaviour is known to be poor. The argument of consumed water quality for 'fully improved conventional' systems should therefore be questioned given opportunity for self supply sources and household water treatment options to be considered.
<b>8. Disease incidence and awareness of /priority given to risks</b>	Water quality is not often a priority in rural areas particularly where water is scarce. Where water is paid for or priority given to quality, household water treatment options are viable

Table 2.2.3 continued

Rainwater harvesting	
<b>9. Roof types</b>	With rainfall, roof type constitutes the basis for DRWH potential both in terms of quality and quantity. Whilst in some areas potential has been overlooked (Uganda) other areas have unsuitable roofing (Mozambique). Pockets of potential need to be recognised as other alternatives may not be possible in certain areas due to hydro-geological constraints.
<b>10. Rainfall</b>	Regional rainfall figures alone can only provide partial understanding of potential. Solutions are highly household specific, yet average roofing sizes, use patterns (which will get distorted with the new supply) and rainfall data can provide significant guidance for DRWH potential through simple modelling.
General indicators	
<b>11. Areas where people invest in own supply, and have the willingness to invest more</b>	
<b>12. Availability of local well-diggers who are receptive to and can promote new ideas, and traders who identify or create expanded markets for hardware, water treatment materials, pump spare parts, soap, improved storage vessels and for marketing agricultural produce etc.</b>	
<b>13. Areas where households undertake limited small scale irrigation and markets are developing and/or nutritional needs are recognised but not satisfied</b>	
<b>14. Knowledge, Attitude, Practice (KAP) relating to water quality of different sources and ways water is contaminated</b>	
<b>15. To afford household level water treatment means having a poor level of supply but relatively high disposable income</b>	

Based on (Sutton, 2004) with author's comments

### Country studies

Self supply studies have taken place in Mali (Sutton, 2005) and Uganda (Carter et al., 2005). The Mali study showed significant potential for traditional well improvement but also that government supported well improvement, though the latter are often high-cost solutions such as improved wells and boreholes. Support from the Ministry of Health was initiated and, with further collaboration, could provide further opportunities for integration of self supply into policy.

The Uganda self supply study is presented in the following section.

#### 2.2.2. The Ugandan self supply context

The concept of self supply has only been recently introduced in Uganda with the set up of a steering committee chaired by the Assistant Commissioner Rural water (DWD). The steering committee membership includes the Directorate for Water Development

(DWD), The Uganda Water Supply and Sanitation Network (UWASNET) and the World Bank Water Supply and Sanitation Programme (WSP).

Focus on self supply related topics such as low-cost well drilling (Danert, 2003), shallow well rehabilitation (DWD, 2002a), rainwater harvesting (URWA, 2004) and the 'software' study (DWD, 2006) provide insight into a potential Ugandan self supply framework.

More in-depth research on self supply potential, with emphasis on shallow ground water was undertaken by Richard Carter and team (Carter et al., 2005). The study focused on:

1. The categorisation of ground water types
2. The conceptualisation of water services
3. Self supply support options (opportunities) and barriers

### **The categorisation of ground water types**

The categorisation of ground water sources can facilitate the recognition by sector professionals, particularly the simpler types such as small water holes (type 1) and valley tank or near-swamp (type 2). Four types of groundwater sources were suggested in the study (see Box 2.2.2)

**Type 1** is a very shallow (<1m) small water hole ("almost a spring") on a hill slope or near the valley floor, sometimes protected by earth bunds and/or stone or timber to allow access without entering the water. **Type 2** is a more extensive, deeper (up to 2-3m) valley tank, utilising shallow groundwater from a swamp or near-swamp. **Type 3** is a self-initiated usually brick lined shallow well, with rope-and-bucket, windlass or handpump. **Type 4** is a private borehole with handpump or submersible pump.

#### **Box 2.2.2 Self supply shallow ground water source types (Uganda)**

A similar categorisation can be done for domestic rainwater harvesting, based on the rainwater harvesting ladder (URWA, 2004) and systems types (DWD, 2004).

### **The conceptualisation of water services**

The dualistic view of the conventional approach (served/unserved, protected/unimproved, safe/unsafe) ignores the complex nature of water service in rural areas which include other important characteristics. The study suggests a pluralistic



point of view on water supply and the definition of source focusing on characteristics of access, water quality, reliability, cost and management (see Table 2.2.4)

**Table 2.2.4 Redefining service: characteristics and scoring of water sources**

<p><b>1. Access.</b> (0/2) Water at a distance, consumption correspondingly low; (1/2) a reasonable level of shared access; (2/2) water in the yard or home.</p> <p><b>2. Water quality.</b> (0) Polluted or at-risk; (1) untreated protected sources (quality is good most of the time, but it cannot be guaranteed; also deterioration between source and point of use is the norm); (2) high quality disinfected water in the home.</p> <p><b>3. Reliability.</b> (0) Unreliable, for instance a pond, well or rainwater system which is dry for a significant part of the year; (1) shared source in which consumption is limited not by source performance, but by distance (e.g. a communal handpump); (2) water supplied reliably into the yard or home, allowing consumption typically to exceed (and sometimes far exceed) 20 litres per person per day.</p> <p><b>4. Cost.</b> (0) Very high human cost associated with a distant polluted water source (in terms of time, energy, health and lost opportunity); or the high investment cost of, for example a pumped treated piped water supply; (1) a typical “conventional” improved rural community water source, in which the community can only contribute a few hundred thousand Uganda Shillings, or around 10% of the investment cost; (2) mainly local materials and labour are used, and dependence on external financial support is low or nonexistent.</p> <p><b>5. Management.</b> (0) Dependence on external management support is nil or negligible; (1) significant long-term external support to communities is necessary to ensure O&amp;M sustainability; (2) management and maintenance necessarily requiring a technically competent individual or body.</p>
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Source: (Carter et al., 2005)

### **Self supply support options (opportunities) and barriers**

The self supply support options suggested in the study are (Carter et al., 2005):

- *Technical and/or financial support to self supply initiators/owners.* Either direct (materials such as a handpump or part of a handpump) or indirect (small subsidy and/or technical support) in a planned incremental manner.
- *Support to private well diggers (artisans).* In the form of training, equipment and/or improved access to credit.

The barriers to self supply uptake identified during the research were:

- Discouragement by the authorities of sources which fall short of Government *standards* of construction and water quality.
- NGOs and Government authorities will not (and say they cannot) assist *individual households* and can only support “communities”
- Almost no support is given to communities which make type 1 or type 2 improvements. Most organisations appear blind to the positive significance of

the investments made by individuals or communities, and none of the NGOs or Government agencies interviewed were considering simple low-investment improvements to such sources.

- The investments necessary to construct protected shallow wells or boreholes are available to very few individuals.

The findings related to the above points are presented in sections 4.4 (Opportunities) and 4.5 (Barriers), and discussed in section 5.2 (Conceptual Framework).

### 3. Methodology

#### 3.1. Semi-structured interviews

Interviews were held with key stakeholders at Central Government, District and Sub-county level. Key stakeholders and informants were primarily from the rural water supply sector and are listed in Table 3.1.1. The author recognises the non-representative nature of stakeholder choice (in terms of geography and statistical sampling) yet the purpose of this study is to provide insight into the fundamental attitudes towards self supply rather than a generalised snapshot. During the course of the study access to households and individual ‘users’ as well as local level organisations such as CBOs and women groups were not possible due to limited resources. Their input and role to play in self supply was learnt to be significant and should be further investigated to provide better insight and show further potential for Self Supply support.

**Table 3.1.1 Key stakeholder group breakdown**

Stakeholder Group	Scope	Stakeholder	No of informants
Government	National	MoWE DWD TSU Focal Point Officers	2
		MoWE DWD Social Scientists	2
		MoWE DWD Engineers	2
		MoWE DWD Managers	3
		MoWE DWD Technical/Sector Advisors	3
	District	District Engineers (DE)	1
		District Water Officers (DWO)	6
		Asst District Water Officers (ADWO)	3
		District Com. Dev. Officers (DCDO)	2
		District Health Inspectors (DHI)	3
	Sub-county	Sub-county chief	2
		Community Development Officers (CDO)	1
		Community Health Assistants (HA)	2
NGO/CBO	International		2
	Regional		1
	Local		2
Donor	International	Multi-lateral	1
		Bi-lateral	2
<b>Total</b>			<b>40</b>

The interview was divided into 3 parts:

1. A set of general questions on key sector issues guided the first part of the interview;
2. A brief verbal presentation of Self Supply (Appendix 3).
3. The reactions and attitudes of the interviewee were noted and followed with further questions and discussions. When the interviewee had encountered the concept of Self Supply before (as defined by the study) such as the Self Supply Workshop in August 2005 further in-depth questions were asked.

