Government of Uganda

Ministry of Water and Environment

Water and Sanitation Sector Performance Report 2008

September 2008

Foreword

Access to safe water and hygienic sanitation facilities provides a solid foundation for prosperity for all. It is essential for the achievement for five of the Millennium Development Goals (MDGs). It is also central to the human rights and personal dignity of every person.

In committing to the achievement of International Targets, the Government of Uganda pledged to reduce by half the proportion of people without access to safe drinking water and basic sanitation by 2015. This provides us with milestones for annual reviews of the performance of the water and sanitation sector and enables us to identify bottlenecks to be addressed by all stakeholders.

This, the Sixth Water and Sanitation Sector Performance Report (SPR) 2008 provides the latest information and shows trends on progress with respect to the provision of water and sanitation services.

In 2007/8 the sector made significant progress in the improvement of sanitation facilities. In addition, the importance of handwashing with soap is increasingly being given the recognition that it deserves. However, improvements to rural people's access to improved water supplies are barely keeping up with population growth. The SPR 2008 clearly highlights the degradation of our water resources as a result of inadequate compliance to water resources regulations.

At current financing levels, extremely difficult choices have to be made within the sector regarding what to focus upon to meet national targets and objectives. Given the significant decline in the sector budget, both in absolute figures and as a proportion of the national budget over the last 5 years, the extent to which the sector is still a priority in Uganda is questionable. In the short term, we need to explore innovative financing arrangements and clearly articulate our contribution to the new Government overarching framework of prosperity for all (wealth creation).

I take this opportunity to thank all of our sector development partners for their continued support, all Government staff, NGOs and CBOs and the private sector for the achievements to date.

Hon. Maria Mutagamba

Minister for Water and Environment

Executive Summary

This is the sixth Water and Sanitation Sector Performance Report for Uganda, which highlights performance for FY 2007/8, summarises progress made and presents opportunities for improvements in water resources management and the delivery of water supply and sanitation services. The table on page V summarises the sector performance against the ten golden indicators.

Government and NGO stakeholders have continued efforts to improve transparency and accountability through various initiatives in the sector. This includes detailed information on all investments and outputs by Government in the sector as presented in this report.

At current financing levels, the sector has to make extremely prudent choices on what focus upon to try and meet national targets and objectives. Given the significant decline in the sector budget, both in absolute figures and as a proportion of the national budget from FY 2004/5 to 2008/9, there is an emerging question regarding the extent to which the sector is still a priority in Uganda. In order to address the inadequate financing, it is recommended that either the ceiling for the sector is raised considerably or innovative mechanisms to support the sector outside the ceiling are sought. The sector must clearly articulate its contribution to the new Government overarching framework of prosperity for all (wealth creation).

The new structure for the Ministry of Water and Environment (MWE) provides for a Directorate for Water Resources Management (WRM), with a mandate to monitor and assess water resources and regulate water use and wastewater discharge in Uganda. Although there has been an improvement in regulation in FY 2007/8 it is still inadequate to address the degradation of water resources in Uganda. A Compliance Assistance Strategy is required to assist permit holders to comply with water laws and regulations. The wastewater discharge regulations need to be updated to provide for petroleum exploration and development. Improved MWE capacity and guidelines for management of petroleum-related disasters are required. In order to assess the impacts of climate change, there is need for long term monitoring of water resources.

Government investments through the District Water and Sanitation Development Grant (DWSDCG) were able to provide an additional 660,000 rural people with access to improved water sources. In addition, 10,200 rural people were served through interventions by MWE while NGOs and CBOs served an estimated 220,000 rural people.

In urban areas, sewerage services have lagged behind the water service coverage due to a number of factors including the sector funding constraints, limited network coverage, poor urban planning, and the high cost of installation of the sewerage network. In order to improve the low sewerage coverage the Sanitation Master Plans should be implemented. Eleven new small town piped water supply systems were completed and extensions were made in five towns serving a population of 400,663. In addition, sewerage systems were completed in Hoima and Iganga.

Access to improved water supplies in rural areas is still 63% (June 2008). The annual number of new people served is almost the same as projected annual population growth. This is another manifestation of the funding constraints within the sector. Access ranges from as low as 12% in Kaabong to over 90% in Kabale. Approximately half of the Districts are still below the national average of 63%. In 16% of sub-counties (approximately 130) access is below 39%. These areas can only be served with higher per capita cost technologies. Dedicated investment in these areas is required.

There were significant variations in number of people served as reported by some Districts over the period 2006/7 – 2007/08 FYs. A tendency by some Districts to revise their coverages downward in order to attract more rural grant allocation was noted. Mechanisms to ensure detailed and accurate information flow regarding access to rural water supplies are required.

Currently access to safe water in urban areas stands at 61%. This breaks down to 72% in large towns (NWSC), while for the small towns it is 46%. Access to safe water in the 160 small towns (town councils and town boards) varies from below 5% to above 90%. It should be noted that NWSC is presently serving rural areas outside the gazetted city and municipal boundaries where they are providing services.

The functionality of improved rural water supplies currently stands at 82%. Total expenditure on borehole rehabilitation by district local Governments has increased from UGX 0.81 billion in FY 2005/6 to UGX 2.16 billion in FY 2007/8. This is cause for concern and highlights the need for more transparency and supervision for borehole rehabilitation. The average functionality rate for small towns is 89%. Intermittent power supply from the national grid and high fuel costs continued to affect the total hours of supply. There is need for installation of solar pumping systems or standby generators in towns where grid electricity is the main source of power supply to water supply systems. In areas remote of the national grid, installation of solar energy systems is recommended to reduce on the cost of water production and increase affordability to the users.

The number of towns with piped water supplies has increased but resources for back-up support for O&M have not increased in tandem. There is need to increase resources for this and provide resources for extension of distribution systems.

The overall per capita investment cost for rural water supply was UGX 74,504 (US $44). This is an increase of $6 from 2006/7. The real per capita investment cost has increased by 28% over the previous 6 years. The real per capita investment cost based on expenditure on water supply hardware has increased by 21% over the same period. Thus, the proportion of DWSDCG spent on non-hardware items has increased. One of the reasons for the increase in per capita investment cost is expenditure, by Districts, on items that do not directly contribute to new people served outside the provisions of sector guidelines. Although MWE has improved its regulatory role, some Districts still spend beyond the allowable proportions of the DWSDCG on some activities (e.g. borehole rehabilitation). In addition there are inadequate accountability mechanisms for sanitation and hygiene expenditure by local governments. The regulatory role of MWE should be strengthened to ensure adherence to sector guidelines and standards. Clear systems need to be established to ensure timely follow-up of District expenditure and outputs.

The per capita investment cost for the new piped water supplies completed in 2007/8 was UGX 157,400 (US $93). Unit cost for water for production storage facilities in 2007/8 is UGX 22,400 per m^3 of storage.

The pupil stance ratio in primary schools is 47:1, which is a significant improvement from 69:1 last year. The national latrine coverage in June 2008 was 62.4%, from 59% last year. This increase is mainly attributed to the enforcement of the public health act. District specific latrine coverage ranges from 92% in Bushenyi to less than 5% in Abim, Kaabong and Nakapiripirit. An important lesson from the better performing districts and municipalities in Uganda with respect to sanitation is that the active involvement of leaders at all levels is important for allocation of budgets to hygiene and sanitation and enforcement of local sanitation bylaws.

All local governments should establish and enforce local bylaws on sanitation and hygiene. Politicians should be sensitized regarding the importance of sanitation. The need for their participation should be stressed. Emphasis should be put on the application of the policy and other regulations in place especially the Local Government act and the Public Health Act plus the sanitation ordinances. A system of Rewards and Incentives at the various levels needs to be established. A system to recognize leaders, communities, individuals and institutions which excel in improving sanitation and hygiene should be instituted at various levels.

The present Memorandum of Understanding for Sanitation does not sufficiently clarify central ministry responsibilities nor between mandates for excreta related sanitation and environmental sanitation that also include solid waste management and drainage. It does not clarify responsibilities

for excreta related sanitation at the district or other local government levels; distinguish between rural and urban issues; clarify the sources, or mechanisms of funding or what types of activities should be funded. Guidance on how coordination should proceed at the national or local levels is not specified. Mandates for sanitation and hygiene need to be reviewed. The reform of the sanitation MoU and its implementation should be linked to the funding for sanitation.

An estimated 21% of rural households have handwashing facilities. Some local governments with high latrine coverage report that there has not been appreciable change in relevant health indicators. This is largely because the drive for construction of latrines has not been complimented by improved hygiene behaviour, and most of the latrines are reportedly dirty. Many local governments have carried out campaigns to promote latrine construction but have neglected promotion of handwashing with soap and safe water handling and storage. Thus, sanitation promotion should include a component on behaviour change promotion.

In districts where heavy rains and flooding was experienced this was followed by outbreaks of waterborne diseases (mainly cholera and hepatitis E). Epidemiological data showed a concentration of cases in areas where there was a combination of high water tables and poor sanitation. Case studies also established that safe water at the collection point is nearly always contaminated at the household level which highlights the need for enhanced community education to improve hygiene behaviour.

The deteriorating quality of raw water in Lake Victoria and other bodies continues to pose a challenge to water treatment. The quality of the monitored effluent (municipal and industrial) improved considerably from the previous year.

The percentage increase in cumulative storage capacity of water for production facilities was 0.8%. In order to improve access to WfP facilities it is necessary to increase investments for WfP activities. If it is not achievable through public finance, implementation of additional projects outside the sector ceiling should be considered.

Water and Sanitation Sector Performance against the ten *golden* indicators

Indicator			Achievement				Target		
			2004/5	2005/6	2006/7	2007/8	2007/8	2008/9	2014/15
1. **Access** % of people within 1.5 km (rural) and 0.2 km (urban) of an improved water source		Rural	61.3%	61%	63%	63%	63%	63%	77%
		Urban	-	51%	56%	61%	58%	60%	100%
2. **Functionality** % of improved water sources that are functional at time of spot-check (rural). Ratio of the actual hours of water supply to the required hours of supply		Rural	82%	83%	83%	82%	84%	85%	90%
		Small Towns	No data	93%	82%	89%	85%	87%	95%
		WfP	No data	No data	35%	23%	To be set	To be set	90%
3. **Per Capita Investment Cost** Average cost per beneficiary of new water and sanitation schemes (US$)		Rural	$31	$35	$38	$44	$40	$41	$45
		Small Towns	$72	$93	$58	$93	$75	$75	$85
4. **Sanitation** % of people with access to improved sanitation.		Rural HHs	57%	58%	59%	62%	64%	69%	77%
		Urban HHs	No Data	No Data	No Data	74%	74%	77%	100%
Pupil to latrine/toilet stance ratio in schools			57:1	61:1	69:1	47:1	65:1	60:1	40:1
5. **Water Quality** % of water samples taken at the point of water collection, waste discharge point that comply with national standards.	Protected	e. coli	Sample data only				95%	95%	95%
	Treated	e. coli	No data	95%	95%	97%	100%	100%	100%
		e. coli	No data	No data	69%	80%	80%	90%	100%
	Wastewater	-BOD - Phosphorus - TSS	No data	No data	12% 26% 40%	68% - 67%	Targets to be set.		
6. **Quantity of Water** % increase in cumulative storage capacity of Water for Production			0	1.3%	1%	0.76%[1]	3.1%	3.1%	5%
7. **Equity** Mean Sub-County deviation from the District average in persons per improved water point. (Nb Mean Sub-County deviation from the National average in persons per improved water point presented here)						243	To be set	To be set	To be set
8. **Handwashing** % of people with access to (and using) hand-washing facilities.		HH	No data	No data	14%	21%	17%	23%	50%
		School	No data	No data	41%	No data	17%	23%	50%
9. **Management** % of water points with actively functioning Water & Sanitation Committees/ Boards.		Committees	No data	No data	63%	65%	65%	69%	95%
		Boards	No data	No data	No data	65%	65%	69%	95%
		WfP	No data	No data	No data	31%	60%	62%	75%
10. **Gender** % of Water User committees/Water Boards with women holding key positions.		Rural	No data	No data	87%	63%	63%	67%	95%
		Urban	No data	21%	18%	71%[2]	63%	67%	95%
		WfP	No data	No data	No data	No data[3]	65%	66%	75%

[1] Data based on central Government investments only
[2] Based on data reported by 36 District Local Governments.
[3] In 2007/8 data was collected on the number of women in the WSCs.

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List of Abbreviations

ADB	African Development Bank
BFP	Budget Framework Paper
CBO	Community Based Organisation
Cu.mec	Cubic metres per second
DFID	Department for International Development
DHI	District Health Inspector
DWD	Directorate of Water Development
DWRM	Directorate of Water Resources Management
DWO	District Water Office(r)
DWSCC	District Water and Sanitation Coordination Committee
DWSDCG	District Water and Sanitation Development Conditional Grant
EHD	Environment Health Division (of Ministry of Health)
ED	Earth Dams
FDS	Fiscal Decentralisation Strategy
FP	Fish Ponds
FY	Financial year
GFS	Gravity Flow Scheme
GoU	Government of Uganda
HIASS	Health Inspectors Annual Sanitation Survey
HSSP	Health Sector Strategic Plan
HWF	Hand Washing Facility
IDAMC	Internally Delegated Area Management Contract
IDP	Internally Displaced Persons
JPF	Joint Partnership Fund
JSR	Joint Sector Review
JWSSPS	Joint Water and Sanitation Sector Programme Support (2008 – 2012)
KCC	Kampala City Council
LG	Local Government
LGDP	Local Government Development Programme
MAAIF	Ministry of Agriculture, Animal Industry and Fisheries
MDG	Millennium Development Goal
MFPED	Ministry of Finance, Planning and Economic Development
MIS	Management of Information Systems
MoES	Ministry of Education and Sports
MoGLSD	Ministry of Gender Labour and Social Development
MoH	Ministry of Health
MTEF	Medium Term Expenditure Framework
MWE	Ministry of Water and Environment
MWLE	Ministry of Water Lands and Environment (former)
NACES	National Advisory Committee on Ecological Sanitation
NEMA	National Environmental Management Authority
NFA	National Forestry Authority
NGOs	Non-Government Organisations
NBI	Nile Basin Initiative
NWSC	National Water and Sewerage Cooperation
O&M	Operation and Maintenance
PAF	Poverty Action plan

PEAP	Poverty Eradication Action Plan
PPDA	Public Procurement and Disposal of Assets Authority
PRGC	Rural Growth Centre
RWSS	Rural Water and Sanitation
SIP	Sector Investment Plan
SIM	Sector Investment Model
SPR	Sector Performance Report
SWAp	Sector Wide Approach
SWRMD II	Support to Water Resources Management II
ToR	Terms of Reference
TSU	Technical Support Unit
UfW	Unaccounted for Water
UGX	Uganda Shillings
ULGA	Uganda Local Governments Association
UWASNET	Uganda Water and Sanitation NGO Network
UWR	Urban Water Reform
UWSS	Urban Water Supply and Sanitation
VfM	Value for Money
VT	Valley Tank
WfP	Water for Production
WRMD	Water Resources Management Department
WSS	Water Supply and Sanitation
WSWG	Water Sector Working Group
WUC	Water User Committee

Exchange Rate	US$ 1 = UGX 1,700

GLOSSARY

Alignment: The arrangement of development partners' activities and systems to a recipient government's priorities and systems, thereby increasing the government's "ownership" of systems and policies to make implementation more effective.

Basket Funding: Aid finance flowing from a joint development partners' account, kept separate from other funding for the same (sub-) sectors. Transfers are not made through the government systems and in effect the basket funding is a collection of projects. The Joint Partnership Fund (JPF) is an example in the water sector of basket funding using on-budget project modalities.

Consolidated Fund (CF): the consolidated fund is the main treasury account where all government and external funds are received. Funds are then allocated according to approved budgets to the ministries and via fiscal decentralisation mechanisms to the local governments.

Development Partner (DP): Bilateral, multilateral and international organisations and agencies providing support to Uganda.

(Earmarked) Sector Budget Support: Financial support, channelled through the Government of Uganda's Budget that is notionally earmarked to a specific sector or sub-sector. Transfers are made through government systems. In the water and sanitation sector earmarked sector budget support includes support via the CF and PAF to the District Water and Sanitation Conditional Grants (DWSCG) and also to the Ministry of Water and Environment (MWE) at central level. Earmarked sector budget support and sector budget support are the same for the water, health and education sectors as all sector expenditure is under the PAF.

General Budget Support (GBS): Financial support given directly to the government budget, with no earmarking of funds but accompanied with dialogue with the Government of Uganda (GoU) around the implementation of the Poverty Eradication Action Plan (PEAP).

Harmonisation: Coherence of approaches, systems or policies between development partners with the aim of reducing transaction costs.

Lead Development Partner (DP): In any given sector or area, there are a range of leadership functions that can be taken on by one or more development partner (DP). The role of the lead DP will depend on the agreements reached with Government and other DPs in the sector, but may include the following: acting as the main liaison with Government in policy dialogue and advocacy, facilitating funds and aid management, ensuring that joint reviews, monitoring and reporting take place following agreed formats, providing services to other DPs (information, communication and technical advice) and monitoring DP performance.

The **Medium Term Expenditure Framework (MTEF)** is a three-year rolling budget framework used to guide public-sector resource allocation, including aid. At the beginning of the budget process, sectors are provided with medium-term resource ceilings, which, in aggregate are consistent with the achievement of macroeconomic objectives. Sector working groups allocate these ceilings to institutions within the sector over the medium term, and consistent with the achievement of sector policy objectives. These allocations are articulated in the Budget Framework Paper (BFP), which represents the Government's medium term budget strategy. The first year of the MTEF forms the basis of the annual budget allocations, which are voted by parliament.

On-budget aid refers to Aid that is included in the MTEF and presented in the GoU budget estimate books. This includes aid that flows through government systems (such as general, sector and PAF budget support), as well as other programme aid and projects that are reported to GoU and that the Ministry of Finance, Planning and Economic Development (MoFPED) considers should be included in the MTEF and the official budget presented to Parliament. A second category of on-budget aid includes Technical Assistance (TA) and basket funds that support GoU activities and institutions

whose budgets are included in the MTEF and official estimate books. On budget aid falls is within the sector ceiling.

Off-budget aid: Aid that is not reported in the MTEF and budget estimate books of the GoU. This is either because it is not reported to the GoU, or because it is not related to institutions included in the MTEF and GoU official budget estimates. This might include some aid to local governments, as well as support to parastatals and NGOs, although many DPs do provide information on such aid to MOFPED. Off-budget aid does not fall under sector ceilings.

Poverty Action Fund (PAF): Established by the GoU in 1998 under the Medium-Term Expenditure Framework (MTEF), the PAF is a virtual ring-fenced fund aimed at protecting resources for key poverty reducing areas including water, health, education and rural infrastructure. Initially it comprised debt relief savings with additional support from development partners and the Government of Uganda.

Poverty Action Fund (PAF) Budget Support: Budget support notionally earmarked to expenditures within the Poverty Action Fund areas, but not earmarked to any specific sector. Transfers are made through the government systems.

Project support: Project support refers to assistance that is not channelled via the government systems but which can be on-budget (i.e. within the ceiling) or off-budget (i.e. outside the ceiling).

Sector Ceilings: These are the upper limits that each sector can spend. They include all on-budget DP finance. DP finance to a particular sector will not necessarily raise the sector ceiling. Sector budget support will, generally speaking, not increase the sector ceiling and is therefore not additional funding. Sector earmarking is thus only notional. The strict imposition of sector ceilings, means that earmarking only offsets the government budget.

Sector Working Group (SWG): Comprising stakeholders from GoU institutions within a sector, civil society organisations and development partners, SWGs meet to agree sector budget submissions and new projects proposed for the sector, as well as to review sector performance and to deliberate on key sectoral policies.

Software is an umbrella term used to cover the activities of awareness creation, community sensitisation mobilisation and post-construction follow-up with respect to water supply and sanitation. These activities are undertaken to change behaviour and attitudes towards hygiene and sanitation and to bring about community management of improved water supply facilities.

Uganda Development Partner Division of Labour exercise: An exercise, agreed by the GoU and DPs, to improve DP selectivity, promote key Partnership Principles and achieve greater efficiency and effectiveness in the delivery of aid in Uganda.

Uganda Joint Assistance Strategy (UJAS): The strategic response of key development partners to the PEAP. The UJAS builds on the Government's partnership principles and focuses external assistance on the revised PEAP.

Undertaking: Strategic actions agreed on in the joint Sector Review to be undertaken by the sector, ideally within a 12-month period (in time for the subsequent JSR).

WASH Cluster: Group of mainly humanitarian NGOs working in North and North-eastern Uganda which is coordinated by UNICEF.

CHAPTER 1

INTRODUCTION

Simple Pit Latrine in Arua

1.1 INTRODUCTION

Welcome to the sixth Water and Sanitation Sector Performance Report for Uganda. It is part of the sector performance monitoring system which aims to improve the sector's fiscal and physical effectiveness to more efficiently achieve its targets and thereby contribute to poverty eradication and better health for Ugandans. The performance analysis highlights opportunities for improvements in water resources management and the delivery of water supply and sanitation services. This report provides a comprehensive overview of the water and sanitation sector for the financial year 2007/8 and analyses sector performance.

1.2 REPORT STRUCTURE

The report is structured as follows: chapter 2 provides an overview of how the sector is structured, and roles and responsibilities of sector players; chapter 3 sets out progress on the JSR 2007 undertakings; chapter 4 summarises budget performance for 2007/8; chapter 5 gives an overview of the investments and performance of water resources management; chapter 6 sets out investments and progress with respect to water and sanitation development in urban and rural areas, for both domestic and productive use. Chapters 7 to 15 analyses performance against ten golden indicators (summarised in Table 1.1). Chapter 16 sets out conclusions and recommendations for the sector.

In order to provide transparent information, the annexes provide detailed background data for chapters 1 to 15.

1.3 REPORT PRODUCTION PROCESS AND INFORMATION SOURCES

This report was prepared by MWE, NWSC, MOH as well as UWASNET. A MWE senior management team collated, quality assured and synthesised reports from the sub-sectors to develop this comprehensive report. The primary data sources are Local and Central Government reports, monitoring visit reports, studies and databases as set out in Annex 1.1.

1.4 PROGRESS MEASURED AGAINST THE TEN GOLDEN INDICATORS

Table 1.1 summarises progress with respect to the ten golden indicators used for sector performance measurement. Results are fully analysed in chapters 7 to 15.

Table 1.1 Progress against the ten golden indicators

Indicator			Achievement				Target		
			2004/5	2005/6	2006/7	2007/8	2007/8	2008/9	2014/15
1. **Access** % of people within 1.5 km (rural) and 0.2 km (urban) of an improved water source		Rural	61.3%	61%	63%	63%	63%	63%	77%
		Urban	-	51%	56%	61%	58%	60%	100%
2. **Functionality** % of improved water sources that are functional at time of spot-check		Rural	82%	83%	83%	82%	84%	85%	90%
		Small Towns	No data	93%	82%	89%	85%	87%	95%
		WfP	No data	No data	35%	23%	To be set	To be set	90%
3. **Per Capita Investment Cost** Average cost per beneficiary of new water and sanitation schemes (US$)		Rural	$31	$35	$38	$44	$40	$41	$45
		Small Towns	$72	$93	$58	$93	$75	$75	$85
4. **Sanitation** % of people with access to improved sanitation.		Rural HHs	57%	58%	59%	62%	64%	69%	77%
		Urban HHs	No Data	No Data	No Data	74%	74%	77%	100%
Pupil to latrine/toilet stance ratio in schools			57:1	61:1	69:1	47:1	65:1	60:1	40:1
5. **Water Quality** % of water samples taken at the point of water collection, waste discharge point that comply with national standards.	Protected	e. coli	Sample data only				95%	95%	95%
	Treated	e. coli	No data	95%	95%	97%	100%	100%	100%
		e. coli	No data	No data	69%	80%	80%	90%	100%
	Wastewater	-BOD - Phosphorus - TSS	No data	No data	12% 26% 40%	68% - 67%	Targets to be set.		
6. **Quantity of Water** % increase in cumulative storage capacity of water for production.			0	1.3%	1%	0.76%[4]	3.1%	3.1%	5%
7. **Equity** Mean Sub-County deviation from the District average in persons per improved water point. (Nb Mean Sub-County deviation from the National average in persons per improved water point presented here)						243	To be set	To be set	To be set
8. **Handwashing** % of people with access to (and using) hand-washing facilities.		HH	No data	No data	14%	21%	17%	23%	50%
		School	No data	No data	41%	No data	17%	23%	50%
9. **Management** % of water points with actively functioning Water & Sanitation Committees/ Boards.		Committees	No data	No data	63%	65%	65%	69%	95%
		Boards	No data	No data	No data	65%	65%	69%	95%
		WfP	No data	No data	No data	31%	60%	62%	75%
10. **Gender** % of Water User committees/Water Boards with women holding key positions.		Rural	No data	No data	87%	63%	63%	67%	95%
		Urban	No data	21%	18%	71%[5]	63%	67%	95%
		WfP	No data	No data	No data	No data[6]	65%	66%	75%

[4] data based on central Government investments only
[5] Based on data reported by 36 District Local Governments.
[6] In 2007/8 data was collected on the number of women in the WSCs.

CHAPTER 2

SECTOR OVERVIEW

Handwashing Facility in Arua

2.1 INTRODUCTION

This chapter describes the policy, regulatory and institutional framework for the water and sanitation sector development in Uganda. It also summarises sector performance with respect to the four overarching themes of good governance; mainstreaming gender and HIV/AIDS; the MWE Management Information System; and training and capacity building.

2.2 FRAMEWORK FOR SECTOR DEVELOPMENT

The Government of Uganda put in place the Poverty Eradication Action Plan (PEAP) as a national framework for poverty eradication. The PEAP, which was first prepared in 1997 and revised in 2000 and 2004 (MoFPED, 2004), has adopted a multi-sectoral approach, recognizing the multi-dimensional nature of poverty and linkages between influencing factors. The PEAP objectives are being addressed through various programmes including water and sanitation. In PEAP 2004 the water and sanitation sector falls under two pillars:

- Pillar 2: Enhancing production, competitiveness and incomes (includes water for production and water resources management) and
- Pillar 5: Human Development (includes rural and urban water supply and sanitation).

The current PEAP 2004 was originally set to expire at the end of June 2008, but was extended for one year. The PEAP has been evaluated and results are currently being fed into the revised PEAP, which will be called the National Development Plan (NDP). The overall objective of the NDP is wealth creation – prosperity for all.

The four water and sanitation sector reform studies were undertaken between 1999 and 2005 and completed at different times. Consequently, the respective sub-sector investment plans were not coordinated. This led to fragmentation of sector investments. The sector has continued to evolve since the sub-sector investment plans were completed, including the creation of many more District Local Governments (from 36 in 2001 to 80 in 2008), changes to the MWE structure and a new policy of bulk water transfer for multi-purpose use. As a result a process to review, update and consolidate the sub-sector investment plans and align them with the current institutional set-up is being undertaken.

2.3 POLICY OBJECTIVES

The overall policy objectives of the Government for water resources management, domestic water supply and sanitation and water for production respectively are as follows:

(i) "To manage and develop the water resources of Uganda in an integrated and sustainable manner, so as to secure and provide water of adequate quantity and quality for all social and economic needs of the present and future generations with the full participation of all stakeholders" (MWLE, 1999).

(ii) To provide "sustainable provision of safe water within easy reach and hygienic sanitation facilities, based on management responsibility and ownership by the users, to 77% of the population in rural areas and 100% of the urban population by the year 2015 with an 80%-90% effective use and functionality of facilities" (MWLE, 2004a). This is more ambitious than the Millennium Development Goal (MDG) which aims to halve the percentage of people without access to safe water by 2015 in Uganda.

(iii) "Promote development of water supply for agricultural production in order to modernise agriculture and mitigate effects of climatic variations on rain fed agriculture" (MWLE, 1999).

2.4 POLICY AND REGULATORY FRAMEWORK

Government policies and the legal framework that impact on management of the sector are:

Constitution of the Republic of Uganda (1995), The Local Governments Act (2000), The Water Act (1995), and accompanying regulations [Water Resources Regulations (1998), Waste Discharge Regulations (1998), the Water Supply Regulations (1999), Sewerage Regulations (1999)], The National Water & Sewerage Corporation Act (2000), the Uganda Water Action Plan (1995) and National Water Policy (1999), The National Environment Management Policy (1994); The National Environment Act; the Environmental Impact Assessment Regulations (1998); and the National Environment (Standards for Discharge of Effluent into Water or on Land) Regulations (1999), National Environment (Waste Management) Regulations (1999), Land Act (1998), and the upcoming Land Use Policy, National Health Policy and Health Sector Strategic Plan (1999), National Gender Policy (1997).

2.5 SUB-SECTORS

The water and sanitation sector consists of four sub-sectors: Rural Water Supply and Sanitation (RWSS), Urban Water Supply and Sanitation (UWSS), Water for Production (WfP), and Water Resources Management (WRM).

2.5.1 Water Resources Management

The Water Resources Management (WRM) sub-sector is responsible for the integrated and sustainable management of water resources in Uganda so as to secure and provide water of adequate quantity and quality for all social and economic needs for the present and future generations. It does this through monitoring and assessment of the quantity and quality of water resources; storing, processing and disseminating water resources data and information to users; providing advice on management of transboundary water resources; regulating water use and discharge of wastewater into water bodies through issuing of water permits and providing analytical services for water quality analysis. WRM functions have been implemented at the central government level. Decentralisation of these functions to catchments has been initiated.

2.5.2 Rural Water Supply and Sanitation

The Rural Water Supply and Sanitation (RWSS) sub-sector covers all rural communities with populations up to 5000. The 2002 population census estimated the rural population at 21.04 million rising to 26.2 million by 2006 and 32.75 million by 2015. The sub-sector considers two divisions of communities, villages with populations up to 1500 and Rural Growth Centres (RGC) with populations between 1500 and 5000, which number approximately 850.

2.5.3 Urban Water Supply and Sanitation

The urban water supply and sanitation sub-sector is made up of **large towns** managed by the National Water and Sewerage Corporation (NWSC) and **small towns** as defined below.

Large Towns are classified as those gazetted for operation by NWSC, which provides water and sewerage services in the 23 urban water centres of Kampala, Jinja/Njeru, Entebbe, Tororo, Mbale, Masaka, Mbarara, Gulu, Lira, Fort Portal, Kasese, Kabale, Arua, Soroti, Hoima, Bushenyi/Ishaka, Mukono, Malaba, Lugazi, Iganga, Mubende, and Masindi and Kabermaido[7].

[7] Mukono water services is managed by Kampala Area; Malaba town water supply is managed under Tororo Area while, Lugazi town water supply is managed under Jinja Area. The rehabilitation and expansion Iganga from Jinja water supply Area was completed in 2008. Investments and coverage for Iganga are covered by the small towns component of the report as it was handed over to NWSC in June 2008.

In order to improve the definition of **small towns,** which has been subject to some interpretation in the past, guidance was sought from the Ministry of Local Government (as recommended by UBOS)[8]. In the context of the water and sanitation sector, small towns are all the gazetted Municipalities, Town Councils and Town Boards[9] outside the jurisdiction of NWSC. In 2007/8, there were a total of 160 small towns classified into 1 Municipality (Moroto), 79 Town Councils and 80 gazetted Town Boards. These are listed in Annex 7.4 and 7.5.

2.5.4 Water for Production

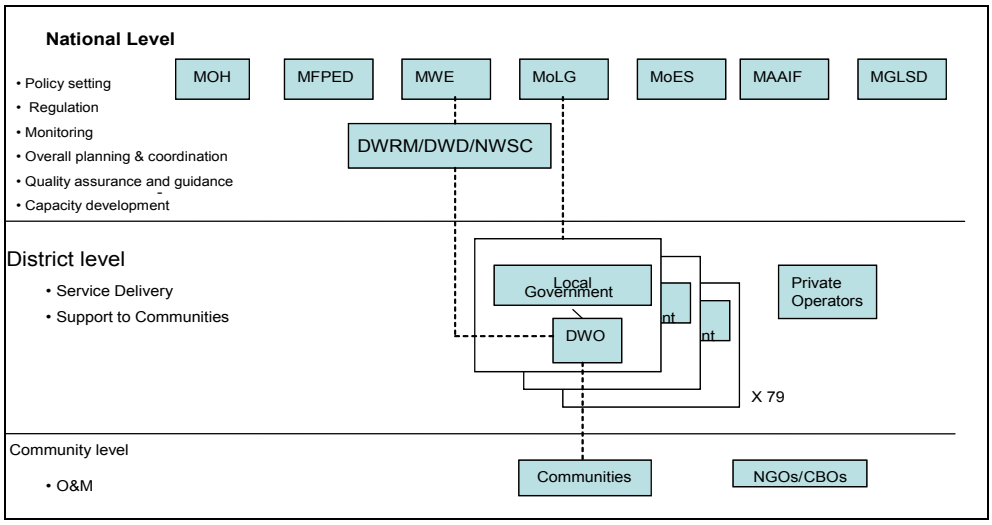
Water for Production refers to development of water resources for; productive use in agricultural (crop irrigation, livestock and aquaculture), rural industries, wildlife, recreation, hydropower generation, transport and commercial uses.

With respect to Water for Agricultural Production, MWE is the lead agency for water for production and development off-farm. MAAIF is the lead agency for water use and management for agricultural development on-farm. The MTTI's mandate covers water use and management of industries, commerce, wildlife and tourism. The mandate of MEMD is water use and management for hydropower generation.

2.6 INSTITUTIONAL FRAMEWORK

The institutional framework for the sector comprises a number of institutions that participate directly in the provision of water and sanitation services at the national, district and community levels as indicated in Figure 2.1.

Figure 2.1 Water and Sanitation Sector Institutional Framework



2.6.1 National Level

The Water Policy Committee (WPC) is a cross-sectoral institutional framework for water resources management and plays an essential high-level role in directing the development and management of

[8] In the past, the institutional definition of **small towns** was towns with populations of between 5,000 and 15,000 people, gazetted District Headquarters with populations less than 5,000, and towns with populations greater than 15,000 that are not yet gazetted as water supply service areas under NWSC. In addition, the definition also included some rural growth centres This definition has had a varied interpretation in performance reports.

[9] Municipal and Town Councils are body corporate institutions with perpetual succession and a common seal. Town Boards are gazetted planning areas within a Sub County Council.

Uganda's water resources across sectors and development interests. The WPC as provided for in the Water Act Cap 152, article 9 is composed of heads of key sectors related to water resources management and is chaired by the Permanent Secretary (Ministry of Water and Environment).

The **Ministry of Water and Environment (MWE)** has the overall mission: "To promote and ensure the rational and sustainable utilisation, development and effective management of water and environment resources for socio-economic development of the country". The ministry has three directorates: Directorate of Water Resources Management (DWRM), Directorate of Water Development (DWD) and the Directorate of Environmental Affairs (DEA).

MWE has the responsibility for setting national policies and standards, managing and regulating water resources and determining priorities for water development and management. It also monitors and evaluates sector development programmes to keep track of their performance, efficiency and effectiveness in service delivery.

The newly created **Directorate of Water Resources Management (DWRM)** is responsible for managing, monitoring and regulation of water resources through issuing water use, abstraction and wastewater discharge permits. The directorate comprises three departments namely Department of Water Resources Monitoring and Assessments, Department of Water Resources Regulation and Department of Water Quality Management. DWRM was established in July 2007 and the process of filling the top positions is almost completed. However performance is not at peak because of the administrative structure not being fully staffed. Effort has been made to fill the vacant positions with contract staff while confirming permanent staff in the senior positions

The **Directorate of Water Development (DWD)** is responsible for providing overall technical oversight for the planning, implementation and supervision of the delivery of urban and rural water and sanitation services across the country, including water for production. DWD is responsible for regulation of provision of water supply and sanitation and the provision of capacity development and other support services to Local Governments, Private Operators and other service providers. DWD comprises three Departments; Rural Water Supply and Sanitation; Urban Water Supply and Sanitation and Water for Production.

The National Water and Sewerage Corporation (NWSC) is a parastatal that operates and provides water and sewerage services for 23 large urban centres across the country including Kampala. NWSC's activities are aimed at expanding service coverage, improving efficiency in service delivery and increasing labour productivity. Key among its objectives is to plough back generated surpluses for infrastructure improvements and new investments.

A number of other line ministries have important roles in the sector. **The Ministry of Health (MoH)** is responsible for hygiene and sanitation promotion for households through the **Environmental Health Division (EHD)**.

The Ministry of Education and Sports (MoES) is responsible for hygiene education and provision of sanitation facilities in primary schools. It also promotes hand washing after latrine use in the schools.

The Ministry of Gender, Labour and Social Development (MGLSD) is responsible for gender responsiveness and community development/mobilisation. It assists the sector in gender responsive policy development, and supports districts to build staff capacity to implement sector programmes.

The Ministry of Agriculture, Animal Industry and Fisheries (MAAIF) spearheads agricultural development. This includes the on-farm use and management of water for production (irrigation, animal production and aquaculture).

The Ministry of Finance, Planning and Economic Development (MFPED), mobilises funds, allocates them to sectors and coordinates development partner inputs. MFPED reviews sector plans as a basis for allocation and release of funds, and reports on compliance with sector and national objectives.

The country has considerable **Development Partner** support for the development budget. These include ADB, Austria, BADEA, DANIDA, EU, France, Germany, JICA, UNICEF and Sida.

The **NGOs** working in the sector are coordinated at the national level through **UWASNET**, Uganda Water and Sanitation NGO Network an umbrella organization, which has been largely funded by sector development partners through MWE.

2.6.2 District Level

Local Governments (Districts, Town Councils, Sub-Counties) are empowered by the Local Governments Act (2000) to provide water services. They receive funding from the centre in the form of a conditional grant and can also mobilise additional local resources for water and sanitation programmes. Local Governments, in consultation with MWE appoint and manage private operators for urban piped water schemes that are outside the jurisdiction of NWSC.

The restructuring of Districts recommended that established posts in the District Water Office are the District Water Officer; Assistant District Water Officer; County Water Officers and Borehole Technician. This led to problems in implementation and follow up of community management and sanitation activities as District Water Officers were overwhelmed with activities. The District Community Development Department and Health Directorate were supposed to fill the human resource gap but the high demand for their services by the agriculture and health sector further complicated the situation. In a bid to address the gap, MWE advised Districts to recruit staff on contract basis. Some Districts seconded staff from the other Departments. However there are still staffing gaps in many Districts, which undermine the capacity to effectively implement and coordinate software and sanitation activities.

The current drive by MWE to make it possible for Districts to engage NGOs in mobilization for Water and Sanitation activities is intended to address this challenge. A framework which spells out the guidelines to be followed by districts when procuring services of NGOs has been finalized and approved by PPDU. Districts are being encouraged to engage NGOs that have the expertise to carry out community mobilisation, training, hygiene and sanitation promotion activities.