The questions and themes brought up during the interviews depended on the particular stakeholder group. A list of general and stakeholder specific questions provided guidance to ensure that key issues were brought up.

The interview was approached with enough flexibility for the interviewee to take control of the thinking process and allow an atmosphere of trust to be present. The author felt it was important for the concept and issues to be defined by the stakeholder interviewed rather than looking for reactions to preconceived issues and ideas.

Interviews were recorded using hand written notes with key comments read out to the interviewee in order to ensure proper interpretation of their ideas or remarks.

### ***3.2. Observations and discussions***

Being part of the Self Supply Steering Committee and working in the Ministry of Water and Environment (DWD) government offices for 7 weeks, behaviours and attitudes were observed and, coupled with many informal discussions, enabled further understanding of the working environment and challenges faced by the sector on a day-by-day basis.

## 4. Findings

### 4.1. Stakeholder perspective

An important finding from this study was the difference in perspectives held by stakeholders acting at different levels from field to central government and between extension worker, donor representatives and sector advisors. This reflects the challenges faced in information flow and participatory decision-making from lower levels of government (see Box 4.1.1), ultimately affecting the uptake of any new approach.

*“I get confused because we use bottom-up planning for water supply but when it gets to policy decisions or guidelines, no one asks for our input [based on the realities of the field].” (CDA)*

*“We follow guidelines that don’t make sense on the field [referring to the critical requirements of the OP5]” (HA)*

**Box 4.1.1 Field level perspectives**

### 4.2. Conventional approach to rural water supply

In order to better understand the context in which an alternative approach to rural water supply would fit in, perspectives on current sector challenges is briefly presented below. This section does not attempt to provide a comprehensive list of issues but rather bring out the recurring themes raised by various stakeholders during the first part of the interview. Nine themes were identified to be relevant to Self Supply support.

**Table 4.2.1 Issues in the Conventional approach**

Theme	Description
<b>1. Community Management</b>	The communal management and financing of point water source (PWS) through water user committees (WUC)
<b>2. Community attitudes and variability</b>	The (variable) attitudes of communities towards government, NGOs and the private sector.
<b>3. Poverty</b>	The effects of extreme poverty in the conventional approach.
<b>4. Planning and scheduling</b>	Government scheduling, bottom-up planning and funding issues
<b>5. Staffing</b>	Staffing of district and sub-county offices, roles, responsibilities and expectations
<b>6. Politics</b>	The effect of both local and government politics
<b>7. Policy versus reality</b>	The discordance between policies and guidelines and realities from the field.
<b>8. Government-NGO relations</b>	The interaction (or lack of) between Government and NGOs at field level.
<b>9. Information and strategy dissemination</b>	Challenges of two-way information flow between central government and field level, NGOs and government, and misinterpretation of policy and guidelines.

### ***4.3. Self Supply conceptualisation***

The concept of self supply was briefly presented to the interviewee after discussing sector issues. Whilst the full concept and framework as defined in the Uganda Self Supply study (Carter et al. 2005) was *not* presented, the underlying principles were (see Box 4.3.1 and Appendix 3), to provide opportunity for conceptualisation with the stakeholder rather than seeking reaction to a predefined concept.

- *Self supply focuses on existing sources which have been initiated by an individual or group*
- *Self supply focuses on improving such sources, incrementally at the pace of the initiator*
- *Self supply support should focus on the owner's/user's interest in improving the source*
- *Ownership of the land and source is not transferred to the user community and water user communities are not necessarily set up*

#### **Box 4.3.1 Interviewee introduction to the self supply concept**

Self supply conceptualisation from the stakeholders' perspective is summarized in the following three sections:

1. Acknowledgement of the existence of self supply initiatives
2. Water source characteristics and service
3. Self Supply as a set of technologies or an approach?

#### **4.3.1. Acknowledgement of the existence of self supply initiatives**

The existence of self supply initiatives was clearly acknowledged by all stakeholders, particularly at field level (sub-county extension workers and local level NGOs). Only a few Central government and District staff had more difficulty acknowledging self supply initiatives or improved sources particularly for types 1 and 2<sup>1</sup>. Many examples were given (see Box 4.3.2).

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<sup>1</sup> **Type 1** is a very shallow (<1m) small water hole (“almost a spring”) on a hillslope or near the valley floor, sometimes protected by earth bunds and/or stone or timber to allow access without entering the water. **Type 2** is a more extensive, deeper (up to 2-3m) valley tank, utilising shallow groundwater from a swamp or near-swamp (Carter et al., 2005). See also Box 2.2.2.

*“Long ago they constructed a lined well and with a slab on top, but because it was still contaminated, it was not supported. But that was their source and they were maintaining it as they do. Government then came and tried to construct a shallow well near by but no one used it, not to mention the lack of contribution towards pump maintenance.” (HA)*

*“We already have the traditional sources. It’s easier for users to then think of improvement, rather than getting a new source” (CDO)*

*“People dig valley tanks that they make communally, themselves” (S/C Chief)*

*“There is a lot of initiative. One woman built a small rainwater storage with bricks [partial underground tank], lined with tarpaulin, which fills in 3 heavy rainfalls and lasts her for the dry season drinking water. (S/C Chief)*

**Box 4.3.2 Acknowledgement of self supply initiatives**

It transpired that the prevalence of self supply initiatives were in areas of low coverage. Even in areas of water scarcity, where water supply options were limited such as Kooki County in Rakai, initiatives were acknowledged. Further studies would be required to understand the potential for self supply for each district and sub-county as high variability between sub-counties should be expected.

**4.3.2. Water source characteristics and service**

The fundamental argument behind self supply support is a more realistic definition of ‘service’ as suggested in the Ugandan self supply study (see Table 2.2.4). All stakeholders were asked what the main characteristics of any water source were (for all types of sources), in terms of quality of service. Water quality was given as an example. The following table summarizes their responses.

**Table 4.3.1 Water source characteristics**

Characteristic	Responses and comments
Water Quality	Given high priority, particularly by Central Government stakeholders and District level engineers. Social scientists and extension workers gave the nuance of the user’s version of water quality (taste, colour, odour, hardness). All acknowledged that it was not a priority for users as compared to convenience.
Distance/Access	Mentioned by all as a user priority but not a government priority
Yield	Not often mentioned by central government but given as important by field extension workers.
Reliability	Very few mentioned reliability but when mentioned, was argued as highest priority in areas of water scarcity.
Cost	Only mentioned, if at all, towards the end of the discussion. Despite the comments on lack of willingness and capacity to pay for O&M of conventional sources, it was only after discussing cost that it was commented as a user priority by extension workers.
Management	Barely mentioned, though a few commented on ease of maintenance (eg. slashing around a pond versus relying on the intervention of a hand-pump mechanic)

User priority of characteristics was not taken from the community but from extension workers and social scientists' interpretation or knowledge of user priorities. Direct surveys with users groups could provide more useful insight in how *users* define quality of service and what is important to them.

The suggested water source scoring framework in the Ugandan Self Supply study (Carter et al., 2005) reflected well the characteristics brought up by most stakeholders in this study. Yield<sup>1</sup> was often mentioned by extension workers, particularly in areas where an alternative source exists (see Box 4.3.3).

*“When they built a shallow well with hand pump a little further from a traditional source people ended up using the traditional source because they don't want to line up because of limited yield.” (ADWO)*

*“They constructed a shallow well and the nearby village encroached on it making waiting-time endless” (DWO)*

*“Before protecting a spring, the users could just dip their jerry-cans in the pond and be off, now they have to line up.” (HA)*

**Box 4.3.3 Yield as water source characteristic**

The prioritisation of source characteristics (score weighting) would not make sense at the generic (national framework) level due to the variability of user priority towards the source. Nevertheless, engaging the users and service/support providers in thinking around a more holistic framework is at the basis of incremental improvements and sustainability. Focusing on *user priority* in terms of characteristics was acknowledged to be more effective. Indeed, willingness to pay for increased reliability (e.g. deepening a well) rather than improved quality (e.g. cover and hand-pump) will most probably be higher where the source has multiple-uses or alternative sources are distant. This needs to be acknowledged by the supporters of self supply source improvements.

Despite government policy focusing almost exclusively on *water quality* as the sole criteria for good quality of service delivery, many stakeholders from central government to sub-county level acknowledge and support the idea of a more realistic definition of service – a definition that includes characteristics such as access, reliability,

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<sup>1</sup> Insufficient yield can result either from poor design of an improved source, encroachment from neighbouring community or relative habit (e.g. before and after spring protection – see Box 4.3.3).



convenience and cost, particularly as safe water coverage in some areas is still very low<sup>1</sup> and sustainability of the conventional approach is under threat. The ‘obsession’ with water quality alone and associated high-cost technologies have hampered low-coverage areas (see Box 4.3.4)

*“Our sub-county has 5% coverage. There are no springs, no possibility of shallow wells and boreholes give salty water, our budget can only afford one deep borehole a year, if any. The government policy says ‘SAFE water’ but here we don’t even have any water. There isn’t even enough unsafe water here. People use ponds from rainwater, dig small valley tanks and try and collect rainwater, if we could support them in getting some water, any water, and then think about quality, it would be a step forward.” (CDA)*

**Box 4.3.4 Water first, then quality.**

### **4.3.3. Self supply as a set of technologies or an approach?**

In an attempt to provide a pragmatic definition to self supply support in terms of an implementation strategy, the question “*How do you see your stakeholder group taking part in self supply support?*” was asked.

#### ***Government perspectives***

At first, Self Supply was only associated to low-cost technologies or partial improvements of sources. For government stakeholders, both at district level and sub-county level, there was an attempt to apply the current, conventional approach ignoring self supply principles such as private ownership and minor government financial contribution. Many concluded that the districts could only provide **technical advice and supervision for improvements** (which is something they do already, to a limited extent) but the ignorance of sector professionals of low-cost technology options such as rainwater jar construction, traditional well improvement was mentioned by many as an important limiting factor. District health inspectors (DHIs) mentioned **hygiene promotion**, as a means for encouraging self supply improvements focusing on the water quality characteristic. Government staff at district and sub-county levels were very sceptical about **subsidies**. They were concerned that beneficiary identification would be biased and monitoring subsidies would be difficult and not cost effective. Many but not all central government technical staff reduced self supply support to a **set of**

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<sup>1</sup> According the District Situation Analysis, 15% (141 of 923) of sub-counties have less than 30% coverage (DWD, 2005)

**technologies (e.g. appropriate technology)** in order to conceptualise it without acknowledging the **process changes (e.g. approach)**.

When discussing self supply support approaches which include source categorisation, rural water supply ladders and beneficiary identification, the main concern was the **scheduling** or timeframe in which a self supply support programme would fit. It was acknowledged that, to be successful, such an approach would need to follow the beneficiary's schedule and could therefore vary significantly between initiators<sup>1</sup>.

### *NGO perspectives*

Significant variation was found amongst NGO perspectives. Those who have been more successful with the conventional approach due to more investment in time and software saw less attraction to an alternative approach such as supporting self supply initiatives; particularly the larger NGOs which don't have funding difficulties. That said, one successful NGO who had been exposed to the Self Supply workshop in August 2005, found very practical solutions to self supply support such as **working with local women's groups and parish development committees** (PDCs). Their concerns lay mostly in lack of donor acceptance of self supply support due to policy and behaviour. The Self Supply Pilot should provide more insight into programmatic solutions for NGOs.

#### **4.4. Barriers to Self Supply**

Many issues and reactions emerged from the discussion on self supply support. The following ten themes were chosen as recurrent concerns or barriers to self supply support. They are very much linked to the previously presented conventional approach issues (see Table 4.2.1).

- Private ownership (land, access and interest)
- Case-by-case nature of Self Supply
- Incremental improvements
- Water Quality
- Scheduling of self supply support programme

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<sup>1</sup> See *Scheduling of self supply support programme* in 4.4 Barriers to Self Supply

- ‘Ignorance of sector professionals’
- Proof of success of Self Supply support
- Community expectations
- Running in parallel with conventional approach
- Policy

### **Private ownership (land, access and interest)**

Privately owned traditional sources were acknowledged to be used and even sometimes maintained by a wider community. Despite recognition of this tradition, the primary concern of most stakeholders regarding the support of private sources is that the owner would either restrict access once the source is improved or seek to profit from his/her investment by charging the users. Furthermore, leaving management of user contributions in the hands of the owner was not well perceived. Box 4.4.1 illustrates some concerns related to private ownership.

*“The district will not accept to support individuals. The district councils could support themselves/families”.* ADWO

*“The owner will stop giving access (giving an example of a borehole on someone’s land which got fenced off by the owner)”.* Social Scientist

*“When the ownership of the land passes to the son, he may not be as generous as the father and not allow people to use it anymore”* DE

*“Ownership keeps changing (owner dies, land gets sold), the new owner can seal off the land. The educated create an environment with fears and stop sharing.”* DWO

*“(…) you need agreement because the owner could fence the land”* DHI

*“Population growth (density). People end up selling piece by piece for settlements which makes it difficult to maintain the catchment area”,* DE

*“Regarding the administration of land tenure, improvements will lead to an increased number of people using the source. People feel they can use it also for animals and clothes washing. One also needs to think of access to the land for vehicles during construction of more significant improvements”* Sr CDO

*“Regarding the 80% [owner] contribution, the person who invests will want to profit. This is an opportunity to make money. Some people will therefore not be able to afford.”* DE

*“Water is a public thing and free God-given [quoting the perception of communities]. The owner will start charging and some won’t be able to afford and go to another source, so we need community based programmes. Having only one person (the owner) managing the funds is dangerous and will not be well perceived.”* ADWO

#### **Box 4.4.1 Private ownership (land, access and interest)**

### **Case-by-case nature of Self Supply**

The strength of an approach which focuses on self supply initiatives is that it requires more attention to contextual factors and pre-existing conditions. This was appreciated by most stakeholders as being instinctively more sustainable than the generalised conventional approach. The weakness in conceptualising self supply support is the case-by-case nature of self supply initiatives, the variability of willingness to pay and capacity to pay and the local technical feasibilities in terms of local skill and hydrogeology (see Box 4.4.2).

*“We need to assess the levels of contributions.” CWO*

*“You will find few self supply sources in these sub-counties”, NGO*

*“What about the areas where the people cannot genuinely afford even a basic improvement, or those who don’t value water?” DWO*

*“In areas where poverty levels are very high, an owner asking people to pay is a problem” DCDO*

#### **Box 4.4.2 Case-by-case nature of self supply**

Due to variability of *output* of self supply support (i.e. each self supply source improvement is specific and dependent on owner investment and technology options) the notion of self supply support itself was difficult for most stakeholders to conceptualise. A *generalised* subsidy model or technical support programme would not be viable and most probably hinder self supply initiative.

### **Incremental improvements**

The idea of gradual, incremental improvements to a source which is very much linked to the case-by-case nature of self supply source improvement was not always well received. It was difficult for sector professionals to accept an approach which does not have a predefined, generic and standardised output such as a protected spring, borehole, shallow well with a U3 hand-pump or a standard valley tank.

*“Donors will only want to support reaching the last step of the ladder [of improvements]”, P.Eng*

*“I would rather go for something that is perfect. Small improvements to traditional wells do not work and people still contaminate their source.”  
DHI*

*“Within our area, we have limited options [for gradual improvements]”,  
S/C Chief*

#### **Box 4.4.3 Negative attitudes towards incremental improvements**

The initial negative attitudes were often followed by questions regarding options for incremental improvements, which reflected a lack of knowledge of alternative solutions. The example of the DRWH ladder was given and well received but scepticism regarding a groundwater equivalent was noted.

### **Water Quality**

Inherent to most arguments, water quality remained the underlining justification for not questioning the conventional approach and for the use of high levels of technology. Nevertheless, a large majority of stakeholders agreed that water quality was overemphasised in sector discourse and that sustainability of rural water supply lay in the users' definition of service<sup>1</sup> which includes convenience, cost and management.

*“DWD has to verify its wrong assumption that self supply initiatives don't meet water quality standards. DWD needs proof that self supply is not bad water quality.” P.Eng*

*“Contamination will still be present [after small improvement]”,  
DWO*

*“Water quality for RWH for example, needs to be proven adequate to big donors.” NGO*

*“We still need to focus on water quality, because if not fully protected the source could be still used for other purposes (animal, washing) and therefore be contaminated.” Sr.CDO*

#### **Box 4.4.4 Water quality concerns**

Water quality is not emphasised as much in policy and guidelines as it is by sector professionals, often trained in public health where water quality outweighs any other source characteristic. Sector professionals with field experience acknowledge this overemphasis but do not often wish to question it.