2.6.3 Private Sector

Private Sector firms undertake design and construction in the sector under contract to local and central government. Private hand pump mechanics and scheme attendants provide maintenance services to water users in rural and peri-urban areas. Private operators manage piped water services in small towns and rural growth centres.

2.6.4 Community Level

Finally, **Communities** are responsible for demanding, planning, contributing a cash contribution to capital cost, and operating and maintaining rural water supply and sanitation facilities. A water user committee (WUC), which is sometimes referred to as a Water and Sanitation Committee (WSC) should ideally be established at each water point.

2.7 SECTOR COORDINATION

The **Water and Sanitation Sector Working Group (WSSWG)** provides policy and technical guidance for the sector. The WSSWG is made up of representatives from MWE, NWSC, MoH, MoES, MoLG, MFPED, Development Partners, NGOs (represented by UWASNET) and Local Governments (to be represented by ULGA). The WSSWG has two sub-sector working groups, responsible for Water for Production and for Sanitation. With effect from July 2008, the WSSWG has been merged with the Environment and Natural Resources Working Group (ENRWG) to form the Water and Environment Sector Working Group (WESWG).

At district level, **District Water and Sanitation Coordination Committees (DWSCCs)** have been established in some districts. The DWSCC membership consists of administrative and political leaders, technocrats and NGO/CBO representatives at district level. The role of the DWSCC is to oversee the implementation of WSS programmes, strengthen collaboration and coordination with

other sectors (health, education, social development and agriculture) and other players (private sector, NGO and CBOs and civil society).

The status of DWSCC is given in Annex 2.1. 95% of the districts have formed DWSCC. Districts with functional committees have registered progress in areas of harmonization of approaches and in joint planning and implementation of activities. Joint planning and implementation of activities has been reported in districts of Jinja, Iganga, Amuria, Kabarole and Isingiro.

Only four districts have not formed DWSCC (Masaka, Amuru, Pader and Oyam). In Northern Uganda there is hesitation regarding the formation of DWSCC since the Districts already have a WASH cluster that convenes on a monthly basis. Eight districts with formed committees did not meet in FY 2007/8, i.e. Hoima, Gulu, Nakasongola, Kiboga, Wakiso, Mpigi and Kayunga.

Non-Government Organisations (NGOs) and Community Based Organisations (CBOs) are active in the provision of water and sanitation services as well as advocacy and lobbying. There are over 200 NGOs and CBOs currently involved in water and sanitation activities in Uganda. Presently, approximately 150 NGOs are members of UWASNET.

The Sector Wide Approach (SWAP) framework for the sector was adopted in September 2002. IT is a mechanism whereby Government, civil society and development partners support a single policy, development plan and expenditure programme, which is under Government leadership and follows a common approach. It de-emphasizes donor-specific project approaches but promotes funding for the sector through general, sector earmarked budget support or through basket funding. Rural water and sanitation is the most advanced sub-sector in terms of SWAP implementation.

2.8 GOOD GOVERNANCE

Good governance is key to ensuring that services reach the intended population particularly the poor who have less access to services and less influence to demand them. Resources are never shared equally among the people but good governance can help ensure a more equitable distribution. Corruption means that funds, which could have been used to provide poor people with water and sanitation services, are leaking out of Government budgets. With increased awareness of the detrimental effects of corruption, strategies to fight it have become more important in water policy circles.

The 2006 Joint Sector Review (JSR) agreed to: **"***Undertake Value for money and tracking studies to investigate high costs of deep boreholes and piped water schemes. Analyze and disseminate findings as well as recommendations in order to improve transparency and accountability at all levels" and "to develop, improve and Implement the frameworks Procurement and Contract Management Quality Assurance for water and sanitation service delivery that will lead to a reduction in O&M and investment costs".*

Progress has been made on the implementation of an action plan by MWE for enhanced transparency and accountability with respect to the following: enforcement of mandatory public notices regarding funds release; transparent allocation formula for DWSCG allocation; allocation of resources between sub-sectors; criteria for investment in small towns and rural growth centres; criteria for new projects; weaknesses in controls and responsibility by management; improvement of procurement responsibility; planning, procurement and contract management audits improved community sensitisation and DWD oversight. Annex 2.2 provides full details of the action plan being implemented.

The need to engage communities and civil society to improve governance in the sector is recognized. In this regard a number of innovative projects are currently being piloted. A programme entitled "***Improving Governance in Water Provision through Social Accountability, Communication and Transparency in Uganda*"** commenced in June 2008. It will engage communities in the Wobulenzi Town Council to work in partnership with service providers to improve the quality of water service delivery using a methodology known as the Citizen's Report Card (CRC)/Community Score Card (CSC)

Process. It will provide service providers in Wobulenzi with feedback from the community about the adequacy, efficiency and quality of water services.

The **Anti-Corruption Coalition Uganda (ACCU)** brings together 60 Civil Society Organisations, some distinguished religious leaders, academicians and media practitioners. Seven Regional Anti Corruption Coalitions (West Nile, Northern Uganda, Apac, Teso, Rwenzori, Kigezi and Ankole) in 20 districts of Uganda are implementing a project to improve governance in the sector. Gaps in governance and accountability in the sector have been found as a result (Box 2.1). These are not only limited to government actors, but also to other civil society and private water sector providers. Key gaps include: weaknesses in planning, hence predominance of top down planning; challenges with the procurement process; poor functionality of water structures and poor financial management routes.

Box 2.1 Irregular Supply of Water Pipes in Kabarole District

Kabarole district contracted HEWASACON to supply water pipes at the cost of UGX 49 million to replace the purportedly damaged pipes and fittings. While conducting routine water sector monitoring, the Independent budget monitors of Rwenzori Anti Corruption Coalition noted that the pipes and fittings that were damaged were not recorded in the stores ledger hence verification could not be carried out. Moreover the alleged pipes bought to replace the damaged ones were not received in the store.

A report regarding the above was shared with district officials that prompted police to investigate the case. Police criminal investigation department noted that there were no damaged pipes and no replacements had been made. Instead the contractor repaired the water line using the original old pipes. The payments made to the contactor were irregular as no pipes and fittings were bought. Police recommended that the district should recover funds from the contractor. Rwenzori Anti Corruption Coalition is working with the district officials to follow up the case and recover such funds

Building the capacity of civil society on accountability and governance: WSP and the Uganda Water and Sanitation NGO Network (UWASNET) held a four day training course on social accountability and anti-corruption with 35 civil society organizations and members of the MWE Technical Support Units The main outcome of the training was the creation of regional partnerships bringing together civil society and other stakeholders that will undertake joint monitoring activities in order to improve the quality of water service delivery.

2.9 MAINSTREAMING GENDER AND HIV/AIDS

Last year, the sector reported inadequate gender mainstreaming skills in areas of planning, budgeting, implementation, monitoring and reporting by Districts. In order to address this challenge, a gender resource book has been developed[10]. It will guide sector staff at national; district and lower local government levels in designing, planning, management, implementation, monitoring and evaluation of water and sanitation programmes in a gender sensitive manner.

HIV/AIDS continues to pose a threat to all development programmes as it leads to loss of human capacity. Recent national statistics show that HIV/AIDS prevalence has stagnated at 6.5%. Drivers for HIV transmission include cross generational sex and cultural practices.

In FY 2007/8 MWE launched a 5 year (2007-2011) HIV/AIDS Mainstreaming Strategy with the goal of the retaining sector capacity and increasing productivity by reducing stakeholders' susceptibility and vulnerability to HIV/AIDS. The outputs to date are:

- 40 MWE staff capacity built in HIV/AIDS mainstreaming and basic counselling skills.
- 20 sociologists capacity built in HIV/AIDS mainstreaming and basic counselling skills.

[10] By MWE with close collaboration and support from WaterAid Uganda.

- 14 District[11] officers including District Water Officers and Community Development Officers capacity built in HIV/AIDS mainstreaming.
- 45 staff undertaken voluntary counselling and testing.
- Condom distribution in washrooms of MWE.
- Koboko District Water Office extension workers in 4 Sub Counties trained in mainstreaming HIV/AIDS activities at Water User Committee level.

The above activities are aimed at reducing the sectors susceptibility and vulnerability to HIV/AIDS.

2.10 MANAGEMENT INFORMATION SYSTEMS

Over the past decade MWE has undertaken several initiatives to improve information management related to water supply and sanitation. Currently, two activities are in progress:

Revitalization of Water Supply and Sanitation Management Information System (MIS) involves assessing constraints, redefining the vision and strengthening capacity for data management in the sector. In FY 2007/8 the focus has been on sub-sector specific databases. In this regard MWE has improved the information flow between Local and Central Governments through a revised reporting system for the DWSCDG. Data collection, validation and dissemination strategies have been formulated for rural water supplies and water for production. Baseline surveys have been carried out for water for production and urban water supplies. The tools used to store, process and analyse data are being upgraded.

Revise performance measurement framework. The 2006 Joint Sector Review (JSR) resolved to "*Revise sector performance measurement framework, the criteria and the way it defines, establishes, validates and harmonizes information regarding access to and use of safe water and sanitation in Uganda"* as one of its undertakings. This has been undertaken over the last two years and has resulted in new definitions and calculation methods for five of the Golden Indicators. These will take effect from FY 2008/9 and thus be reported on in the 2009 Sector Performance Report.

2.11 TRAINING AND CAPACITY BUILDING

Training and Capacity is a key component in the implementation and sustainability of water and sanitation sector activities. In FY 2007/8 MWE continued to provide training and capacity building to central and local government staff. Figure 2.2 shows the expenditure breakdown.

Figure 2.2 Expenditure on training and capacity building programs (2007/08) (UGX)

Emphasis was put on performance related short tailor made courses for staff at central and local government and the private sector. Training programs were mainly implemented through the

[11] Mityana, Mubende, Kamwenge, Kyenjojo, Kabarole, Kasese, Bundibugyo, Kibaale, Adjumani, Koboko, Maracha-Terego, Moyo and Nebbi.

following interventions (Table 2.1). In addition industrial training for students and one year attachments for fresh graduates of engineering and social sciences was given within MWE.

Table 2.1 Staff trained by sector FY 2007 – 2008

	Taylor Made Courses	Short Courses	Masters Degrees	Bachelors Degrees	Conferences
MWE	167	33	3	2	7
Local Government	87	19	0	1	1
Private Water Service Providers	84	0	0	0	0
Total	**338**	**52**	**3**	**3**	**8**

The WAVE Pool Program is a regional capacity building program being implemented in the four countries of Kenya, Uganda, Tanzania and Zambia to improve the performance of the water service providers. Programs are implemented through the MWE and the Association of Private Water Operators (APWO).

In FY 2007/8 training manuals to cover Non Revenue Water, Commercial and Customer Care Orientation (CCO) were developed. A total of 84 persons from the water service providers were trained in the topics covered by the manuals.

Chapter 3

STATUS OF 2007 JOINT SECTOR REVIEW UNDERTAKINGS

Handwashing is essential to reduce sanitation-related diseases

3.1 INTRODUCTION

This section provides an overview of progress on the undertakings adopted by the 2007 Joint Sector Review (JSR).

3.2 UNDERTAKING 1 - EQUITY

Undertaking*: "Allocation of sector grants during the FY 2008/09 is effected using a revised simple, objective, transparent allocation formula that takes into account the current coverage, population figures, and appropriate technology options, with special emphasis through targeted support to the underserved".*

Means of Verification: Equitable allocation formulae for sector grants.

Status of undertaking: This Undertaking has been achieved as follows:

- The Allocation formula for Rural Water and Sanitation Conditional Grant was commended by the Local Government Finance Commission (LGFC) as the most equitable of all sectors and was used to allocate the grant for FY 2008/09 FY.
- The allocation formula for the urban water O&M grant was presented and approved by the Finance thematic group. It will be used for allocation of the 2009/10 FY grant.

Full details are given in Annex 3.1.

Future Actions Required

- Monitor the allocation of and utilization of the DWSCG by the district local governments to ensure that funds are allocated proportionately to the least served areas
- Monitor the utilization of the urban O&M grant by the water boards to ensure adherence to the allocation principles

3.3 UNDERTAKING 2 – SUSTAINABLE SANITATION

Undertaking: "*Identify and upscale modalities for promotion of sanitation and hygiene practices (in households and schools), and support mandated institutions to enforce bylaws and regulations aimed at improving access in at least 50% of the districts and urban councils by at least 5% points, from the current status*."

Means of Verification: Report on Sanitation Coverage

Status of Undertaking: The undertaking has been achieved since the coverage has increased by 3.4% for the whole country (chapter 10).

The workplan for implementation was divided into two parts:

- Up-scaling promotion of sanitation including enforcement of relevant bye-laws and regulations
- Other activities to be carried out during the Sanitation week and International Year of Sanitation.

In addition, The 2007 Health Assembly resolved to recommit Local Governments to the Kampala Declaration on Sanitation (1997) to enact and enforce bye-laws/ordinances necessary to raise latrine coverage to 100% by October. The progress is presented in Table 3.1.

Table 3.1 Progress on the planned sanitation activities (Undertaking No. 2)

Activity	Status
Carry out a review and document the successes on enforcement in the local governments	Done
Disseminate the reports on best operational practices in the local governments (including enforcement)	Some of the reports were disseminated
Disseminate the EHMIS in selected districts and assist the LGs update the current status of latrine coverage	Done
Prepare and disseminate an abridged version of the ten year National Improved Sanitation & Hygiene (ISH) financing strategy	Minimum package and draft intermediate package completed.
Support selected districts in planning, budgeting and implementation	Done by TSU staff
Secure leaders' commitment to financing and enforcing sanitation and hygiene at National and District level	Regional Launches ongoing
Celebrate demonstrated leadership at district level in order to encourage solid commitment towards enforcement and improvement of Sanitation & Hygiene	Ongoing
Prepare and implement a National Launch for the International year of Sanitation	Done
Organise a National Conference Kampala Declaration + 10	Not yet
National Roll out of the National Hand washing campaign	Pilot complete, communication materials under review

More details regarding activities and outputs are given in section 6.3 and chapter 10.

3.4 UNDERTAKING 3 – REGULATION OF SMALL TOWNS WATER SUPPLIES

Undertaking: "*From FY 2008/09, ensure that provision of safe water services in small towns and rural growth centres (RGCs) is effectively regulated by the Ministry of Water and Environment through strengthened back up support and capacity building".*

Box 3.1 Means of Verification for Undertaking No. 3

1. A new database is established to capture operations data for effective benchmarking of performance in the sub-sector.
2. Reliable indices and processes for measuring both functionality & access (Golden Indicators no. 1 & 2).
3. A regulatory framework for the urban water sub-sector, based on the CASTALIA and TSU / Umbrella review studies, is finalised prior to the2008 JSR 2008, including approval of its implementation within the SWAP context.
4. Revised tariffs derived by the respective Water Boards / Water Authorities and approved by the Minister.
5. Business plans developed by the Water Authorities and their Operators, reflecting tariffs based on the new tariff policy.
6. All capacity development activities / interventions are coordinated to minimise overlaps. (JWSSPS, GTZ, IFC)

Status of Undertaking: This is an ongoing process as detailed in Table 3.2 below.

Table 3.2 Status of Undertaking No. 3

Planned Action	Actual Progress (September 2008)
A1: Data Capture and Reporting	
Ensure that there is a reliable reporting and monitoring system in place for the Small Towns (ST's)and Rural Growth Centres(RGC's) in the Urban Water Sub-Sector	Indicators and variables have been agreed upon and design of a SIGMA reporting software for data capture, analysis and benchmarking is almost complete. TSUs have been facilitated to help the process, all with GTZ assistance.
Refine the framework for measurement of functionality and access in the urban context	Discussions on definitions were completed and framework adopted. During implementation, the need for further review was noted.
A2: Effective Regulation	
Harmonise the overall regulatory framework for ST's and RGC's, TSU's & Umbrellas). This shall include necessary consensus building among all sector stakeholders.	Final report by Castalia is ready, but finalisation of the regulatory framework is conspicuously outstanding. Consultancy for review of Umbrella model is virtually complete, with clear recommendations for scaling up.
Use the Business Plan Tool (BPT) to help development of Business Plans and town specific tariffs as per Tariff Policy.	BPT was completed and circulated and Business Plans are under preparation, following Cabinet approval of the Tariff Policy. Approval and implementation planned for October 2008.
A3: Backup Support and Capacity Building:	
Establishment of the mid-western umbrella	The two umbrellas were established during in December 2007
Conduct a study to review and evaluate the efficiency and effectiveness of the umbrella model; assess its financial viability and sustainability	Final study report submitted. The study recommends up-scaling of the umbrella model to all areas with public financing in light of its effectiveness
Review modalities for financial backup support to LG's and assessment of appropriate budget allocations	On-going, as part of the WSDF study. Allocation formula under review by the Finance Thematic Team.
Streamline capacity building initiatives in the sub-sector	Done

3.5 UNDERTAKING 4 – CLIMATE CHANGE

Undertaking: *"Develop a framework for a national strategy for adaptation to climatic change from the Water Resources perspective guided by the IWRM principles".*

Status of Undertaking: The process of drafting a framework for a national strategy for adaptation to climatic change from the Water Resources perspective guided by the IWRM principles is ongoing (Final draft of the framework developed). However implementation of a climate vulnerability study which had been planned to feed into the framework has delayed.

It was recognised that other than this being an undertaking of the JSR 2007, it is also a national obligation under Article 4(e) of the United Nations Framework Convention on Climate Change (UNFCCC) to prepare for adaptation to the impacts of climate change, develop and elaborate appropriate and integrate plans for water resources amongst others. In Uganda several individual organisations are undertaking initiatives in the same direction. It was agreed that there is need to provide a platform for harmonisation of these initiatives in order to define the direction and scope of the undertaking with the aim of interfacing rather than duplication efforts.

With DANIDA support MWE is at an advanced stage of establishing a national climate change unit with the responsibility of formulation of a national policy framework and coordination of all actors and activities on climate change.

3.6 UNDERTAKING 5 – COST VARIATION

Undertaking: "*Finalise and share the findings of the cost variation study, and prepare an action plan and initiate implementation of the study's agreed recommendations towards minimizing the unit costs*".

Means of Verification

- Summary of all recommendations in the last two Value-for-Money/Tracking Studies, as well as the respective decision/action taken to address them
- Detailed analysis of increased investment costs in rural areas and small towns.
- Specific QA measures implemented and institutionalized to improve procurement and contract management, as per action plan

Status of Undertaking

The undertaking has been achieved as follows:

- All actions taken in respect of the recommendations made on previous VfM tracking studies and circulated.
- Detailed analysis of investment costs in rural areas and small towns completed.
- Relevant recommendations are being prioritised and mechanisms for management of their implementation are being worked out.

CHAPTER 4

BUDGET PERFORMANCE

Ensuring that every village has an improved water supply would reduce walking distances for rural women

4.1 INTRODUCTION

This chapter sets out the budget allocation, investments and general financial performance for the water and sanitation sector for the FY 2007/8. Both "on-budget" and "off budget" support are presented[12].

4.2 FUNDING SOURCES

The water and sanitation sector has three main sources of funding: i) Donor funding (loans and grants), ii) Government funding (from the Treasury) and iii) internally generated funds[13]. The Government's ranking of donor support modalities, in descending order of preference is:

- General budget support – provides Government with the maximum flexibility in allocating resources according to its strategic objectives and priorities
- Budget support earmarked to the Poverty Action Fund – mutually agreed upon between Government and donors, taking into account aggregate expenditure ceilings
- Sector budget support (also called basket funding) – donor funds pooled together as "Partnership fund" to implement agreed activities in an attempt to reduce transaction costs and simplify reporting procedures
- Project aid – address particular interventions, e.g. large urban water projects.

NGOs and CBOs operate outside the GoU sector ceiling and generally access donor funding independently from Government. In general NGOs/CBOs have experienced difficulties in accessing GoU grant funds for the implementation of water and sanitation activities.

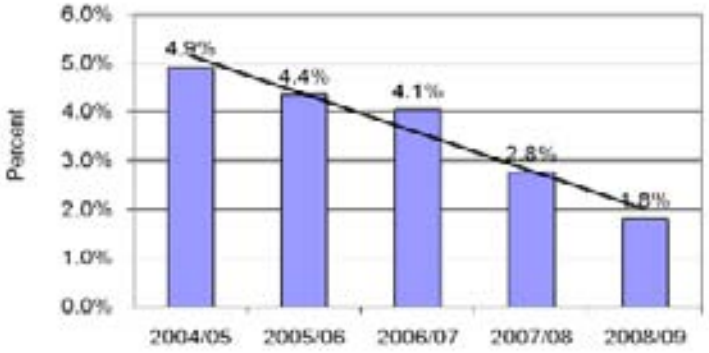
4.3 SECTOR FINANCING TREND

The water and sanitation sector budget share stood at 2.7% of the total national budget in 2007/8. There has been a steady decline in the sector budget from 4.9% in 2004/5, projected to drop to 1.8% in 2008/9 (Figure 4.1). This may reflect reducing prioritization of the sector over the period. There is concern that funding within the sector ceiling is insufficient to meet the national PEAP target of safe water supply coverage. While the sector allocations have decreased rather than increased as envisaged in the PEAP, there are escalating demands for services due to increasing population growth, newly created Districts and persistent dry spells. Further, it has been noted that the external support to the water and sanitation sector that is provided through earmarked budget support is not always translated into additional funds for the sector due to the imposed sector ceilings.

To mitigate this situation, the sector has introduced a number of measures to i) improve the cost-effectiveness of the service delivery mechanism, ii) improve functionality of water points and, iii) encourage greater investment from the private sector, beneficiary community and NGOs (in an effort to reduce the financial burden on GoU coffers). However, even if these measures are undertaken, the current GoU funding to the sector is grossly inadequate if the PEAP targets are to be met. In the updated and consolidated Sector Investment Plan (SIP), sub sector targets will be linked directly to available funding level and thereby to the indicators.

[12] See glossary for definition of on-budget and off-budget support.
[13] Specifically referring to revenue generated by the provision of water and sewerage facilities

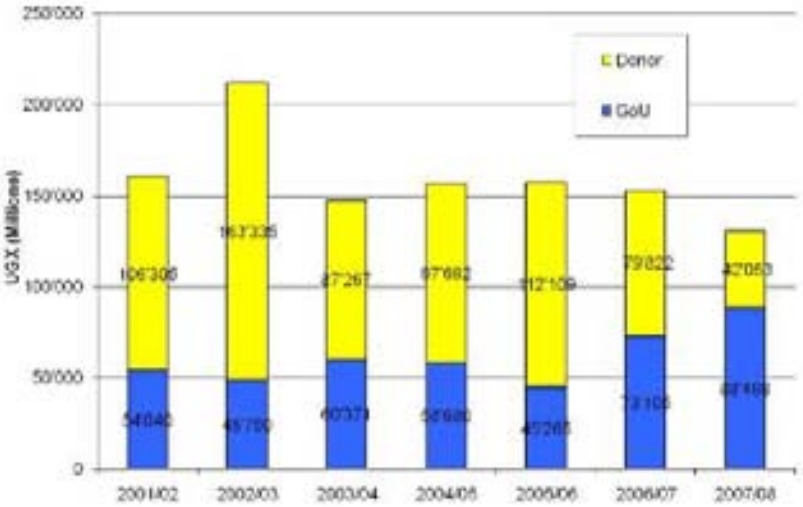
Figure 4.1 Water and Sanitation Sector Share as Percentage of National Budget (2004/5 to 2008/9)



4.4 ALLOCATION TO WATER AND SANITATION SECTOR (ON-BUDGET SUPPORT)

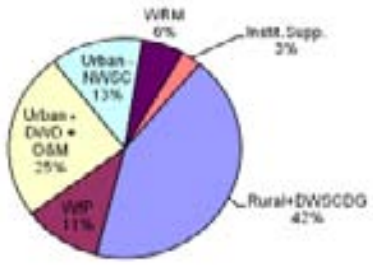
The total budget allocation for the Water and Sanitation Sector in FY 2007/8 was **UGX 130.5 billion**. This excludes off-budget support (off-budget NWSC donor funding, revenue from water sales and resources by NGOs). Figure 4.2 presents the sector financing trend over the previous 7 year period.

Figure 4.2 Water and Sanitation Sector Allocated Budget Trend (2001/2 to 2007/8)



Of the total sector budget allocation of UGX 130.5 billion in the FY 2007/08, 68% was from local resources (GoU) and UGX 32% was donor support. The budget allocation between sub-sectors were 42% for rural water supply and sanitation, 38% for urban water supply and sanitation (inclusive of Government and on-budget donor support to NWSC), 11% for water for production, 6% for water resources management and 3% for institutional support (Figure 4.3).

Figure 4.3 Sub-sector Budget Allocations

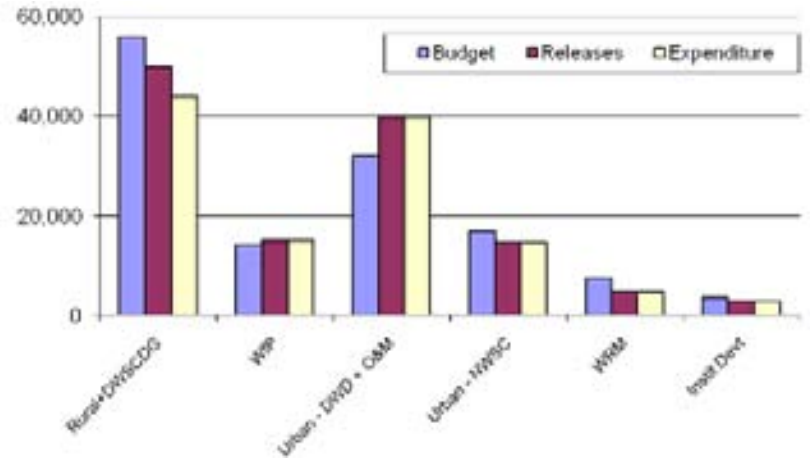


64% of the total budget was allocated for centrally managed programmes and 36% was direct disbursements to District local Government as a conditional grant for water and sanitation[14].

4.5 BUDGET PERFORMANCE

In 2007/8, UGX 128.9 billion (approx. 98.8% of the approved annual budget) was released by MFPED and UGX 122.8 billion was spent, implying an expenditure level of 95%. Figure 4.4 sets out the budget performance for the all the sub-sectors.

Figure 4.4 Sub-Sector Budget Performance (2007/8)



GoU released UGX 92.3% of its budget commitments while donors exceeded theirs (112.1%), mainly ADB support to small towns. Actual expenditure for WfP and Urban water exceeded the budgeted amount by 7% and 24% respectively as a result of reallocation within the sector budget.

The actual expenditure under the conditional grant was approximately 86% of the release, mainly because of late releases from MFPED. The actual release was made in May, but the funds reached the Districts' bank accounts in June. Approximately 38% of the budget for the water resources sub-sector was not spent due to delays in procurement/award of contracts.

4.6 OFF-BUDGET FINANCING THROUGH NGOS/CBOS

UWASNET reported on the investment and outputs of 62 NGOs and CBO (out of 150 UWASNET members). A total of UGX 13.7 billion was spent in the sector through these organisations (Annex 3.6) between January and December 2007. Annex 3.7 shows the NGO/CBO investment per District. The 62 NGOs/CBOs invested UGX 5.8 billion in water supplies and UGX 7.9 billion in sanitation and capacity building. Of the 13.7 billion, over UGX 4.5 billion was spent on software activities including support to local Government. Annexes 4.2 and 4.3 provide more details.

The Uganda WASH Cluster embraces over 50 members from largely UN agencies and International NGOs operating in Northern Uganda. 28 WASH cluster members reported their contribution to the sector covering the period July 2007 to June 2008. These organisations reported an expenditure of UGX 30 billion (USD 18.7 million) (Annex 4.4 and 4.5). This amount comprises direct implementation costs and project support costs. ECHO, USAID and UNICEF were the major donors in FY 2007/8. Section 6.2.5 details the physical outputs by the WASH Cluster members.

[14] UGX 45.4 (96.8% of the total grants) was allocated to the District Water and Sanitation Conditional Grant (DWSDCG), while UGX 1.5bn (3.2%) was allocated for the O&M grant for small towns and rural growth centres.

CHAPTER 5

WATER RESOURCES MANAGEMENT PERFORMANCE

Lake Sampling by Ministry of Water and Environment

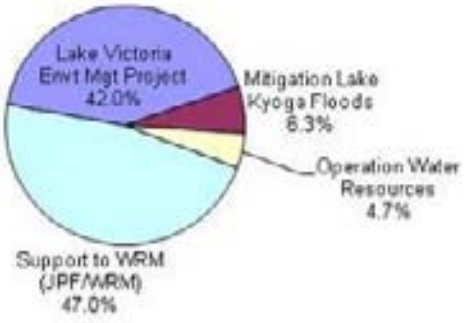
5.1 INTRODUCTION

This chapter presents the performance of the Water Resources Management (WRM) sub-sector with respect to its targets and achievements under the five themes of: water resources regulation, monitoring, and assessment, water quality management, transboundary water resources management as well as integrated water resources management. Golden indicator no 5 on water quality: "% of water samples taken at the point of water collection, waste discharge point that comply with national standards" is discussed in chapter 11.

5.2 BUDGET ALLOCATION

Figure 5.1 shows the breakdown of budget allocation within Water Resources Management. A significant portion of the funds were allocated to new priority areas such as piloting of decentralisation of IWRM, groundwater mapping, addressing challenges from floods and oil exploration. Approximately UGX 89 million was realised as non-tax revenue from various permits and was remitted to the consolidated fund.

Figure 5.1 Budget Allocations within Water Resources Management ('000 UGX)



5.3 TARGETS AND ACHIEVEMENTS

Table 5.1 sets out the targets and achievements for WRM. Performance during FY 07/8 was significantly higher than the previous year (FY 06/07).

Table 5.1 Progress against WRM sub-sector indicators

Sub-sector Indicator	Annual target	Achievement			
		2004/5	2005/6	2006/7	2007/8
Permits Issued	**100**	64	123	69	77
No of permit holders monitored for compliance	**110**	72	225	102	188
Water samples received & analysed	**1,200**	1394	884	769	1199
No. of water resources monitoring stations operated	**885**	389	478	297	205
Ground water data received, quality assured & entered into database	**3,600**	1240	2203	852	1385
Surface water data received, quality assured & entered into database	**1440**	770	1308	507	824
Water quality data records quality assured & entered into database	**1,200**	3927	800	758	1199
No. of assessment studies completed	**4**	2	3	1	3

5.4 WATER RESOURCES REGULATION

5.4.1 Assessment of Environmental Impact of Development Projects

Fifteen (15) Environmental Impact Assessment reports (EIAs) for water resources related projects were reviewed and likely impacts on water resources identified. The necessary recommendations were sent to NEMA for onward submission to the developers. Similarly, 21 EIA certificates issued by NEMA were received and used to follow up potential permit holders. Of the EIA reports reviewed 8 were related to inshore and offshore oil drilling and early production in western Uganda, 4 were for water supply projects, one for hydro power supply, one for flower farming and one for wildlife. One public hearing for early production of oil was held in Hoima in which MWE participated actively. From the number of EIAs and wastewater discharge permits assessed it is clear that oil exploration and production is a serious emerging issue for water resources regulation.

5.4.2 Issuance of Water Permits and Monitoring Compliance

In 2007/8 162 permit applications were assessed, of which 59 were renewals and 103 new applications. A total of 136 permits were issued while 26 were not issued due to various reasons as explained below. Details of the permits renewed and issued are given in Table 5.2.

Table 5.2 Summary of Water Permits Issued by Category (2007/08)

Permit type	Ground water	Surface water	Waste water	Drilling	Construction	Dredging licenses	Total
New	42	15	4	7	6	2	**77**
Renewals	11	12	4	32	NA	NA	**59**
TOTAL	**53**	**27**	**8**	**39**	**6**	**2**	**136**

Of 162 the assessed permits, 26 were not issued. The cause of non-issuance of some permits is was due to inadequate information provided by the applicants; failure of applicants to obtain no objection letters from water authorities; or limitations with respect to wastewater discharge standards. The issue of obtaining 'no objection letters' from water authorities by those intending to abstract water within gazetted water supply areas is increasingly becoming difficult to implement especially where the water authority is unable to provide adequate water supply or is non-existent. It is therefore essential that this issue is revisited and activities for which these letters are required redefined considering the current challenges being faced.

In addition, out of the 12 new wastewater discharge permit applications assessed, four were issued. Eight wastewater discharge permits for Tullow Uganda Operations pty Ltd, a company carrying out oil exploration in the Albertine graben, were not issued due to the lack of a national standard for discharge of wastewater emanating from oil drilling. The company was thus requested to keep the effluent within the lagoons to allow for evaporation of the water after which the solids would be treated on-site before disposal. Regular monitoring of the oil operations is being done to ensure that the drilling companies comply with the directive.

Similarly, out of the six new construction permits issued, one was for Bujagali hydro-power project and five were for small hydro-power projects along various rivers in the country namely Kagera, Kiruruma, Waki, Mpanga and Mubuku. As a follow up, water release policies will be developed for these hydropower projects for sustainable use of water resources.

The total number of permits issued since 1998 is 681 out of the estimated 1,049 eligible permits holders. In other words 65% of eligible permit holders actually have permits.

In FY 2007/8 a total of 188 permit holders were monitored for compliance to the provisions of the Water Act (2000) and the permit conditions representing 27.6% of the permit holders. This is an improvement on last financial year where only 102 permit holders were monitored. A summary of the level of compliance with respect to wastewater is presented in Table 5.3.

Although compliance to water resources regulation is still generally low, it has been steadily increasing from almost zero in 1999 to an average of 40% currently. This is due to a number of measures such as production of information booklets and awareness raising brochures related to water regulation, awareness workshops for stakeholders, regular visits to permit holders, assistance to permit holders in complying with permit conditions and collaboration with sister organizations such as NEMA, Wetlands Management Department, Uganda Cleaner Production Centre, Kampala City Council. Specific area of improvement has been with regard to submission of self monitoring data but there is still a challenge with installation of monitoring devices and wastewater treatment facilities.

Although the laws of Uganda have been found to be generally adequate for providing protection to water and environmental resources enforcement of water laws and regulations is still weak due to limited capacity at both the central and local levels.

In order to address this shortfall a number of measures have been taken namely; conducting a series of training programmes for existing and potential permit holders and key staff from the police, judiciary, law society etc in water law and regulations, conducting joint monitoring visits with sister organizations involved in environmental resources regulation, and placing adverts in news papers highlighting organizations that are complying with water laws and those that are not complying.

An analysis of compliance to permit conditions has been carried out for wastewater discharge establishments as presented in Table 5.3.

Table 5.3 Analysis of Compliance to Wastewater Discharge Permits for Key Conditions

Permit Condition	Compliance Levels	Comments/Constraint/Challenges
Water Quality: Series of samples of effluent taken over a twelve month period shall not be in excess of: 50 mg/l bod, 100 mg/l cod, 300ntu turbidity, 6.0 – 8.0 ph units, 100 mg/l tss, 500 mg/l so_4, 10 mg/l total nitrogen, 5mg/l total phosphorus, 4.35mg/l dissolved oxygen, 500 mg/l chlorides, 20mg/l ammonia, 250mg/l sodium.	40%	The existing wastewater dischargers find it hard to meet these national effluent standards which are too stringent New developers meet the standard in early stages of production but the efficiency of some of the pre-treatment facilities is very low The designs of some of pre-treatment facilities are sub-standard A number of wastewater permit holders have no pre-treatment facilities The is lack of appreciation of environmental laws
You shall put in place **wastewater treatment facility** within the first 2 years of operation under this permit.	20%	The efficiency of some of the pre-treatment facilities is very low National effluent standards are too stringent Some of the permit holders have no pre-treatment facility
You shall **improve on the quality of the final wastewater** within the first year of operation under this permit. As a minimum the final bod, cod, ph, total nitrogen be reduced by 50% within the 3 years of operation under this permit.	20%	The efficiency of some of the pre-treatment facilities is very low National effluent standards are too stringent Some of the permit holders have no pre-treatment facility
Pollution: A person commits an offence who, unless authorised	70%	Due to on going awareness campaigns almost all new developers have applied for wastewater discharge

Permit Condition	Compliance Levels	Comments/Constraint/Challenges
under this part of water act, causes or allows (a) waste to come into contact with any water; (b) waste to be discharged directly or indirectly into water; (c) water to be polluted		permits Existing dischargers (industries) have also come up to apply for wastewater discharge permit Some companies have entered into partnership with Uganda Cleaner Production Centre to improve on efficiency in water use resulting in reduction in volume of wastewater generated from the processes

5.4.3 Compliance Assistance to Permit Holders

The recently concluded African Breweries Sector Water Saving Initiative (ABREW) has shown that manufacturing and processing industries are willing to comply with national environmental protection measures such as effluent discharge standards. However, there remains a gap between the willingness expressed by these companies and investments in wastewater treatment. Lack of technical knowledge to deal with wastewater treatment and lack of financial resources for installation of treatment facilities are cited as reasons for this gap. Limited knowledge of the potential of cleaner production processes in reducing water use and hence wastewater discharge also contributes to the problem. Compliance assistance to these companies is needed as was envisaged under the National Environment Management Act (cap 153, 2000).

Similarly, the case of Cobalt extraction from mining wastes left behind by the old Kilembe Copper mines in Kasese District, Western Uganda by Kasese Cobalt Company Ltd and production of highly toxic effluent has been a big concern. Several improvements to the effluent treatment system have been made, but the effluent is still far from meeting the national effluent discharge standards. The cost of removing many of the dissolved inorganic salts from the effluent is so high that it would force the company to close down.

However, leaving the mining waste unattended in Kasese is not a good solution. The waste pile is inconveniently located in the Albertine rift region, the region with the highest biodiversity in Africa. Before the commencement of Cobalt extraction, highly acidic leachate rich in heavy metals used to flow from the waste pile into Lake George – an international Ramser Site located in the Queen Elizabeth National Park. The treatment systems put in place have considerably reduced the pollution of the environment by the waste pile, particularly the loading of heavy metals from the mining wastes. The company has tried its best to treat the water but it requires assistance to fully meet the standards. There is therefore a need for providing assistance to this and similar companies too be able to fully treat the effluent. Similar compliance assistance should be extended to water abstraction permit holders who have problems accessing various water monitoring devices and hence fail to comply with certain permit conditions.