### **Scheduling of self supply support programmes**

In the government's approach to rural water supply, the actual process (release of funds, participatory planning process and work plan deadlines) does not allow for a change in approach or absorption of a self supply support approach at district and sub-county

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<sup>1</sup> See also 4.3 Self Supply conceptualisation

levels. Directly supporting self supply initiatives would not fit in with the time-bound structure of local government schedules<sup>1</sup> (see Box 4.4.5).

*“Self supply support schedule is very much more a function of external factors (the owner can spend a year digging his well) where as in the conventional approach, the schedule is set by the contractor/client”, Eng.*

*“It would be impossible for the government to do self supply support because it requires a focus at household level and would never fit in government schedules” NGO*

*“Self supply support needs a lot of time!”, DWO*

**Box 4.4.5 Local Government scheduling incompatible with self supply support**

**‘Ignorance of sector professionals’**

A term coined by many at central government the ‘ignorance of sector professionals’ refers to the lack of knowledge of central government and NGO water sector professionals of the realities in the field, ignorance of alternative approaches to rural water supply and lack of multidisciplinary perspective on the sector (see Box 4.4.6).

*“The training of people [DWD engineers] in terms of career development is inadequate. No one hears about self supply or low-cost technologies. Engineers are usually put onto design of standard technologies. They don’t get in touch with the software side of rural water supply.” P.Eng*

*“The districts are not used to this kind of approach, they will need to see the process.” P.Eng.*

*“There is a lack of knowledge on self supply at local government levels. They will need guidelines but these have to be written with people from district because the centre is not in touch with the field. There is also a problem of interpretation of guidelines.” Social Scientist*

*“Self supply support is a really good idea but as long as the technical expertise is there, and there is no technical expertise at S/C level”, S/C Chief*

**Box 4.4.6 Ignorance of sector professionals**

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<sup>1</sup> See ‘Planning and scheduling’ in 4.2 Conventional approach to rural water supply

### **Proof of success of Self Supply support**

As with any innovative idea, a barrier to the uptake of an approach which supports self supply initiatives is the lack of proof of its success. Despite the many positive ‘theoretical’ responses towards this approach, many stakeholders argued that only visible and demonstrated success stories will allow it to take off (see Box 4.4.7).

*“Self supply support is new: the mind gets scared of new ideas particularly as we have been doing the same way for years. It will need many positive results. It needs to have solved the current challenges.” DCDO*

*“At DWD, once something starts on a shaky foundation, it will not be picked up. It has to start strongly.” Engineer.*

*“[Self supply support] needs to be shown and documented. We need to see the impact on ground.” NGO*

*“Donors don’t want abstract things. They need to have a baseline ready before the proposal” NGO*

*“We need to see the proof of the safety of water – this requires studies” ADWO*

*“If [self supply support] can be understood and easily proven....” NGO*

#### **Box 4.4.7 Proving self supply support works**

The definition of success of self supply support lies primarily in the area of cost effectiveness, user satisfaction, sustainability and response to the failures of conventional approach such as poor operation and maintenance and low coverage.

### **Community expectations**

Communities were classified broadly in two categories by stakeholders: those who value water and are willing to invest and those who expect the government to provide. The latter group was noted as an increasing majority as the politics of water worsen<sup>1</sup>. The reality of community diversity is clearly more complex and this oversimplification illustrates the lack of understanding of community dynamics (stratification, priorities, and complex development issues).

Expectations of the communities were reported as posing a growing threat to community participation in the conventional approach and willingness to invest in the self supply approach (see Box 4.4.8). Yet, a broader view shows that many communities

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<sup>1</sup> See ‘Politics’ in 4.2 Conventional approach to rural water supply

have lost hope in getting water supplies from NGOs or the government. These communities would be the ideal target for self supply support as their expectations for external support are limited.

*“Communities’ mentality is that they need to receive.” DWO*

*“Community says we didn’t request that” DWO*

*“According to what I have seen with other water sources they are not able/willing to raise that money” S/C Chief*

*“In a DRWH programme, its difficult to convince husband to cough UShs.300,000 for a tank, so we are looking at subsidy levels.” NGO*

*“Communities are brainwashed. Especially think of council meetings were people ask the LC what he has done for them” NGO*

*“The current sector approach is to provide. This is what people expect. This hinders initiative.” Consultant*

*“Communities are still not capable of paying because they don’t contribute in capex in the conventional approach” Sr CDO*

*“Bottom up planning, “For us, we want plastic tanks” says the community” CDO*

*“As soon as you start to improve a source it becomes DWD’s [the government’s] responsibility.” ADWO*

*“There will be difficult acceptance of communities in areas where water exists” ADWO*

*“Politics is so strong that as soon as government intervenes the people ask why can't you give us [a fully improved system]?” DWO*

*“In the past every Saturday people would help in maintenance and cleaning, but now that the government has got more involved, they expect the government to do it.” Social Scientist*

**Box 4.4.8 High community expectations can hinder self supply**

**Running in parallel with conventional approach**

In areas where sources are provided by government and NGOs using the conventional approach, particularly where community contributions are low, running of a self supply support programme would not be successful as many stakeholders pointed out the fundamental differences between approaches (see Box 4.4.9).



*“Self supply support should not hinder conventional approach”, S/C Chief*

*“The community will compare a new improved source with a self supply source with small improvements and will want the improved one”, S/C Chief*

*“It won’t work if it runs in parallel with conventional approach”, DHI*

*“If you give [the self supply support programme] to the district, it will cause conflict because the approaches are quite different even contradictory. Imagine 2 neighbouring villages: one gets self supply support and one gets a borehole.”*  
DCDO

**Box 4.4.9 Running in parallel with conventional approach**

**Policy**

Stakeholders at local government level saw central government rigidity and sector policies as key barriers to the change of approach or integration of a new approach. What was clear during most interviews was the defeat of local government stakeholders in not being able to provide input into sector guidelines and policy. Stakeholders at central government level, on the other hand, showed support for seeking opportunities to adjust the current policies to the ‘realities of the field’.

*“The sector performance review doesn’t consider self supply support”* NGO

*“The national policy has to change. Policy has to cover self supply, e.g. RWH”*  
NGO

*“The government will never change at top”,* Consultant

*“DWD is not allowed to give ring fence [for district budgets]”,* TA

*“If we had a choice we would use household purification combined with RWH”* S/C Chief

*“When you talk about safe water there is no way you can start spending on traditional wells unless policy relaxes the above.”* ADWO

**Box 4.4.10 Policy barriers to self supply support**

The current sector plan and guidelines (SIP15, OP5) do not cater for alternative technological solutions<sup>1</sup> even when the district or sub-county comes up with a cost-effective and viable solution. Ironically, they seek alternative funds to implement such solutions as government funds are only spent on technologies described in the SIP15<sup>2</sup>.

<sup>1</sup> The DRWH Strategy (DWD, 2004), approved at central government level, is slowly being disseminated but still conflicts partly with national water policy and general guidelines.

<sup>2</sup> Protected springs, boreholes, shallow wells, gravity flow systems, valley tanks and dams, communal rainwater harvesting systems and piped supply.

The flexibilities in terms of district spending in the FDS are not well understood by the districts. Effectively, as proven by some, they could invest in alternative solutions – which do not contradict sector policy – but the emphasis on output (in terms of ‘number of source constructed’) overrides the focus on sustainable solutions.

#### ***4.5. Opportunities for self supply support***

The opportunities for self supply support are classified in four broad categories: *enabling factors, sustainability, cost-effectiveness and types of sources.*

##### **4.5.1. Enabling factors**

The enabling factors for self supply presented below can be related to the indicators suggested by Sutton (2004) in her preliminary desk study (see Table 2.2.3): **positive attitudes of implementers** (indicator 6), **high potential and natural patterns** (indicators 1, 2 and 3), **need and low coverage** (indicator 11), and **demand and willingness to pay** (indicator 7 and 11)

##### **Positive attitudes of implementers**

The concept of self supply support was discussed with very little negative attitudes from stakeholders. On the contrary, frustrations over the challenges of the conventional approach seem to have provoked interest in alternative solutions for the sector. Nevertheless, an important bias needs to be acknowledged: that by which foreign interest (author's interview) will generate positive attitudes, as with new ideas often come new investments. In some cases, particularly at local government level, it was difficult to know if the positive attitude was in response to the ideal behind self supply or the potential short term benefits behind a (any) new programme in the sector.

##### **High potential and following a natural pattern**

In the visited districts the existence of self supply initiatives could vary significantly<sup>1</sup>. Nevertheless in the 5 districts and 5 sub-counties visited all stakeholders, particularly field extension workers, pointed out areas where supporting self supply initiatives would be highly successful, either because it fits with the logic of the mentality of the community (working with existing sources) or because the conventional technologies are too expensive or unsustainable.