5.4.4 Lake Victoria Releases and Water Levels

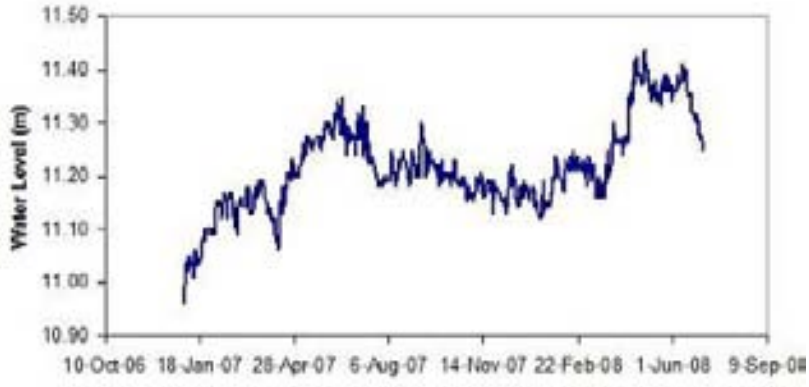
90% of Uganda's demand for power relies on Owen Falls Dam complex at Jinja. Water releases from Lake Victoria are regulated according to an agreed curve. In 2007/8 regulation of outflow continued to be a challenge due to reduced water levels in the face of increased demand for hydropower. According to the agreed curve, at the current average lake level of 1134.03 masl, the release should have been 720 cumecs. Due to the high power demand the actual release is presently around 800 cumecs and is thus still above the Agreed Curve.

However, this is an improvement on the past and has been possible through bimonthly meetings with stakeholders in the Energy Sector during which the lake level and power situation are reviewed and water releases agreed accordingly. Outflows were often varied upwards to address short-term high power demands especially related to the Common Wealth Heads of States Meeting (CHOGM) and the turmoil in Kenya in late 2007 that cut off fuel supply to Uganda. The situation is being

improved with the installation of more thermal capacity and is expected to improve further in future with the completion of Bujagali dam.

Over the last year, the average of the lake level has been at 1134.104 metres above mean sea level (mamsl) compared to the long-term average lake level (1900-2004) of 1134.4 mamsl. For the last 40 years, the lake level showed a significant downward trend with the current level being around the long-term average lake level. Figure 5.2 shows the general fluctuation of water level from January 2007 to July 2008.

Figure 5.2 Lake Victoria Water Fluctuations (Jan 2007 to July 2008)



Analysis of recent data from the lake indicates that last year's Lake Victoria Net Basin Supply (NBS)[15] was 97.07 MCM/day compared to the long-term Net Basin Supply average of 76 MCM/day and last 3-year Net Basin Supply average of 85.34 MCM/day. It can be concluded therefore that last year, the lake basin experienced a hydrological wet year that can be attributed to the heavy rains received.

5.4.5 Restoration of Lake Kyoga

The Lake Kyoga restoration study (2007) recommended the restoration of the hydrological regime of the Lake to the pre-1997 situation before the floods. This was to be done by removing the sudd blockage from the outlet. Dredging works started at Bugondo landing site resulting in reduction of the water levels to the pre-flood situation. The study also recommended the development of capacity to supervise the progressive restoration works to guard against excessive draining of the lake. In line with this, MWE staff were trained to use the MIKE 11 Hydraulic Model with emphasis on Lake Kyoga hydraulic system. The model will be used in monitoring the hydrological balance of Lake Kyoga while excavation and widening of outlet is being done.

5.4.6 A Case Study on Water Use Efficiency and Demand Management

A study named Africa Brewery Sector Water Saving Initiative (ABREW) was carried out by African Roundtable on Sustainable Consumption and Production (ARSCP) through the National Cleaner Production Centres in collaboration with a number of agencies including the Directorate of Water Resource Management in Uganda. The study aimed at assessment of the current status of water use and water efficiency in breweries in a sample of African countries (Ethiopia, Ghana, Morocco and Uganda). In Uganda, the study was carried out at Nile Breweries and Uganda Breweries.

The study came up with a number of conclusions which have implications for water demand management and water use efficiency. It was found that breweries have an impact on water use, both in terms of water consumption for production, and in terms of discharge of wastewater to local water sources. While water use and discharge in breweries is significant in comparison to other

[15] Net Basin Supply (NBS) is computed as the actual water contributed by the basin to the lake after accounting for the evaporation over the lake and loss to groundwater.

industry sectors, the volumes, as compared to other sectors in society, in particular agriculture and domestic use, is still small (typically representing 1-2 % of the national total). Not withstanding this, environmental impact from water use in breweries is still a significant issue at the local level.

The study further found that the actual water consumption in all the 4 countries studied measured as Hecto litres of water per Hecto litre of beer is above industry benchmarks of 4 litres of water per litre of beer produced. Annual water consumption in the two Ugandan breweries is 12 million HL while the annual beer production is 1.5 million HL. This equates to 8 litres of water per litre of beer produced. This compares to 13 litres of water per litre of beer produced in Ethiopia. The study found that there are good opportunities to further reduce the water consumption in the breweries through cleaner production processes. Drivers for breweries to pursue improved water efficiency include pricing of water consumption and discharge; enforcement of effective legislation; influence from corporate headquarters, including internal improvement programmes and awareness-raising and compliance assistance. Details are presented in Annex 5.1.

A strategy for implementation of the study recommendations is being developed to cover both beer and soft drinks factories in the four countries.

5.5 WATER RESOURCES MONITORING AND ASSESSMENT

5.5.1 Hydrological and Groundwater Monitoring

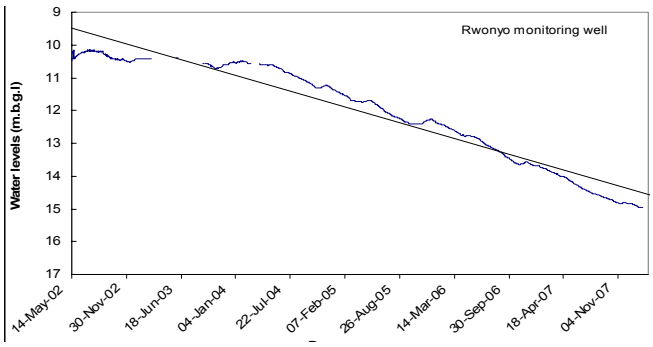
A total of 64 hydrological stations were monitored, (51 River stations, 5 Lake Levels, 3 Rainfall and 5 Automatic Weather Stations). All year round monthly data was collected: 113 river discharge measurements carried out successfully, 47 rainfall data records and 674 water level records were collected. 12 Stations were rehabilitated. There was no expansion of networks to the former conflict areas in the North due to limited resources.

Data on ground water was collected from 17 groundwater stations on a quarterly basis (e.g. Box 5.1). Efforts were made to expand the monitoring network in the 2 northern districts of Gulu and Lira. An inventory of all production boreholes fitted with submersible pumps where groundwater stress is likely to occur has been undertaken to assess the possibility of including some of them into the national monitoring network.

MWE is carrying out assessment studies to quantify the impacts of climate change and variability on the recharge potential of some aquifer systems in the country. Although monitoring has been carried out for only a few years (average 7 years) preliminary results show that groundwater levels respond to variations in rainfall and therefore exhibit a declining trend consistent with reduction in rainfall. Long term water level monitoring records will make it possible to assess the impacts of climate change on groundwater resources which is not currently possible.

Box 5.1 Groundwater Levels at Rwonzo Monitoring Well

The figure (right) presents the data from Rwonyo groundwater monitoring well, located within lake Mburo National Park. It monitors the Karagwe-Ankolean meta-sediments.
There are no pumping influences in the neighbourhood of the monitoring well and thus the water level changes are solely attributed to changes in groundwater recharge. Time series analysis indicate gradual decline in water levels of about 4 meters within 5 years. Systematic monitoring and assessment of groundwater resources in the region to accurately quantify the trends is required.



5.5.2 Groundwater Mapping

District Groundwater Resources Maps are being developed in order to guide planning for the exploitation of groundwater resources. In FY 2007/8, maps and the corresponding reports were completed for 14 districts, bringing the total number of mapped districts to 26. For each District, 6 types of maps were prepared i.e. groundwater potential, hydro-chemical characteristics, water quality, groundwater supply technology options, water supply coverage, Hydro-geological characteristics. Annex 5.2 shows the status of map production.

5.5.3 Post flood interventions in North and North Eastern Uganda

Between August and October 2007 the North and North-eastern parts of the country (Kyoga Basin) experienced severe floods. MWE carried out a post flood assessment in the Districts of Soroti, Kumi and Katakwi. Preliminary findings indicate that wetlands cover approximately one third of the lowland catchment area (around 4,200km^2) and played a major role in absorbing the floodwaters, limiting the rise in water level, storing the flood water and allowing it to drain slowly downstream.

The assessment found observed that if the wetlands were cleared of vegetation (as proposed for the sudds blocking the outfall to Lake Kyoga), the openings in the bridge and culverts on the road embankments crossing the swamps would become a restraint. Further, the backwater from the low level of Lake Kyoga would affect drainage of the floodwaters. Thus clearing the wetland vegetation would have little impact in hastening the evacuation of the floodwaters and would result in loss of a valuable ecosystem and fisheries.

5.6 WATER QUALITY MANAGEMENT

The existing national water quality monitoring network comprises of 119 monitoring stations (Table 5.4). Six monitoring points in Greater Murchison Bay of Lake Victoria were added to the permanent monitoring stations to track water quality changes in this important bay. Compared to the previous years, there was a reduction in the number of field water monitoring trips[16]. This was due to insufficient transport and untimely release of funds. However due to the additional sampling for floods assessments in the eastern and northern Uganda and groundwater mapping activities in Mbarara district, the total number of water and wastewater samples analysed (1999) was greater than for the previous two years (Table 5.1).

Chapter 11 sets out the results of the monitoring - it details the water quality golden indicator, i.e. *"% of water samples taken at the point of water collection, waste discharge point that comply with national standards".*

Table 5.4 National Water Quality Monitoring Stations

Category/Source Type	Number of Stations
Groundwater	23
Pollution Monitoring	22
River Water	42
Lake Water	19
Water Treatment Works	13
Total	119

Support to manage the quality of rural drinking water sources was given to districts in the North and East that were most affected by prolonged rains and flooding. In FY 2007/8, staff from the northern Districts were trained in water quality monitoring and assessment[17]. It emerged that lack of

[16] Only 51% of the planned network sampling trips were implemented compared to over 75% in previous years

[17] The districts that underwent training were - TSU 2: Amolatar, Amuru, Apac, Dokolo, Gulu, Kitgum, Lira, Oyam and Pader; and under TSU 3: Abim, Amuria, Bukedea, Kaberamaido, Kabong, Katakwi, Kotido, Kumi, Moroto, Nakapiripirit and Soroti.

knowledge and skills, equipment and consumables has hampered districts from using their water testing kits. More training is planned for the next financial year. Water quality assessments to guide national efforts to contain the outbreak of water-borne diseases in the North and East were also undertaken (see chapter 11).

5.7 TRANSBOUNDARY WATER RESOURCES

Box 5.2 summarises activities with respect to trans-boundary water resources management.

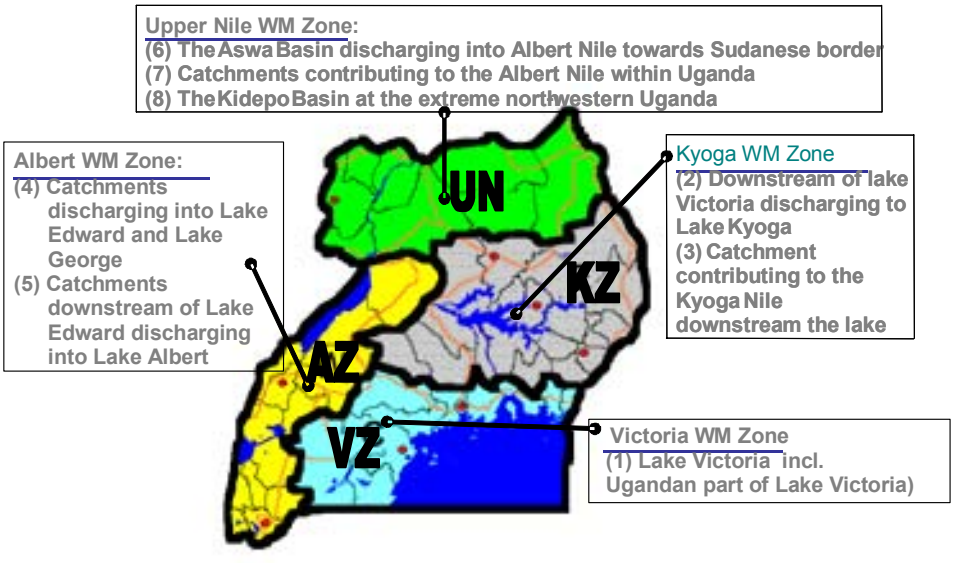
Box 5.2 Key Trans-boundary Water Resources Activities and Outputs

- *Awareness Raising* on trans-boundary WRM in trans-boundary districts.
- Approval of the Lake Management Plan for Lakes Edward and Albert.
- Regional Task Force meeting for developing New Water Release Policy for Lake Victoria in Kisumu.
- Lake Victoria Environmental Management Plan (LVEMP) Phase Two Project Documents prepared. LVEMP aims to reduce pollution loading into Lake Victoria through shoreline and watershed interventions; raise awareness on the need to engage in responsible activities and voluntary compliance and to undertake applied research.
- Development of a New Water Release Policy for the Nile Outflow – Draft policy postulates a constant release in each of the 4 zones where the zone boundaries are defined in terms of lake levels. A study revealed that the optimum range of lake level can be restricted to 3 m without significant adverse effects on hydropower generation or upon riparian stakeholders and those living downstream.

5.8 DECENTRALIZATION OF INTEGRATED WATER RESOURCES MANAGEMENT

Decentralizing WRM and implementing IWRM in Uganda is part of the WRM Reform Strategy. Decentralization of water resources management in Uganda is being carried out according to four Water Management Zones (WMZs), each comprising three sub-catchments (Figure 5.3). Piloting decentralised WRM was also an important undertaking identified by the JSR in 2006 and has been started in the Rwizi catchment in Southwestern Uganda.

Figure 5.3 Water Management Zones



Decentralised Water Resources Management is being piloted in Rwizi and Lake George catchments. A Catchment Management Committee (CMC) was established for Rwizi catchment in August 2007. The CMC has identified priority water resource issues and critical areas for interventions in each district in the catchment. These relate primarily to human activities in or near wetlands, riverbanks and lakeshores. Training, field surveys and studies have been undertaken.

Box 5.3 sets out the key lessons learned from piloting decentralized water resources management in the Rwizi Catchment. Continuous testing of the institutional framework for decentralised IWRM is necessary before any conclusions can be drawn about its effectiveness.

Box 5.3 Lessons Learned from IWRM in Rwizi Catchment

The following key lessons were learned from the IWRM pilot in the Rwizi Catchment:

- A coordinator, located within the catchment, is essential for successful implementation of the Integrated Water Resources Management (IWRM) activities. A catchment management committee consisting of political, administrative and technical representatives from local authorities is viable.
- Cooperation is easier to achieve amongst Districts with a common culture and historical ties.
- Data required for water resources situation description is scattered, of poor quality, has many gaps and is often difficult to obtain. In order to prevent the process from slowing down, it is better to use metadata for the initial development of the catchment management plan.
- Use of district extension staff can be a cheap and effective way to collect field data.
- A significant part of funding for decentralised IWRM can be mobilised through partnerships with other organisations operating within the catchment and involved in IWRM. However, the principle of co-ownership and need for co-funding must be stressed from the very beginning.
- Use of existing structures within the catchment complemented by a few new structures gets IWRM up and running much faster than introducing completely new structures.
- Initial interventions to protect catchment resources need to be affordable, easily achievable and produce highly visible impacts so as to increase support for future IWRM interventions in the catchment.

It has been decided to roll out IWRM in other catchments in the country, with due consideration of the lessons learned for the Rwizi catchment and through the establishment of partnerships with other organizations operating in those areas. This has commenced in the Lake George Basin where a steering committee comprising 10 members from local governments, NGOs, central level institutions and the private sector has been established.

CHAPTER 6

WATER & SANITATION DEVELOPMENT PERFORMANCE

Fetching water from a piped water supply

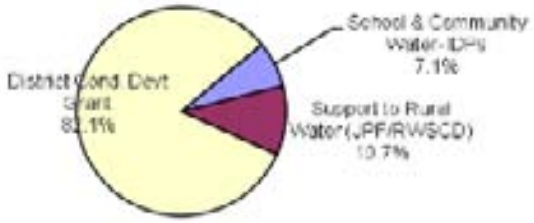
6.1 INTRODUCTION

This chapter sets out the plans, achievements, key activities and initiatives for the three sub sectors of rural water supply and sanitation, urban water supply and sanitation and water for production.

6.2 RURAL WATER SUPPLY

6.2.1 Budget Allocation

Figure 6.1 Budget Allocations for Rural Water Supply and Sanitation ('000 UGX)



6.2.2 District Water and Sanitation Development Conditional Grant (DWSDCG)

During the financial year 2007/08, the budget for the District Water and Sanitation Development Conditional Grant (DWSDCG) was UGX 44.5bn (increase of UGX 4.5bn in FY 2006/07). However, the release through the grant was only UGX 41.2bn representing 89% of the budget. This is a significant reduction in the proportion of funds released compared to previous years (Table 6.1).

Expenditure for 2007/8 was UGX 1,113 million less than in 2007/8. There has been a steady decline in the % of the DWSDCG spent from 97% in 2004/5 to 86% in 2007/8. This area will need to be examined within the next financial year. The proportion of the District Water and Sanitation Grant (DWSCG) spent on water facilities (i.e. hardware) increased to 72%, up from 70% last year.

Table 6.1 District Water and Sanitation Development Conditional Grant (DWSDCG) Expenditure[18]

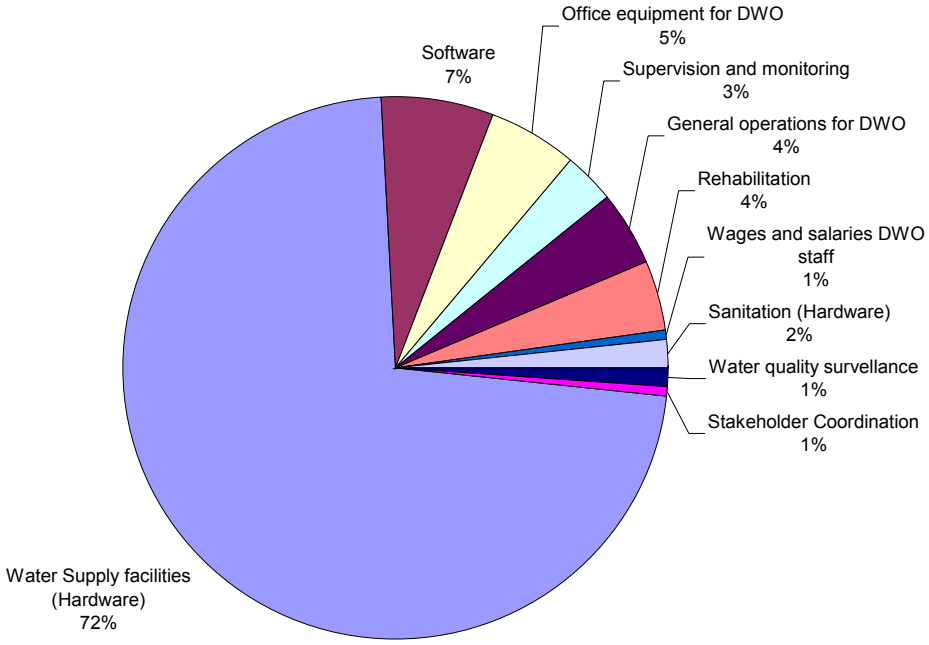
Item	*2002/03*	*2003/04*	*2004/05*	*2005/06*	*2006/07*	*2007/08*
Total Budget (UGX)	24,481,861	25,420,325	27,986,786	27,736,116	40,502,000	46,347,955
Total Releases (UGX)	24,127,033	25,300,352	27,857,204	27,601,535	40,520,000	41,443,512
Total Expenditure (UGX)	22,070,381	24,159,847	26,955,596	25,063,792	36,620,551	35,507,460
Water Facilities Expenditure (UGX)	17,863,082	19,285,938	21,085,955	19,065,920	25,760,751	25,507,459
% DWSCG Released	99%	100%	100%	100%	100%	89%
% DWSCG Spent	91%	95%	97%	91%	90%	86%
% Spent on Water facilities	81%	80%	78%	76%	70%	72%

[18] Note that this excludes 2007/8 data from Mbale (4th quarter), Palissa (4th quarter), Lyantonde (4th quarter), Bugiri (4th quarter), Namutumba (3rd and 4th quarter). This data had not been submitted by the District Local Governments in time for incorporation.

Figure 6.2 shows the breakdown of DWSCG expenditure. In 2007/8, MWE, in its regulatory role, ensured that District Local Governments cut down on the expenditure of recurrent nature compared to FY 2006/7. More emphasis was given to ensure that District work plans and budgets conform to sector guidelines. As a result, in the recurrent expenditure dropped to 28% compared to 30% in the FY 2006/07. A breakdown of District expenditure per budget line is given in Annex 6.1 and 6.2.

In 2007/08 there was a very slight increase in expenditure for software, general operations of DWO, wages and rehabilitation compared to the previous year. Most significantly there is a reduction of 2.5% in the expenditure for office equipment and of 1.6% on supervision and monitoring. This was towards the efforts to cut down on the recurrent costs though leaving the minimum required to carry out meaningful supervision. Looking over the longer term, expenditure on software activities has increased from 4% in the FY 2002/03 to an average of 8% in the FY 2007/08. MWE has been advocating for more emphasis on software activities to improve sustainability, thus the increase.

Figure 6.2 Proportion of DWSCG Expenditure on Budget Items (2007/8)



UGX 571,169,047 (approximately 7% of the DWSCG) was spent on sanitation and hygiene. Sanitation facilities were mainly constructed in rural growth centres, markets and schools.

6.2.3 Water Supply Targets and Achievements

Table 6.2 sets out the 2007/8 targets and achievements for the District Water and Sanitation Development Conditional Grant (DWSDCG). A total of 4,040 water sources were constructed. The total number of water points achieved in the FY 2007/08 was less than the planned due to less funds released compared to budget (89%), and low expenditure (86%). The latter was primarily due to the late release of funds to districts. 32% of the DWSDCG were released in June, leaving Districts with little time to absorb the funds.

Table 6.1 DWSDCG Target and Achievements for Water Supply Facilities (2007/8)[19]

Type of Source	Planned 07/08	Achieved 07/08	% Achieved
Spring Protection	512	373	73%
Shallow Well	1.020	893	88%
Deep Borehole Drilling	788	647	82%
Piped Water Supplies- GFS (Schemes) Taps	(37)	(23) 571	62%
Piped Water Schemes - Borehole Pumped and Surface Pumped (Schemes) Taps	(26)	(15) 212	75%
Rainwater Tank >10m^3	1,243	687	55%
Rainwater Tank <10m^3	956	582	61%

Table 6.3 summarises the population served by new water supplies DWSDCG (FY 2007/8) and by UWASNET member NGOs (Jan to Dec 2007). Note that while the grant is reported on for a financial year the NGOs report on a calendar year. The sector standard assumptions for: number of users (Box 7.1) has been used throughout.

Table 6.2 Water Sources & Population Served by DWSCG (07/08) and NGOs (Jan to Dec 2007)

Type of Water Source	No Facilities Achieved		Estimated Population Served	
	DWSDCG (FY 07/08)[19]	UWASNET NGOs[20] (Jan – Dec 2007)	DWSDCG (FY 07/08)	UWASNET NGOs (Jan – Dec 2007)
New construction				
Springs	373	224	74,600	44,800
Shallow Wells	893	340	267,900	102,000
Boreholes	647	147	194,100	44,100
Rainwater Harvesting Facilities <10m^3	1,243	1,440	2,061	4,320
Rainwater Harvesting Facilities >10 m^3	956		3,942	
Piped Water Supplies; Gravity flow scheme (GFS) Taps Pumped Piped Scheme taps	 687 582	145	31,800	21,750
Total	**4,040**	**2,296**	**659,603**	**216,970**
Rehabilitation				
Springs		74		
Shallow Wells		99		
Boreholes		78		
Assumptions for people served: 300 for a borehole or shallow well, 200 for a spring, 150 for a GFS tap, 3 for a RWH tank <10m^3, 6 for a RWH tank >10m^3.				

MWE funds were utilized for construction of five piped water Systems in Rural Growth Centres (Table 6.4). Training of the water boards was also carried out at a cost of UGX 20million. In addition, 34 boreholes were drilled in eastern and northern Uganda at a cost of UGX 563 million. A total of 10,200 people were served by this intervention.

[19] Note that this excludes data from Mbale (4th quarter), Palissa (4th quarter), Lyantonde (4th quarter), Bugiri (4th quarter), Namutumba (3rd and 4th quarter). This data had not been submitted by the District Local Governments in time for incorporation.

[20] Data from 62 UWASNET members, for calendar year 2007.

Table 6.4 Piped Water Supplies in Rural Growth Centres completed in FY 2007/8 (funded by MWE)

Name of Water System.	Cost	Pipe Length (m)
Nankoma Water Supply System	313,427,550	4,125
Nakifuma Water Supply System	435,861,366	5,462
Billisa Town Water Supply system	368,682,180	6,425
Kasambira Water supply System	398,592,035.	5,670
Sozibili	133,969,966	1,201
Total	**1,650,533,097**	**22,883**
Note: The above schemes have a total of 55 yard taps and 15 kiosks.		

6.2.4 Designs for Piped Water Systems for Northern Uganda

Designs were done for the following piped systems in Northern Uganda: Adwoki (Dokolo), Minakulu and Kamdin (Oyam), Pader town (Pader), Madiope (Kitgum), Orum and Adwali (Lira), Azara (Apac) and Magoro (Katakwi).

6.2.5 Participatory Training of Trainers manual

In a bid to enhance operation and maintenance of water and sanitation facilities by users, the sector developed participatory Training of Trainers (TOT) manual to guide the sector extension staff in District Local Governments, NGOs and the Private sector during community mobilization. The manual provides a package of participatory tools and methodologies aimed at encouraging community ownership and participation during planning, pre-construction mobilization, construction and post construction phase of water and sanitation facilities.

6.2.6 Rural Water Supplies by NGOs and CBOs

Table 6.3 details the facilities constructed by 62 NGO/CBOs in Uganda (UWASNET members who reported). A total of 2,296 new facilities were constructed by these organisations. Table 6.3 provides a breakdown of NGO/CBO investment for different water supply technologies.

62% of new sources provided by NGOs/CBOs were rainwater harvesting facilities, a technology which is very popular for NGO/CBO intervention. The organisations leading in this effort are Kigezi diocese (732 RWH facilities), NETWAS (113), Katosi Women Development Trust (103), and Student Partnership World Wide (103). NGOs also reported that they rehabilitated 251 improved water sources. NGOs/CBOs continued to promote use of household water filters to improve on the quality of water for domestic use. A total of 964 filters were provided to households in Kotido (850), Mbarara (32), Kigezi (366) and Masindi (2).

6.2.7 The Self Supply Pilot Project 2006-2007

The term **Self-supply** refers to improvement to household or community water supply through **user investment** in water treatment, supply, construction and upgrading, including roof water harvesting. The concept is based on incremental improvements, i.e. in steps which are easily replicable, with technologies affordable to users. Self-supply at household or community level generally implies **real ownership** but also a sharing of the supply with those households nearby, often at no charge, offering effectively a privately managed communal service.

A self-supply pilot project was implemented the by two Ugandan NGOs UMURDA and WEDA[21]. The pilot brought about a cost-effective upgrading of water supply services at 39 water sources serving approximately 600 households at an average total cost of about UGX 1.7m with technical assistance figures not included. About 40% of this was contribution from the water users. A number of important lessons have emerged (Box 6.1) which enable a better focused definition of self-supply, and of the appropriate ways and means for future scaling-up. Discussions regarding how to move to a second (demonstration) phase of this work are ongoing in MWE.

Box 6.1 Ten Lessons from Uganda's Self Supply Project

By combining knowledge from other countries, the baseline research in Uganda, and the results of the Uganda pilot, the following lessons have emerged:

1. Importance and potential of self-supply. Targeted support to self-supply is one important strategy for the provision of safe sustainable water supplies. It has significant potential to serve many people at low cost to the public purse[22], so freeing up public funds for more investments in the sector.

2. Drivers. The drivers which motivate individuals to initiate self-supply improvements include personal convenience, the desire for self-improvement, possibilities for productive water use, and service to the wider community.

3. Ownership. At the heart of true self-supply is the issue of water source ownership. Communal ownership and management are problematic, while ownership by a motivated individual provides a greater prospect of functional sustainability.

4. Technical constraints. Certain water source technical options are better suited to self-supply than others. In the Uganda pilot, the focus has been on shallow wells and natural springs. The former lend themselves better to self-supply initiatives. Pilots done in other parts of Uganda have demonstrated that domestic roof water harvesting would also be a good option. Where deep boreholes are needed, self-supply may not be an option.

5. Selecting project locations. The selection of locations for future pilot projects or scaled-up initiatives needs to take account of technical options, the existence of motivated individuals, the need for improved access to safe water, and opportunities for productive uses of water.

6. Communicating the concept. Communicating the concept of self-supply to NGOs and CBOs, local Government, and other stakeholders is important, but challenging. It is easy for the concept to be misunderstood, or for some stakeholders to feel threatened by it.

7. Water safety. Experience from the Uganda pilot demonstrates (a) that water quality can be significantly improved through self-supply upgrading but that (b) water users often wish to progress quickly up the "ladder" of improvements, to a covered source equipped with a hand pump.

8. Role of implementing agencies. The role of organisations which become involved in support to self-supply is to promote and encourage self-supply initiatives; provide technical and management advice, specialist skills and (limited) material support; promote sanitation and hygiene improvement; all while avoiding stifling private initiatives.

9. On-going support to water users. Implementing agencies must continue to be available to water source owners, providing continuing advice in the event of technical or management problems.

10. On-going support to implementing agencies. Implementing agencies themselves need continuing support from local and central Government and/or international NGOs, partly to resource their support activities to water users, and partly to ensure their knowledge is kept up-to-date.

[21] Uganda Muslim Rural Development Association (UMURDA) and WEDA (Wera Development Association) with support from the MWE, the Water and Sanitation Programme (WSP) of the World Bank, the Rural Water Supply Network (RWSN), and the international NGO Water Aid.

[22] Assuming one implementing NGO per district, the mainstreaming of self-supply into local Government work plans could lead to assistance to around 16,000 households per year. This represents about 10% of the total number of rural households benefiting from the Government of Uganda rural water supply programme at present (estimated from the 2007 Sector Performance Report as 872,778 persons or about 160,000 households per year).

6.3 RURAL SANITATION

6.3.1 Sanitation Targets and Achievements under the DWSCG

Table 6.5 Sanitation Targets and Achievements under the DWSCG

Item/Activity	*Planned*	*Achieved*	*%*
Public latrines built in RGCs	143	63	44
Ecosan toilets	25	6	24
Hygiene promotion activities	29	20	69

Hygiene promotion activities carried out were: home and village improvement campaigns; follow up training of sanitation committees; hygiene education in RGCs and areas with new water sources and the national hand washing campaign. In more than half of the districts, activities and facilities which were planned for were not implemented yet money was spent (e.g. Table 6.6).

Table 6.6 Example Districts with Sanitation Expenditure but no Achievements

District	Item/Activity	Planned	Achieved	Expenditure
Kabarole	Ecosan toilet in RGCs	4	0	6,500,000
Nakasongola	Public Latrine in RGCs	2	0	7,400,000
Kotido	Public Latrine in RGCs	1	0	18,440,000
Kitgum	Public Latrine in RGCs	4	0	11,000,000
Wakiso	Public Latrine in RGCs	1	0	20,000,000

Some local governments spent all their funds on physical facilities, leaving nothing for mobilization, training, or promotion. In some LGs, money is budgeted for sanitation and mobilisation but spent on other things. There is need to investigate how these funds were used.

6.3.2 Sanitation Achievements by NGOs and CBOs

From Jan to Dec 2007, NGO/CBOs were involved in the promotion of sanitation and hygiene and capacity building activities. A total of UGX 7.8 billion was invested by NGOs/CBOs in these activities (Table 6.7). Note that over UGX 4.5 billion was spent on software activities including support to Local Government.

Table 6.7 Physical Achievements by NGOs/CBOs with respect to Sanitation

Item	Investment (UGX)	Achievement
Drainage Channel (m)	53,000,000	1,300
Household Latrines (no)	599,276,131	8,945
Public Latrines (no)	158,643,280	78
Household Handwashing Facilities (no)	1,631,058,925	5,576
School Handwashing Facilities (no)	55,502,425	352
School Latrine Stances (no)	272,223,250	337
Garbage Pits (no)	0	4,696
Dish Racks (no)	0	6,660
Sanplats (no)	11,840,500	3,198
Pick Axes	275,000	6,980
Science Teachers Trained in Hygiene Promotion	16,212,500	410
Health Clubs Trained (village and schools)	55,665,500	481

Item	Investment (UGX)	Achievement
School Health Clubs	25,665,500	316
Water User Committee training	164,425,480	1,183
Hand pump Mechanics training	2,679,000	134
Hand pump Mechanics tools	37,190,100	31
Wheel Barrows	400,015	21
Other software activities (e.g. capacity building, Support to LGs)	4,784,000,443	
Total	**7,868,058,049**	

6.3.3 International Year of Sanitation

The International Year of Sanitation 2008 aims to highlight the need for urgent action on behalf of more than 40% of the world's population who continue to live without improved sanitation. The National Sanitation Campaign, launched in April 2008, was part of the International Year of Sanitation and the International End Water Poverty Campaign. Box 6.2 sets out the key outputs that were undertaken in Uganda as part of this.

Box 6.2 Key Outputs for International Year of Sanitation

- Leaders' commitment to financing and enforcing sanitation and hygiene at all levels secured
- National Conference on Kampala Declaration for Sanitation + 10 held.
- Local government leadership to encourage commitment to improve sanitation & hygiene recognised
- National Hand Washing campaign rolled out.
- National home improvement campaigns and competitions rolled out.
- Demand driven, community based solutions and informed choices for the urban poor encouraged through a public private sector partnership (PPP).
- Inter-school essay competition on hygiene and sanitation held
- Inter-school and Teacher Training Colleges Music Dance and drama festivals on the theme of hygiene and sanitation promoted.

In addition to the national launch, the International Year of Sanitation 2008 Campaign was also launched in West Nile region and in Western Uganda. It is intended that these launches will raise awareness on the importance of sanitation, encourage local governments and their partners to meet the sanitation targets and trigger mobilisation of communities, to changing sanitation and hygiene practices.

6.3.4 Africasan +5

February 2008 saw a regional meeting on sanitation and hygiene in Africa, AfricaSan +5, in South Africa where representative country ministers signed the eThekwini declaration, committing the African governments to raise the profile of sanitation and to provide resources to improve sanitation and hygiene on the continent. This included a commitment to ensure that a minimum of 0.5% of GDP is spent on sanitation and to establishing a separate budget line for sanitation. A Ugandan Action Plan for AfricaSan+5 has subsequently been prepared.

6.3.5 Progress on Institutional & Financial Issues with Respect to Sanitation

A study entitled, "*Environmental Sanitation in Uganda: Addressing Institutional and Financial Challenges*" made recommendations for excreta related sanitation and hygiene and solid waste and drainage: clarification of mandates, sensitisation of local leaders, establishment of bylaws and reward mechanisms and filling of vacant posts. Details of roles and responsibilities are given in Annex 10.4.

Although the Improved Sanitation and Hygiene Strategy (ISH) was published in 2006, there has been limited implementation in the local governments. In order to improve the situation an abridged version of the Improved Sanitation and Hygiene strategy has been prepared and circulated to Districts. It offers a set of options which are based on actual practice in the districts, including how to create demand, accelerate supply and improve the enabling framework for improved sanitation and hygiene.

6.3.6 Sanitation Initiatives

The **Hygiene Improvement Programme (HIP)** has undertaken research in Kampala and Kamuli district on sanitation and hygiene practices of people living with HIV/AIDS. HIP is also piloting sanitation marketing in Tororo District.

The **LeaPPS** initiative has been running in the two sub-counties in each of the four Districts of Kyenjojo, Kamwenge, Arua and Koboko. This initiative facilitates analysis of progress with respect to sanitation, sharing of methodologies and learning of best practices at sub-county and District levels. According to reports from the initiative; sanitation and hygiene are now higher on the political agenda than before and some good practices have now been mainstreamed and locally financed.

"Sanitation for all – Dignity at last!" is a new, 2-year collaborative programme between MWE, Crestanks, Polyfibre, Centenary Bank and Uganda Microfinance Limited to invest in the development and promotion of sanitation improvement. The aim is to encourage the private sector and landlords to invest in sanitation services for the urban poor.

6.4 WATER SUPPLY AND SANITATION IN NORTHERN UGANDA

The 23 year old Lord's Resistance Army (LRA) insurgence led to massive displacements of people, with over 2.2 million people displaced into Internally Displaced People (IDP) camps from their homes in the Lango, Teso and Acholi regions in the districts of Gulu, Amuru, Lira, Oyam, Apac, Kitgum and Pader. However since the beginning of 2006, with the increasing success of the Juba peace talks, IDPs began the process of return. 2007-08 witnessed an accelerated return process, such that virtually all IDPs in the Lango region have returned home. More and more are returning home in the Acholi region, except for Amuru were over 80 percent of the IDPs are still in camps. The success of this process is attributed largely to the success of the cessation of hostilities. In the Teso sub-region, the return process started in late 2007 with a considerable number of IDPs having already moved to villages of origin (48%) by June 2008[23].

As a result, there has been a shift in focus of many International NGOs; shifting their interventions from IDP camps into return and home villages. This has resulted in a transitional move from humanitarian aid to development programmes. Some NGOs who have been solely on humanitarian response have closed and gone, while others have moved from one region to the other.

The unusually heavy rainfall from July to October 2007 led to severe flooding and water-logging across many parts of eastern, central and northern Uganda. The flooding had a critical impact on the Teso sub-region. An estimated 50,000 households were affected and required various levels of humanitarian assistance. Most people faced food insecurity due to the loss of their first and second season harvests (the first season due to crops damaged in the fields by excess water, which largely prevented successful planting of second season crops). Whereas a two month "hunger gap" is the norm, in 2007 the gap was expected to extend up to 10 months until the first season harvest in July 2008.

In addition water and sanitation facilities were severely impacted by the flooding. Many flooded latrines collapsed, leaving the population afraid to use those remaining. A large percentage of water

[23] IASC population figures June 2008

sources were also contaminated. The incidence of malaria, diarrhoeal diseases and acute respiratory infections did increase, reportedly by as much as 30 per cent in the initial stages of the floods. In response the WASH cluster in Uganda linked up with the Office of the Prime Minister (OPM) to mobilise members to respond.

As a result of the response approximately, 21,535 households in Teso and Bugisu, and 8,236 households in Lango received emergency water treatment chemicals for their household water security. All 3 boreholes in Ogom Akuyam Camp (Pader District) were chlorinated and the camp population received water purification for household use. One water purification unit has been installed in Amaseniko camp, Amuria, producing 10,000 l/d, and another unit has been installed in Oongora Camp, Katakwi, producing 6000 l/h. 12 deep boreholes were rehabilitated in Lango and plans are underway to rehabilitate another 28. Katakwi, Amuria and Bukedea Districts received support to conduct water quality surveillance (water quality testing kits, consumables, training, fuel, allowances). A full water testing laboratory established in Soroti which carries out analysis on request for all organizations. Members carried out water quality testing in Amuria.

In Amuria District one seven stance latrine block was constructed at Olungo Primary School (enrolment of 919 pupils: 459 girls). Construction of seven stance latrine blocks at Kapelebyong Primary School (enrolment of 577 pupils: 300 girls) and Odukul Primary School (enrolment of 296 pupils: 145 girls) and Obalang Primary School (enrolment of 890 pupils: 427 girls) are ongoing and more than half completed. 2,800 digging kits distributed to construct household latrines and 2,800 washing facilities distributed accompanied by hygiene promotion campaigns to promote behavioural changes.

6.5 URBAN WATER SUPPLY AND SANITATION – LARGE (NWSC) TOWNS

6.5.1 Large Towns Financial Performance

NWSC's turnover for the year 2007/08 was UGX 84.3 billion, of which approximately UGX 68.5 billion was operating expenditure leaving an operating profit of UGX 15.8 billion before depreciation (see Table 6.8).

Table 6.8 NWSC Financial Performance (billion UGX)

	Budget	Outturn	%
Revenue	82.5	84.3	102%
Recurrent Expenditure	56.6	68.5	121%
Investment Self	22.7	15.7	67%
Donor Expenditure	10.9	9.3	85%
GoU Expenditure	6.0	5.5	92%
Total Expenditure	96.2	99.0	103%

The NWSC budget performance for the financial year 2007/08 is set out in Table 6.9. Out of UGX 6.050 billion budgeted from the GoU, UGX 5.475 billion was released, all of which was spent.

Table 6.9 NWSC Project Budget Performance for FY 2007/08 (million UGX)

Project	Budget		Releases		Expenditure	
	GoU	Donor	GoU	Donor	GoU	Donor
Kampala Network Rehabilitation	0	0	0	966	0	966
Entebbe Water Supply Expansion	2,250	0	2,250	3,306	2,250	3,306
Gaba III Water Project	0	0	0	1,224	0	1,224
Gulu Water Supply	2,500	0	1,925	-	1,925	-
Urban Poor Project	0	0	0	3,530	0	3,530
IT Project	0	0	0	-	0	-
Kampala Sanitation Master Plan	0	5,720	0	-	0	-
Jinja Intake &Offshore pipeline	0	3,300	0	-	0	-
Masaka Urban Poor	0	80	0	-	0	-
Lake Victoria Environmental Management	0	0	0	-	0	-
Transmission mains for Gaba	0	0	0	159	0	159
Urban Poor Project- Kagugube	0	1,760	0	114	0	114
Entebbe/Kampala Corridor Water Supply & Extension	1,000		1,267		1,267	
Offshore pipeline Gaba	0	0	0	-	0	-
Munyonyo- Gaba Works	300		33		33	
TOTALS	**6,050**	**10,860**	**5,475**	**9,298**	**5,475**	**9,298**

NWSC was able to re-invest about UGX 15.7 billion of the operating profit. UGX 2.1 billion was NWSC's contribution to donor funded projects (Entebbe Water Project, and Gaba III); UGX 6.8 billion was allocated for projects financed by NWSC including Mukono and Gulu; and UGX 6.8 billion was utilised for mains extensions in the various areas under the NWSC jurisdiction.

6.5.2 Large Towns Running Costs and Revenue

Figure 6.3 shows a rising trend in the unit costs per m^3 of water produced. The unit costs have increased since 2004/5. As a result, the Tariff has had to be indexed.

Figure 6.3 Average Unit Costs of Production per cubic unit of water 2001- 2008

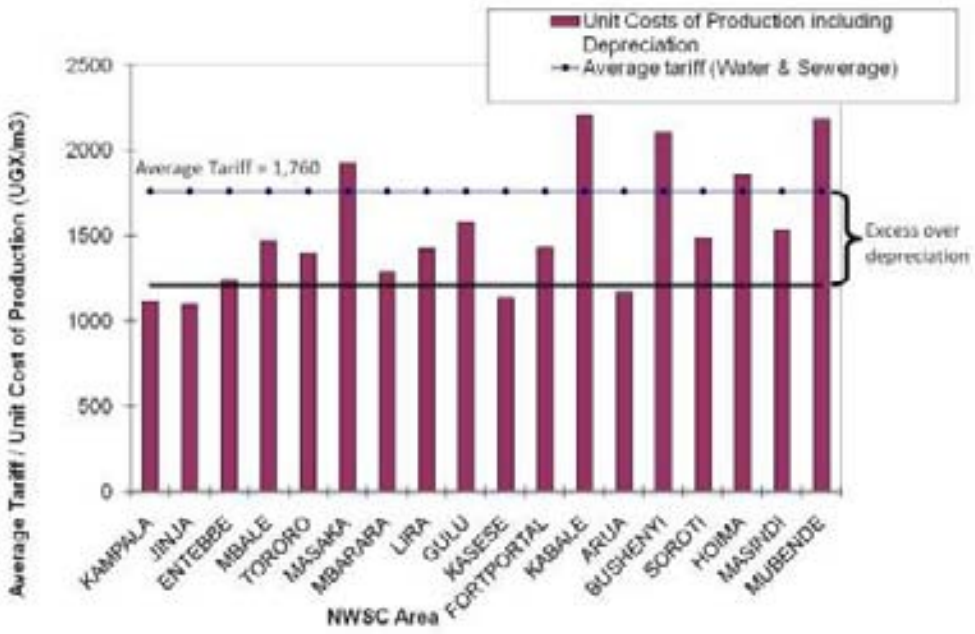
The Tariff structure is shown in Table 6.10. As will be noted, the tariff is lower for the domestic consumers as a means of ensuring equity in supply through a cross subsidy.

Table 6.10 NWSC Tariff Structure (UGX/m^3) VAT exclusive

Customer Category	2006/07	2007/08
Public Standpipe	688	784
Domestic	1,064	1,213
Institution/Government	1,310	1,493
Commercial < 500 m^3/month	1,716	1,931
Commercial 500-1500m^3/month	1,716	1,931
Commercial ≥ 1500 m^3/month	1,496	1,601
Average Commercial	1,643	1,883
Average Water tariff	1,332	1,410

Figure 6.4 illustrates the issue of cross subsidies within the NWSC operational framework. The towns of Masaka, Kabale, Bushenyi, Hoima and Mubende have higher unit costs than the average tariff. However, the average unit cost of production is lower than the average tariff. Thus NWSC is able to cover its operating costs leaving an operating profit. This arrangement allows towns with higher unit costs to be cross-subsidised.

Figure 6.4 NWSC Average Tariff versus Unit cost of Production Including Depreciation (FY 2007/8)



6.5.3 Targets and Achievements in Large Towns

Table 6.11 sets out the targets and achievements for the large towns under NWSC.

Figure 6.11 Targets and Achievements for Urban Water Supply and Sanitation (Large Towns)

Item	Achievement June 2006	Achievement June 2007	Target (FY 2007/08)	Achievement (June 2008)
Coverage	70%	71%	71%	**72%**
NRW	29.7%	32.0%	31%	**35.1%**
Water works	n/a	n/a	n/a	**n/a**
Production wells drilled	n/a	n/a	n/a	**n/a**
New Connections	28,521	25,620	22,060	**24,384**
Total no. of Connections	152,138	180,697	204,822	**202,559**
Water Produced million m^3	58.1	61.2	62.2	**64.85**
Staff per 1000 connections	7	8	7	**7**
Metering Efficiency (%)	99	99%	99%	**100%**
Collection Efficiency[24] (%)	90	93%	95	**92%**
Water meters installed	n/a	n/a	n/a	**n/a**
Turnover (billion UGX)	58.0	68.0	82	**84.**
Mains Extensions (km)	104.2	56.4	103	**127.3**
Waterborne (flush) toilets	n/a	n/a	n/a	**n/a**
Ecosan toilets	**n/a**	**n/a**	**n/a**	**n/a**

Between October and December 2007, the Corporation undertook a **30 Days Fix Program** in Kampala, Jinja and Entebbe in response to the need of urgent intervention to improve the water supply and sewerage services in the main CHOGM venues in these urban areas. As a result, the following were achieved by the end of March 2008:

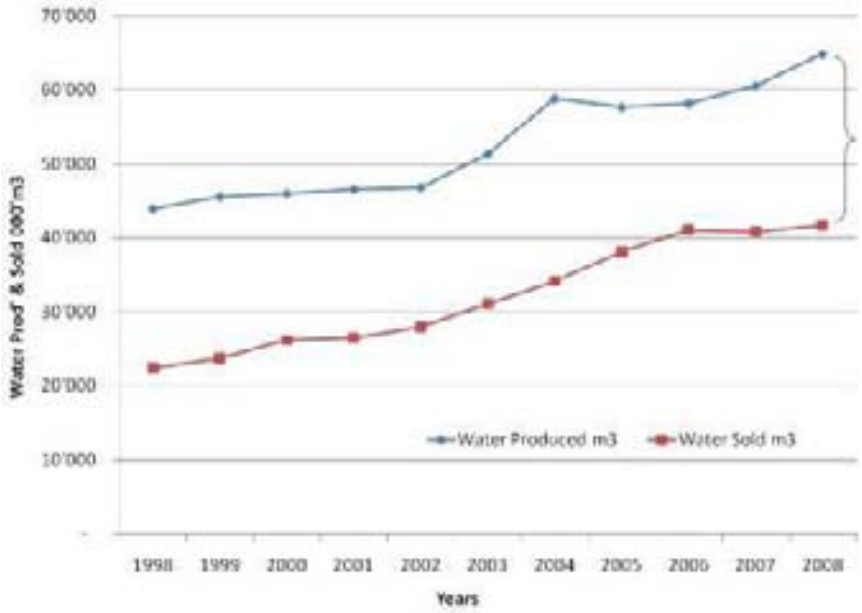
- Construction of bio filter at the intake works which significantly reduced the foul smell at Bugolobi treatment works.
- Completion of the laying of 150mm uPVC mains extension to Luzira Industrial park and Komamboga zones and the interconnection at Gayaza Road round about to boost supply to Gayaza-Buwambo Areas.
- The water production team improved the reliability of the new Gaba III water treatment plant and reduced response time to break-downs to less than two hours.
- Entebbe road mains extension was completed up to Akright Estates, Bwebaja and Kajjansi.

In addition to these interventions, the NWSC is currently expanding and rehabilitating its services to different peri-urban areas including; Jinja Road reinforcement, rationalisation of network in Ntinda, Namugongo, Gayaza Road, Wakaliga Reinforcement mains and installation of Kireka steel tank, distribution mains and a booster pump at Banda.

NWSC increased **water production** by 4 million m^3 to 65 million m^3 in 2007/8. The increase was due to the completion of Gaba III treatment plant with an additional production capacity of 80,000 m3 per day and the expansion of other treatment plants (e.g. Entebbe Iganga, Soroti) Figure 6.5 shows the trend of growth in water production in the last five years.

[24] Includes arrears

Figure 6.5 Trend of Water Production and Water Billed (m^3)



The **Sales Volume** of water grew during the FY 2007/08 from 41 million m^3 to 42 million m^3. The growth is due to growing customer base, new connections and increased water production. The Capacity Utilisation of large towns increased from 52% in 2007 to 59%. However, non-revenue water (NRW) for 2007/8 averaged 35.1% compared to 32.5% last year. This was due to the aging of the network in Kampala, meter faults, leaks & bursts and addition of new towns with higher NRW into NWSC's portfolio.

6.5.4 NWSC Internal Strategies

The current NWSC **management structure** is based on the principle of separation of the function of asset management from that of operations with private sector participation in the delivery of services in the water and sewerage industry. In order to further improve management, NWSC undertook the following key strategies in FY 2007/8:

The implementation of renewed phase of the **Stretch-out Program** was completed in all areas. Individuals were required to set their own goals in line with NWSC objectives.

New contracts were introduced under **IDAMC** to further increase operational autonomy, and encourage innovation. One of the key changes in 2007/8 is that the contracts incorporated performance based pay, comprising an indication of risk transfer and accountability to the areas. Furthermore, penalties for failure to achieve targets and misreporting of performance were highlighted.

The efficiency and effectiveness of **customer issues handling** (complaints management) have resulted in prompt and effective response to customer needs and resolution of complaints to our customers' satisfaction. Key contact officers in all NWSC Areas have been trained in the use of the call centre database to manage complaints. In order to ease payment of water bills, there are now 12 banks which handle payments. Besides the Electronic Fund Transfer (EFT) method, about 20% of collections of Kampala Water alone are done through the banks.

NWSC continued with its **External Services.** Water utilities from Zanzibar, Kakamega Water Board, Nigeria and Tanzania visited the Corporation to benchmark with NWSC. The corporation won a contract to provide services to utilities within the region, i.e. Electrogaz Rwanda, Zanzibar Water Authority, DAWASA/ DAWASCO and Kakamega Water Board. In line with establishing a centre of

knowledge and training, NWSC embarked on the construction of a Training Centre which will offer skills and management training to practitioners in the Utility industry.

6.5.5 Initiatives for the Urban Poor

NWSC emphasised the provision of services to the urban poor through the following:

Ndeeba-Kisenyi pilot project: In FY 2007/8 about 20 km of distribution & tertiary mains and 37km pipe works of service connections were laid; 300 prepaid meters were installed on new water connections. 15 public toilets and 35 demonstration private toilets were constructed. The beneficiaries of the project are estimated at about 100,000 people living the Kisenyi-Ndeeba area. As a result of the project, the incidence of meter thefts has reduced and the willingness to pay has increased.

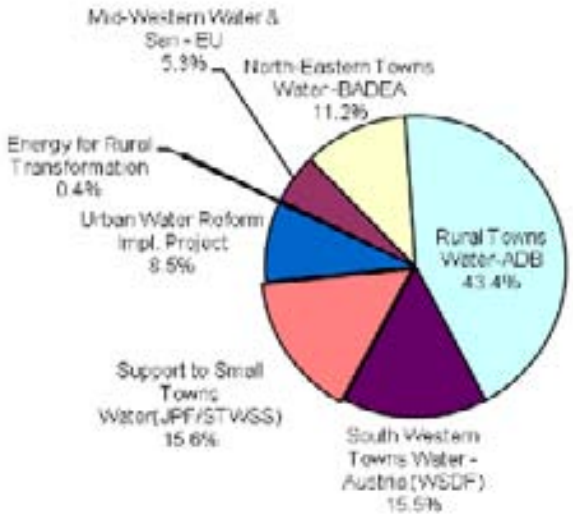
Kagugube Community project has been designed. It will entail 10 km secondary & tertiary mains, the installation of 250 connections to the prepaid meters and Ecosan toilets.

6.6 URBAN WATER SUPPLY AND SANITATION – SMALL TOWNS

6.6.1 Budget Allocations

Figure 6.6 shows the breakdown of budget allocation for Urban Water Supply and Sanitation.

Figure 6.6 Budget Allocations for Small Towns Water Supply and Sanitation ('000 UGX)



6.6.2 Capital Investments

Capital Investments in small towns were funded largely by the Government with a total expenditure of UGX 32.7 billion. Investment in sanitation and sewerage promotion and the associated physical infrastructure completed in the FY 2007/08 was UGX 8.057 billion. Note that the support from the UN Habitat's Lake Victoria Water and Sanitation Initiative (LVWATSAN) is outside the sector ceiling. Additional funds were also received from the Ministry of Energy under the Energy for Rural Transformation (ERT) program for solar energy pumping.

6.6.3 Achievements in the Small Towns

In the FY 2007/08, **11 new town piped water supply systems and five extensions** were completed, serving a population of 400,663 (projected design population of 636,229) as set out in Annex 9.2.

Total pipelines constructed in 2007/8 were 397 km with 6,543 consumer connections. In addition, another 2,554 new connections were made by the town councils/boards using Conditional Grants for O&M and other support resources.

Energy sources for the pumping of water supplies have been a major challenge, primarily in remote towns not connected to the national electricity grid. Improving the water supply services in 16 towns[25] has been undertaken by installing solar energy pumping systems at a total investment of UGX 7 billion.

New construction for the town water supply and sanitation systems in the 15 towns of Kapchorwa, Kibaale, Kamwenge, Kitagata, Kyabugimbi, Rugaaga, Rwenanura, Bikurungu, Rushere Kanungu, Kabira, Mutara, Bwanga/Kiyenje and Omungyenyi started in FY 2007/8.

Sewerage systems were completed in Hoima and Iganga Towns - designed to serve a population of 118,256 people. In addition to this, 25 public toilets were completed in Masaka municipality (Nyendo Senyange division) and Kyotera

School sanitation and improved toilets in public places including, in each town, a sanitary solid waste disposal site and solid waste transportation equipment were completed/provided in Apac, Iganga, Kigumba, Mityana, Mpigi, Nebbi and Pakwach. The sanitation component in these towns included drainage improvements.

Also within the reporting period, **detailed designs** were started for the 43 small towns of Koboko, Amuria, Otuboi, Kalaki, Nakaseke, Katovu, Masafu, Kakuuto, Namutumba, Kyotera, Butaleja, Sipi, Magale, Mutukula, Kibuku, Tirinyi, Rwamabondo, Ibanda (Kasese), Kilembe, Matete, Kibiito, Isingiro, Hima, Bwera, Kyegegwa, Kasensero, Rwimi, Kazo, Rubindi, Gasiiza, Kagashe/Nyakibaale, Kikagati, Rwenshaka, Rubona, Kakuuto, Kiruhura Town Council, Kagarama, Nyakyeera, Kanyabwanga and Butare.

6.6.4 Small Towns Management and Monitoring

The 69 piped schemes gazetted as Water Supply Areas under Water Authorities commit MWE to monitoring their performance. The remaining 44 piped water supplies are supported and monitored by three Umbrella Organisations (South Western Uganda, Eastern Uganda and Mid Western Umbrella). In addition to these 44 small towns, the umbrella organisations support and monitor piped water supplies to 49 rural growth centres schemes. Box 6.3 describes how the umbrella organisations work.

Box 6.3 Umbrella Organisations

Umbrella Organisations are registered membership associations which support 93 small town and rural growth centre water supply schemes that fall under District or Sub-County administration. The water boards and operators of these schemes generally lack capacity for asset management and operation and maintenance.

Representatives from the Water and Sanitation Boards and Committees of the member water supply schemes constitute the General Assembly of the Umbrella Organisation. The General Assembly elects an Executive Board which in turn recruits staff to carry out key functions for the membership. Where they are operating, the Umbrella organisations undertake water quality monitoring, supply of spare parts to members, locating spare-part suppliers and providing backup support.

MWE supports the Umbrella organizations while member schemes also pay a membership fee and annual subscription. However, the cost of running the umbrella organization is high and above the financial means of the member schemes. The total capital investment for the 47 schemes of South Western Umbrella is estimated at UGX 23.5 billion. The Umbrella organisations cost about 230 million per year (0.9% of the total investment). Currently, revenues from members of the south Western Umbrella cover only about 5% of the operation costs.

[25] Nyadri, Nyapea, Yumbe, Laropi, Pakele, Nakaperimolu, Matany, Katakwi, Rwebisengo, Rugombe, Kyenjonjo, Muhooro, Mahyoro and Kalangala

The Umbrella management model thus approximately requires a 95% Government subsidy. This is likely to remain the case in the short and medium term.

During the period under review, MWE undertook capacity building of 24 towns[26] in the fields of marketing and business strategies. A total number of 351 people were trained of which 76% (267) were male and 24% (84) were female. The beneficiaries of the training included private operators, water boards, and water authorities/local council members. The participants were equipped with skills in customer creation and care and on how to reduce operational costs.

In the period under review, umbrella organisations undertook the following:

- Re-installation and servicing of equipment in Rwashamire, Buyanja and Kamuli.
- Procurement and supply of equipment and spare parts in Mitooma and Buyanja.
- Technical assessment, monitoring of schemes and sanitation inspections.
- Training of WSSBs and Private operators.
- Advocacy meetings, music, dance and drama shows to increase community involvement in water supply and sanitation.
- Provision of financial management, auditing and legal services.

6.6.5 Small Towns Running Costs and Revenue

A deliberate effort was made in FY 2007/8 to improve on performance of small towns water supplies and the accuracy of the data. In terms of performance, contracts were renegotiated with the operators to insure that operators were paid on a basis of the revenue collected. This provided a much greater incentive to ensure that all operating costs were met from revenue collected than in the past. This also meant that operating costs could be clearly disaggregated from the cost of extensions and new connections. Monitoring of operations at town level by MWE was also strengthened in FY 2007/8.

Using data from the 69 Small Towns monitored by MWE, the average unit cost of producing water in the small towns is UGX 845 per $m^{3.}$ Full data is given in Annex 6.5. This shows a drop from UGX 2,057 per m^3 in 2006/07. The decrease is mainly because this year, the cost of producing water in all the towns has been separated from costs incurred in system expansion and performance related contracts have been introduced (as stated above).

A major achievement with respect to these 69 small towns is that the percentage funded by revenue has risen from 77% to 96%[27] in FY 2007/8. This would be very good news if there were cross-subsidies between the towns. However, actual fact Annex 6.5 shows that, only 31 out of 69 small towns were able to cover their operating costs from revenue (an increase from 23 in FY 2006/7).

Unaccounted-for water increased from 22% to 26% in the 69 towns. Collection efficiency has risen slightly from 83.1% to 85%.

6.6.6 Innovative Investments through Output-Based Aid Pilot

MWE is working with the Global Partnership on Output-Based Aid (GPOBA) to pilot performance based grants in small towns and RGCs[28] Under this scheme, investments are financed through user fees (and in some cases conditional grants), while also leveraging private sector finance through sustainable tariff levels embedded in the Design Build Operate (DBO) contracts. During 2007/8 the

[26] Kayunga, Kangulunira, Sembabule, Bukomansimbi, Kalisizo, Rakai, Pallisa, Kiboga, Kakiri, Busembatia, Migyera, Kibibi, Semuto, Nkokonjeru, Mpigi, Katakwi, Kumi, Mbirizi, Lukaya, Kyazanga, Lyantinde, Budaka, Busolwe, and Busia.

[27] These figures include limited information for one quarter for the 7 newly commissioned schemes of Iganga, Kigumba, Mityana, Mpigi, Nebbi Pakwach and Apac.

[28] GPOBA is also working with NWSC on an OBA scheme for Kampala's urban poor.

tender and procurement process was completed. The bidding results are provided in Table 6.13. In two of the small towns, no (i.e. zero) subsidies were required by the winning bidder, estimating that with the tariff of UGX 1000/m^3, the provider could both make the connections and serve its customers through the 5-year DBO contract. The pilot will continue to be closely monitored, as outputs are still to be delivered.

Table 6.13 Output Based Aid Pilot Bid Results

Lot	Town(s)	Provider	Bid Price =Subsidy Required (UGX)	Budgeted Subsidies (UGX)
1	Kachumbala	Trandint Ltd	98,472,002	125,800,000
2	Wakiso	Jobatov JV	126,665,056	138,750,000
3a	Luwero	Trandint Ltd	0	146,150,000
3b	Wobulenzi	Trandint Ltd	0	105,450,000
4	Kalisizo	WSS Services Ltd	14,186,765	255,300,000
5	Rukingiri	WSS Services Ltd	97,642,557	144,300,000
6a	Magale	Kol-Kagulu JV	757,213,335	616,050,000
6b	Masafu	Kol-Kagulu JV	1,116,086,262	1,370,850,000
7a	Sipi	Kol-Kagulu JV	570,623,002	451,400,000
7b	Namutumba	Kol-Kagulu JV	1,112,088,308	1,365,300,000
Totals and Weighted Averages			3,892,977,287	4,719,350,000

6.6.7 Cesspool Emptying in Kampala

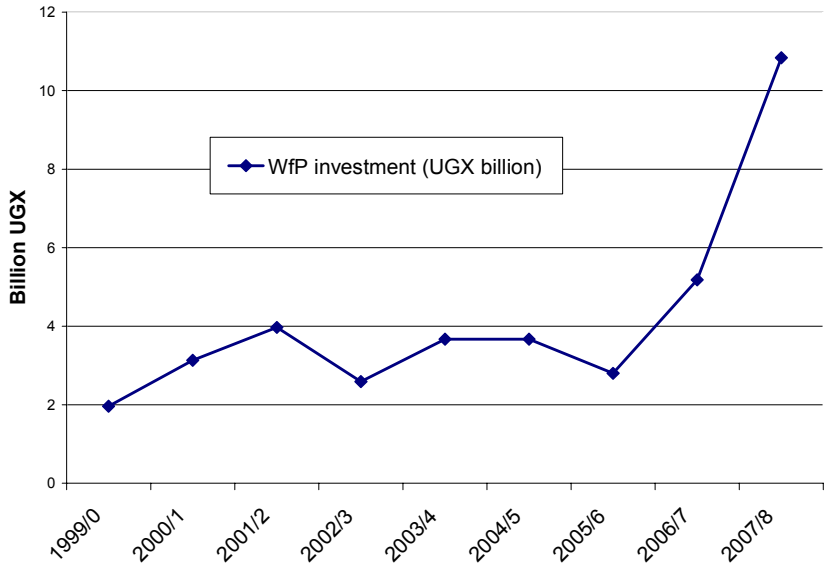
An analysis of Cesspool emptying in Kampala found there is a significant gap between the requirements and the available emptying services. Of the total daily estimated septage clearance requirement of 797m^3 in Kampala, the existing capacity can only handle about 233 m^3. Service delivery could be made more efficient, with the establishment of sludge treatment plants in different parts of the city. This is part of the Kampala sanitation project under NWSC. It is also recommended to improve the Private Emptier`s Association and improve opportunities to access finance.

6.7 WATER FOR PRODUCTION

6.7.1 Central Government Investments

Figure 6.7 show GoU investments in WfP from FY 1999/2000 to FY 2007/8.

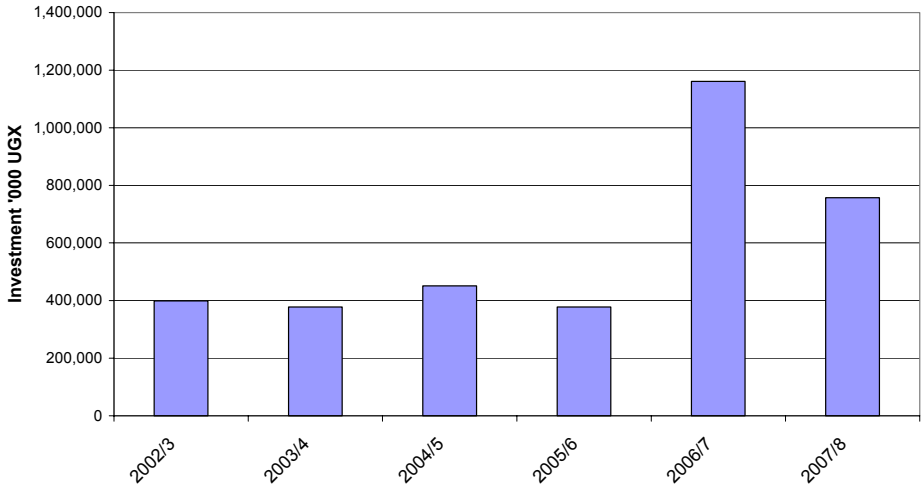
Figure 6.7: GoU investment in WfP activities over the years



6.7.2 Local Government Investments

Some of the most water stressed districts utilised the conditional grant (DWSDCG) to construct small surface water reservoirs (up to 3,000 m^3)[29] for both domestic use and for livestock watering. In addition, some districts and sub-counties constructed similar facilities under the LGDP and NUSAF programmes. In FY 2007/8 the Districts of Kiruhura, Luwero, Masaka, Mubende, Sembabule and Isingiro spent a total of UGX 757 million of their DWSCG to construct valley tanks[30]. Figure 6.8 shows the trends of investment in valley tanks by districts using the DWSCG funding.

Figure 6.8 DWSCG investments in Valley Tanks



6.7.3 Targets and Achievements for Water for Production (2007/8)

Table 6.14 sets out the targets and achievements for Water for Production in 2007/8

[29] The maximum size reported by the district
[30] Source: Quarterly reports submitted by District Local Governments to RWSD

Table 6.14 Targets and Achievements for Water for Production (FY 2007/8)

	Indicator	Achievement	Plan	Achieved		Remarks
			No	No	%	
Construction	Dams reconstructed	Reconstruction of Kakinga dam in Sembabule district completed	1	1	100%	
		Reconstruction of Kailong dam in Kotido district is at 90% completion	1	0	90%	Insecurity hampered progress, contractor's camp attacked & work suspended.
	Dams constructed	Construction of Bwanalaki dam in Sembabule district	1	1	50%	Completion expected by end of 2008
	Valley tanks	Construction of Nshenyi Valley Tank in Ntungamo	1	1	100%	
		Construction of Rubaare valley tank in Ntungamo district	1	0	50%	Completion expected by end of 2008
	Wind-mill powered systems	2 wind-mill powered borehole-based livestock watering systems in Karamoja	2	2	100%	
	Piped water supplies	Scheme in Sembabule district	1	1	100%	
	Equipment units procured	Water for Production construction equipment unit has been procured	1	1	100%	
Training	WUCs trained and formed	Training of communities and formation of Water User Committees	40	42	110%	
	District officials trained	Training of Local Government officials in M&E of WfP facilities	9	9	100%	District officials are trained prior to training of communities in their respective districts.
Study and Design	Feasibility study report	Feasibility study for bulk water transfer schemes	4	4	100%	
	Designs prepared	Design of one pilot scheme has been completed	1	1	100%	
	Multipurpose use reservoirs sited and designed	Siting and designing of 51 water for production reservoirs for multipurpose use in 24 districts is on-going.	8	8	100%	Detailed designs and investigations are on-going for the remaining 43 facilities.
Information management	Database completed	Water for Production Database has been established	1	1	100%	Database installed on the server and undergoing testing by users.
	Districts covered	Data collection carried out through continued baseline survey (a total of 16 districts are now covered)	14	10	71%	The remaining 4 have been covered but data is awaiting QA, processing and further analysis.

6.7.4 Information Management

During FY 2007/8 data collection on WfP facilities and their management has continued. 16 Districts have now been covered (up from 6 last year), with data transferred to a database at MWE. This WfP database can generate reports on functionality, storage capacity, construction, management

structures, gender, sanitation, private sector contribution, distribution of facilities (including maps). The database will assist in planning, monitoring, policy and strategy formulation and performance measurement.

6.7.5 Construction Equipment Purchase and Deployment

In a bid to increase public and private sector involvement in WfP activities, MWE has procured construction equipment[31]. It shall be accessed by individual farmers and Local Governments for construction of dams and valley tanks and for desilting. It is envisaged that this will build capacity of local authorities and the private sector in construction of relatively small volume water reservoirs. MWE will increasingly focus on large strategic reservoirs for multipurpose use. MWE is currently in the process of developing a management system for the equipment.

6.7.6 Bulk Water Transfer Strategy

As a strategy to accelerate the provision of water storage in large quantities for multipurpose use, MWE adopted a new strategy of Bulk Water Supply. This replaces previous plans focusing on providing water through the construction of small reservoirs by MWE. Water will be conveyed in large quantities from places of plenty (rivers, lakes and large reservoirs) to places of scarcity through pumping or by gravity. Water services will thus be provided to meet all demands on a sustainable basis. Detailed feasibility studies and detailed designs are complete for all the areas, and one pilot scheme in scheduled for implementation in FY 2008/9.

[31] Wheel tractor scraper, bull dozer, sheep's foot compactors, maintenance tools, long arm excavator and a low bed loader.

CHAPTER 7

ACCESS

7.1 INTRODUCTION

The terms access and coverage both refer to the percentage of people with access to an improved water source. The golden indicator for access is defined as **% of people within 1.5km (rural) and 0.2km (urban) of an improved water source.** As it is not possible to physically measure this indicator for the whole country, proxy figures are used. Box 7.1 sets out the service criteria used to estimate access for rural and urban water supplies. Urban areas are sub-divided into small and large (NWSC) towns. It is the data provided by District local Governments and Town Councils that is used to generate the access figures.

Box 7.1 Service criteria used to estimate access to safe water supplies in Uganda

Improved water sources (i.e.: protected springs, deep boreholes and shallow wells fitted with handpumps, rainwater harvesting facilities and piped water supplies) are defined as safe.

Rural water supplies assumes the following number of users per source:

- Protected springs – 200;
- Shallow well with handpump – 300;
- Deep borehole with handpump – 300;
- Gravity flow scheme, or other piped water supply tap – 150.
- Coverage based on rain water harvesting is captured based on an approach developed in 2006 which relates a tank volume to a number of users.

Tank size (l)	<10,000	>10,000
Estimated no. of users	3	6

The 'total number of people served by all the improved sources' is divided by the 'total population' (based on UBOS projections). The final step of the calculation process currently applied involves an adjustment or a "capping" of the figures to ensure that no sub-county is reported to serve more people than its total population. If the calculation formula returns more than 95% coverage for a particular sub-county, the figure is adjusted to 95% and only 95% of the total sub-county population is reported to be served.

Urban water supplies: 2008 Town Council Populations were obtained from UBOS. 2008 Population Data for Town Boards and Water Points are from the 2007/8 MWE data collection exercise as reported by the District and Town Boards. Access is also capped at 95%.

In **Large** (**NWSC) towns**, water service coverage only considers access to piped water supplies with the following assumptions:

	Domestic		Institution Connection		
Connection Type	Connection	Standpipe	Small Town	Medium town	Large town
Estimated no. of users	6	200	100	500	1,000

Coverage for **small towns** is computed as [(House connections x 6) + (Yard taps x 24) + (public taps x 150) + (Hand pumps x 150) + Protected springs x 150)] / (Total population in supply area) x 100%

Note Iganga town, though under NWSC, is computed and reported on in this Sector Performance Report under Small Towns because it was taken over by NWSC on July 1, 2008.

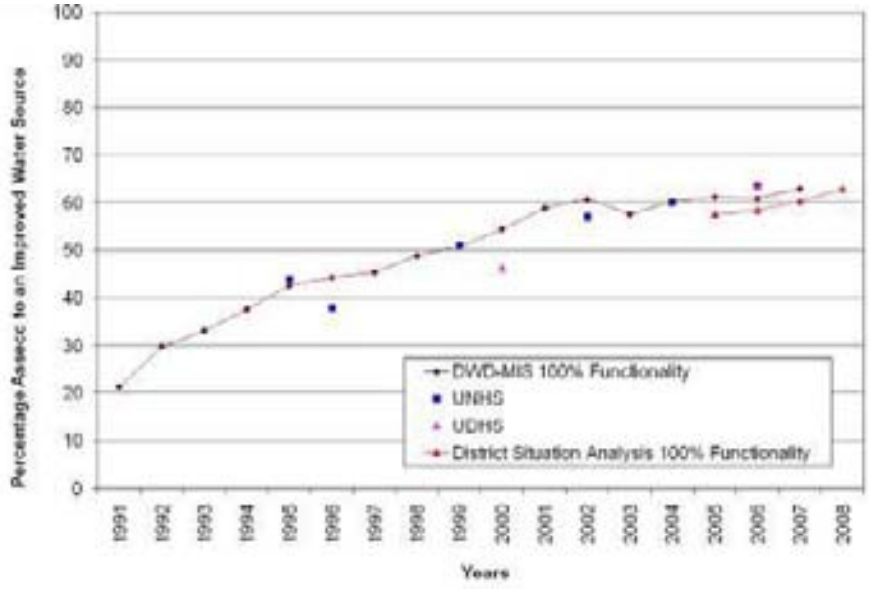
7.2 ACCESS TO RURAL WATER SUPPLIES

7.2.1 National Access

The national safe water coverage figure for rural water supply is 63%, meeting the national target of 63% for 2007/08. This figure is based on the District Local Government reports as detailed in Annex 7.1. Figure 7.1 sets out the trends in national access to improved water supplies in rural areas since 1991. Data from UBOS surveys, the DWD-MIS database as well as from District Local Government

reports is included to enable comparisons between different data sources to be to be made. The DWD-MIS[32] data is no longer used as the databases are no longer up to date at District level. There was a steady increase between 1991 and 2001. Subsequently, the annual construction of new water points struggles to keep up with population growth.

Figure 7.1 Trend in Access to Improved Rural Water Supply (1991 to 2008)



7.2.2 District Access

National access figures mask the disparities between Districts. Figure 7.2 shows the variation in access to safe water supply between the Districts (June 2008). It ranges from 12% in Kaabong to 95% in Kabale. A total of 42 districts, approximately half are above the national average coverage of 63%.

Table 7.1 shows the wide variation in sub-county access. 35 sub-counties have coverage figures of below 20% (listed in Annex 7.2). The ten most challenged districts are Kaabong, Kotido, Isingiro, Kiruhura, Abim, Kisoro, Bugiri, Mubende, Mayuge and Manafwa. Chapter 13 examines equity issues in more detail.

Table 7.1 Disparity in sub-county access 2007 and 2008 (from District Reports)

Sub-county access	June 2007		June 2008	
	Number of sub-counties	% of sub-counties	Number of sub-counties	% of sub-counties
Under 20%	46	5%	30	4%
20% to 39%	119	14%	99	12%
40% to 59%	219	26%	204	24%
60% to 79%	215	25%	207	24%
80% to 95%	258	30%	312	37%
Total	857	100%	852[33]	100%

[32] **DWD-MIS Database:** A national survey of improved water sources was undertaken in 1991. Most new sources constructed under Government and some under NGO programmes have been added annually to the baseline information. The database was validated by GIS mapping (covering groups of districts) in 1999, 2000, 2001 and 2002. Access is estimated by assuming a fixed number of users for each source (Box 7.1), and dividing by the projected district rural population. Due to problems of data update, partly caused by the splitting of Districts, the national access figure using this approach is no longer broken down to District level. This approach assumes that all sources are functional.

[33] In 2007/8, data was available for 852 out of 860 Sub-Counties.