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<sup>1</sup> Existence of self supply sources were based on extension workers knowledge of the areas and interpretation of the definition of a self supply source based. Time limitations prevented the actual visit and sampling of communities.

*“There are a lot of initiatives. E.g. those houses with [opportunistic] RWH. Even in schools some have collected money together to build a tank but it is still insufficient” S/C Chief*

*“We already have the traditional sources. It’s easier for users to then think of improvement. Rather than a new source” CDO*

#### **Box 4.5.1 High potential and following a natural pattern**

Self supply was acknowledged by many to fit a more ‘natural pattern’ of development (see Box 4.5.1) as it focuses on existing traditional sources or genuine willingness to invest by an owner or group in a new source rather than respond to a communal request (which comes with uncertain ownership and higher expectations).

#### **Need and low coverage**

At least 40% of the country’s rural population do not benefit from an improved water source<sup>1</sup>. Many communities can wait years before government or an NGO intervenes. In areas of low coverage and drastic need, self supply support was perceived as a viable and affordable solution which may not achieve perfect water quality but significantly reduce the burden of scarce or highly contaminated water.

*“With or without government intervention people need water.” DWO*

*“So many communities can put in proposals [for water sources] and wait for years before getting something. For example this year we have 25 proposals but only 5 can be funded (3 from government and 2 from NGOs)” CDO*

*“If we had a choice we would use household treatment combined with RWH” S/C Chief*

*“There are people who will never be reached. Self supply support increases effective coverage.” Eng*

#### **Box 4.5.2 Need and low coverage**

#### **Demand and willingness to pay**

In areas where demand and willingness to pay is high, the conventional approach cannot respond to it due to the high cost of technological solutions combined with limited government budgets. In such areas stakeholders encouraged a self supply support approach, where the technological options would be affordable at 90% to 100% by the

<sup>1</sup> Based on 2005 coverage statistics (DWD, 2005)

initiator and technical support would be provided by local private sector or government (see Box 4.5.3)

*“The community can often afford it. If they get more knowledge they will find a way to pay for it. For example in the DRWH pilot, a person was convinced of the benefits and mobilised all his family in Kampala to collect some money to build his jars.”* NGO

*“There is a lot of willingness and gender involvement (e.g. microfinance, women have started earning some income). If they were aware of self supply support they would invest.”* NGO

*“For example in this area, cattle keepers value water a lot and have money.”* DWO

*“The communities are demanding plastic tanks (i.e. they see the value in RWH, but only ask for plastic tanks because it’s the only option [they know of]).”* S/C Chief

*“If there was an alternative option to plastic tanks, then the people would probably want it. The reason people are not asking for jars is because of lack of knowledge.”* CDO

*“People can have money but often lack the technical knowledge. They would definitely appreciate technical advice for self supply valley tanks”* S/C Ext. worker

**Box 4.5.3 Demand and willingness to pay**

**4.5.2. Sustainability**

*“The key to sustainability is [to focus on] traditional sources, because it’s the source they are using that matters to them”* DHI

The components of sustainability for self supply sources identified by the stakeholders were ownership and maintenance. Many argued that private ownership (with communal use) leads to ensured maintenance as it simply corresponds to what is happening traditionally, and that there is no attempt to “create a sense of ownership” as the conventional approach tries to do.

*“Traditionally when village x has a traditional source and its time for maintenance, the LCI gets informed and the community users get mobilised to clear the water source.”*  
HA

*“Already, they are doing some maintenance”* CDO

*“They [the owners] are the ones doing the work.”* ADWO

*“The owner will make sure the water source is well maintained.”* ADWO

*“Maintenance is much better with private sources even when there is a breakdown, the owner will get out of his way to find spares”* Social Scientist

*“Self supply support has a much larger impact on distance. There are less management issues. And most importantly to keep the ownership. Like in the past every Saturday people would support cleaning, but now that the government has got more involved, they expect the government to do it.”* Social Scientist

*“More effective! Maintenance will be perfect!”* DE

*“Sustainability: individual owned sources will be maintained by the owner with the help of the community.”* CWO

*“Very easy to maintain”* ADWO

*“The owner will have an upper hand to motivate people to pay for maintenance.”*  
DWO

*“O&M contributions to high levels of technology is complicated. With a borehole you don't see a [pump] chain so why should you give Ushs.4000 for it. But with a bucket and rope, replacing a broken rope is more straightforward. With the conventional approach, people get alienated from the technology.”* DHI

#### **Box 4.5.4 Ownership and maintenance**

### **4.5.3. Cost-effectiveness**

The cost effectiveness of self supply support is difficult to estimate prior to any pilot or specific programme. However, analysis of the current expenditure at district level can show how funds could be spent on sustainable solutions through self supply support. It has been shown that funds can be inefficiently spent on expensive solutions such as plastic tanks or communal rainwater harvesting systems with per capita costs of Ushs.70,000<sup>1</sup> and no real community ownership. A per capita cost of Ushs. 25,000 using low-cost DRWH and assuming sufficient rainfall and roof surface area could prove to be much more sustainable<sup>2</sup>.

<sup>1</sup> A rainwater catchment system with 4 plastic tanks and a surface catchment area costs about Ushs.20m and is said to provide for about 300 people (personal communication from DWO).

<sup>2</sup> Personal communication from Terry Thomas (international consultant and rainwater harvesting expert).

The shift from a conventional approach where a community will be 'receiving' a shallow well costing UShs.2.4m, with Ushs.0.1m contribution from the community, to a support programme where a traditional well will be improved to say a *shadoof* or even a low-cost hand-pump for a total cost of Ushs0.25m is a very different scenario. The self supply solution may cost a tenth of the conventional approach but it may be more difficult to find owners willing to invest Ushs.0.25m and the technical support to do so, hence the argument for incremental improvements. This simplified example shows that, over time, self supply is ten times more cost effective than the conventional approach but what must be borne in mind is that costs, for government and NGOs do not lie in the *hardware* (a confusion often made during discussion with interviewees) but in capacity building of technical staff and small subsidies. In other words, based on the constrictions of current budget structures<sup>1</sup> new money will be required in the early stages of self supply support.

#### **4.5.4. Types of sources for self supply support**

The main areas of focus for self supply support identified by stakeholders are shallow ground water, domestic rainwater harvesting and valley tanks. These can be for domestic consumption, productive use or multi-purpose use.

##### **Shallow ground water**

The cost of conventionally implemented shallow wells lies in the region of Ushs.2 to 4m. The U2/U3s are the chosen handpumps costing around Ushs.0.8m each. Without a low-cost handpump option, the shallow well is seen as an expensive solution, unaffordable for self supply. Low-cost handpumps are available (Carter et al., 2005; Sutton, 2004) and could realistically fit in a self supply support programme of incremental improvements of a tradition well provided supply chains can be setup and government supports a low-cost handpump.

It was often mentioned that in the conventional approach shallow wells would be located near traditional wells as the latter is proof of a shallow water table. The neglect by implementers of the existing traditional source is due to the fact that it is often contaminated or has insufficient yield, despite being used by the local community. No

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<sup>1</sup> See "Water and Sanitation Sector Medium Term Budget Framework" (MWLE, 2004)

attempt is made to improve the existing source by protecting it against contamination or deepening the well, despite most stakeholders arguing that it would be the most reasonable and cost-effective solution.

### **Domestic Rainwater harvesting (DRWH)**

DRWH is not often implemented in the conventional approach which has so far focused on communal systems. Nevertheless, many DRWH initiatives exist, either self supply or NGO implemented<sup>1</sup>. The DRWH strategy (DWD, 2004) was not disseminated in the visited areas and outputs of the RWH pilot were not unknown. Low-cost, incremental DRWH was of great interest to many stakeholders provided the concept of *partial supply* was accepted at policy level.

### **Self supply water for production**

An area which is not developed in previous studies is self supply for productive uses<sup>2</sup>. There is no reason why the self supply support model cannot fit with productive or multiple uses of water (see Box 4.5.5). It is nevertheless important for self supply supporters to understand if the owner wishes to improve a source (to provide higher yield for example) for productive uses. This may impact the user community which may have been using this source for basic needs (see barriers in Box 4.4.1).

*“In this area, cattle keepers value water a lot and have money.” DWO*

*“An owner like the idea of getting support for nearby source for his animals. He will be willing to improve/increase.” NGO*

*“People can have money but often lack the technical knowledge. They would definitely appreciate technical advice for self supply valley tanks”  
S/C Ext. worker*

#### **Box 4.5.5 Self supply water for production**

<sup>1</sup> Rakai District, visit during this study, had shown significant potential for rainwater harvesting illustrated by the level of demand for plastic tanks in the participatory planning process.