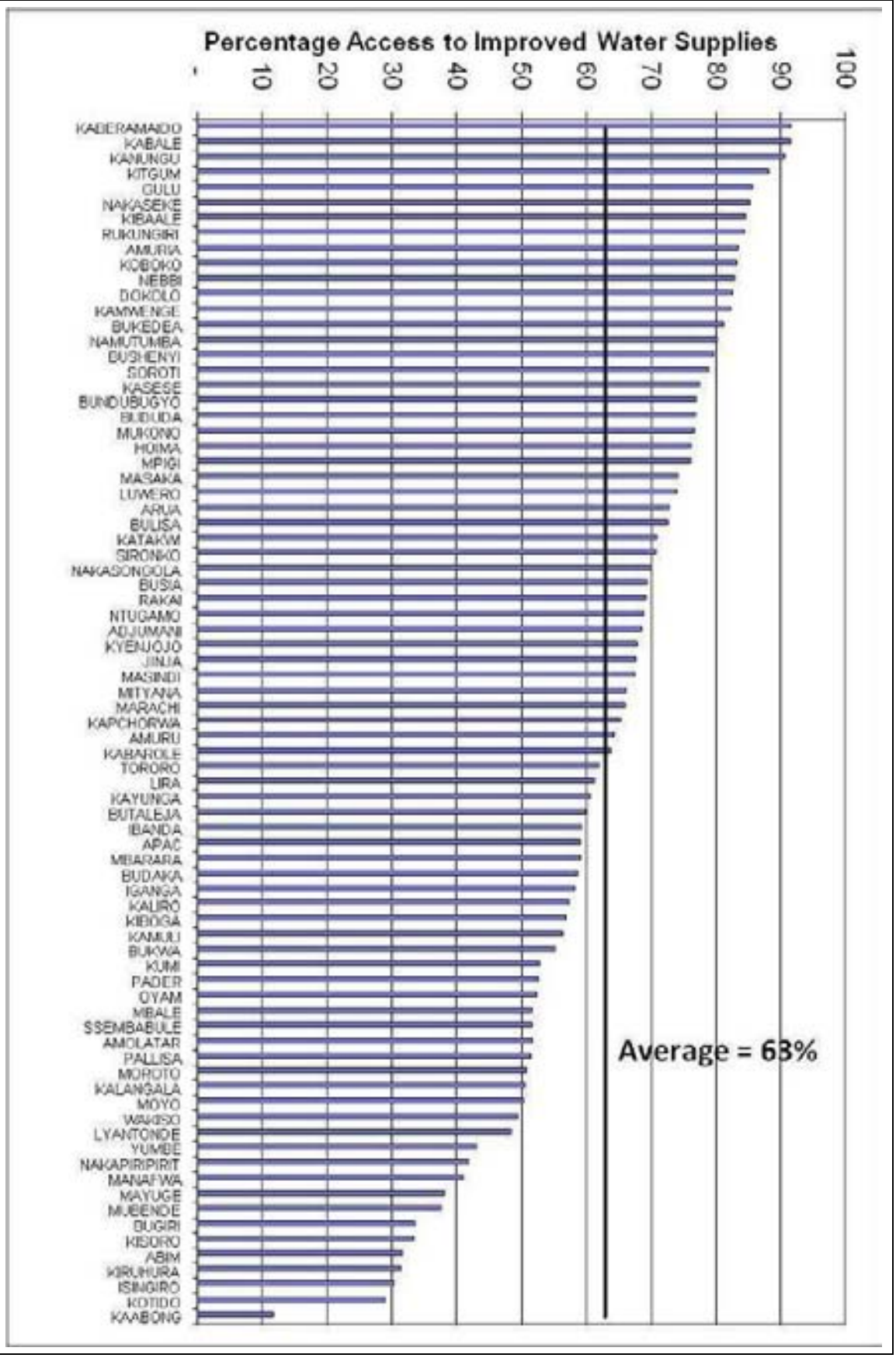


Figure 7.2 Access to rural water supplies by District (June 08). Source: District Situation Analyses Reports, District Local Governments

7.2.3 Improving analysis of Access to Rural Water Supplies

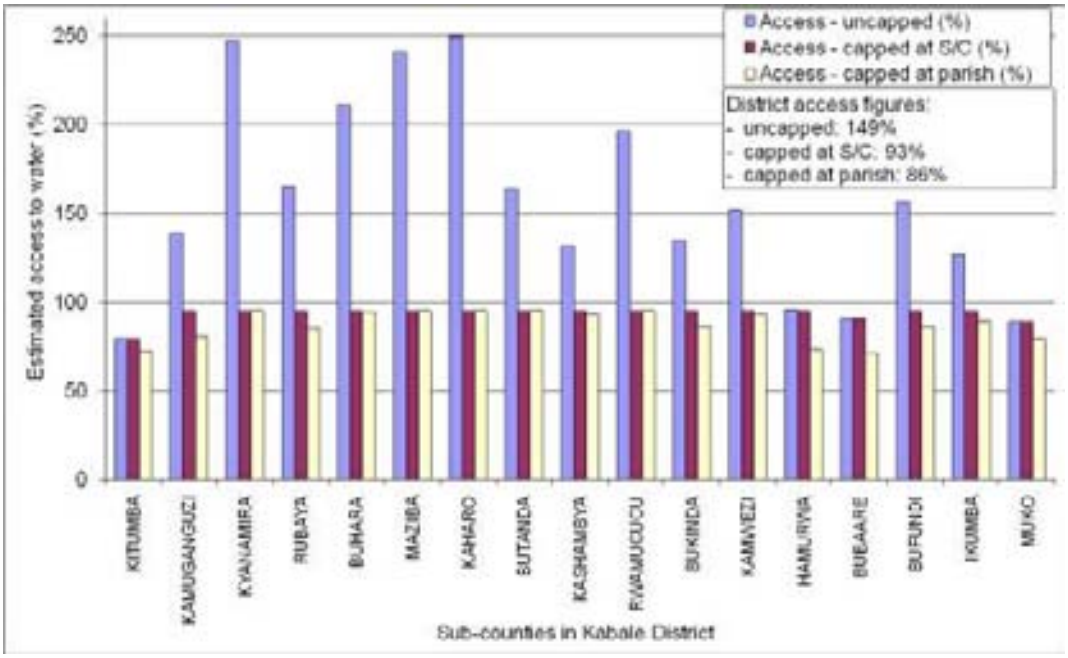
The current method used to estimate access to improved rural water supplies is based on a source:person ratio (Box 7.1). Access is analysed at sub-county level. Although access is capped at 95%, this method may still overestimate access because well served areas within a sub-county can compensate for poorly served areas within the same sub-county. Clearly if analysis was undertaken at parish, or even a lower level (village/LC1 level), the results would be more accurate and better reflect the reality on the ground. Unfortunately there are currently no official population data available at LC1 level.

In order to develop a better understanding of the implications of a more detailed analysis, a case study for Kabale has been undertaken. Kabale was selected due to its high access and the fact that they mapped their water points and updated their reports accordingly (June 2007). A comparison of three methods: i) non-capped data, ii) data capped at sub-county level and iii) data capped at parish level has been made. The results are presented in Box 7.2.

Box 7.2 Analysis of Kabale Data (June 2007) Using Different Methods of Analysis

The rural access figures for Kabale District are **149%** (uncapped), **93%** (capped at sub-county level) and **86%** (capped at parish level).

Although calculating at parish level clearly provides greater accuracy, it is important to note that this method is still only an **estimate** of people's access to improved water. It does not take walking distance or time spent into account, even though people are reported as "served". If the estimation of access was to be done at a lower level (LC1/village), the results would be even closer to the reality on the ground because no village is much greater than 1 km in diameter and the time spent would be considerably shorter. Global surveys also show that people use more water when the walking distance and time spent are considerably reduced.



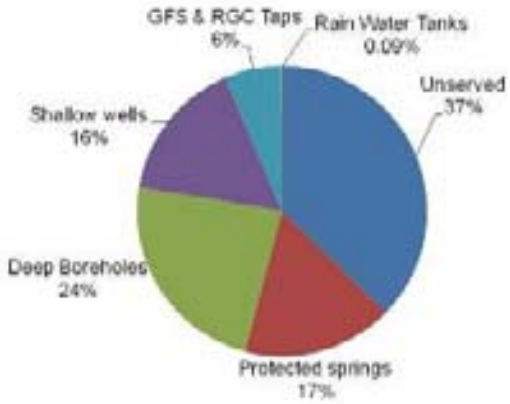
7.2.4 Technology Mix for Rural Water Supply

Figure 7.3 shows the proportion of people accessing different technologies[34]. It shows that deep boreholes are the most common source of safe water. Springs are second. GFS serve 6% of the rural population. Rainwater harvesting has the least proportion of users so far. Up-scaling domestic

[34] District Situation Analysis Reports,i.e.data as reported by District Local Goverments.

roofwater harvesting is in its initial stages. The Uganda National Household Survey (2005/6) found that almost two thirds of dwellings in Uganda had iron sheets as roofing material, further highlighting the growing potential of domestic roof water harvesting.

Figure 7.3 Proportion of Rural Population Accessing Different Sources of Water (June 2008)



7.3 ACCESS TO WATER IN SCHOOLS

75% of primary schools have access to an improved water source (piped, borehole or spring) within a distance of 500m (Table 7.2).

Table 7.2 Access to Water Facilities within 500m of Primary Schools

Water Source	Number of Schools	Percentage of schools
Piped Water	2,417	14.5
Borehole	5,308	31.9
Well/Spring	4,742	28.5
Rain Water Tanks	2,945	17.7
Lake/River	825	5
Others	392	2.4
Not Stated	35	0.2
Grand Total	16,664	100

7.4 ACCESS TO WATER IN URBAN AREAS

7.4.1 Combined Access in Urban Areas

The total urban population in the 182 towns (23 large towns and 160 small towns) is estimated at 4.4 million. Service criteria for urban areas are given in Box 7.1. The overall coverage in urban areas is 61%. This is an apparent increase from 56% in 2006/7 is mainly due to improvements with the analysis for small towns coverage (section 7.4.3). Table 7.3 shows the coverage for large and small towns (town councils and town boards).

Table 7.3 Breakdown of Coverage in Urban Area (June 2008)

	Population	Population Served	Coverage (%)
Town Councils	1,333,400	650,765	49%
Town Boards[35]	399,638	141,985	36%
Sub-total Small Towns	1,733,038	792,750	46%
Large Towns (NWSC)	2,656,678	1,901,928	72%
Total Urban	4,389,716	2,694,678	61%

7.4.2 Water Service Coverage in Large Towns

The overall water service coverage of the 23 large towns served by NWSC as of June 2008 is 72%. Figure 7.4 shows the service coverage in the 23 urban towns (18 schemes). The towns of Bushenyi/Ishaka, Soroti, Hoima, Mubende and Masindi fall below the average coverage. Table 7.4 shows the trend in coverage for large towns. There was is an increase of 1% from 2006/7.

Figure 7.4 Water Supply Coverage in Large Towns (30th June 2008)

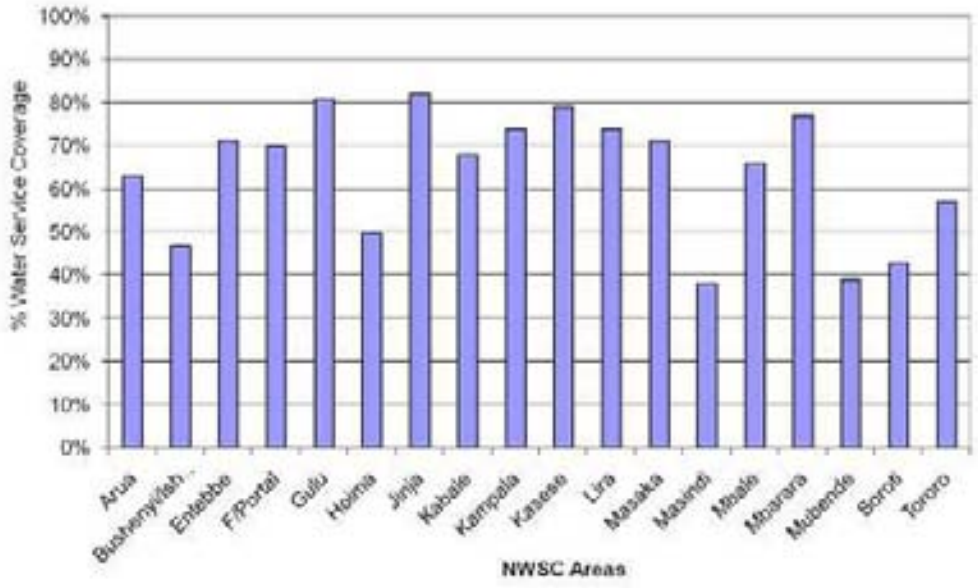


Table 7.4 Trend of Water Service Coverage in Large Towns (NWSC): 2002-2008

Year	2002	2003	2004	2005	2006	2007	2008
% Coverage (Water)	60	63	65	68	70	71	72

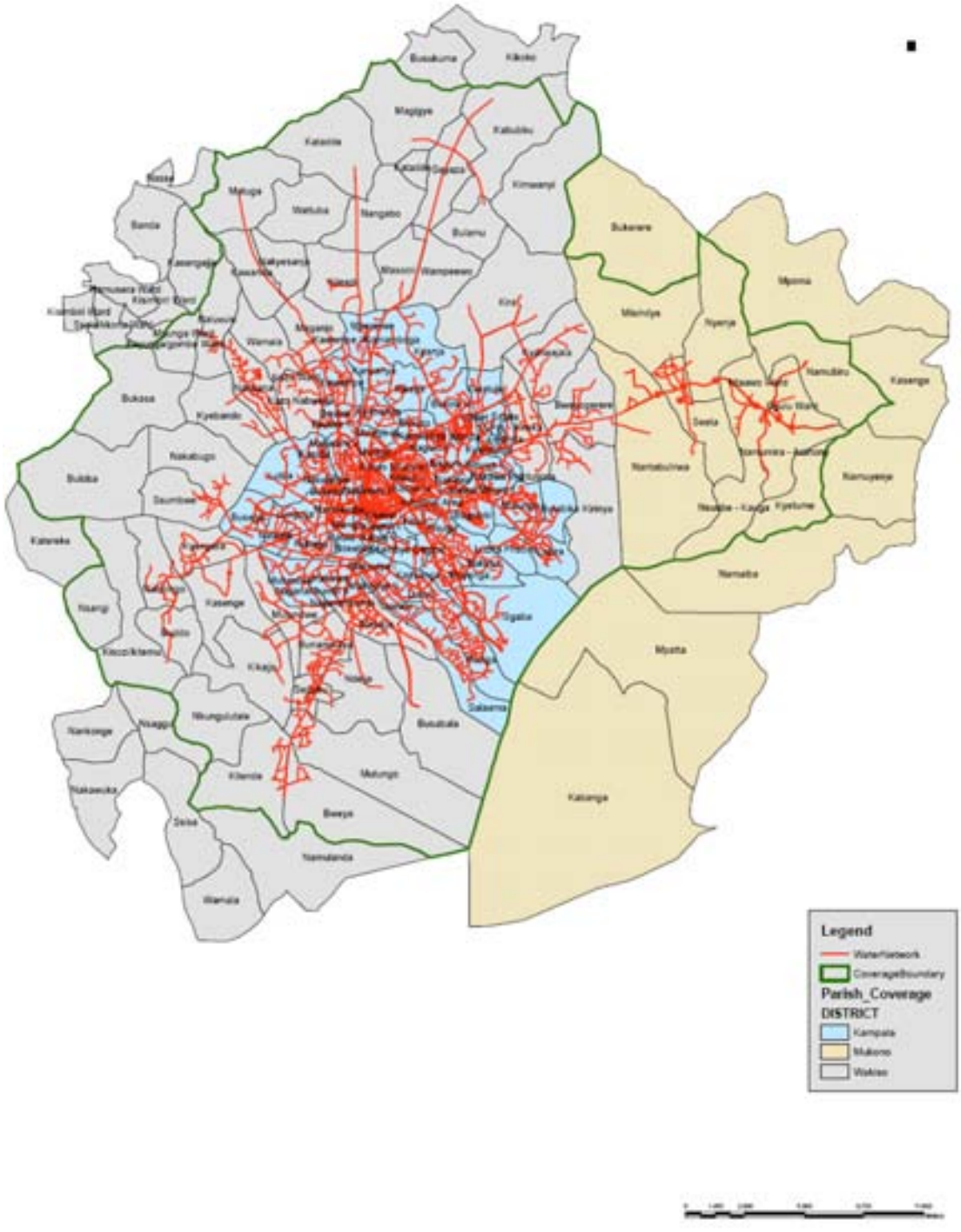
Currently, the NWSC services extend outside the gazetted municipal boundaries. Data for the Kampala Area shows that about 73,410 connections are within the city boundaries, while 46,983 connections are outside. Figure 7.5 shows areas served by NWSC outside the city boundaries of Kampala. The city is shaded in blue. The map shows that currently the NWSC Kampala network extends into Wakiso district.

This reality, combined with current reporting, distorts the coverage figures for the rural and urban areas. Kampala coverage is being overestimated (by considering connections in Wakiso as part of

[35] 2008 Population Data and Water Points are from the 2007/8 MWE data collection exercise as reported by the District and Town Boards.

Kampala municipality). Wakiso coverage is being underestimated (by not considering the NWSC water in rural data). NWSC is undertaking a study to establish its service coverage beyond the gazetted Municipal boundaries. This will enable a recalibration of access figures.

Figure 7.5 Map of NWSC Kampala Service Coverage in FY 2007/8



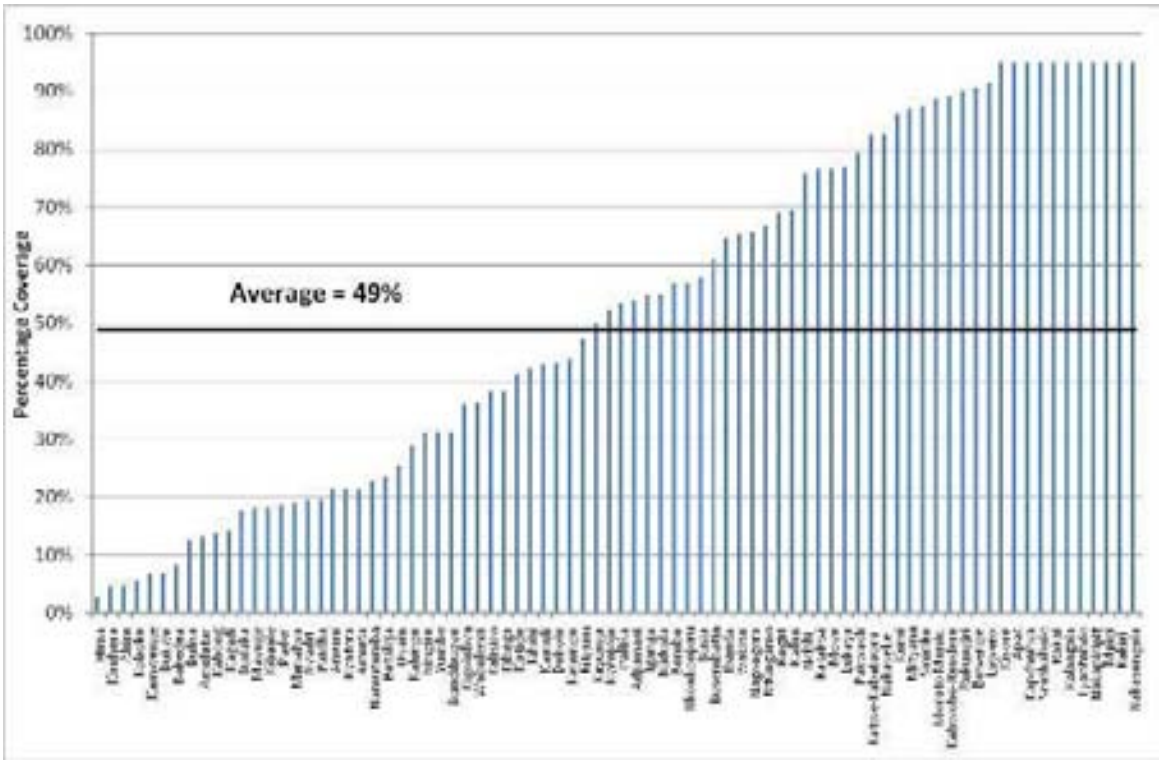
7.4.3 Access to Safe Water in Small Towns

Data collected in the reporting period indicates that there are 160 small towns[36] in the country with a total population of about 1.693 million, out of which 113 have functional piped water supply schemes and 47 are served by other improved water supplies as categorised in Box 7.1.

In FY 2007/8 overall safe water coverage for the 160 small towns is estimated at 46%. This up from 35% reported last year. The significant change is partly due to the redefinition of small towns in line with Ministry of Local Government (see section 2.5.3), improved data collection efforts in the Town Councils and Town Boards by MWE as well as the completion of new facilities.

The safe water coverage in Town Councils is 49% while for the Town Boards the coverage is estimated 36%. Full details are given in Annex 7.4. Figure 7.6 shows the wide range of access in the town councils. Notably, all town councils with coverage of 35% or less do not have piped water supplies.

Figure 7.6 Access to Improved Water Supplies in the Town Councils



[36] The definition of small towns is given in section 2.5.3

CHAPTER 8

FUNCTIONALITY

Innovation or poor maintenance?

8.1 INTRODUCTION

The functionality indicator for rural water supplies is the ***"percentage of the water sources that are functional at the time of spot-check".***

The definition of functionality of urban water supplies is "***the ratio of the actual hours of water supply from the system to the required hours of supply expressed as a percentage"***[37]**.** This provides a total picture of the two main levels of performance of existing water supplies, namely production and supply. The stages involved under production are abstraction, treatment and transmission while those under supply are storage, distribution and service connections.

8.2 RURAL WATER SUPPLY

8.2.1 National and District Functionality Rates

The average national functionality rate of rural water facilities is 82% down slightly from 83% in 2006/7 (details in Annex 8.1). The primary data for the functionality indicator are the District Local Government quarterly and annual reports. MWE is concerned about the methods used to collect and verify this data at District level.

The six districts with the lowest functionality are: Nakapiripirit (53%), Rakai (56%), Abim (60%), Sembabule (63%), Moroto (64%) and Gulu (66%). See Annex 8.1 for district functionality rates.

Expenditure on software activities[38] increased from UGX 1.2 billion (5% of DWSCG) in FY 2006/7 to UGX 2.3 billion (7% of DWSCG) in 2007/8. Effective during FY 2006/7 the districts were guided to increase software funding up to 12% of the DWSCG.

Total Expenditure on borehole rehabilitation by District Local Governments has been on the increase since FY 2005/6 rising from UGX 0.81 billion to UGX 2.16 billion by FY 2007/8. This is cause for concern. There is need for more transparency with respect to the execution of borehole rehabilation. The average cost of borehole rehabilitation in 2007/08 FY ranged from UGX 9.4 million in Abim to UGX 0.5 in Yumbe (Figure 8.1). The average rehabilitation costs in Abim, Bududa and Bukedea are way above the indicative budget figure. Both the average and maximum costs have been rising (Table 8.1). Investigative visits shall be carried out to determine the underlying reasons for these high costs.

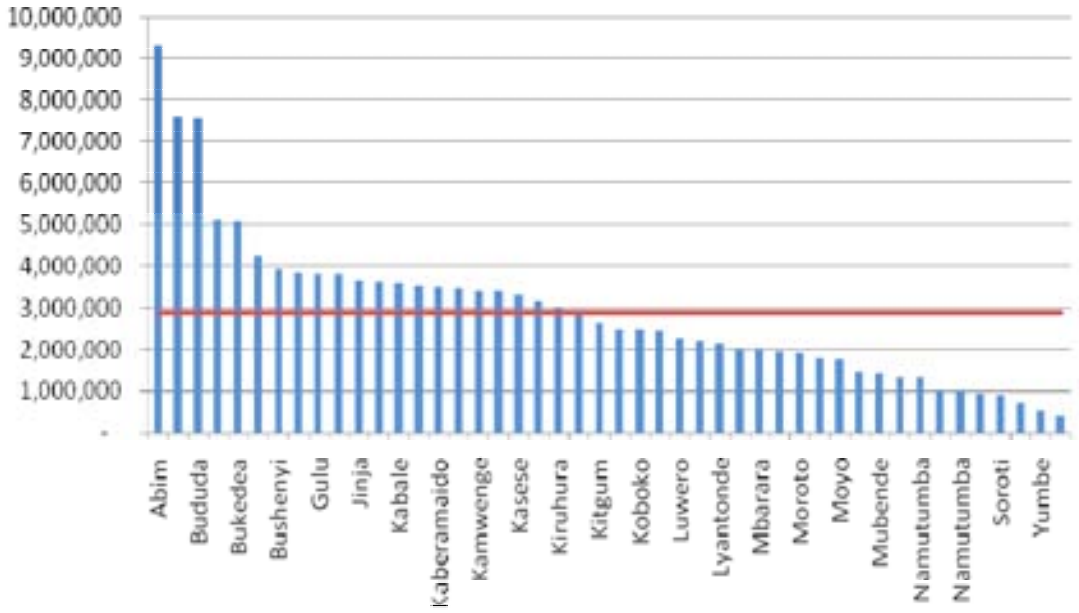
Table 8.1 Trend of Borehole Rehabilitation Unit Costs (million UGX)

	2005/6	2006/7	2007/8
Minimum	0.18	0.46	0.39
Maximum	5.6	7.1	9.4
Average	2.6	2.6	2.9

[37] The definition has varied over the years. In 2006, small towns reported **on the ratio of active to total number of connections expressed as a percentage.**

[38] See glossary for definition of "software".

Figure 8.1 Unit Borehole Rehabilitation Costs for Districts FY 2007/8



8.2.2 Factors Affecting Functionality

The following factors continue to affect functionality of rural water points:

1. Gaps in parish and village structures: The coming into force of a multiparty dispensation in the country was undertaken without elections being held at parish and village levels. As a result the local Government positions of Parish chief and Local Council 1 (LC1) became inactive. The District Local Governments report that their link to the communities for O&M has been cut as a consequence. This has resulted in inadequate response to breakdowns.

2. Theft of pump heads: There are frequent thefts of borehole pump heads especially in central districts where their demand is reportedly high.

3. Fatigue of Water Source Committees: The entry point for most Government programmes has been through villages committees where some members are on more than one committee. Some District Water Offices report that there is fatigue from participation in the different programmes (e.g. water and sanitation, agriculture, health). Committee members have reported that they have inadequate time to attend to their personal activities.

4. Poor siting and quality of construction: Construction of shallow wells continues to be undertaken by firms without adequate experience for the work. There is a tendency of siting dug wells in valleys (distant from community settlement) and sometimes near open (swampy) water bodies. This has resulted in shoddy works, poor water quality and long walking distances and thus has a long-term effect on commitment of users to maintenance of the facilities.

5. Lack of policy to regulate shallow well contractors: Unlike borehole drilling, shallow well construction in the sector is not regulated. This has opened tendering of construction to non-qualified firms. The argument from districts has been that PAF funds should also trickle down to local contractors in order to alleviate poverty sometimes at the expense of quality of outputs.

6. Inappropriate technology: High Functionality is reported in places where there are no alternative water supplies. The communities in low coverage areas (other than nomadic communities) care for their sources more than those that are less stressed, where low yielding wells are easily abandoned for alternative sources of water supply.

7. Weaknesses in Community Based Maintenance System (CBMS): The policy hasn't addressed the challenges of limited available banking facilities in the rural areas. Problems arise from individual members of water and sanitation committees keeping money collected from users as O&M fees in their homes. Additionally most source treasurers don't have skills in finance and book keeping. **CBMS** also assumes enforcement of by-laws and voluntarism by water source committees and caretakers, which is practically not the case.

8.2.3 Efforts to Improve Functionality

Various efforts and initiatives are still being undertaken to improve functionality both at National and Local Government levels. There have been significant efforts to improve the availability of spare parts and train hand pump mechanics as well as improve funding and implementation of community mobilisation and software activities. MWE through the Technical Support Units (TSUs) is continuing its monitoring of Districts to ensure engagement of competent engineering and hydrogeological firms for construction to minimise poor quality of facilities.

Supply Chain: An initiative for hand pumps spares was initiated in 2005 to reduce on the non functionality of hand pump sources through a partnership between Government and the private sector. It involved setting up the spare parts distribution outlets throughout the country. At the start of the initiative, 37 out of the planned 60 outlets were opened up. Table 8.2 summarises targeted outlets and status in 2007/8.

Table 8.2 Active Handpump Spare Parts Outlets per Region by June 2008[39]

Business unit	Major Supplier	Target sub Dealers	Opened up in 2004/5	Active June 07	Active June 08
Eastern Uganda	Victoria Pumps Ltd	12	13	10 (77%)	10 (77%)
Northern Uganda	Victoria Pumps Ltd	19	13	3 (23%)	2 (15%)
Central Uganda	Buyaya Technical Services Ltd	14	4	4 (29%)	4 (29%)
Western Uganda	Multiple Industries Ltd	15	7	0 (0%)	0 (0%)
Total		**60**	**37**	**17 (46%)**	**16(43%)**

Note: *Active refers to Outlet selling spares worth UGX 400,000 and above per month.*

The insurgency in northern Uganda area attracted a good number of Humanitarian NGOs who have been supplying free hand pump parts and spares to Districts, which edged out the established dealers. In western Uganda, the initiative is still being hampered by low demand. This is because protected springs and GFS systems are predominant technologies for water supply.

Training of Hand pumps Mechanics. MWE has continued to train hand pump mechanics as one of the strategies to improve functionality. In 2007/8, one regional training session of 40 handpump mechanics was conducted in Lira for all the Northern Districts. The biggest challenge, according to the hand pump mechanics, is still lack of tools kits.

8.3 URBAN WATER SUPPLY

8.3.1 Large Towns (NWSC) Water Supply

Water is supplied in most towns at an average of 18-24 hours to all customers. However there are a few areas termed as "dry zones" which receive water for less than 6 hours per day. This is mainly in Kampala where the network has been outstripped by the demand for services. These areas include parts of Kirinya, Kajjansi, Najjera and Kawempe, representing about 10% of the customer base. In

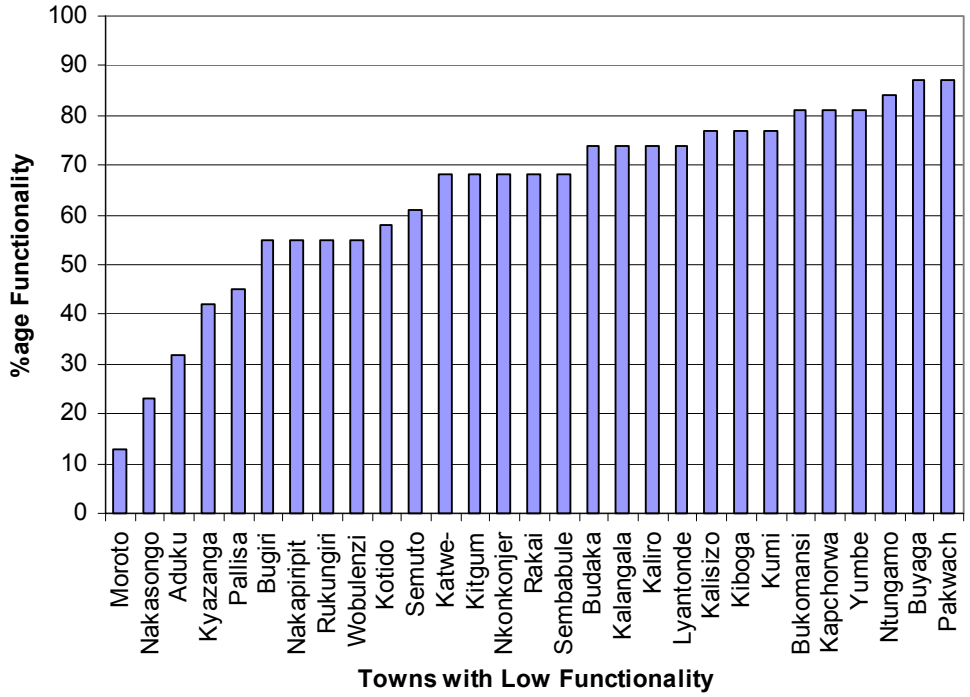
[39] Source: MWE June 2008 Supply Chain Monitoring Report

other Areas under NWSC, supply adequacy is on average 95%. The 5% non functionality is mainly due to power outage and water resource constraints.

8.3.2 Small Towns Water Supply

The average functionality for the 69 small towns supported under Water Authorities for the FY 2007/08 is 89%. Functionality is defined as ***"the ratio of the actual hours of water supply from the system to the required hours of supply expressed as a percentage"***[40]. Figure 8.2 presents the data for 29 small towns with a functionality of less than 90%.

Figure 8.2 Functionality Small Towns with rates lower than 90% in



The low functionality in some of these towns is due to the following:

- **Nakasongola**, high lift pumps at Luweero industries have both broken down.
- **Kotido** and **Moroto** suffer from high fuel costs and have inadequate revenue to provide fuel for the standby generator.
- Rampant power shortages disrupt the operation of the Water Supply Systems in **Bugiri**, **Nkokonjeru** and **Pallisa (**there are no standby generators).
- In **Nakapiripirit**, the water supply system is currently undergoing major rehabilitation and the operator had suspended operations until the rehabilitation is completed.

In small towns, the proportion of inactive connections remained constant at 82%.

8.4 WATER FOR PRODUCTION

23% of all WfP facilities[41] assessed by a baseline survey in 16 districts are fully functional. Details for valley tanks and earth dams are given in Figures 8.3 and 8.4. These figures are based on assessment of 444 valley tanks and 115 dams in 16 districts covered by the baseline survey.

[40] As a different definition was used last year, the data cannot be compared with the figure given in the 2007 SPR.
[41] Valley Tanks, Earth Dams, Fish Ponds, Rural Industries

69% of valley tanks and 75% of earth dams are partially functional. For about half of these, siltation was the main problem. Further analysis shows that 36% of valley tanks and 75% of the earth dams were constructed in the 1950'ies and 1960'ies hence the large number of silted facilities.

Figure 8.3 Functionality of Valley Tanks[42]

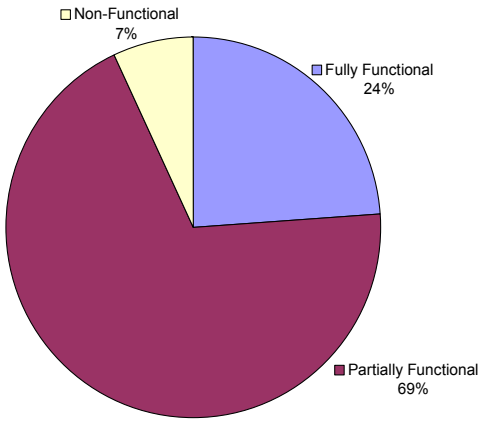
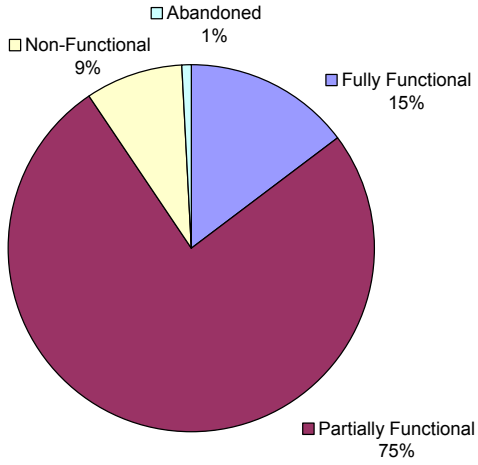


Figure 8.4 Functionality of Earth Dams



[42] Source: WfP database, MWE 2008

CHAPTER 9

PER CAPITA INVESTMENT COST

Promotion of Handwashing in Mbale

9.1 INTRODUCTION

This chapter analyses the per capita investment costs (PCIC) for rural and urban water supplies as well as the unit costs for water for production facilities.

9.2 RURAL WATER SUPPLY

9.2.1 Per Capita Investment Costs (PCIC)

Overall MWE expenditure for the rural water supply and sanitation sub-sector was UGX 49.9 billion. Out of this a 659,603 persons were served by the District Water & Sanitation Conditional Development Grant (DWSCDG) and a further 10,200 through central Government investments. Thus, the overall Per Capita Investment Cost (PCIC) for rural water supplies for FY 2007/8 is UGX 74,504 ($44). This is an increase of $6 from 2006/7. The higher PCIC is primarily because i) 2007/8 saw an increase in expenditure on capacity building by MWE; and ii) in 2007/8 MWE funded water supplies in northern Uganda for which production wells were drilled and designs made but construction was not completed this FY.

Table 9.1 sets out the Per Capita Investment Cost (PCIC) considering only the DWSDCG for the last 6 years. The nominal PCIC for 2007/8 is UGX 53,832. This is a drop from UGX 56,616 last year. However, the real PCIC has dropped by UGX 7,000. Box 9.1 explains the terms nominal and real PCIC.

Table 9.1 Per Capita Investment Cost of the District Water & Sanitation Conditional Development Grant (DWSDCG)

Item	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08
Number of people served	895,498	742,942	743,817	607,738	646,826	659,603
Nominal PCIC (Total DWSCG Expenditure) in UGX	26,646	32,519	36,240	41,241	56,616	53,832
Annual Inflation	-	5.30%	9.10%	8%	10.20%	15%
Accumulated Price Index -Base Year 2003	100	105.3	114.9	124.1	136.7	157.2
Real PCIC (Total DWSCG Expenditure) - Base Year 2003 in UGX	26,646	30,882	31,545	33,239	41,408	34,236

Box 9.1 An Explanation of Nominal and Real Per Capita Investment Costs (PCIC)

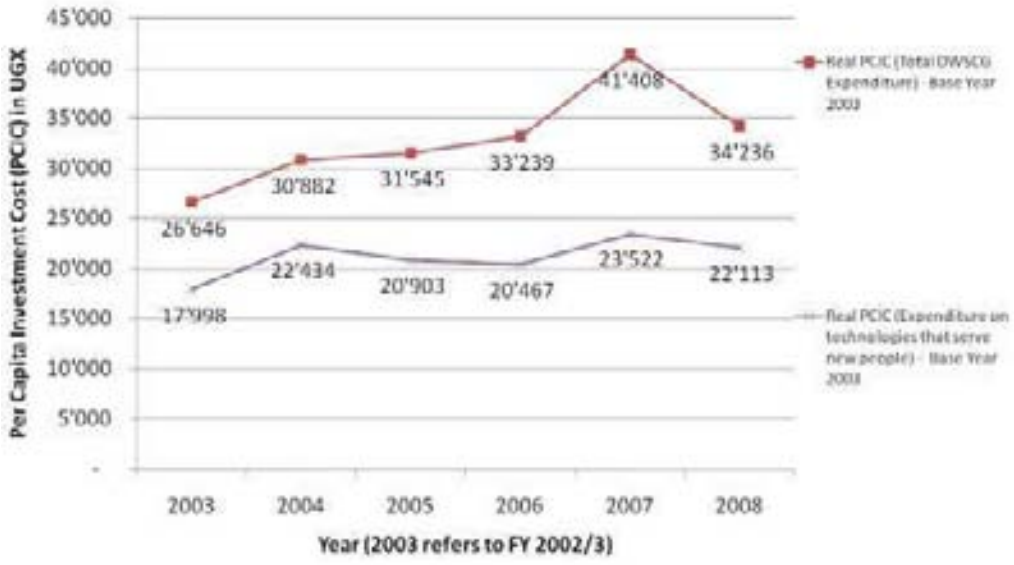
The nominal cost refers to the value in money of the day. However, with annual inflation, the money of today is worth less than it was last year, and the year before. Real cost, which considers inflation, thus enables a better comparison to be made across years. The real PCIC over the last 6 years is set out in Table 9.1. The base year taken is 2003, so the real PCIC is expressed in constant 2003 Uganda Shillings. The real cost for a particular year is calculated by dividing the nominal PCIC by the accumulated price index and multiplying by 100.

Figure 9.1 shows the real PCIC over the past six years. There was a significant increase from 2005/6 to 2006/7 followed by a significant decrease to 2007/8. The main reason for this change is that taps constructed on piped pumped borehole and piped surface water schemes were not being reported during the year by District Local Governments prior to FY 2007/8.

Figure 9.1 shows that the real PCIC has increased by 28% over the past 6 years. The lower dataset in Figure 9.1 shows that the real PCIC based on expenditure on water supply hardware (i.e. that directly serves new people - springs, boreholes, piped water supplies, shallow wells and rainwater facilities)

has increased by 21%. Thus, the proportion of DWSDCG spent on non-hardware items has increased over the last six years.

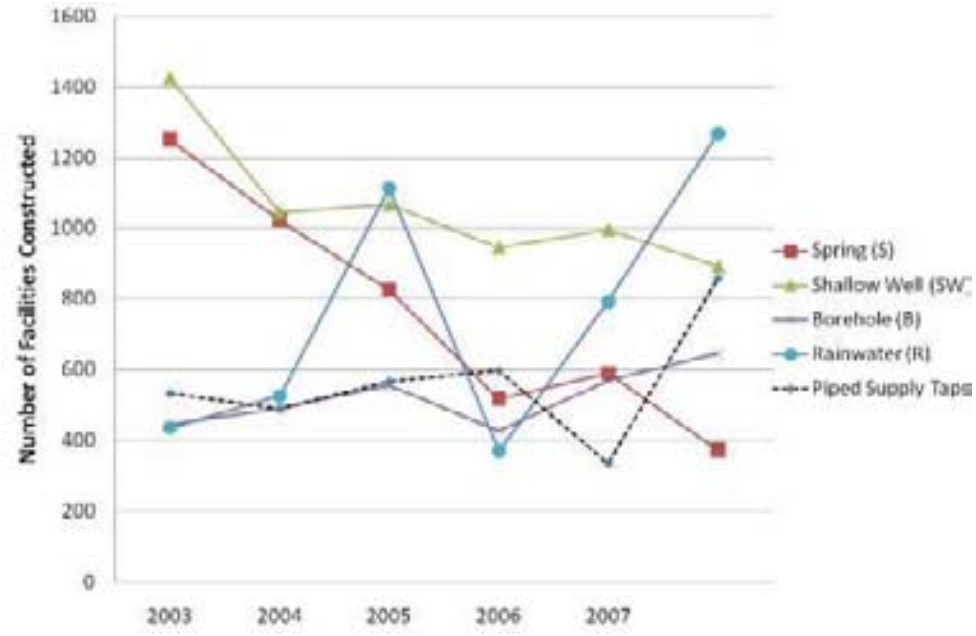
Figure 9.1 DWSDCG Per Capita Investment Cost Trend Considering Inflation (Base Year 2002/3)



9.2.2 Technology Mix

Figure 9.2 shows the trends in facilities constructed over the last 6 years. Most significantly is the reduction in the number of springs constructed (least cost technology option). Shallow well construction has also declined considerably. There has been a rise in the number of boreholes constructed over the last 6 years. Given the high cost of this option, this rise has a significant impact on the overall PCIC. Of particular interest is the large number of taps that are being constructed (over 800 this FY).

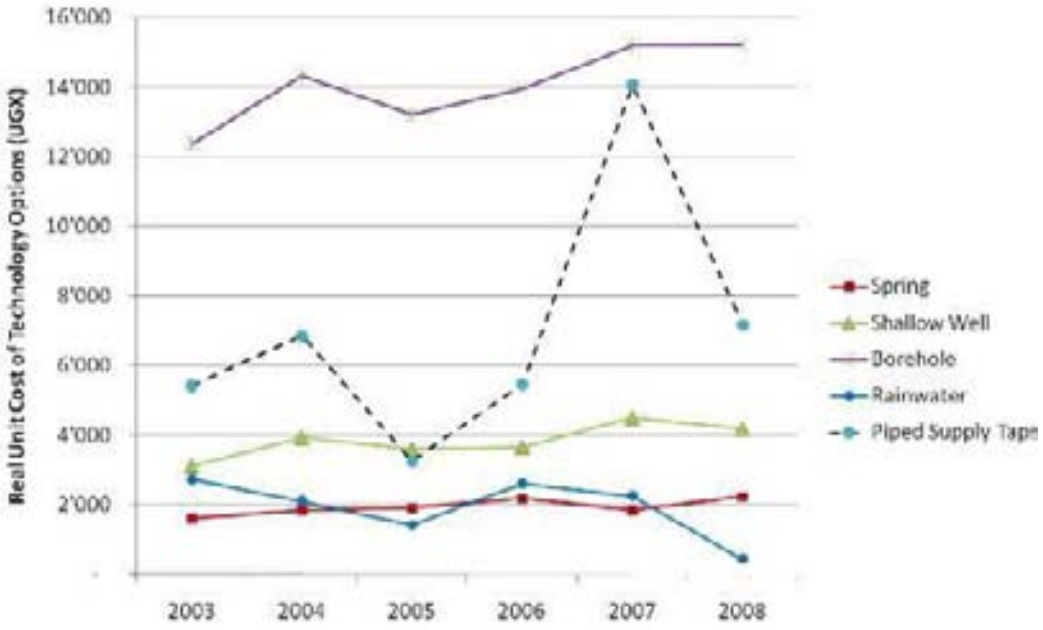
Figure 9.2 Annual Facilities Constructed by DWSDCG (based on District Reports)



9.2.3 Unit Costs of Water Supply Facilities:

Figure 9.3 presents the average real[43] costs for the different technologies (2003 base year). Full details for 2007/8 are given in Annex 9.1. There was also a significant change with respect to rainwater. In FY 2007/8, water users at household level contributed 40% of the total cost of the domestic roofwater harvesting system, hence the fall in the unit cost.

Figure 9.3 Average Real Unit Costs for Technology Options (UGX)



9.3 URBAN WATER SUPPLY – SMALL TOWNS

The average per capita investment cost (PCIC) for the eleven new piped schemes completed in FY 2007/08 was UGX 157,400 (US$ 93)[44]. In 2007/8 there was a rise in the per capita investment cost compared to FY 2006/07 (when it was $58). This is primarily due to the different types of schemes completed in these two financial years.

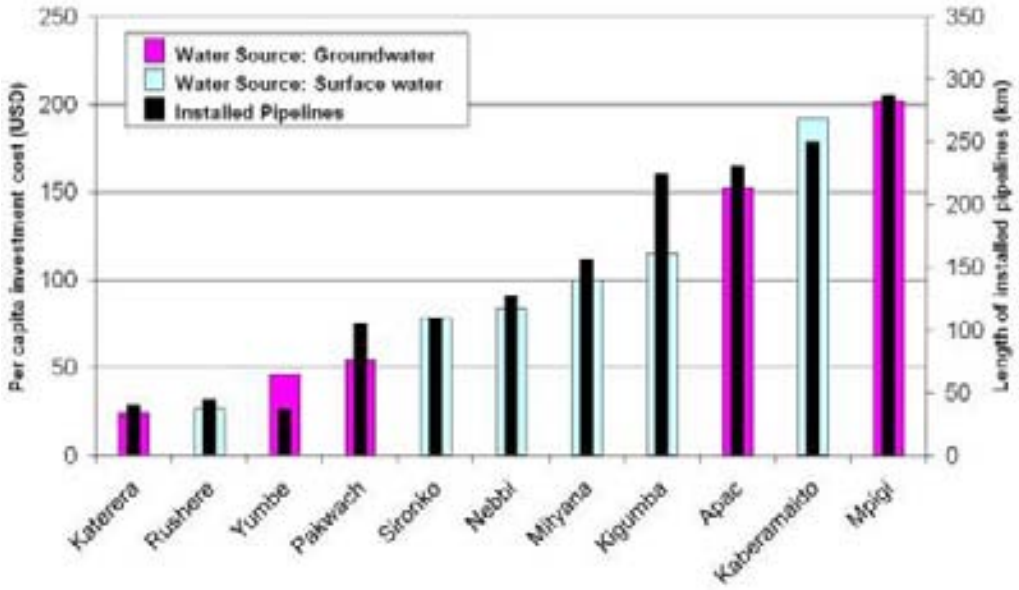
The PCIC ranged from UGX 41,752 (US$ 25) in Katerera town to UGX 343,729 (US$ 202) in Mpigi town (details given in Annex 9.2)[45]. Figure 9.4 shows that there is a correlation between the total length of pipelines constructed and per capita investment costs. PCIC seems to increase with the total length of the pipeline. The schemes in Kigumba and Apac rely on borehole technology requiring minimal water treatment components. However, extensive groundwater investigations were carried out, long transmission lines were required and high pumping capacity was needed. Mityana, Mpigi, Nebbi and Pakwach all required full conventional water treatment plants.

[43] See Box 9.1 for explanation of real costs.

[44] Costs include all investments in planning, construction, supervision and overheads. In many schemes these costs were incurred over more than a year. Investments were to supplement existing schemes, have not been included in the analysis of per capita investment costs.

[45] Note that the population to benefit along the pipelines of Soroti – Kaberamaido have not been included in the computations of per capita costs as these were extensions.

Figure 9.4 Per Capita Investment Cost (PCIC) for piped water supplies completed in 2007/08



In the town of Ibanda, a 23 km gravity water supply was developed to augment the spring sources that have been serving the town. This investment only focussed on water delivery without increasing on the number of connections that already exist in the town. Limited connections were constructed in the town of Yumbe to make use of the solar energy pumping installations.

9.4 WATER FOR PRODUCTION

9.4.1 Unit Costs

The investment costs for water facilities for livestock watering vary according to the size of the facility; hydrological and hydro geological conditions; type and size of embankments and bunds; accessibility and distance from major urban centres; water quality improvement technology; provision of sanitation facilities; and abstraction mechanism.

Furthermore, private stakeholders and communities sometimes construct small man-made reservoirs (referred to as ponds) normally below 1000 m^3 in storage capacity. These are local solutions, and generally do not provide water throughout the dry season. They cannot be compared to the reservoirs constructed by Government in terms of reliability, functionality, required technical capacity and equipment needed for the construction works, nor the financial costs involved. Thus it is only possible to compare investment costs for livestock watering facilities that are of the same type of technology and within the same capacity in terms of water storage.

The earth dam is generally cheaper to construct than a valley tank. The average cost of a valley tank is estimated at USD 10/m^3 storage capacity (equivalent to UGX 17,000/m^3), while the corresponding cost for a dam is estimated at USD 5/m^3 (equivalent to UGX 8,500)[46].

From FY 2003/4 to FY 2007/8 MWE constructed 54 valley tanks in the districts of Sembabule, Rakai, Masindi, Luweero, Mbarara, Ntungamo and Nakasongola, thereby creating an additional storage of 537,000 m^3.

In 2007/8 the nominal investment cost per cubic meter of water created by Central Government through construction of valley tanks was UGX 22,400 per m^3 storage**.** The real cost (base year 2003)

[46] Source: Section 4.4, Water for Production; Strategy and Investment Plan, 2005-2015; April 2005 draft

was UGX 14,249 per m^3 storage, down from UGX 18,727 in FY 2006/7. Note that Box 9.1 explains the terms nominal and real cost.

Table 9.2 Investment Costs for Valley Tanks Funded by MWE

Financial Year	2003/04	2004/05	2005/06	2006/07	2007/8
Volume created (m^3)	340,000	90,000		90,000	17,000
Investment ('1000 UGX)	4,511,403	1,506,988	-	2,304,112	380,000
No of facilities	34	9	-	9	2
Average Cost/m^3	13,300	16,700	-	25,600	22,400
Annual Inflation	5.30%	9.10%	8%	10.20%	15%
Accumulated Price Index -Base Year 2003	105.3	114.9	124.1	136.7	157.2
Real Cost/m^3 -Base Year 2003	12,631	14,534		18,727	14,249

MWE has taken a number of actions in an attempt to curb costs. These include use of open tendering to encourage competitive pricing and design reviews for improvement. Furthermore MWE is prioritizing construction of dams over valley tanks because of being cheaper and more sustainable due to economies of scale.

CHAPTER 10

HYGIENE & SANITATION

The Challenge of Waste Management in Kampala

10.1 INTRODUCTION

Improving access to sanitation and hygiene improves health, reduces poverty and improves well being. Without sanitation facilities to safely contain and dispose of human faeces, the health of a community, especially its children, elderly and the sick is put at risk. Investing in sanitation and hygiene brings substantial economic returns and reduces expenditure on curative health care. Good hygiene and sanitation facilities at schools improve the effectiveness of education and increases school attendance, particularly of girls. Recent research established that for every US $ 1 invested in sanitation, the resulting economic benefits range between US $ 5 and US $ 23.

This chapter focuses on sanitation coverage as measured by access to latrine and hand washing facilities at household level and in schools. Case studies of sanitation improvements are also presented.

10.2 HOUSEHOLD LATRINE COVERAGE

The undertakings of the 2007 reviews of both the Water & Sanitation, and Health sectors, were to "*Identify and upscale modalities for promotion of sanitation and hygiene practices (in households and schools), and support mandated institutions to enforce bylaws and regulations aimed at improving access in at least 50% of the districts and urban councils by at least 5% points, from the current status"* Most districts started a campaign to enforce the Public Health Act, with emphasis on construction of latrines. As a result of the increased enforcement, the national latrine coverage has increased to 62.4%. Table 10.1 shows the Districts with the highest sanitation coverage (2007/2008).

Table 10.1 The Fifteen districts with the highest sanitation coverage FY 2007/08

District	Latrine Coverage 2007	Latrine Coverage 2008	% Change
BUSHENYI	91%	92%	1%
BUSIA	78%	82%	4%
BUTALEJA	64%	89%	25%
IBANDA	80%	88%	8%
KABALE	89%	91%	2%
KABALORE	86%	88%	2%
KALIRO	79%	86%	7%
KAMPALA	94%	94%	0%
KANUNGU	90%	90%	0%
MASAKA	86%	95%	9%
MBARARA	76%	90%	14%
MITYANA	72%	85%	13%
NTUNGAMO	86%	91%	5%
RAKAI	76%	83%	7%
RUKUNGIRI	98%	99%	1%

Although the national average latrine coverage has shown a modest increase of 3%, the coverage varies from Rukungiri district with coverage of 99% to the three districts of Karamoja region Abim, Kotido and Kaabong with a mere 2% (Figure 10.1). Figure 10.2 shows the change in latrine coverage this FY. Districts which have achieved a marked improvement are Butaleja (25%), Bukwo (20%), Mayuge (18%), Luwero (18%), Kamuli (16%), Mbarara (14%), Mityana (13%), Soroti (13%) and Koboko (11%). Most of these achievements have been due to the enforcement of the Public Health Act combined with sensitization campaigns using radio programmes, drama and competitions.

Some districts experienced decline in performance. Among these the most pronounced are Pallisa (-10%), Amuru (-8%) and Sironko (-7%). The major reason for the decline in Amuru district is that IDPs have returned to their villages. The construction of latrines has been slow as they have many competing priorities. For the other districts the reasons for the decline require investigation.

Table 10.2 Fifteen districts with the Lowest Sanitation Coverage FY 2007/08

DISTRICT	LATRINE COVERAGE 2007	LATRINE COVERAGE 2008	% Change
ABIM	2%	2%	0%
AMOLATAR	48%	49%	1%
AMURIA	21%	24%	3%
AMURU	42%	34%	-8%
BULISA	50%	49%	-1%
DOKOLO	49%	49%	0%
GULU	42%	42%	0%
KABONG	2%	2%	0%
KALANGALA	54%	51%	-3%
KITGUM	19%	19%	0%
KOTIDO	2%	2%	0%
MASINDI	48%	51%	3%
MOROTO	10%	10%	0%
NAKAPIRIPIRIT	3%	3%	0%
PADER	38%	38%	0%

A review of the poor performers over the last three years shows that the Karamoja region has continued to have low sanitation coverage. The main constraint in the region is the nomadic nature and culture of the population in the region. In addition, the political as well as the technical leadership in this region has hardly made any effort to address the issue of poor sanitation the region, unlike in other areas of the country.

A review of 10 sample Districts found that half of them drafted sanitation ordinances. However, the majority of local governments reported lack of guidance on formulation of bylaws, as well as inadequate budgets to support and monitor the enforcement of the regulations and laws. Key success factors were reported to be effective coordination, political will and political support. The role of the District Water and Sanitation Coordination Committee (DWSCC) was strongly underlined. It can facilitate harmonization of policies and practices within the district and coordination between stakeholders. The active involvement of the political leaders at all levels including opinion leaders ensured availability of necessary resources. Box 10.1 sets out key recommendations from the review.

Box 10.1 Key recommendations to enforce bylaws and regulations aimed at improving sanitation

- ***All districts should develop and enforce sanitation ordinances. Districts need to enforce the laws on sanitation to ensure increased sanitation coverage. Defaulters should be prosecuted to serve as examples to others and best performers in enforcements should be rewarded.***
- ***All Environmental Health, Law Enforcement and Extension staff need to be conversant with the relevant laws, procedures for taking someone to court and presenting cases in court.***
- ***All LGs require updated laws, specifications for hygienic latrines, clarification of roles and mandates and clarification on activities that are legal or illegal.***
- ***Districts should strengthen co-ordination for sanitation activities between political, civic and heads of departments.***
- ***A mechanism supported by line Ministries should be put in place to recognise local government leaders who support enforcement of Public Health Act and Sanitation bylaws on an annual basis.***
- ***Adequate numbers of competent staff for hygiene and sanitation should be recruited in all districts and adequately facilitated to effectively execute their duties.***
- ***Specific funds should be allocated for law enforcement activities related to sanitation.***

The review also noted that many Districts are still lacking a systematic approach for data collection on latrine coverage and hygiene. The example of Mbarara district in Box 10.2 provides good lessons.

Figure 10.1 Map of Latrine Coverage by District FY 2007/08

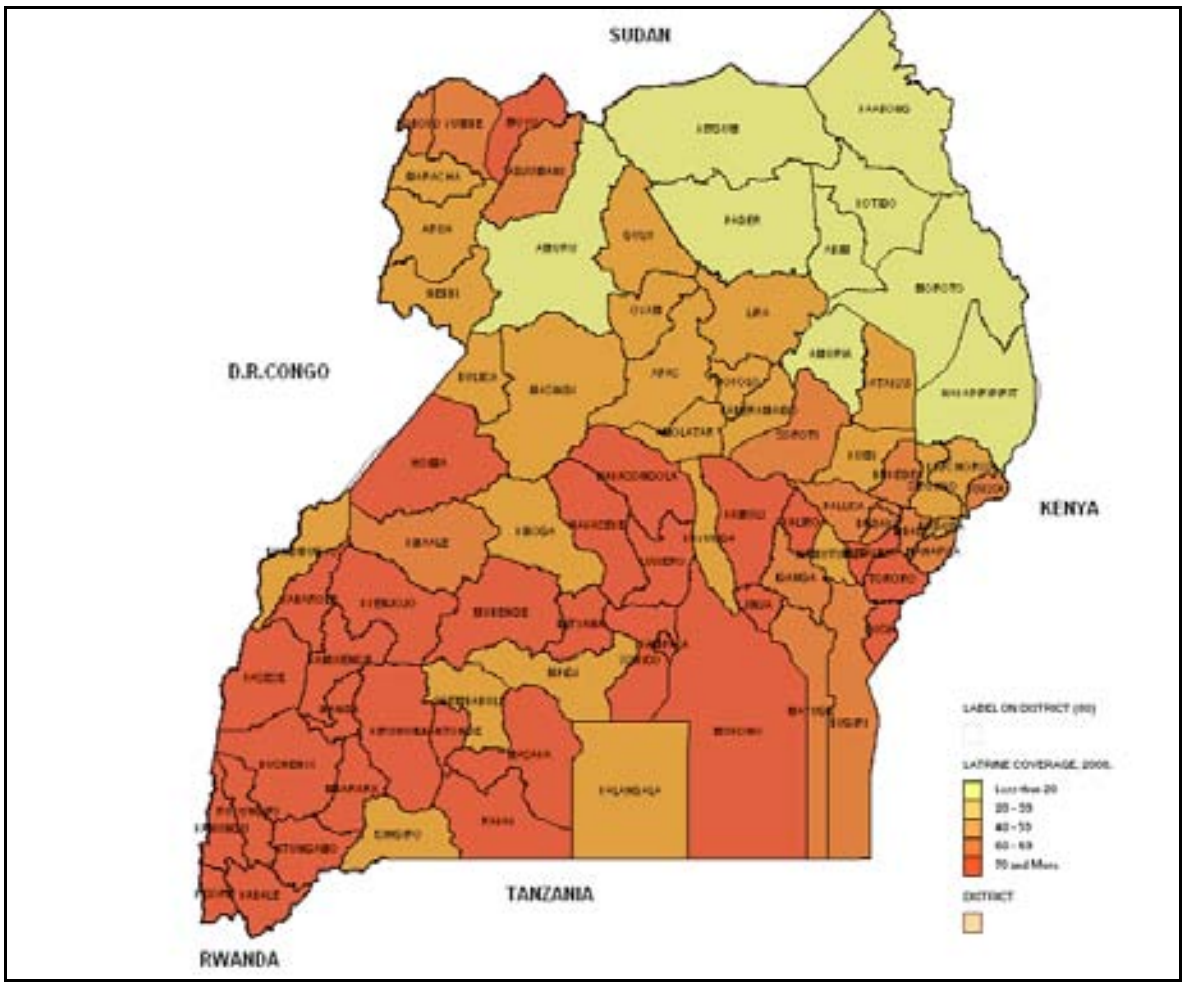
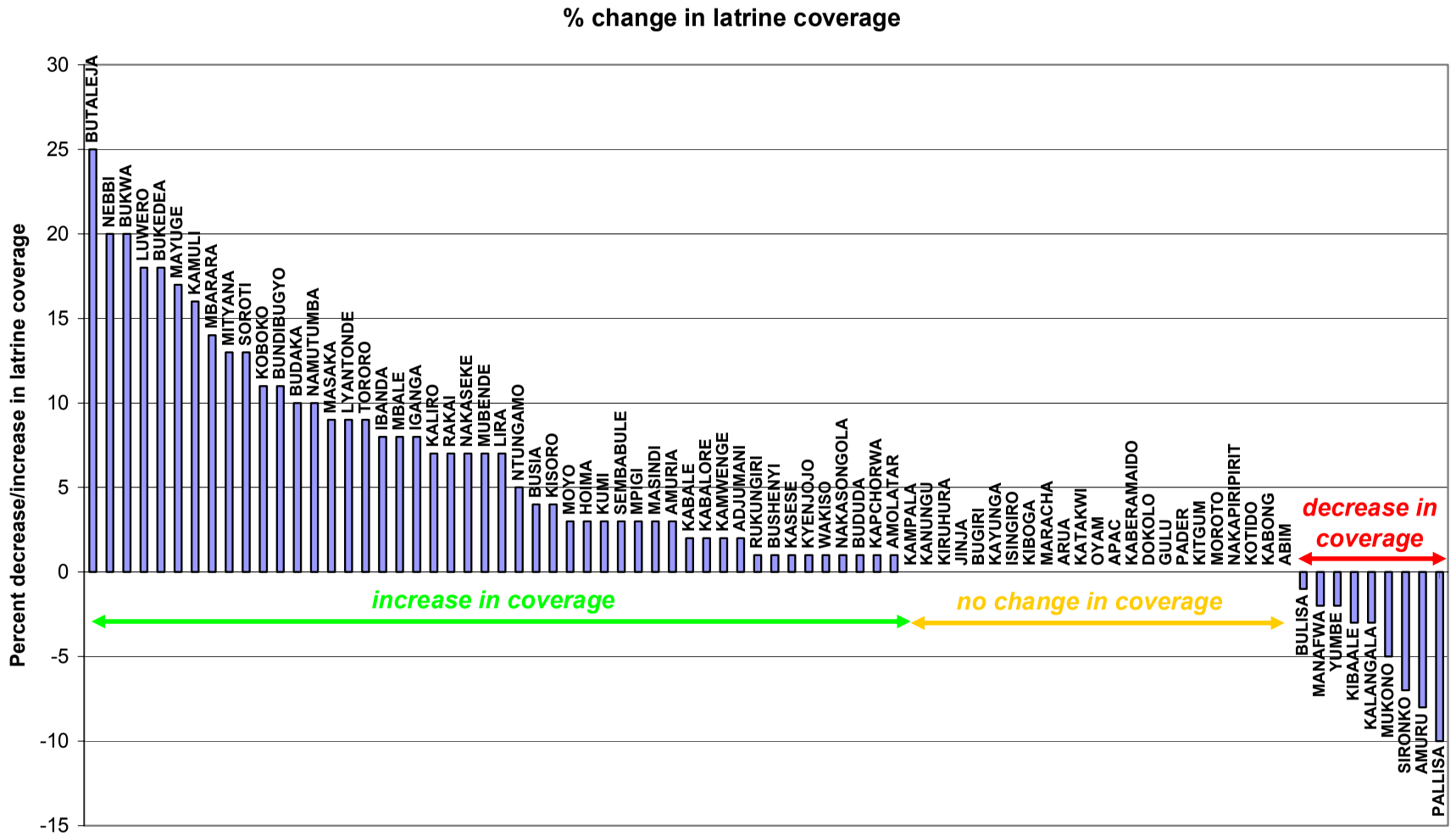


Figure 10.2 Percentage Change in Latrine Coverage during FY 2007/8

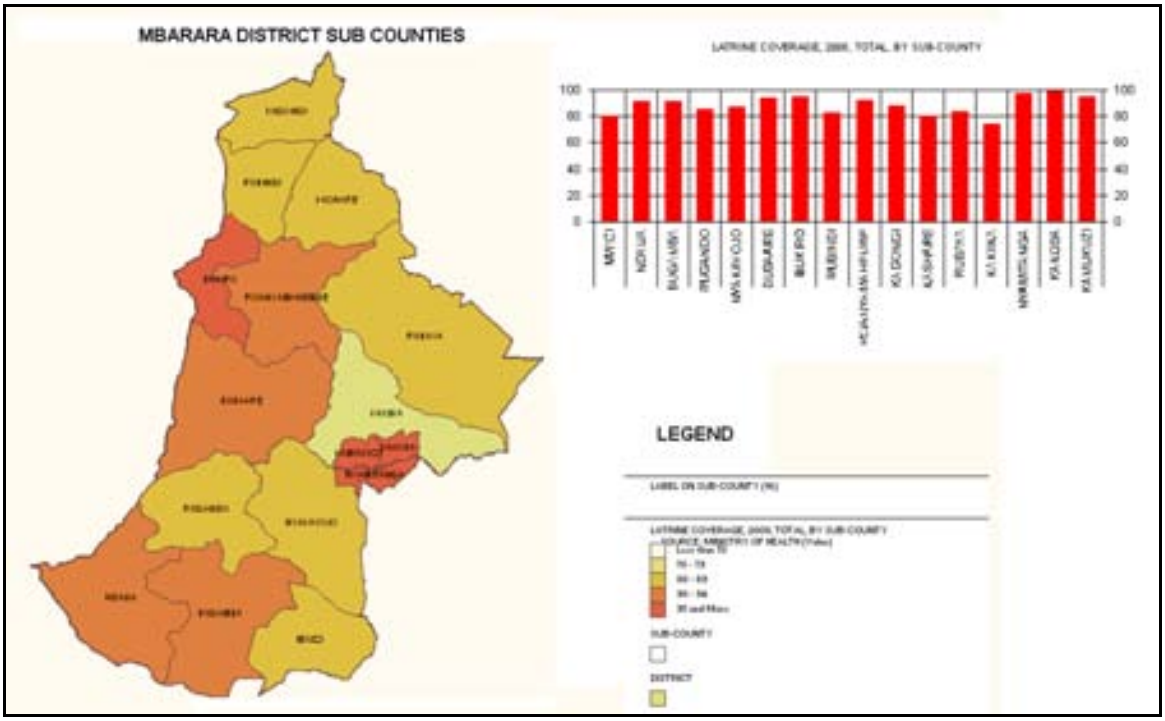


Box 10.2 Data Collection and Analysis in Mbarara District

Mbarara District last collected comprehensive data on household sanitation in 1998, which was collected in a baseline survey funded by MWE. It put the District average latrine coverage at 72%. Subsequently, this data has been the basis for the annual reports on sanitation. They were up-dated from field reports and localized surveys during sanitation campaigns. In order to establish the actual sanitation status, the District Health Office conducted a District Household Sanitation census in 2007/8. This is a turning point for the District. The database will guide planning, implementation and monitoring of environmental health activities at all levels. Key results from the Baseline Survey are set out below.

The enabling factors for the survey were: financial support by Mbarara District local government (from fiscal decentralisation strategy funds); supportive District political and civic leadership, health inspectorate staff, local council leaders and data collectors and monitoring by sub-county chiefs.

Indicator	Status
Households with latrines	90%
Households with hand washing facility & cleansing agent	25%
Households with drying racks	49%
Households with bath shelters	69%
Households with kitchens	65%
Households with improved fire stoves/fireplaces	8%
Households using boiled/treated water	70%



10.3 DOMESTIC HYGIENE PRACTICES

Although several districts have registered a noticeable increase in latrine coverage, this has not been matched by a similar improvement in hygiene. Available data indicates that 22% of households have access to handwashing facilities at the latrine (21% of rural households and 57% of urban households). However, actual use of the facilities is much less than this.

Unless latrine coverage is matched with improved hygiene attitude and behaviour, there will be little impact on the health of the nation. Some of the districts in Eastern Uganda experienced an outbreak

of Cholera despite good latrine coverage. Rukungiri District reported that although latrine coverage is very high (99%), there has not been any evidence in reduction in prevalence of diarrhoea. This is largely due to poor hygiene and sanitation behaviour.

It is therefore necessary to promote improved hygiene and sanitation behaviour, and to get households to improve their toilet facilities. Homes need facilities that are attractive to use and easy to clean. Building on local good practices and bringing in proven effective approaches is fundamental for obtaining good results in this regard.

Box 10.3 shows the results of a pilot handwashing initiative in the 5 districts of Kabale, Kiboga, Mbale, Lira and Kampala, Kawempe division. The objective was to double the number of mothers, or care givers who wash their hands after key junctures, and to improve knowledge on the need for washing hands. The initiative is based on social marketing principles and is targeting two behaviours: washing hands after using the toilet or wiping a baby's bottom, and washing hands before feeding a baby.

Box 10.3 Results of the Handwashing Initiative

- More than 75% of respondents identified soap as a principle element for Hand Hygiene.
- More than 75% of the mothers of children under 5 years could state key junctures for handwashing with soap.
- Children were reported to have become advocates for handwashing with soap using the radio jingle to remind parents.
- Increased tippy tap construction was reported
- More voluntary promotion for handwashing with soap by community leaders in village meetings.
- Mothers of children under 5 years reported that they are telling others about handwashing with soap.

10.4 SANITATION AND HYGIENE IN MUNICIPALITIES AND TOWN COUNCILS

Generally the availability of latrines at household level in the municipalities and town councils is much better than the rural settings. Current data indicates that 76% and 70% of households in the municipalities and town councils respectively have latrines (Table 10.3). It has also been reported that most of these urban centres face serious challenges of solid waste management characterized by inadequate waste skips, garbage trucks, and appropriate dump sites. This has resulted into most towns being littered with uncollected garbage and absence of storm water drains.

Table 10.3 Sanitation in Municipalities

MUNUCIPALITY	LATRINE COVERAGE 2008	HAND WASHING COVERAGE (%)
JINJA	85%	70%
SOROTI	65%	25%
MBARARA	90%	56%
MOROTO	52%	75%
KABALE	69%	52%
TORORO	87%	26%
ARUA	72%	14%
FORT PORTAL	89%	No Data
MBALE	76%	83%

10.5 SCHOOL SANITATION AND HYGIENE

Figure 10.3 and Annex 10.3 sets out data on school sanitation in all Districts according the Ministry of Education and Sports (MoES). The national pupil-stance ratio for primary schools is 47:1, which is an improvement from FY 2007, when the pupil-stance ratio was estimated to be 69:1. 26 districts are

within the national target of pupil stance ratio of 40:1. Kalangala has the best ratio at 14:1. Koboko is the worst performing district with a ratio of 81:1.

75% of primary schools have access to an improved water source (piped, borehole or spring) within a distance of 500m. 18% have rainwater harvesting tanks, although the functionality of the tanks was not considered. Data is presented in section 7.3. The availability of water at schools has a major impact on the hygiene practices of the pupils especially handwashing.

10.6 HYGIENE AND SANITATION AT WATER FOR PRODUCTION FACILITIES

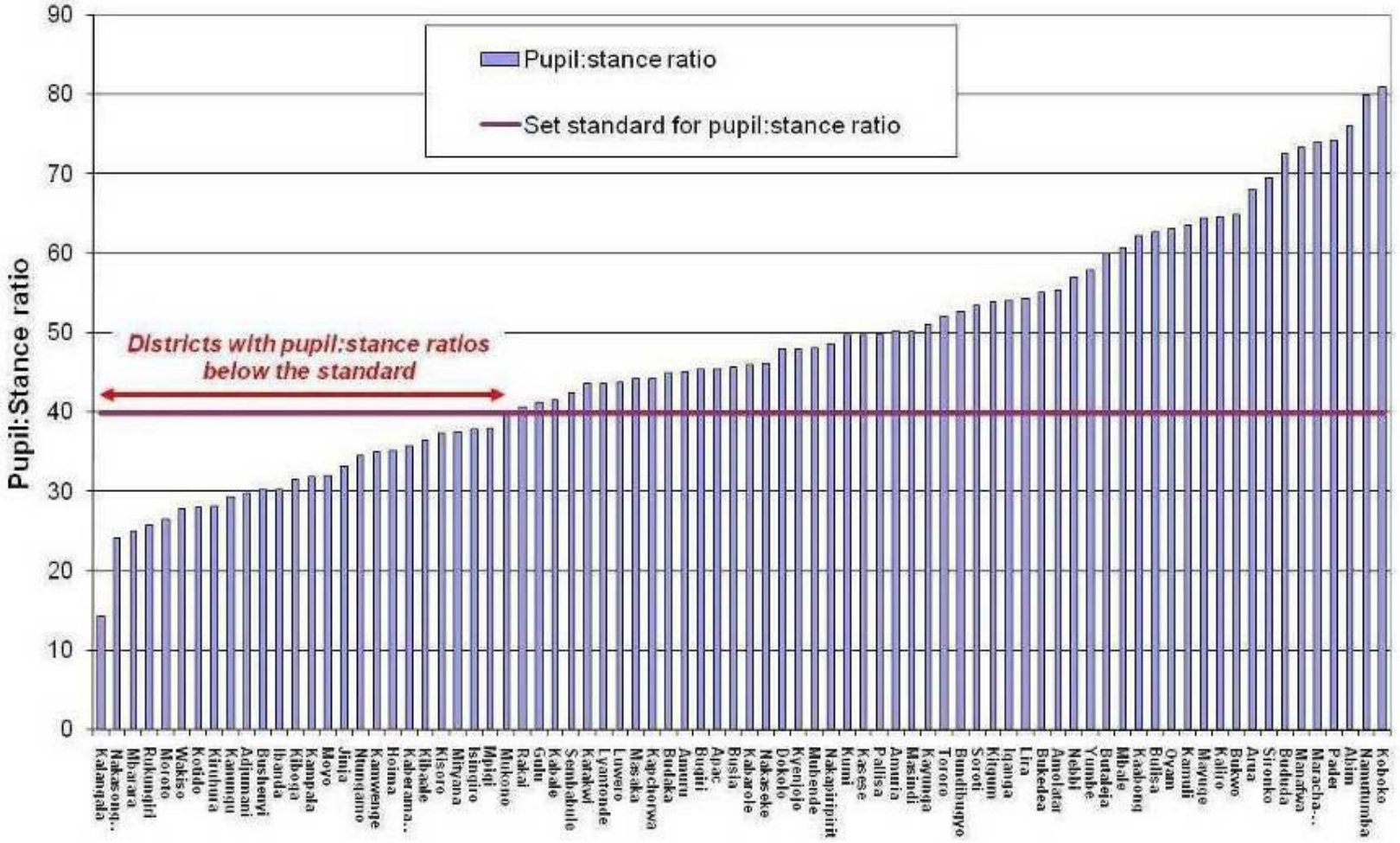
Hygiene and sanitation around water for production facilities entails maintaining clean, hygienic conditions that prevent contamination of the water and spread of diseases. This involves safe disposal of waste material, especially animal and human excreta and maintaining good hygiene practices around the facilities, particularly near the catchments. It is evident that the overall sanitation improvement at the water for production facilities has been inadequate although there are examples of District Local Governments trying to improve the situation (e.g. Box 10.4).

Box 10.4 Trying to Improve Sanitation in Abim District

In Abim District it was observed that most of the users of water for production facilities rely on neighbouring bushes to ease themselves. This is attributed to their pastoral nature of the locals and lack of sanitation facilities. They spend most of their time away from home, grazing their animals and do not have sanitation facilities at their households. Such poor sanitation practices can lead to contamination of the reservoirs.

During a recent field visit, the LCV in Abim District assured MWE that, "*the District was working hard to ensure all households acquire a sanitation facility*". A campaign has been introduced by the District involving name tags for members with sanitation facilities at their homes. Individuals without sanitation facilities were not allowed to hold functions or to stand for political leadership. One of the qualifications to be considered for nomination was "*to have a well used sanitation facility"*. This is noted as a good initiative to bring about behaviour change.

Figure 10.3 Pupil:Stance Ratios in Primary Schools (FY 2007/8)



10.7 SEWERAGE SERVICE COVERAGE IN LARGE TOWNS UNDER NWSC

As of June 2008, only 6% of the urban population have sewerage services. Despite the introduction of a new simplified sewerage connection policy in the FY 2006/07, new sewer connections have remained relatively low at about 250 per annum (Table 10.4). This has been attributed to limited coverage of the sewerage network and the reluctance of customers with existing on-site sanitation facilities to connect due to the implication of the increase in water tariff.

Table 10.4 Trend of Sewer Connections in Large Towns

Year	2001/02	2002/03	2003/04	2004/05	2005/06	2006/07	2007/08
New Sewerage Connections	95	104	153	262	229	333	232
Total Sewerage Connections	13,105	13,209	13,362	13,624	13,853	14,186	14,537
% Growth	1%	1%	1%	2%	2%	2%	2%

Efforts have been made to develop master plans for expansion of sewer coverage in all towns. However, the existing and projected water supply flows may not support sewer systems in some Small Towns. The Kampala Master Plan aims at increasing sewerage coverage from 6% to 30%. In Kampala more effluent is being generated per acreage. As a result the tertiary & secondary mains require expansion. The Kampala Master Plan for Sanitation takes this into account.