<sup>2</sup> With the exception of the Upgraded Family Wells programme in Zimbabwe (see section 2.2.1)



## 5. Discussion

### 5.1. Uptake of a new approach

#### 5.1.1. Clarification and scope of the Self Supply Concept

All stakeholders had difficulty grasping the concept of ‘self supply’ and ‘self supply support’. The Ugandan self supply study (Carter, 2005) has contributed to its clarification (see Box 5.1.1) but further insight into *practical solutions* to self supply support programmes is needed.

“Self-supply water sources are those which have been constructed at the **initiative** of an individual or group of individuals in civil society, with little or no support from Government or NGOs. The individual or group provides most of the **investment cost** of the source, in cash or kind. While **ownership** may or may not be clear in law, there is no perception that Government or NGO has joint or total control of the source. **Utilisation** of the source is nearly always enjoyed by a larger group than the individual(s) who initiated and paid for construction. **Upkeep** is nearly always the responsibility of the initiator of the source, often with little or no support from the wider user group. In the case of trading centres and urban locations, it is common for users to pay **user fees**, on a volumetric basis; in rural areas this is still unacceptable. To date self-supply has received very little **support** from Government, and great caution will be needed if such support is proposed, to avoid undermining the strengths of self-supply.” (Carter et al., 2005)

#### Box 5.1.1 Definition of self supply based on the Uganda study

The biggest danger in the conceptualisation of self supply support is focusing too much on *technology* rather than *approach*. The danger in *limiting* self supply to a set of low-cost technologies or improvements is ignoring the enabling factors and community conditions in which such improvement or initiations are made. Most of the discussions with stakeholders reflected the diversity of conditions in which self supply exists and self supply support would function. The distance between *theoretical approach* and *practical feasibility of the approach* needs to be reduced as much as possible through a process focus. The *process* by which self supply support is undertaken (i.e. the approach) is the most challenging yet crucial part of the concept. It has been seen in the *conventional* approach how the focus on *technology output* has overshadowed *process improvement* ultimately jeopardizing sustainability.

Local government staff, particularly experienced extension workers who know the field, the traditional sources and have direct contact with communities hold a key position

between communities and central government. Their input into developing viable solutions for self supply support programmes would be very valuable, reflected by their input during this study.

The upcoming self supply pilot may limit the scope definition of self supply support due to limitations of the NGOs, particularities of the selected communities and area, and sector conditions. Nevertheless it should provide key insights into an approach framework for NGOs and help disseminate the concept within local government.

Finally, the conditions in which self supply support is appropriate need to be clarified to avoid seeing self supply as a replacement of the conventional approach.

### **5.1.2. Building on evidence-based arguments**

Many stakeholders reflected the importance of seeing and proving success of self supply support programmes. Evidence-based arguments should focus on the following to support the uptake of this approach:

- Existence of self supply initiatives (classification and context)
- Cost-effectiveness of self supply support
- Sustainability of self supply technologies and improvements
- Effectiveness of different self supply support strategies

## ***5.2. A conceptual framework for supporting Self Supply***

### **5.2.1. Community based scheduling**

The implementation of self supply improvements should follow the source initiator's schedule. Self supply supporters control the enabling factors (such as subsidies and local private sector development) and beneficiary identification. Attempts may be made by self supply supporters to control the timeframe in which improvements are undertaken in order to determine project output, yet this may hinder the strengths of self supply, which by definition, follows the community's pace.

### **5.2.2. Generalised approach but context-specific strategy**

A general approach and clarified concept should be coupled with context-specific strategies. Self supply support is not designed for sector-wide blanket implementation but should rather consist of target focused strategies. The latter should be based on local evaluations (sub-county level at highest) of self supply potential, which will require the categorisation of sources and understanding of communities.

### **5.2.3. Dissemination of low-cost water source improvement**

A fundamental basis behind self supply support is the dissemination of knowledge of low-cost water source improvement. Without proven practical answers to traditional well improvements and low-cost DRWH, it is difficult to know what is expected of those who support self supply initiatives or improvements. Over the years, the sector has had limited focus on low cost alternative solutions and source improvement techniques by only considering high-cost standard technologies. This is very much linked to engineering education, donor influence and approach simplification. The knowledge gap needs to be filled as the self supply support framework takes shape.

### **5.2.4. Different stakeholder roles**

Approaches to self supply support will require the intervention and support from different stakeholders at different levels. The opportunities and barriers identified in this study have not provided the full picture in terms of roles and responsibilities of sector actors. Nevertheless, Table 5.2.1 presents opportunities for each stakeholder in the sector which can help define specific roles in a self supply support framework.

**Table 5.2.1 Stakeholder opportunities**

Stakeholder	Opportunity
Donors	Should support self supply approaches (and principles behind it) without projectisation but rather through support for policy integration. Focus on enhancing the enabling environment (local private sector, NGO capacity building) rather than infrastructure output, will also contribute to the development and sustainability of self supply support programmes.
Central Government	Ideally positioned to centralise most of the evidence-based arguments, formulate and disseminate support strategy with local government and NGOs.
Local Government	Working with communities and local NGOs to feedback on self supply support strategy orientation.
Local NGOs/CBOs	Advantage of being close to communities and often understand better the conditions in which self supply exists and could be supported. Their coordination with local government is therefore important.
UWASNET	Role in catalysing self supply support strategies and building NGOs capacity, and collecting evidence-based arguments for self supply support from NGO/CBO membership.

### ***5.3. Policy and strategy implications***

#### **5.3.1. Definition of service and access**

Water sector professionals and policy portray a black and white picture of “access to safe water” often ignoring existing and traditional sources. The alienation of implementers from communities can partially be explained by the lack of understanding of community and user priorities. Focusing on self supply forces a definition of service which corresponds better to the users’ reality. The uptake of this new definition will be difficult at policy level but is possible if local and central government politicians are included in the debate rather than alienated.

#### **5.3.2. Partial supply yet significant impact**

Many self supply sources can constitute partial supplies for users, in that they may not be reliable all year round, drinking water may be collected at a safer source further away and/or storage may be limited (in the case of DRWH). Support to self supply initiatives or improvements should not expect to achieve 100% reliability or safety but rather alleviate the burden of limited access, lack of cash, complex management, poor reliability and/or poor quality. The sector policy makers will need to accept and integrate partial supply as a reality and acknowledge its potential contribution, which could be significant particularly in areas of low coverage.

### **5.3.3. Integrated and harmonized strategy**

The trend of self supply conceptualisation, in its early stages, at central government level is to become a 'package' in the same way as Appropriate Technology, DRWH, Software improvements and O&M is. This is often due to the 'pilot to scaling-up' process which underpins most new strategy adoptions or policy changes. Yet, the consideration for self supply support in the sector requires cross-cutting analysis. Indeed, self supply does not only cover several low-cost technology options but considers new approaches to the software aspects. Various strategies which are taking shape at central government (DRWH, Software and O&M) should therefore consider the inclusion of a self supply support component, whilst ensuring the concept is not diluted through inconsistent strategy formulation.

### **5.3.4. Avoiding conflict with the conventional approach**

The differences between the conventional approach to water supply and an approach which focuses on self-supply support lie mainly in the expectations of the communities and capacities of the implementers. Potential failure of self supply support programmes can exist in areas of significant government or NGO intervention particularly if these have limited community participation. Establishing self supply support in areas of low coverage or where the government and NGOs are not just seen as providers can allow a self supply support programme to run in parallel to the conventional approach. The chosen areas will need to be identified at the lowest possible level as generalisation at district level (in terms of coverage or community attitudes) ignores the high variability within the districts, sub-counties and even parishes. As self supply does not provide a unique solution but a range of possible support options, the most appropriate strategy should be chosen based on context specific conditions (historical as well as socio-economic).

## **6. Conclusions and Recommendations**

### ***6.1. Conclusions***

The research has provided further insight into the conceptualisation of self supply, as well as the barriers and opportunities for supporting self supply initiatives. A small stakeholder sample from each stakeholder group and the lack of direct household and community interviews somewhat limit the capacity to properly define the self supply concept and strategy for support options. Nevertheless, the following recommendations aim to suggest further research in order to properly define effective and sustainable self supply strategies for the rural water supply sector.

### ***6.2. Improving the Self supply support framework***

#### **Understanding use patterns**

Insufficient effort is put into understanding the current use patterns of communities, in terms of what sources are used, when and for what purpose. The implementer's criticism of negative attitudes of communities should be replaced by a constructive willingness to understand why, for example, a user will go back to a traditional source rather than pay maintenance for a borehole. Self supply support programmes rely heavily on the understanding of use patterns. Knowledge of the social, economic and political conditions affecting these use patterns can provide a starting framework for strategy development.

#### **Understanding communities or users?**

Distinguishing users within a community, rather than taking a community as a single, coherent, viable and long lasting entity is fundamental in understanding failures or viable approach strategies. Through the provision of a new point water source, the conventional approach expects sudden change in community organisational structure and source maintenance habits. The negative impact of such changes can outweigh the presumed benefits of an "improved source". More understanding is required at the community users' levels regarding attitudes during intervention. A key barrier to self supply is the expectations of communities, their willingness and capacity to invest in self supply sources or their improvement. Understanding the nature of communities and the individual users, through indirect indicators such as coverage, poverty, location, etc,

can help define an appropriate self supply support strategy. The success of a self supply support programme will depend primarily on the attitudes of the initiators and users.

### **Documentation of alternative approaches and success stories**

Alternative approaches to rural water supply such as DRWH, low-cost shallow wells, household water treatment do exist and could provide a starting base for evidence based arguments for self supply technologies.

### **Potential of local NGO/CBOs**

Local development groups, including women groups, parish development committees and community based organisation can play a significant role in supporting households which are willing to initiate or improve a self supply source. Further assessing the potential for local development groups in self supply, and technical capacity building such as rainwater harvesting jar construction, simple well maintenance and seed fund management could constitute the basis for a self supply strategy.

### ***6.3. Ugandan self supply pilot***

The choice of self supply support strategy will depend on various enabling factors such as implementer capacity, community expectations and socio-economic conditions, local private sector conditions and available technical knowledge. The upcoming pilot<sup>1</sup> should clearly identify the chosen strategies but also options

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<sup>1</sup> see section 1.2.1

## 7. References

- Cardone, R., & Fonseca, C. (2003). *Financing and Recovery*: IRC International Water and Sanitation Centre.
- Carter, R., Mpalanyi, J. M., & Ssebalu, J. (2005). *Self-help Initiatives to Improve Water Supplies in Eastern and Central Uganda, with an emphasis on shallow groundwater*: RWSN Self-Supply Flagship Case Study.
- Danert, K. (2003). *Technology Transfer for Development: Insights from the Introduction of Low Cost Water Well Drilling Technology to Uganda*. Cranfield University at Silsoe.
- DWD. (2002a). *Final Report for Shallow Well and Borehole Rehabilitation Study*.: Carl Bro International a/s, Contract No. 2002/SWS/01 for Ministry of Water, Lands and Environment, Directorate of Water Development.
- DWD. (2002b). *Rural Water and Sanitation Operation Plan 2002-2007 (OP5)*: Ministry of Water, Lands and Environment, Directorate of Water Development, Kampala.
- DWD. (2003). *Development of a Strategy for Support to Private Sector Organisations Participating in Rural Water and Sanitation Programmes in Uganda*: DFID/Cranfield University for Ministry of Water, Lands and Environment, Directorate of Water Development, Kampala.
- DWD. (2004). *Domestic Roofwater Harvesting in Rural Uganda – a Proposed Action Plan for the Directorate of Water Development*. Thomas, Terry. Kampala: Ministry of Water, Lands and Environment, Directorate of Water Development.
- DWD. (2006). *Software Pilot Project Evaluation (2nd Draft January 2006)*: Ministry of Water, Lands and Environment, Directorate of Water Development.
- GoU. (2001). *First Joint Government of Uganda -Development Partners Water and Sanitation Sector Review*. Unpublished Memorandum of Understanding.
- Morgan, P., & Chimbunde, E. (1991). *Upgrading Family Wells in Zimbabwe. Waterlines*, 9(3).
- MWLE. (2002). *Issue Paper 2: Rural Water and Sanitation Issues*. Paper presented at the Joint GOU/Donor Review for the Water and Sanitation Sector. 24-26th September 2002, International Conference Centre, Kampala.
- MWLE. (2004). *Water and Sanitation Sector Medium Term Budget Framework Paper FY 2005/06 to FY 2007/08 (Final Draft)*: Ministry of Water, Lands and Environment. 31 December 2004
- MWLE. (2005a). *Sector Schedules 2005-2006*: Ministry of Water, Lands and Environment, Directorate of Water Development.



- MWLE. (2005b). *Water and Sanitation Sector Performance Report. September 2005*. Kampala: Ministry of Water, Lands and Environment, Directorate of Water Development.
- Sutton, S. (2002). *Community-led Improvements of Rural Drinking Water Supplies. Knowledge and Research Project (KAR) R7128*: UK Department for International Development.
- Sutton, S. (2004). *Preliminary desk study of potential for self supply in sub-Saharan Africa*: RWSN/WaterAid.
- Sutton, S. (2005). *Rapport d'étude Self Supply*: RWSN Self-Supply Flagship Case Study.
- Sutton, S., & Nkoloma, H. (2003). *Encouraging Change: Sustainable Steps in Water Supply, Sanitation and Hygiene*. St Albans, UK: TALC.
- UNDP. (2002). The Millennium Development Goals in Africa: promises and progress [Electronic Version]. Retrieved 15th June 2006 from [http://www.undg.org/documents/246-The Millennium Development Goals in Africa Progress and Promises - The MDGs in Africa.pdf](http://www.undg.org/documents/246-The_Millennium_Development_Goals_in_Africa_Progress_and_Promises_-_The_MDGs_in_Africa.pdf).
- URWA. (2004). *Policy Study: Constraints to the Adoption of Rainwater Harvesting*: Terry Thomas, Nicholas Kiggundu and Gloria Karungi for Uganda Rainwater Association, study funded by SEARNET.
- URWA. (2005). *Domestic Rainwater Harvesting Pilot Project in Mbarara and Bushenyi Districts Narrative Report. February 2005*: Ugandan Rainwater Association.
- UWASNET. (2003). *Annual Report 2003*. Kampala: Ugandan Water and Sanitation Network
- UWASNET. (2005a). Response to the sector performance report. Unpublished presentation at the 5th GoU & Development Partners Joint Water and Sanitation Sector Review (JWSSR)
- UWASNET. (2005b). *Water and Sanitation Sector NGO/CBO 2004 Sector Investment Report*: Ugandan Water Supply and Sanitation Network.
- WHO. (2005). Water for life: Making it happen: WHO/UNICEF Joint Monitoring Programme for Water Supply and Sanitation. [Electronic Version]. Retrieved 10th August 2005 from [http://www.who.int/entity/water\\_sanitation\\_health/waterforlife.pdf](http://www.who.int/entity/water_sanitation_health/waterforlife.pdf).
- WSP. (2002). *Upgraded family wells in Zimbabwe: household level water supplies for multiple uses. Field Note No 6*: Water and Sanitation Program Africa Region (WSP-AF).