10.8 SEWERAGE SERVICE COVERAGE IN SMALL TOWNS

Kisoro has been the only small town with a functional sewerage system covering 186 households in a town of 25,029 persons, putting the accessibility in the town at 4%. Within the reporting period, new sewerage facilities were constructed in Hoima and Iganga covering additional population of 3,548 out of town populations of 118,256.

CHAPTER 11

WATER QUALITY

Protected springs provide water for an estimated 17% of the rural Ugandan population

11.1 INTRODUCTION

The quality of drinking water and municipal and industrial effluents represent the interface between socio-economic activities, the environment and human health. This year, we present data on the water quality arising from analysis made throughout the year and discuss the key issues affecting the management of drinking water quality and municipal and industrial effluents.

11.2 RURAL DRINKING WATER

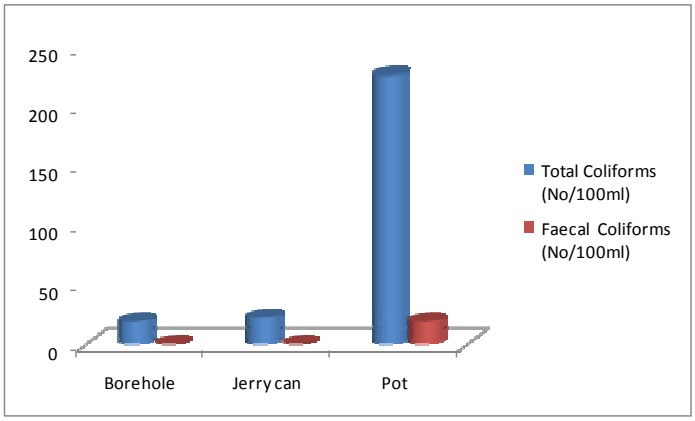
A total of 653 rural drinking water samples were analysed by MWE in 2007/08. These were from unprotected sources as well as protected sources. 45% of samples were from districts in the Victoria Water Management Zone (Kalangala, Kampala, Mbarara, Mukono, Rakai, Sembabule and Wakiso); 24.5% were from districts in the Kyoga Water Management Zone (Amolatar, Amuria, Apac, Bukedea, Butaleja, Dokolo, Jinja, Kamuli, Katakwi, Kumi, Luwero, Manafwa, Mbale, Oyam, Pallisa, Serere and Soroti); 2.8% were from districts in the Albert Water Management Zone (Bushenyi, Kiboga, Masindi, Mubende, Hoima); and 27.7% were from districts in the Upper Nile Water Management Zone (Amuria, Gulu, Kaabong, Kitgum, Kotido, Lira, Nebbi and Pader). Overall, approximately 41% of samples were free of faecal bacteria.

In the districts where heavy rains and flooding were followed by outbreaks of water borne diseases (mainly cholera, typhoid and hepatitis E), epidemiological data showed a concentration of cases in areas where there was a combination of high water tables and poor environmental sanitation (Box 11.1 and 11.2).

Box 11.1 Cholera Outbreak in Eastern Uganda

An outbreak of cholera was reported in Eastern Uganda in May 2008. By the close of the financial year, over 200 cases and 12 deaths had been recorded. The most affected districts were Pallisa, Butaleja and Mbale. Surveys conducted by District officials showed cholera cases to be concentrated in locations with low pit latrine coverage, high water tables, close to river banks or lake shores, and in low-lying areas susceptible to flooding. The Government embarked on a campaign to contain the epidemic through prompt isolation and treatment of cases, hygiene education and sanitation promotion.

MWE visited the affected areas in June 2008 and found that (a) the sanitation around most rural water points had improved tremendously as a result of the campaigns; (b) water from deep boreholes was safe with respect to bacteriological characteristics; (c) most spring water was heavily contaminated with faecal bacteria; (d) in areas where boreholes had objectionable physico-chemical characteristics (i.e. highly mineralized, salty, hard, turbid, with high Iron levels, or colored) users rejected them and resorted to unprotected sources; this contributed to the perpetuation of the epidemic; (e) in many homes, the bacteriological quality of water in storage containers was poorer than the quality of water at source (e.g. Figure right).



Safe water chain in rural households

Box 11.1 The Hepatitis E Epidemic in Northern Uganda

Hepatitis is a general term meaning inflammation of the liver, caused by the hepatitis A, B, C, D and E viruses. Hepatitis E is a waterborne disease transmitted via the faecal-oral route. Epidemics arise from widespread consumption of faecally contaminated food and drinking water. There is also a possibility of zoonotic spread of the virus, since several non-human primates, pigs, cows, sheep, goats and rodents are susceptible to infection.

In Uganda the recent outbreak of the disease first struck the Northern District of Kitgum in October 2007 and later spread to the neighbouring districts of Pader and Yumbe. MWE visited the affected areas in Kitgum at the end of June 2008. In the IDP camps, where the majority of cases were recorded, the team established that (a) most of the cases were children under ten years of age; (b) there was a reasonable number of improved water sources per camp (mostly deep boreholes); (c) sanitation around water points, and in the camps generally, was extremely poor – drainage channels to convey waste water away from the pedestals were blocked, dirt and filth were everywhere, human excreta were commonly found near water points, people and animals shared water sources, there was an acute shortage of pit latrines; (d) despite the poor sanitation, a high proportion (67%) of sources sampled had bacteriologically safe water; (e) water in home storage containers was nearly all contaminated (89.5%) with microorganisms of faecal origin.

Poor Drainage at Water Point in Kitgum

To combat the epidemic, a protracted campaign to improve sanitation and change attitudes towards hygiene needs to be launched in the north by a cross-section of stakeholders.

The studies also found that water which is safe at the collection point is nearly always contaminated at the consumption point in peoples home storage containers. For example, water stored in pots and scooped with tumblers, can lead to faecal contamination of the water. This highlights the need for improved hygiene behaviour, as stressed in chapter 10.

11.3 URBAN DRINKING WATER

11.3.1 Water Treatment under Challenge

Urban piped water supplies in Uganda undergo conventional or semi-conventional water treatment to a quality in line with the National Standards for Drinking Water Quality. However, as in previous years, the removal of organic based colour and dissolved organic substances continue to be difficult in some schemes. Aluminium Sulphate (alum) is used as the coagulant of choice in treatment systems which include chemical coagulation as it is easy to handle and is relatively inexpensive.

Over the last four decades, there has been a rapid increase in eutrophication of surface waters, such as Lake Victoria. This has been accompanied by an increase in the frequency and intensity of algal blooms and generally high productivity of aquatic biota including nuisance species. The inner bays of the lake are covered by massive bloom of blue-green algae during some periods of the year.

Figure 11.1 shows the intake point for Lyantonde water works, which is located at the edge of a papyrus swamp, with the open channel covered by algae.

The increased internal production as well as greater washout of detrital material from tropical swamps has produced strong organic-based colouration in the raw water for many water works. Due to the poor raw water quality in many towns, it is proving increasingly difficult to obtain satisfactory and cost-effective treatment with alum i.e.:

- High dosing rates of alum are required to achieve good colour removal.
- A neutralization step becomes necessary as high alum doses significantly lower the pH of treated water.

- Large quantities of sludge are produced requiring larger sludge drying facilities.
- Environmentally safe disposal of large amounts of sludge may be difficult and expensive.

Figure 11.1 Intake at Lyantonde Water Works - Covered by Algae

The cumulative cost of the above measures may be far greater than the cost of using more expensive inorganic coagulants (such as Sodium Aluminate, Ferrous Sulphate, Ferric Sulphate, Ferric Chloride and lime). Similar conclusions have been arrived at by an independent study conducted by NWSC at Gaba III water works.

In remotely located small towns where the surface waters are relatively less eutrophic, laboratory test show that alum still produces effective treatment. However, water works in such locations that do not have a chemical coagulation step continue to suffer from poor physical quality, especially those abstracting water from surface water bodies fringed by dense bands of littoral vegetation (e.g. Kayunga and Pallisa). Assessments indicate that satisfactory treatment can be achieved with introduction of a chemical coagulation step.

The difficulties in water treatment are not only experienced at the chemical coagulant step, but in other steps such as filtration. For new water supplies, there will be need to change treatment processes to address the drastically changed raw water quality in Uganda's surface water bodies.

11.3.2 Large Towns

Despite the increasing difficulty of achieving good treatment with conventional systems using alum coagulation, marked improvement has been achieved by National Water & Sewerage Corporation (NWSC) in control of the quality of water supplied to its towns.

A total of 19,764 samples in 2007/08 were taken from final water points, reservoirs and distribution points in the 23 NWSC towns. There has been considerable improvement in the quality of water supplied to consumers over previous years, with 80% of samples meeting the National Drinking Water Quality Standards for Colour (maximum of 15 Pt Co units); 90% of samples meeting the standard for Turbidity (maximum 5 NTU); 97% of samples meeting the standard for E-coli (0 CFU/100 ml); and 91% of the samples meeting the residual chlorine level of a minimum 0.20 mg/l. Table 11.1 show the performance of each town.

Table 11.1 Compliance (%) of NWSC Water Treatment Works (2007/8)

Area	Colour	Turbidity	Residual Chlorine	E-Coli
Kampala	76	92	85	96
Entebbe	100	100	100	100
Masaka	70	99	86	99
Mbarara	68	90	76	96
Kabale	100	100	95	100
Bushenyi/Ishaka	56	82	85	93
Kasese	100	100	95	100
Fort Portal	92	100	96	98
Mubende	90	100	85	97
Hoima	86	100	91	98

Area	Colour	Turbidity	Residual Chlorine	E-Coli
Masindi	92	100	96	99
Arua	89	90	86	95
Gulu	88	100	93	97
Lira	94	100	82	92
Soroti	84	96	77	91
Mbale	92	100	90	100
Tororo	94	100	78	91
Jinja	100	100	91	100
Lugazi	100	100	81	100

These improvements have been achieved through greater vigilance in management of the treatment processes in the NWSC towns. Many constraints and challenges are still to be overcome to consolidate and sustain the good results of 2007/08. They include design inadequacy of some systems, ageing network pipes and installations, vandalism of network components and poor quality of raw water (especially for Kampala, Masaka, Bushenyi/Ishaka and Mbarara). There are several ongoing interventions to further improve water quality.

11.4 MUNICIPAL SEWERAGE

National Water & Sewerage Corporation (NWSC) operates sewerage systems in 14 of the 23 towns under its jurisdiction. Only two of the towns (Kampala and Masaka) have conventional municipal wastewater treatment systems: the other 12 towns operate waste stabilization ponds. Figures 11.2 and 11.3 provide details for the different NWSC areas. The total volume of wastewater handled in the 14 towns is 27,400 m^3 day^{-1} which is only 15% of the treated water supplied to the towns. From 190 effluent samples collected by NWSC in 2007/08:

- 60% of samples were compliant with the National Wastewater Discharge Standards for BOD_5 (max. of 50 mg/L);
- 67% of the samples complied with the standard for total suspended solids (max. of 100 mg/L);
- 60% complied with standard for faecal coliforms (max. of 5,000 CFU/100mL).

Figure 11.2 Annual Mean Total Suspended Solids in Final Effluent of NWSC Sewerage Plants

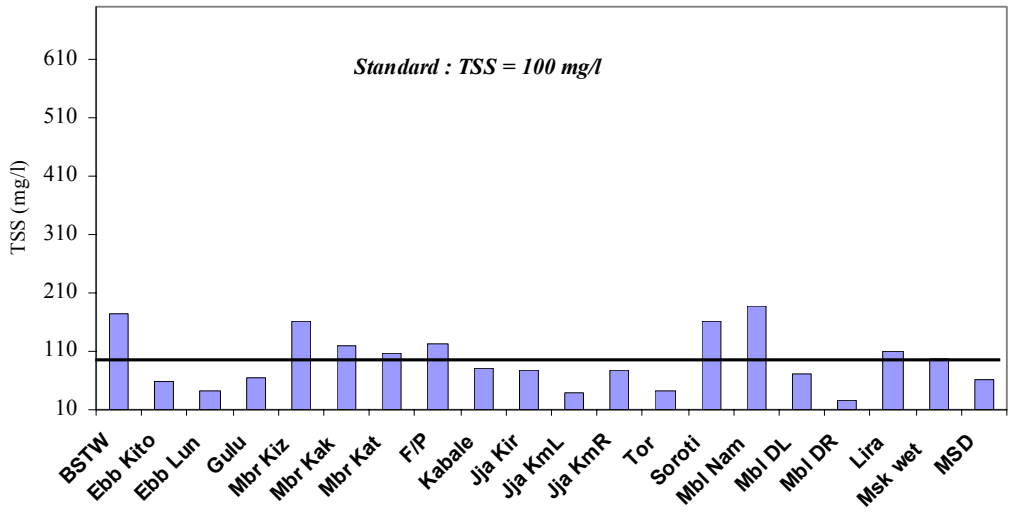
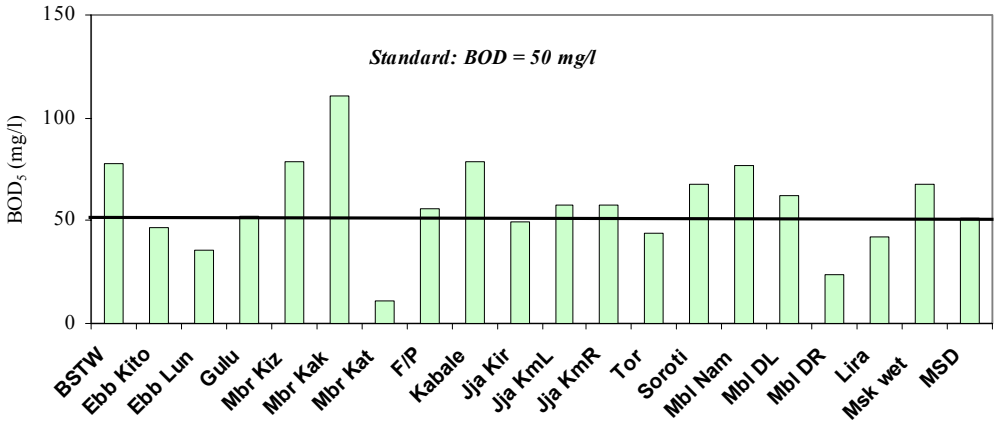


Figure 11.3 Annual mean BOD5 in final effluent of NWSC sewerage plants



Occasional cases of discharge of effluents of quality that did not meet the standards was due to design inadequacy which are being rectified through use of natural and constructed wetlands for treatment of the sewage effluents and modification of operational and maintenance regimes.

Constraints experienced during the year include vandalism of manhole covers allowing storm water into sewers, encroachment on land for wastewater treatment plants, destruction of wetlands used to polish effluents from stabilization ponds, and submergence of waste stabilization ponds by storm water runoff.

11.5 WATER FOR PRODUCTION

There is no water quality data for water for production facilities. However, visual observations undertaken during the baseline survey show that many of the facilities have algae or hold turbid water. This is particularly the case for the old dams and tanks constructed more than 50 years ago. In addition many facilities lack fences and livestock are watered straight from the tank. The lack of sanitation facilities in the catchment area is another cause of contamination (see section 10.6). These are major concerns, particularly given that the majority of the valley tanks and earth dams are used both for livestock watering and for domestic purposes.

In the past FY MWE has tried to address these problems by incorporating simple filtration mechanisms such as the infiltration gallery to improve the quality of water used for domestic purposes and including tap stands to avoid humans sharing draw off points with livestock.

CHAPTER 12

WATER QUANTITY

Reconstruction of Kakinga Dam in Sembabule District in progress, March 2008

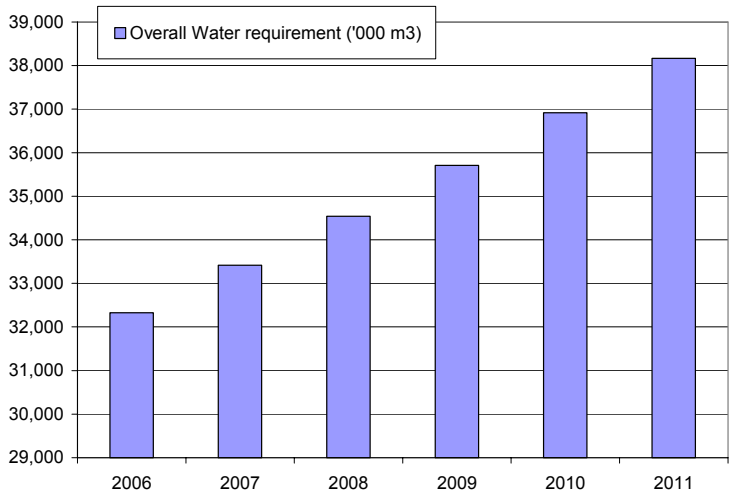
12.1 INTRODUCTION

The golden indicator on water quantity **"% increase in cumulative storage capacity"** refers to the current storage capacity as a percentage of the water demand.

12.2 WATER DEMAND

The total water requirements for production as presented in the 5-year plan for water for production is between 32 and 38 million m^3 as indicated in Figure 12.1. This includes water demand for livestock and wildlife and crop production. Consumptive water for aquaculture and rural industry is considered insignificant.

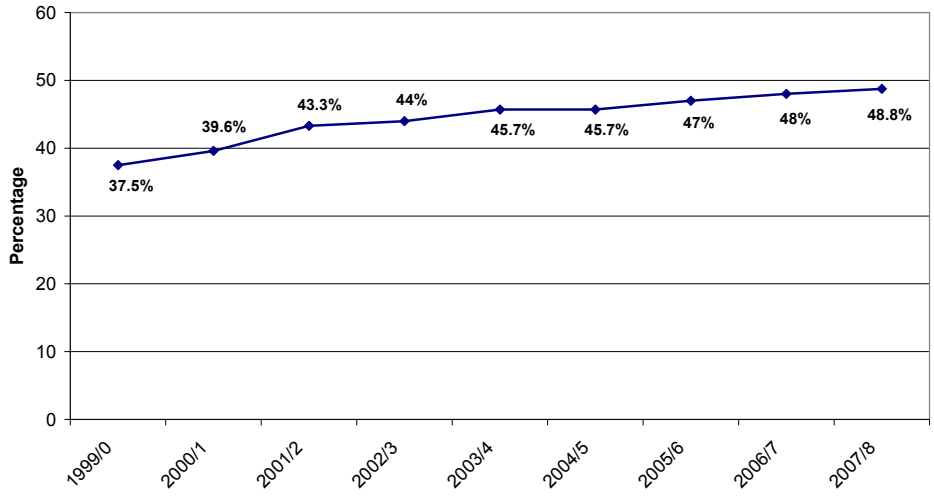
Figure 12.1 Overall Water Demand for 2006 to 2011



12.3 CURRENT WATER STORAGE

Figure 12.2 shows the cumulative increase in storage capacity from 1999/2000 to 2007/8. The percentage cumulative storage is a way of describing the extent to which the sector is meeting the water demand. For FY 2007/8, the current storage is meeting 48.8% of the water demand. Details of achievements in the sub-sector in FY 2007/8 are set out in section 6.4.

Figure 12.2 Percentage Cumulative Storage Capacity



CHAPTER 13

EQUITY

Boy Collects Water from a Traditional Source in Arua

13.1 INTRODUCTION

Equity is concerned with providing equal opportunities for the service and minimising differences between groups of people. Inequity in service provision can therefore be defined as avoidable unjust and unfair differences.

13.2 RURAL WATER SUPPLIES

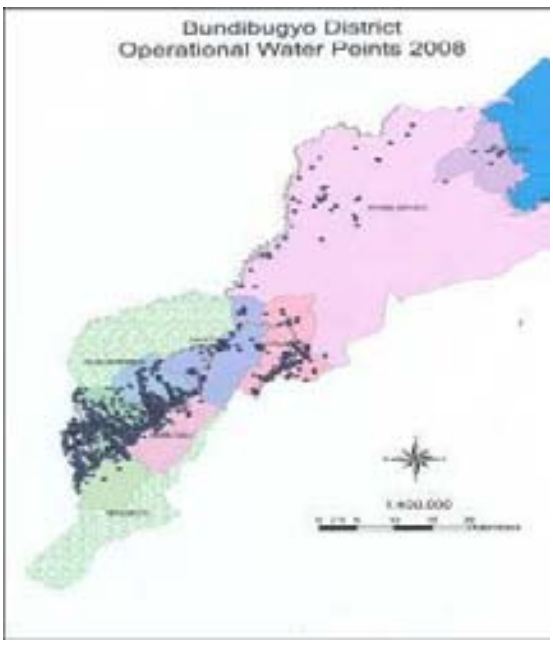
Analysis of data for district access to safe water in rural areas (presented in Chapter 7; Figure 7.2) shows the inequity of distribution between districts (ranging from 12% to 95% coverage). It also highlights the fact that 4% of sub-counties in Uganda have coverage of less than 20% (Table 7.1).

In the case of rural water supply, increased coverage in provision of safe water to rural communities is directly affected by the distribution of the water points. Equity is concerned with fair distribution of improved water facilities to communities. It is on this basis that the equity indicator for rural water supplies is built. The indicator is defined as "**the mean sub-county deviation from the district average in persons per water point"**. Annex 13.1 describes how to calculate the indicator. A low numerical value indicates good equity of distribution between the sub-counties. A high numerical score indicates poor equity in distribution of water points between the sub-counties within the district.

As of June 2008, across the whole of rural Uganda, there is an average of 387 persons per improved water point. The mean sub-county deviation from the national average of persons per improved water point is 243. Annex 13.2 provides the Mean Sub-County Deviation from the District Average persons per improved water point for all Districts. The ten districts with the best equity are: Dokolo, Bukwo, Kanungu, Kaberamaido, Bulisa, Kitgum, Busia, Gulu, Kayunga and Kabale. The ten districts with the worst equity are: Kaabong, Bugiri, Rakai, Mubende, Isingiro, Kalangala, Mbarara, Soroti, Kiruhura and Nakapiripirit.

It is very important to focus on the distribution of new water points between the sub counties within the districts. The variation in number of people per improved water point between sub-counties can be quite pronounced as seen from a case study of the Bundibugyo District case study in Box 13.1.

Box 13.1 Case Study of Distribution of Water Points in Bundibugyo District



Sub-County	Rural Population	Average Number of People per Improved Water Point
BUBANDI	23,045	128
BUBUKWANGA	24,440	242
BUSARU	42,352	141
HARUGALE	30,460	260
KASITU	35,480	284
NDUGUTO	37,690	340
KANARA	14,936	415
KARUGUTU	20,247	156
RWEBISENGO	32,897	186

Bundibugyo has an official coverage of 77%. However, the above figure and table shows the degree of inequity in distribution of improved water facilities in Bundibugyo District. The district average is 205 persons per water point.

In an effort to reduce inequity in access to improved water supplies in the rural communities, MWE has drawn up a new allocation formula which allocates funds under the DWSDCG at sub county level based on:

- sub-county coverage,
- per capita unit costs of investment,
- district specific population growth rates, and
- a proportionate allocation to the sub-counties below the national safe water coverage to enable them to catch up with the national coverage at an accelerated rate.

The challenge is to ensure that District Local Governments allocate the grant based on the same principles i.e. more funds to the sub-counties which are least served. MWE will issue new guidelines to districts in 2008/9 to help in equitable allocation to the least served sub-counties. Box 13.2 highlights the challenges of overcoming inequity within districts.

Box 13.2 Reality of Grant Allocation within a District

I find it difficult to extend piped water to some underserved parishes because of Political interference. Councillors at the District level still divert allocated water points to already served parishes where they come from leaving those with no representation without anything. At district level, allocations are mainly done equally to all Sub Counties irrespective of their coverage. My negotiation abilities are limited and I cannot do much but only to comply with my employers. The Local Government councillors do not want to adhere to the sector guidelines despite the fact that they are aware of the provision therein. **(Concerned District water officer)**

13.2.1 Factors that affect Equity

Provision for Flexibility of Funds between the Sectors: All districts are allowed to re-allocate up to 10% of recurrent funds to other local priority sectors. In addition, the 45 PRDP districts in Northern Uganda are allowed to reallocate up to 50% of the development budget to other priority sectors. For the other Districts, flexibility in development is through the Local Government Development Programme (LGDP) Grant. This distorts the water and sanitation sector plans because:

- The provision is insensitive to limited sector funding. There is a misconception in some Districts that the water sector has lots of funds which should be reallocated to other sectors.
- The provision would nullify the benefits that would accrue from use of the new allocation formula which is sensitive to the least served sub-counties. This is exemplified by the example in Box 13.3.

Box 13.3 Challenges of Allocating Resources to the Underserved at District Level

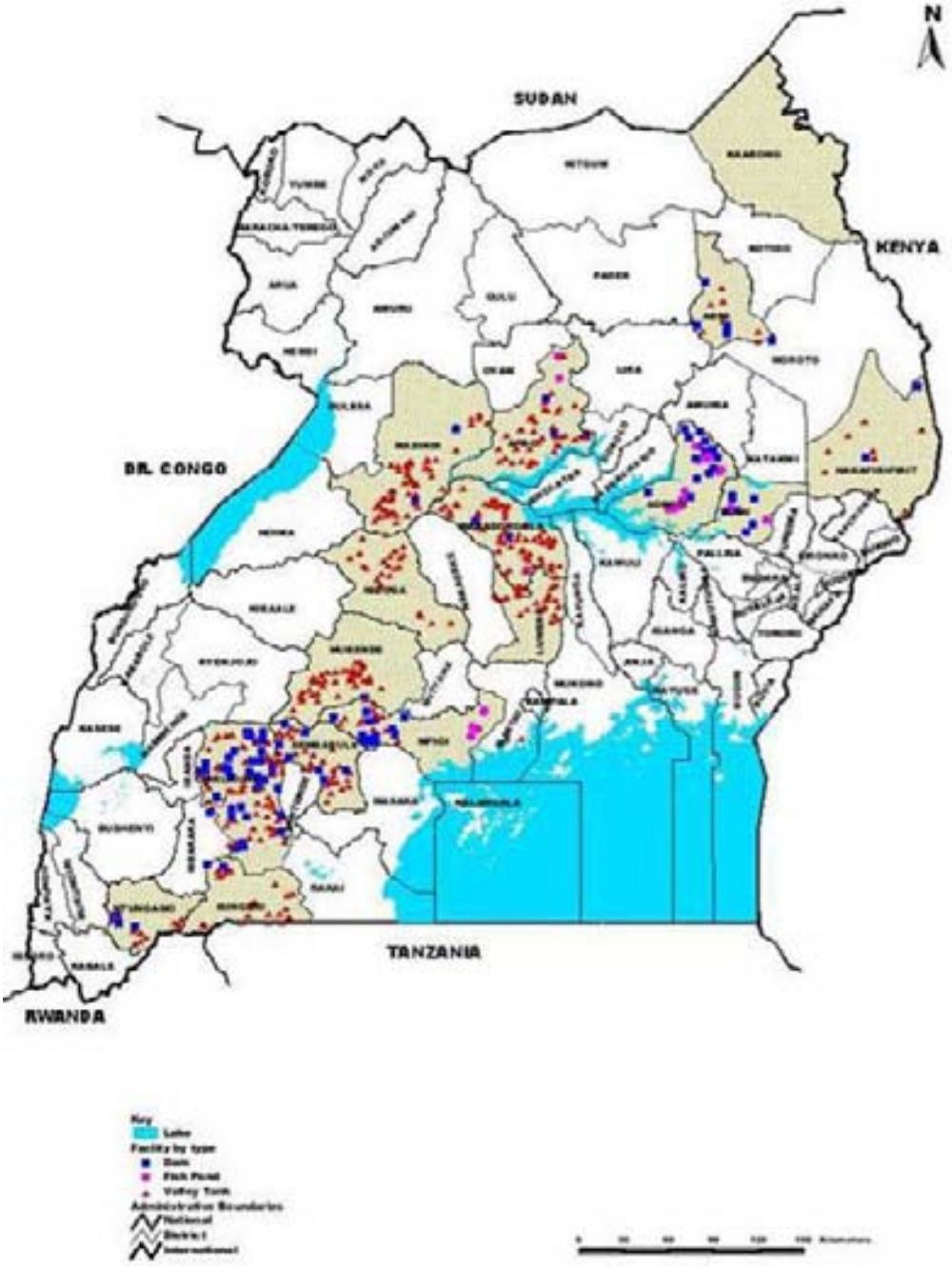
With more funding by the MWE aiming at sub county level interventions, our district council decided to negate the criteria and reallocate 20% of the conditional grant to health and education sectors. This was on the basis that funds sent to the districts are for districts and the centre cannot dictate. They also claimed that during the FY 2007/08, funds were reallocated into the water sector but in real terms we did not receive these funds. The District council based its argument on the provision that allows districts to reallocate funds sent to them and that districts are autonomous entities that are free to make their own decisions. This allocation therefore has not assisted us to solve our problems (Ag DWO).

Data Management**:** Very few District Local Governments have clear criteria and an inventory of improved water points (i.e. updated databases) on investments by Government and stakeholders. Although MWE has built capacity for a number of DWO staff in data management, the knowledge is not being used adequately for informed decision-making at District level.

13.3 WATER FOR PRODUCTION

The variation in water for production facilities between districts is demonstrated by Figure 13.1 which shows the distribution of facilities in the 16 districts so far covered by the baseline survey. Important to note is that siting of surface water reservoirs is largely dependent on area topography, hydrology and geology.

Figure 13.1 Distribution of WfP facilities in the 16 Districts covered by the baseline survey



CHAPTER 14

MANAGEMENT

Caretaker and spring in Amuria district

14.1 INTRODUCTION

The golden indicator to assess community management is the percentage of water points with actively functioning Water and Sanitation Committees (WSC), in the case of rural water supplies and Water Boards (WB) in the case of urban water supplies.

14.2 RURAL WATER SUPPLY AND SANITATION

The sector promotes the Community Based Maintenance System (CBMS) in the management of rural water supplies. CBMS is widely endorsed and regarded as one of the best options for O&M of communal water supply facilities in rural areas and rural growth centres (RGC). It has several benefits in terms of sustainability, empowerment of communities and low cost nature. It has been promoted by government, and shall continue to be the preferred option to be promoted by all stakeholders in the sector.

14.2.1 Functionality of Water and Sanitation Committees

The golden indicator that has been adopted by the sector for measuring effective community management in the rural water sub-sector is *"% of water points with actively functional water and sanitation committees"*. For a committee to be considered functional it must meet the following criteria:

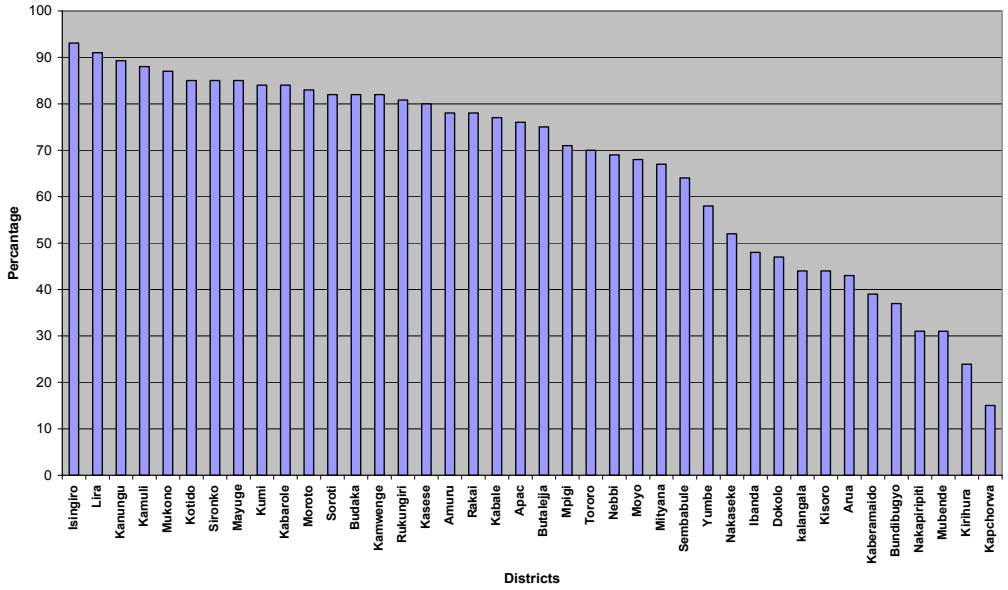
- The committee meets regularly.
- The committee collects operational and maintenance funds.
- The committee has undertaken servicing and/or minor repairs.

Data from 40 Districts Annual Reports[47] indicates that there is a slight improvement in the Water and Sanitation Committee (WSC) functionality from 63% in FY 2006/7 to 65% in FY 2007/8. Details are given in Figure 14.1.

The increase was attributed to retraining of WSCs and intensification of follow up visits by extension workers and politicians. The highest number of functional WSCs was reported in the districts of: Isingiro (93%), Lira (91%) and Kanungu (89%) while the lowest levels of functionality were reported in the districts of Kapchorwa (16%), Kiruhura (24%), Mubende (31%), Nakapiripirit (31%) and Bundibugyo (37%). Figure 14.1 below shows details for the 40 districts.

[47] 40 District Local Governments reported on the status of the water and sanitation committees.

Figure 14.1 Percentage of Functional Water and Sanitation Committees in 40 Districts



14.2.2 Training Water and Sanitation Committees

It has been observed that community mobilisation, if backed by adequate training, assists communities to clearly define their problems, technology options and stakeholder roles. Field visits (by MWE and MOGLSD) to 15 Districts[48] established that 67% of the WSCs had been trained. Overall, the committees that received training were found to have sources that were better maintained in terms of catchment protection, good hygiene and sanitation, drainage and fencing.

In Gulu, none of the WSCs visited had been trained. The DWO explained that the water sources were newly constructed for the internally Displaced People (IDPs) who are now returning to their homes. The District plans to train the WSCs in the near future.

14.3 URBAN WATER SUPPLY – SMALL TOWNS

Water Authorities are mandated to constitute a Water Supply and Sanitation Board (WSSB) for purposes of supervising the management and operations of small water supply systems. The boards have a composition of five members including the Town Clerk, Chairperson and other members drawn from the various categories of water users (Institutional, Industrial and Household users).

The golden indicator that has been adopted by the sector for measuring effective management by water boards is "**% of water points with actively functional water boards.** A water board is considered functional if members meet at least once in a quarter and undertakes adequate follow up and submits reports. An assessment of 113 water authorities and town boards visited revealed that 64.6% (73) boards were active.

The main challenges to functionality of Water Supply and Sanitation Boards were found to be:

- Lack of motivation by the board members. The work of the board is voluntary. The 5% of the total collection from the scheme that is meant to facilitate their activities is not always forth coming.
- Information flow from private operators, boards and Local Authorities is inadequate and results in conflicts.

[48] Kyenjojo, Kamwenge, Kiboga, Mukono, Isingiro, Kisoro, Ibanda, Gulu, Koboko, Arua, Tororo, Budaka, Soroti , Amuria, Mbale

- There are problems of power fluctuation.
- Lack of adequate and appropriately qualified staff coupled with poor motivation on the side of the private water operators.

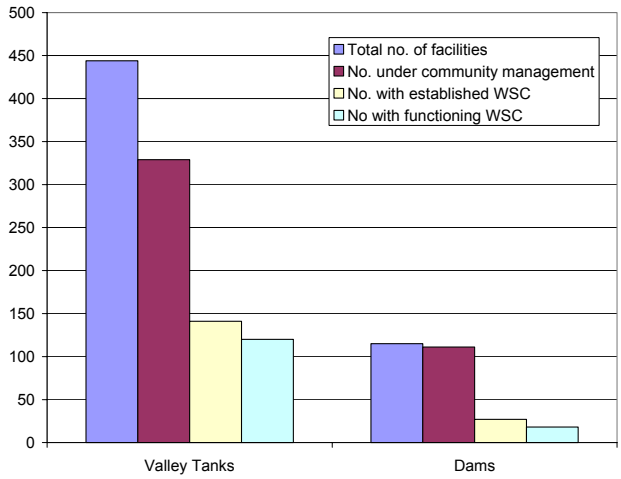
14.4 WATER FOR PRODUCTION

Community management of water for production facilities involves mobilising community members to take responsibility for operation and maintenance. In order to improve the performance and enhance the sustainability of the facilities, capacity building has been the focus of MWE. This has been achieved through training of District Local Government staff and communities through the Water and Sanitation Committees. The mobilization strategy involves three stages of mobilisation as follows; 1) pre-construction mobilisation, 2) during construction mobilisation and 3) after construction mobilisation.

During the FY 2007/8, training was carried out in the districts of Isingiro, Sembabule, Apac, Abim, Nakapiripirit, Moroto, Kaabong, Kotido, and Kumi. These efforts resulted in the establishment of 42 new Water and Sanitation Committees that were trained in the aspects of operation and maintenance of valley tanks.

In the 16 districts covered by the baseline survey, 444 valley tanks and 115 dams were visited. Communities managed 74% of the valley tanks and 96% of the dams. The rest of the facilities were under private or individual management arrangement or without any management arrangement at all. Figure 14.2 presents the ratio between the total number of facilities visited, number of facilities under community management, number of facilities where a Water and Sanitation Committee has been established and finally the number of facilities where a Water and Sanitation Committees has been established and is functioning. **In total 31% of the facilities[49] visited during the baseline survey had functioning WSC's.**

Figure 14.2 Community management of WfP facilities[50]



[49] Applicable to Valley Tanks and Dams
[50] Source: WfP database, MWE 2008

CHAPTER 15

GENDER

A woman constructing a rainwater harvesting tank in Bugiri District

15.1 INTRODUCTION

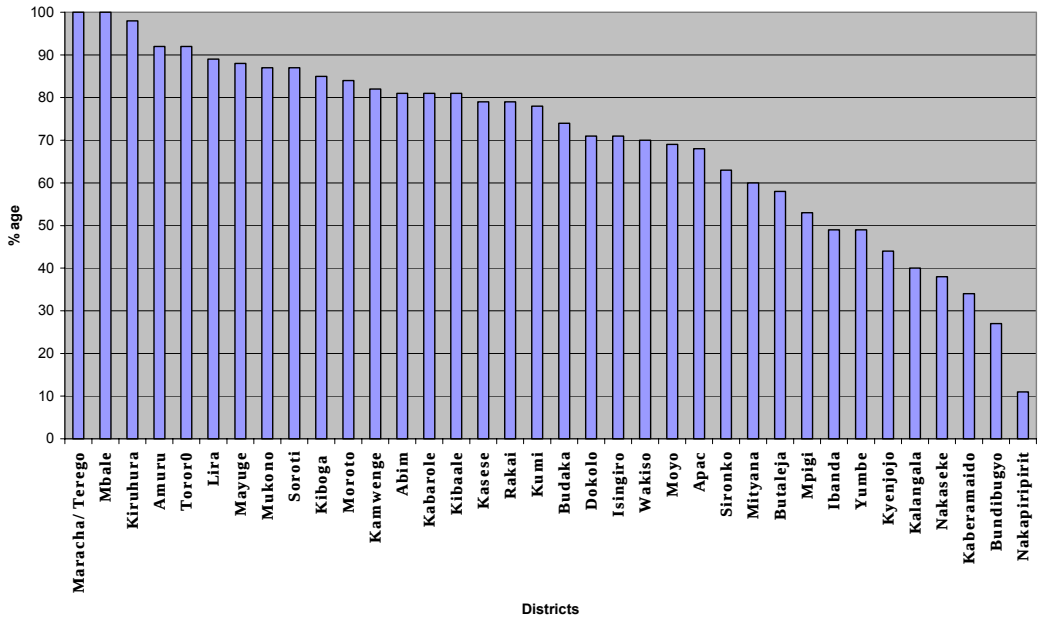
Women play a major role in water and sanitation and are the most affected in situations of poor access to safe water and sanitation. Women representation and participation in water and sanitation activities is therefore very critical. It helps facilitate integration of their concerns into policies, programmes, plans, budgets and activities. The water sector developed and launched a gender mainstreaming strategy 2003 which aims to enhance gender equity, participation and access and control of resources in the water and sanitation sector. This chapter highlights the progress of gender mainstreaming in the sector during 2007/8.