## 8. Appendices

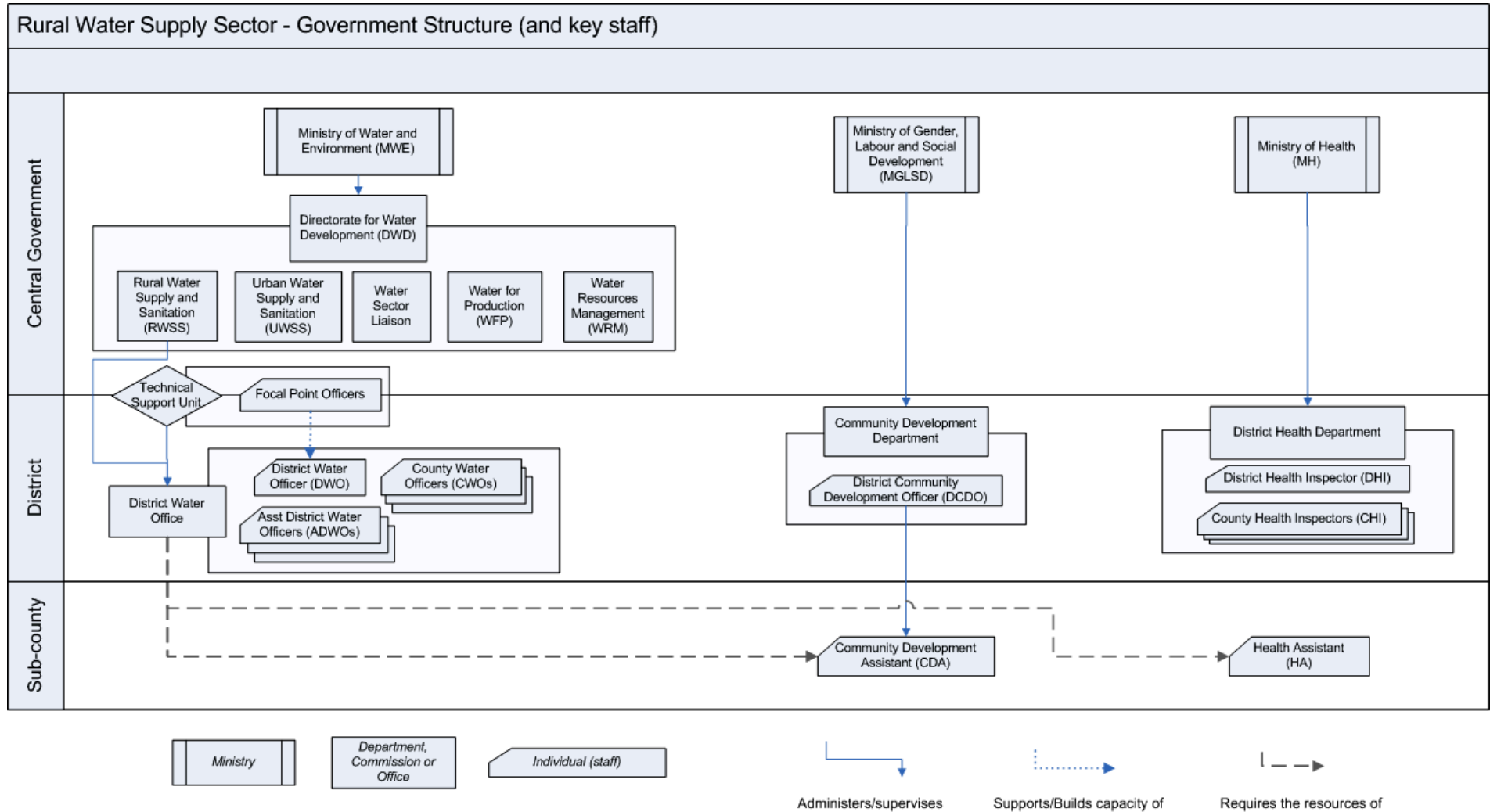
### Appendix 1 Key informants

Stakeholder Group	Scope	Stakeholder	No of informants
Government	National	MoWE DWD TSU Focal Point Officers	2
		MoWE DWD Social Scientists	2
		MoWE DWD Engineers	2
		MoWE DWD Managers	3
		MoWE DWD Technical/Sector Advisors	3
	District	District Engineers (DE)	1
		District Water Officers (DWO)	6
		Asst District Water Officers (ADWO)	3
		District Com. Dev. Officers (DCDO)	2
		District Health Inspectors (DHI)	3
	Sub-county	Sub-county chief	2
		Community Development Officers (CDO)	1
		Community Health Assistants (HA)	2
NGO/CBO	International		2
	Regional		1
	Local		2
Donor	International	Multi-lateral	1
		Bi-lateral	2
<b>Total</b>			<b>40</b>

<b>National</b>			
Aaron Kabirizi	Assist. Commissioner RWS	DWD	0772-400876
Ahmed Ssentumwe	Engineer	DWD	
Benneth Hulterstrom	Sida Senior TA to DWD	DWD	0772-650626
Catherine Muhumuza	Social Scientist (TSU6)	DWD	0772-660025
Felix Twinumucunguzi	Engineer	DWD	
Gilbert Kimanzi	Principal Engineer	DWD	
John Pinfold	Chief Sector Advisor	DWD	0772-532469
Julia Kamara	Social Scientist	DWD	0772-389577
Kasingi	Engineer	DWD	
Kerstin Danert	TA to DWD	DWD	0772-402304
Moses Gava	Quality Assurance	DWD	0772-720374
Paul Nyeko	FPO TSU1 (Arua)	DWD	0712-813380
Andrew Mbiro	FPO TSU7 (Masaka)	DWD	0772-404758
Angela Bwiza	FPO TSU4 (Mbale)	DWD	0772-404758
Geatano Okello	FPO TSU3 (Soroti)	DWD	0772-983549
Lotta Mindedal	Water Division head	DANIDA	
John Byarugaba	Executive Director	UWASNET	0772-466366
Paaito Obote	Senior Programme Manager	WaterAid	0772-496570

Yunia Musaaazi	Head of Advocacy and prog Rsrch	WaterAid	0772-451971
Jamil Ssebalu	Private Sector	Namasuba College of Commerce	0772-483097
John Seryazi	Operations Officer	EU	041-701072
Joseph	Private Sector		0772-403980
Joyce Mpalany	Indep. Consult.		0772-525229
Robert Burtscher	Programme Officer - Water & Saanitation	Austrian Embassy Development Cooperation	0782-645743
Gloria Karungi	Communications Officers	URWA	0772-866730
Harriet Nabunya	Indep. Consult., ex-UWASNET		0772-438643
<b>Masaka District</b>			
Alice Magoba	HA Bowonga s/c	LG	0772-557112
Annette Ssali	CDO / Bowonga s/c	LG	0772-855714
Antony Kigai	CDF / Bowonga s/c	World Vision	
Erias Jjuuko	DWO	LG	0772-899754
Godefrey Kasajj	S/C Chief Bowongo s/c	LG	0772-519705
John Lubega Muwonge	PM watsan	Caritas MADDO	0772-358715
Lamuel Bwenge	Sr CDO	LG	0772-684221
Maberi Mussa	HI / Bukoto East County	LG	0782-355115
Med Bukenya	DHI	LG	0772-667771
Nzanzu Remejio	HI / Bukamansimbi County	LG	0782-355155
Tom Yiga	HA Kibinge s/c	LG	0782-544984
Wilson Kagumire	ADWO Planning	LG	0772-615358
<b>Mpigi District</b>			
Anthony Mwanje	DCDO	LG	0772-617104
Jospeh Kiwanuka	DHI	LG	0772-368280
Nicolas Byantalo	ex-DWO	LG	0772-451527
Simon Katumwa	DWO	LG	0772-415396
	S/C Chief Buwana s/c	LG	
Fred Kaweesi	HA Buwana s/c	LG	0772-489114
<b>Mukono District</b>			
Kasimoto	District HI	LG	0772-481919
Ronald Kato	DWO	LG	
<b>Rakai District</b>			
Eddy Kamyia	S/C Chief / Ddwani s/c	LG	0772-962546
George Kasebante	Ag. DWO	LG	0772-417677
Henry Wangi	CWO / Katuto County	LG	0772-489107
Johnson Asiki	Clinical Officer	LG	0772-641546
Joseph Kateregga	S/C Chief / Kacheera s/c in Kooki	LG	0782-626281
Jospeh Kagwa	S/C ext. worker (Vetenary Asst)	LG	0772-935196
Patrick Wwemuezi	Asst CDO / Dduani & Kagamba s/cs	LG	0772-845999
<b>Wakiso District</b>			
Cyrus Sebwato	DE	LG	
Fred Kato Ssemugera	DWO	LG	0772-436813
Isaac Galabuzi	CWO	LG	0772-614116
Knox Bamwine	ADWO	LG	0772-442988

## Appendix 2 Government Structure for Rural Water Supply and Sanitation



Note: This provides a simplified diagram and does not reflect the new district staffing structures. Refer to the Water Sector Schedules (MWLE, 2005a) for more information.

### **Appendix 3 Self supply verbal presentation to interviewees**

*“Self-supply refers to local-level or private initiatives, by households or groups, to improve their own water supplies, without waiting for help from Government or NGOs. The scale of self-supply can be individual, household or community, the type of use can be domestic, institutional or productive, and the location of such initiatives can be rural, trading centres, and urban. Self-supply is not “conventional” community-based externally driven provision of water services, in which the initiative lies with Government or NGOs, and communities (of various degrees of heterogeneity) participate according to the rules set down by those external agencies. Those rules usually involve a community contribution in cash and kind ranging from 5% to 15% of the capital cost, the establishment of a water user committee, and full community responsibility for O&M.*

- *Self supply focuses on existing sources which have been initiated by an individual or group*
- *Self supply focuses on improving such sources, incrementally at the pace of the initiator*
- *Self supply support should focus on the owner’s/user’s interest in improving the source*
- *Ownership of the land and source is not transferred to the user community and water user communities are not necessarily set up”*

Based on Self supply Uganda study (Carter et al., 2005)