In order to ensure meaningful participation of women in the management of water sources at the community level, it is a requirement for all water user committees to have at least one woman holding a key position. The golden indicator used with respect to gender at community level and within the water boards is defined as **"% of Water User Committees with at least one woman holding a key position".** A key position refers to Chairperson, Vice Chairperson, Secretary or Treasurer. It is now a requirement for districts to report on this indicator in their annual reports.

15.2 RURAL WATER AND SANITATION COMMITTEES

Data from 36 districts[51], comprising 15,188 water sources shows that 71% of water and sanitation committees in rural areas have women holding key positions (Figure 15.1). Maracha-Terego and Mbale report 100% compliance to the sector guideline. The lowest level of compliance was registered in Nakapiripirit (11%), Bundibugyo (27%), Kaberamaido (34%) and Nakaseke (38%).

Figure 15.1 Water and Sanitation Committee showing percentage of women in key positions



Female Water and Sanitation Committee (WSC) members face many challenges while performing their committee roles. Box 15.1 illustrates the importance of finding ways to change people's beliefs and attitudes towards women in society.

[51] Districts started reporting on this indicator in FY 2007/8--Only 36 district have complied to the reporting requirement

Box 15.1 Challenges Faced by Female Water and Sanitation Committee Members

Interviews with District Local Government officials and community members revealed the following:

- *It is a traditional practice that women don't engage in hardware. A woman holding a spanner and lifting pipes looks improper (Amuru District Officer).*
- *Women are faced with heavy work load at home and as a result they don't have enough time to engage in water and sanitation related activities (Rukungiri District Official).*
- *"I married you to have children and to do household chores, but not to spend all the time in useless meetings. If you go to those meetings, don't come back home". As told to a secretary of a water and sanitation committee for Kashenyi Shallow well in the presence of the ADWO – Mobilization, Isingiro District.*
- *"Time for committee meetings overlap with the busiest time for women at home. The timing is normally suitable for men who are usually free during evenings" (Ibanda District official).*
- *"Lack of confidence in chairing. As a result women seem to prefer the other roles avoiding the chair position" (Ntungamo District official).*
- *"Men undermine women caretakers. We are always abused and insulted by men" (Woman Caretaker in Soroti district).*

15.3 WATER FOR PRODUCTION – WATER USER COMMITTEES

Both women and men are encouraged to be members of Water User Committees (WUCs) for water for production facilities (WfP). However observations during field visits shows that men tend to dominate committee membership and decision making which results in marginalisation and low participation by women. One reason for this is that women often associate WfP facilities with men since men are in charge of rearing and watering the animals. The management of the WfP facilities therefore is looked upon as the responsibility of men.

Data related to women participation in WUCs was collected in the baseline survey, however, it was found difficult to obtain information on the involvement of women *in key positions*. The only information possible to capture was the number of women members in the committees. In total, **63% of the WUC's included at least one woman.** However, all of the 42 new WUCs established (by MWE) during the FY 2007/8 included at least one woman in a key position.

15.4 WOMEN HANDPUMP MECHANICS

The majority of trained hand pump mechanics (HPMs) continue to be men. Data from 11 districts[52] indicates that out of 50 trained HPMs in FY 2007/8 only six (12%) were women. These were from Amuria (4), Lira (1) and Oyam (1). The Districts reported that this small number was attributed to negative attitudes towards women doing mechanical work.

15.5 SELF HELP INITIATIVES BY WOMEN

Box 15.2 shows the case of a women's group that helped improve the water and sanitation status of a village in less than a year with the support and encouragement of local leaders and extension workers. It illustrates that self help can help improve water supply and sanitation in rural communities, particularly if supported and encouraged by local leaders and extension workers.

[52] Amuria, Amuru, Gulu, Kitgum, Pader, Oyam, Apac, Adjumani, Dokolo, Lira and Amolatar

Box 15.2 Women's efforts to improve water supply and sanitation in Arua district

The inhabitants of Nyio Village, Vurra Sub-County, Arua district had long suffered with water and sanitation related diseases including typhoid, worms and scabies. In November 2007 the women in the village formed a group and started self help initiatives to improve on the water and sanitation situation. They arranged community meetings, formed a water and sanitation committee, mobilized funds within the community for improving their water supplies and started home improvement campaigns. The campaign put emphasis on each household in the community having a latrine.

The households that could not afford to build latrines were helped by the community. The owner was required to prepare a meal for group members who had came to help with the construction. Members came up with bye laws and penalties for those who refused to put up sanitation facilities and those who failed to turn up for meetings. For instance community members without latrines were required to pay a fine of shillings 5,000 and whereas members with very good sanitation facilities were recognized in meetings.

As a result of the innovation, extension workers and local leaders allocated a borehole to this community. The community was subsequently facilitated to carry out mobilization and sensitization activities to neighbouring villages.

Nyio village registered 80% sanitation coverage from 54% in less than a year. The village is now recognized as a model village for the good results registered.

15.6 SMALL TOWNS WATER AND SANITATION BOARDS

The Water and Sanitation Board is responsible for the management of water and sanitation programs in specific towns including supervising the Private Operator. The policy is that each board comprises at least 50% women. These women should be able to make decisions, a reason why they are supposed to hold key positions on the board.

MWE conducted a data collection exercise for the 187 Town Boards and found that 30% of the women are on key positions. This is a distinct improvement from last year where only 18% of boards had women in a key position.

The Management Training and Advisory Centre (MTAC) was contracted by MWE to conduct a training program for the water boards. A total of 430 participants attended the training. 156 (37% of the participants) were women.

Capacity building of private water operators was organized (by Inwent) through APWO and the Wave Pool – Uganda. The training program was on Non Revenue Water and Customer Care. Out of 53 participants 12 which is equivalent to 22.6% were women.

15.7 GENDER MAINSTREAMING IN DISTRICT PLANS AND REPORTS

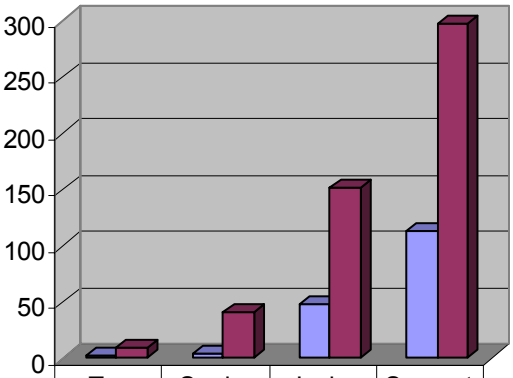
A desk review of District annual reports and work plans for the FY 2007/8 revealed that there is progress with respect to gender–sensitive reporting in the reports. 44% of the districts reported on the gender golden indicator. 16% of the districts had data segregated according to sex (Male/Female). Overall Rukungiri, Kanungu and Ibanda had the best gender sensitive reports. These Districts had data broken down according to sex; reported on percentage of women having key positions on the Water and Sanitation committees and also reported on all activities undertaken by the Districts on gender mainstreaming.

15.8 MWE AND NWSC STAFFING

Overall, 22% of the NWSC staff is female. In some areas the female staff ratio goes as high as 32%. Details of gender ratios in each NWSC area are given in Annex 15.1.

A review of the Ministry of Water and Environment staff shows a fair gender balance as being demonstrated in the category of top management level[53] where 33% of staff are female (Figure 15.2). This demonstrates compliance to the sector gender policy that requires at least 30% women representation. The worst women representation is demonstrated at Senior Staff level where only 8.8% are female.

Figure 15.2 Gender representation of staffing in the Ministry of Water and Environment



	Top Manage	Senior manage	Junior Staff	Support Staff
Female	3	4	48	113
Male	9	41	151	298

A major challenge to gender balance is the lack of control of MWE in the recruitment process which is handled by the Public Service Commission.

[53] Top management category refers to Ministers, the Permanent Secretary, Under Secretary, Directors and Commissioners. Senior management category refers to Assistant commissioners and Principal Officers. Junior officers refers of senior staff and officers. Support staff refers to all officers below the category of Junior officers.

Chapter 16

CONCLUSIONS & RECOMMENDATIONS

A drying rack is an integral part of good domestic hygiene and sanitation

16.1 SECTOR FINANCE

At current financing levels, the water and sanitation sector has to make extremely difficult choices and priorities, e.g. 'Should we raise access to safe water in highly underserved areas *or* ensure that industries adhere to regulations and do not pollute water resources for future generations?', 'Should we focus on water for the urban poor, *or* on water for livestock?'. The reality is that the national targets for access to safe water in rural and urban areas and proper regulation simply cannot be met with current approaches and existing funding levels. It raises the question of the extent to which water resources, water supply and sanitation are priority areas in Uganda.

Recommendation: In order to address the issue inadequate sector finance, either the ceiling for the water and sanitation sector needs to be raised considerably, or innovative mechanisms to support the sector outside the ceiling need to be sought. Existing examples of the latter are output based aid and off-budget support.

16.2 REGULATION - COMPLIANCE WITH THE PERMITS

Compliance with permit requirements particularly those related to installation of wastewater treatment facilities and improvement on the quality of the final wastewater discharged into the environment is low.

As the country prepares for petroleum production there is weak capacity and lack of regulations to manage petroleum development and related disasters (accidental oil spillage on land and water).

Recommendation: A Compliance Assistance Strategy should be developed and implemented to assist permit holders to comply with water laws and regulations. This could include provision of technical assistance in acquisition of water level and water discharge monitoring equipment, general technical support assistance to permit holders, and improved communications improving awareness amongst all stakeholders of the benefits of the regulation processes.

Update the wastewater discharge regulations to provide for petroleum exploration and development. Develop guidelines for emergency management of petroleum-related disasters. Build capacity of Government agencies to enable them to monitor and assess petroleum drilling and production activities with respect to water resources.

16.3 DATA CAPTURE AND UPDATE OF WATER FACILITIES

There were significant variations in number of people served as reported by some Districts over the period 2006/7 – 2007/08 FYs even when the rural water grant allocations to these districts remained fairly constant. The submissions from Districts which had recently updated their mapping of all point water sources were coherent with no unjustified variations. The sector further noted a tendency by some Districts to revise their coverages downward in order to attract more rural grant allocation (the 2008/09 FY rural grant allocation was based of sub-county coverage).

Recommendation: Mechanisms to ensure detailed and accurate information flow regarding access to rural water supplies are established. This will require major efforts to map all point water sources in the country and a strategy for updating databases as new water points are constructed. The groundwater mapping should be expedited to cover the entire country.

16.4 ADHERENCE TO SECTOR GUIDELINES

One of the reasons for the apparent increase in per capita investment cost is expenditure, by districts, on items that do not directly contribute to new people served outside the provisions of sector guidelines. Although MWE has improved its regulatory role, some Districts still spend beyond the allowable proportions of the DWSDCG on some activities (e.g. borehole rehabilitation). In

addition there are inadequate accountability mechanisms for sanitation and hygiene expenditure by local governments.

Recommendation: The regulatory role of MWE should be strengthened to ensure adherence to sector guidelines and standards. Clear systems need to be established to ensure timely follow-up of District expenditure and outputs.

16.5 WATER STRESSED AREAS

Access to improved water sources has not improved in the least served areas over the last 3 FYs. 129 sub-counties (16% of all sub-counties) have coverages below 39%. These areas can only be served with higher per capita cost technologies that cannot easily be accommodated under the DWSCG.

Recommendation: Dedicated investment in form of programmes developed and implemented to meet the demands of water and sanitation in the water stressed areas.

16.6 INCREASED FUNDING FOR WFP OUTSIDE THE SECTOR CEILING

WfP is key to implementation of the PEAP/NDP and PFA. The current WfP coverage is quite low and yet demand for WfP facilities is increasing countrywide.

Recommendation: In order to improve access to WfP facilities it is necessary to increase investments for WfP activities. If it is not achievable through public finance, implementation of additional projects outside the sector ceiling should be considered.

16.7 SANITATION AND SEWERAGE IN URBAN AREAS

Sewerage services have lagged behind the water service coverage due to a number of factors including the limited network coverage, poor urban planning, and the high cost of installation of the sewerage network.

Recommendation: In order to improve the low sewerage coverage the Sanitation Master Plans should be implemented.

16.8 INCREASING FUNCTIONALITY OF PIPED WATER SUPPLIES IN URBAN AREAS

The water supplies with pumped systems that depend on the national power grid for energy have continued to suffer greatly under the prevailing conditions of power blackouts. Some of the systems have been rendered inactive for several days as a result.

Recommendation: There is need for installation of solar pumping systems or standby generators in towns where grid electricity is the main source of power supply to water supply systems. In areas remote of the national grid, installation of solar energy systems is recommended to reduce on the cost of water production and increase affordability to the users.

16.9 BACKUP SUPPORT TO SMALL TOWNS O&M

The number of towns with piped water supplies has increased but resources for back-up support for O&M have not increased in tandem.

Recommendation: There is need to increase resources for back-up support for O&M and provide resources for extension of distribution systems so that every town is enabled to increase the number of connections and thus generate more revenue.

16.10 SANITATION MOU

The present MoU for sanitation does not sufficiently clarify responsibilities and mandates between central Ministries for excreta related sanitation and environmental sanitation including solid waste

management and drainage. Furthermore, it does not clarify responsibilities at District and local Government levels covering areas such as; management of excreta related sanitation, distinguishing between rural and urban issues, clarification of sources and mechanisms of funding, and what types of activities should be funded. In addition, guidance on how coordination should proceed at the national and local levels is not provided in the MoU.

Recommendation: Clarify mandates for sanitation and hygiene and undertake a review of the MOU. The reform of the sanitation Memorandum of Understanding should be part of the package of guidelines for implementation of integrated budget line.

16.11 SANITATION BYE-LAWS

There is inadequate political will to support sanitation and enforcement. Coupled with the lack of resources, the enforcement of the public health is weak. Some LGs do not have bylaws for sanitation and hygiene. Although several districts have carried out enforcement campaigns, extension staff in many districts are not supported by politicians in enforcement. In addition, many of the local Governments need support in enacting bylaws for improved sanitation, but this has not been forthcoming from the national level, mainly due to limited resources. An important lesson from the better performing districts and municipalities in Uganda with respect to sanitation is that the active involvement of leaders at all levels is important for allocation of budgets to hygiene and sanitation and enforcement of local sanitation bylaws.

Recommendation: All local governments should establish and enforce local bylaws on sanitation and hygiene. Politicians should be sensitized regarding the importance of sanitation. The need for their participation should be stressed. Emphasis should be put on the application of the policy and other regulations in place especially the Local Government act and the Public Health Act plus the sanitation ordinances. Establish System of Rewards and Incentives at the various levels including the national level. A system to recognize leaders, communities, individuals and institutions which excel in improving sanitation and hygiene should be instituted at various levels. The home improvement campaigns/competitions of the 1960s should be revived.

16.12 HANDWASHING WITH SOAP

Some local Governments with high latrine coverage have reported that there has not been appreciable change in relevant health indicators. This is largely because the drive for construction of latrines has not been complimented by improved hygiene behaviour, and most of the latrines are reportedly dirty. Many local governments have carried out campaigns to promote latrine construction but have neglected promotion of handwashing with soap and safe water handling and storage.

Recommendation: The sanitation promotion by Local Governments should include a component on behaviour change promotion. The sector guidelines should ensure that some of the money is spent on hygiene promotion, especially handwashing, which can have a high health impact for limited resources. To achieve sustainable results in behavioural change, dynamic methods for community communication and education is required, rather than simply providing information which in the past, has proved not to be sufficient. Communication for Behavioural Impact, based on the private sector approach of Integrated Marketing Communication, offers a dynamic approach to achieving behavioural results in social development and should therefore be explored.

16.13 WRM INDICATORS

Nine out of the ten Golden Indicators in the Sector Performance Measurement Framework seem to be primarily directed towards *water supply and sanitation* and they do not adequately enable performance monitoring of water resources management.

Recommendations: Appropriate WRM performance indicators, additional to the Golden Indicators, should be developed. The additional WRM indicators should be developed in such a way as to reflect the value of water resources management and development and the incremental benefits of the activities and outputs related to WRM.

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Annex 1 Information Sources and References

Annex 1.1 Information Sources for the Sector Performance Report 2007

Issued by	*Document/Database*	*Latest year of Issue*	*Useful Data for SPR*	*Utilised in SPR 2008*
UBOS	Uganda Population and Housing Census (UPHC)	2002	Population Figures	✓
UBOS	Uganda National Household Survey (UNHS)	2005/6	Source of drinking water, distance to source	
UBOS	Uganda Demographic and Health Survey (UDHS)	2006	Access, collection time, collection burden and water treatment	✓
UBOS	Uganda National Service Delivery Survey (UNSDS)	2006	Access, collection time	
UBOS	State of Uganda Population Report	2007	Not used for 2008 SPR	
MoH	Ministry of Health Annual Health Inspectors Annual Sanitation Survey (HIASS)	2007	Sanitation	✓
MFPED	Uganda Participatory Poverty Assessment Process (UPAP)		Not used for 2008 SPR	
MWE	Water and Sanitation Sector Financial Tracking Study	2004/5		
MWE	Ministry of Water and Environment PAF Monitoring Report	2007	Human resources, functionality, investment, community management	
District Local Governments	District Water and Sanitation Annual Situational Analysis Reports	2008	Access, functionality, investment, equity	✓
MWE	DWD-MIS Database and NWSC-MIS Database	2007	Access	✓
UNDP	Human Development Report 2006. Beyond Scarcity: Power, poverty and the global water crisis	2006	Impact, investment	✓
UWASNET	NGO Group Performance Report for 2007	2008	NGO Inputs and Performance	✓

Annex 1.2 References

MWLE 2004. Uganda Water and Sanitation Sector Performance Measurement Framework. Ministry of Water, Lands and Environment.

MWLE 2004. Uganda Water and Sanitation Sector Performance Report. Ministry of Water, Lands and Environment.

MWLE. 1999. National Water Policy. Ministry of Water, Lands and Environment

Annex 2 Sector Overview

Annex 2.1 Status of District Water and Sanitation Coordination Committees in all Districts

District Name	Committee Formed	Functionality of committees
ABIM	✓	✓
ADJUMANI	✓	✓
AMOLATAR	✓	✓
AMURIA	✓	✓
AMURU	×	✓
APAC	✓	✓
ARUA	✓	✓
BUDAKA	✓	✓
BUDUDA	✓	✓
BUGIRI	✓	✓
BUKEDEA	✓	✓
BUKWO	✓	✓
BULISA	✓	✓
BUNDIBUGYO	✓	✓
BUSHENYI	✓	✓
BUSIA	✓	✓
BUTALEJA	✓	✓
DOKOLO	✓	✓
GULU	✓	×
HOIMA	✓	×
IBANDA	✓	✓
IGANGA	✓	✓
ISINGIRO	✓	✓
JINJA	✓	✓
KAABONG	✓	✓
KABALE	✓	✓
KABAROLE	✓	✓
KABERAMAIDO	✓	✓
KALANGALA	✓	✓
KALIRO	✓	✓
KAMULI	✓	✓
KAMWENGE	✓	✓
KANUNGU	✓	✓
KAPCHORWA	✓	✓
KASESE	✓	✓
KATAKWI	✓	✓
KAYUNGA	✓	×
KIBAALE	✓	✓
KIBOGA	✓	×
KIRUHURA	✓	✓
KISORO	✓	✓
KITGUM	✓	✓
KOBOKO	✓	✓
KOTIDO	✓	✓
KUMI	✓	✓
KYENJOJO	✓	✓
LIRA	✓	✓
LUWEERO	✓	✓
LYANTONDE	✓	✓
MANAFA	✓	✓
MARACHA/TEREGO	✓	✓
MASAKA	×	✓
MASINDI	✓	✓
MAYUGE	✓	✓

District Name	Committee Formed	Functionality of committees
MBALE	✓	✓
MBARARA	✓	✓
MITYANA	✓	✓
MOROTO	✓	✓
MOYO	✓	✓
MPIGI	✓	×
MUBENDE	✓	✓
MUKONO	✓	✓
NAKAPIRIPIRIT	✓	✓
NAKASEKE	✓	✓
NAKASONGOLA	✓	×
NAMUTUMBA	✓	✓
NEBBI	✓	✓
NTUNGAMO	✓	✓
OYAM	×	✓
PADER	×	✓
PALLISA	✓	✓
RAKAI	✓	✓
RUKUNGIRI	✓	✓
SEMBABULE	✓	✓
SIRONKO	✓	✓
SOROTI	✓	✓
TORORO	✓	✓
WAKISO	✓	×
YUMBE	✓	✓

Annex 2.2 Progress on Action Plan for Transparency and Accountability

Issue	Proposed Remedy	Progress to date
1. Beneficiaries are not fully aware of all funds released to Districts and sub-counties for water and sanitation.	- Enforce mandatory public notices - Radio Announcements	Mandatory notice included in Sector guidelines. 30% of sample of 16 districts visited put public notices at sub-county level.
2. The allocation formula used by MWE in allocating resources between districts is not clearly understood by all partners and this raises suspicions about rationale and equity	Demystify the allocation formula by developing and publicizing the criteria	New allocation formula based on S/C coverage developed and commended by Local Government Finance Commission. Formula was used to allocate DWSCG for 2008/09FY.
3. Allocation of resources between sub-sectors is not consistent with sector priorities and raises queries about equity. Only 30% of sector funding goes to rural water supplies and sanitation where 80% of the population live.	Set sector priorities and make them clear to all every year. Ensure preparation of MTBF paper is participatory and transparent Ring-fence allocations as per sector undertakings [LGs and North] irrespective of budget cuts	Allocations between sub-sectors use the SIM. Preparation of the MTBF paper was highly participatory, inclusive, and transparent. WSDF – Northern branch is being started to meet extra needs for piped water and sanitation systems in Northern Uganda.
4. The choice criteria for investment in Small Towns (STs) and Rural Growth Centres (RGCs) is not clear and raises queries about equity and political interference	Publicise list for STs and RGCs indicating when each comes on board for investment and how they were selected & prioritized.	Lists developed and disseminated by UWSD and RWSD, and further shared with LGFC. Criteria developed by WSDF and shared out with benefiting local governments.
5. Criteria for bringing new projects on board is not clear and may be inconsistent with sector priorities; this breeds inequity / non-transparency in allocation of resources	Develop sector priorities and ensure that new projects conform. Set a limit for per capita investment costs so as to enhance value for money.	Sector Finance Thematic Team (SFTT) has developed criteria for vetting new projects and proposals. All proposals are vetted by SFTT before submission to WSSWG for approval.
6. Audit reports [SIDA, JPF] indicate weaknesses in controls and responsibility by management	Action plan to be developed and mainstreamed into top management agenda of MWE.	JPF Manual developed, approved and adhered to.
Recommendations from VFM / Tracking studies		
7. Procurement Responsibility	Permanent Secretary (PS), on recommendation of the Contracts Committee, should delegate specific functions to User Departments that can best be handled by them.	Micro-procurements under UGX 2 million (GoU & JPF) delegated to user departments.
8. Procurement Planning	User Departments should forward Procurement Plans to the P&DU, within agreed deadlines for consolidation and development of MWE Annual Procurement Plan.	This is a government regulation. MWE is now generally compliant. Procurement plan formats have been standardized (especially to align projects and the JPF) to facilitate consolidation
9. Procurement & Contract Management Audits	MWE to plan and carry out an independent Procurement Audit and Contract Management Audit, on an Annual Basis.	Procurement Audits (including contract management) is the responsibility of PPDA and is carried out regularly on sample basis
10. Community Sensitization	MWE to intensify community mobilization through an *Integrated Rural Water and Sanitation IEC Strategy* which includes monitorable variables and milestones b*efore* construction.	Government has tools for community sensitization covering pre-construction to post-construction. Under the DWSCG up to 12% may be used for software. WfP has developed participatory tools for the development of sustainable facilities.
11. DWD Oversight	DWD to develop and Integrate M&E supervision system for all Rural Water Sector Projects (completed and on-going). This, in particular, applies to TSU's.	TSUs are part of DWD; systems in place already: TSUs attend monthly meetings at DWD, and inter-district meetings are now held twice/year. Both District and Centre personnel attend. Strengthened supervision is part of the new support strategy of TSUs. Additional staff were contracted to strengthen coordination.

Annex 3 Progress of the 2007 JSR Undertakings

Annex 3.1 Considerations made in the allocation formula for DWSCG 2008/9 FY

1. Letter from the PS/ST to PS (MWE) ref. ISS.58/255/01 dated 16th Feb. 2007 on subject of MTBF paper for water and Environment. It was pointed out by PS/ST in para 3 *"We have noted the inequality in water provision between districts and regions. Rural water coverage in some districts is far below the national average of 61% while other districts are far above the national average. The allocation of the district grant however does not take into consideration inequality (poverty concerns). It is unacceptable for the well served districts to continue receiving substantial allocations at the expense of the underserved. The grant allocations should therefore be revised to ensure that over the next 5 years the underserved districts reach the coverage".*
2. Budget call circular to all accounting officers from PS/ST ref. BPD 86/107/02 dated 16th November 2007. Para 5.2 *"The financing strategy for the PRDP has been derived using current Local Government transfers as well as funding to stand alone projects implemented in this region for the FY 2007/8 as the base year. Sectors responsible for grant allocations to local governments and implementation of stand alone projects must ensure that allocations for FY 2008/09 are, at the minimum, maintained at this year's level".*
3. In order to ensure equity between districts and within districts, the allocation are made basing on:
   - sub-county safe water coverage (as at June 2007),
   - Population of the sub-county (and thus the unserved population)
   - Projected population by 2012
   - Average Investment Cost in the district over the last 3 financial years (i.e. Technology mix)
   - Resources required to raise the sub-counties whose coverages (June 2007) are below the national average to the catch up to national average by 2012 [A district with more sub-counties with coverages lower than the national coverage is allocated more funds, proportionately, than a district with less or no sub-counties below the national coverage].
4. The basic minimum allocation to a district to cover the cost of office operations, overheads and follow up to operations and maintenance of existing facilities, and some minimum basic new investments . [If a district had all its sub-counties with safe water coverages above the national coverage (61%), and was outside the PRDP area, it would ideally get a zero allocation but this would be unacceptable thus the basic minimum allocation].

The allocation formula therefore can be stated as follows:

$$D_a = D_{min} + PRDP_{min} + 1/5\sum_1 ADPCC[(SC_1P_{2012} \times NSWCV_{2007} - SC_1CV_{2007} \times SC_1P_{2007}) + \cdots + (SC_nP_{2012} \times NSWCV_{2007} - SC_nCV_{2007} \times SC_nP_{2007})]$$

D_a = Annual District Allocation

D_{min} = District basic minimum allocation to cover the cost of office operations, overheads, operation and maintenance follow up, and some basic minimum new investments.

$PRDP_{min}$ = The basic minimum allocation to a PRDP district to ensure that total allocation to all PRDP districts in 2008/9 FY does not fall below the sum allocated to PRDP districts in 2007/8FY.

ADPCC = Average district per capita cost for delivery of water and sanitation services (averaged over the last 3years from sector performance analysis)

SC_1P_{2012} = Sub-County population in June 2012

$NSWCV_{2007}$ = National safe water coverage as at June 2007 analysed from District Water and Sanitation Conditional Grants (DWSCG) allocations to districts

SC_1CV_{2007} = Sub-County safe water Coverage at as June 2007

SC_1P_{2007} = Sub-County population as at June 2007

1 = Sub-county number one

n = Nth Sub-county

Note: Only sub-counties whose safe water coverage is below the National Safe water Coverage are allocated funds by the above formula. Sub-counties whose coverages are above the national average are allocated zero funds.

Annex 3.2 Urban Water Conditional Grant Allocation Principles

- The Central Government has over the years been providing funds to the Local Governments in form of Urban Water Conditional Grants for supporting operation and maintenance of piped water supply systems. In line with the policy of "Some for all rather than all for a few", this money is supposed to target the un-served, so the priority should be extending services and making new connections, an act which its self would lead to increases in the customer base and improvements in the financial sustainability for the systems.
- Special provisions are necessary to address major system repairs, water treatment problems, old systems with high water losses due to dilapidated of infrastructure – *delayed rehabilitation and expansion* and systems with excessive energy costs due to total dependency on diesel powered pumping.
- In order to ensure SMART (Specific, Measurable, Accurate, Realistic and Time Bound) grant allocations as wells as equity considerations, the allocation principles constitute the following factors:
  - Tariff Subsidy Allocation – TS_a
  - System Specific Allocation – SS_a
  - Connection Subsidy Allocation – CS_a

N.B. The Tariff Subsidy Allocation takes precedence, followed by the Specific Systems Allocation and the balance remaining of the grant is the Connection Subsidy allocation.

a) Tariff Subsidy Allocation - TSa

This is aimed at providing relief to towns with high operational costs due to excessive energy costs. These are mainly towns in poor remote areas off-grid supply. Therefore redressing this location disadvantage and absence of necessary energy infrastructure is action towards enhancing equity and ensuring affordability of water supply services.

Therefore, the Maximum Allowable Tariff (MAT_f) is set at Ug.x 1,800/-/m^3. Water supply services in towns are provided at the Business Plan Tariff (BPT_f), which is town specific.

Therefore, the Tariff Subsidy Allocation, for towns with tariff exceeding the Maximum Allowable Tariff, is derived by the difference between the BPT_f and the MAT_f multiplied by the Business Plan Projected Water Sold per year – BWS_{yi} (m^3/yr).

$$TS_a = \{BPT_f - MAT_f\} \text{ X } BWS_{yi}$$

The Total Tariff Subsidy Allocation – TTSa;

$$TTS_a = \sum_{i=0}^{n} TS_a$$

b) System Specific Allocation - SS_a

This is aimed at providing support to water supply systems with peculiar operational problems, including poor quality of water source, cumbersome water treatment processes, old systems in dismal condition – excessive pipe-work leakages, faulty pumping stations etc. The amount of grant levels provided address short-term or phased incremental improvements and these are determine by the Water Authority Division - DWD in liaison with the Town Water Authorities/Private Operator's Business Plan.

c) Connection Subsidy Allocation - CS_a

This focuses on progressive attainment of financial viability (break-even) for water supply systems operation. The Connections Subsidy aims at increasing connections to optimum level for sufficient consumption and thus revenues, as well as providing basic level of service coverage.

The critical variable is the Population/Connection Ratio (PC) – thus emphasizing the significance of accurate and reliable population data and up-to-date connections in the town gazetted Water Supply Area.

The Optimum Population Connection (OPC) ratio is the Yard Tap basic services level of 24 persons per connection; OPC = 24.

Town authorities benefiting from Off-Budget Grants (OBG) do not qualify for the Connections Subsidy allocation. These include towns supported under the Output-Based Aid (OBA) programme, JICA programme and any other such towns specific support secured.

For each town the Population-Connection – PC is derived by factoring the Business Plan Projected Population (BP_{yi}) into the Business Plan Connections (BC_{yi}).

$$PC = \frac{BP_{yi}}{BC_{yi}}$$

All towns with PC > OPC (24) require Annual Incremental Connections (AIC) until the PC = OPC, over a target period of 3 years.

Therefore,

$$AIC = \frac{BP_{yi}}{OPC} - BC_{yi}$$

The Grant Allocation Ratio, (GAR), in this case applicable for Connections Subsidy, excluding towns with Off-Budget Grants (OBG), is then derived as;

$$GAR = \left\{ \frac{AIC_i}{\sum_{i=0}^{n} AIC} \right\} \quad IF\ OBG \leq 0$$

The available Total Connection Subsidy allocation – TCS_a is obtained after deducting the Total Tariff Subsidy allocation – TTS_a and the Total System Specific allocation TSS_a from the Urban Water Grant allocation – UWG_a. Therefore,

$$TCS_a = UWG_a - \{ TTS_a - TSS_a \}$$

Thus, the Connections Subsidy Allocation – CS_a for each town

$$CS_a = GAR \times TCS_a$$

Finally, for each Water Authority the Town Water Grant allocation - TWG_a

$$TWG_a = TS_a + SS_a + CS_a$$

As a check,

$$UWG_a = \sum_{i=0}^{n} TWG_a$$

$$UWG_a = \sum_{i=0}^{n} TS_a + \sum_{i=0}^{n} SS_a + \sum_{i=0}^{n} CS_a$$

Annex 4 Budget Performance

Annex 4.1 Breakdown of sub-sector budgets, releases and expenditure

Analytical Level			Description	Budget			Releases			Expenditure		
Level-1	Level-2	Level-3		GoU	Donor	Total	GoU	Donor	Total	GoU	Donor	Total
Development	DWD	Urban	Energy for Rural Transformation	105.000	-	105.000	100.653	-	100.653	100.653	-	100.653
Development	DWRM	WRM	Lake Victoria Envt Mgt Project	668.650	1,990.980	2,659.630	648.650	1,170.009	1,818.659	648.650	1,170.009	1,818.659
Development	DWD	Urban	Mid-Western Water & San - EU	268.150	1,282.140	1,550.290	243.809	-	243.809	243.809	-	243.809
Development	DWD	WRM	Mitigation Lake Kyoga Floods	400.000	-	400.000	399.670	-	399.670	400.000	-	400.000
Development	DWD	Urban	North-Eastern Towns Water -BADEA	1,031.000	2,236.320	3,267.320	1,021.237	1,250.000	2,271.237	1,023.655	1,250.000	2,273.655
Development	DWRM	WRM	Operation Water Resources	301.000	-	301.000	268.562	-	268.562	268.562	-	268.562
Development	SPS	SPS	Policy & Mgt Support (JPF/PSCD)	1,460.000	2,220.300	3,680.300	1,309.267	1,614.055	2,923.322	1,312.094	1,614.055	2,926.149
Development	DWD	Urban	Rural Towns Water-ADB	4,172.000	8,449.740	12,621.740	4,181.383	20,122.995	24,304.378	4,063.387	20,122.995	24,186.382
Development	DWD	Rural	School & Community Water-IDPs	3,952.500	-	3,952.500	3,791.758	-	3,791.758	3,786.688	-	3,786.688
Development	DWD	Urban	South Western Towns Water - Austria (WSDF)	413.000	4,099.140	4,512.140	395.279	2,065.116	2,460.395	395.279	2,065.116	2,460.395
Development	DWD	Rural	Support to Rural Water (JPF/RWSCD)	1,776.800	4,156.920	5,933.720	1,665.726	2,405.258	4,070.984	1,661.390	2,405.258	4,066.648
Development	DWD	Urban	Support to Small Towns Water(JPF/STWSS)	2,670.000	1,859.760	4,529.760	2,242.703	1,920.833	4,163.536	2,247.306	1,920.833	4,168.139
Development	DWRM	WRM	Support to WRM (JPF/WRM)	1,147.000	1,831.680	2,978.680	1,137.678	-	1,137.678	1,137.678	-	1,137.678
Development	DWD	Urban	Urban Water Reform Impl. Project	739.000	1,735.740	2,474.740	714.478	4,080.000	4,794.478	714.478	4,080.000	4,794.478
Development	DWD	WFP	Water for Production (JPF/WFP)	12,634.252	1,330.740	13,964.992	11,760.144	3,223.125	14,983.269	11,760.144	3,223.125	14,983.269
Development	NWSC	NWSC	KFW Support to NWSC	6,050.050	10,860.007	16,910.057	5,475.089	9,297.786	14,772.875	5,475.089	9,297.786	14,772.875
Development	District	DWSDCG	District Cond. Devt Grant	45,443.209	-	45,443.209	41,448.855	-	41,448.855	35,500.000	-	35,500.000
			Total	**83,231.611**	**42,053.467**	**125,285.078**	**76,804.941**	**47,149.177**	**123,954.118**	**70,738.863**	**47,149.177**	**117,888.039**

	GoU	Donor	Total	GoU	Donor	Total	GoU	Donor	Total
Recurrent	5,236.867		5,236.867	4,958.815		4,958.815	4,956.740		4,956.740
Development	83,231.611	42,053.467	125,285.078	76,804.941	47,149.177	123,954.118	70,738.863	47,149.177	117,888.039
Total	**88,468.478**	**42,053.467**	**130,521.945**	**81,763.757**	**47,149.177**	**128,912.933**	**75,695.603**	**47,149.177**	**122,844.780**

Annex 4.2 UWASNET Member NGOs, Districts of Operation and Investments (Jan to Dec 2007)[54]

NGO Name	District Served	Amount (UGX)
ACORD Mbarara SW Uganda	Mbarara and Isingiro	188,029,522
Action for Slum Fund Health and Dev. (SHD)	Kampala	2,941,000
AFARD Nebbi	Nebbi	39000000
Ankole Diocese	Mbarara and Isingiro	21,139,755
Appropriate Revival Initiative (ARISE)	Ntungamo	0
AQUAFUND INT (U) Ltd	Gulu and Amuru	75,258,027
Bileafe Rural Dev. Association (BIRUDEAS)	Arua and Maracha	2,394,850
BUSO Foundation	Wakiso, Luwero, Mubende, Mityana & Kumi	175,358,000
BUSOGA TRUST	Kamuli, Kaliro, Iganga and Mayuge	142,767,000
Caritas Lira	Lira	269,000,000
CARITAS MADDO	Masaka and Rakai	73,780,000
Christian Women and Youth Dev Alliance (CWAY)	Sironko/Manafwa	298,079,000
CIDI	Kampala	188,000,000
Community Development Action (CDA)	Masaka and Mityana	22,192,000
Community Health Concern (CHC)	Kampala	0
Concern World Wide	Pader	1,376,733,495
COWESER Open Palm	Masaka and Rakai	225,62,000
Devine Waters Uganda	Lira	665,060,000
Foundation for Integrated Rural Dev. (FIRD)	Kotido	65,280,000
Foundation for Rural Dev. (FORUD)	Kabarole	48,835,800
Good Samaritan Community Dev. Program (GSCDP)	Kisoro	3,910,000
Health Thru Water and Sanitation HEWASA	Kabarole	265,046,000
Hope for Orphans (HOFO)	Kanungu	4,000,000
Joint Effort to Save the Environment (JESE)	0	0
Kamuli Community dev. Foundation (KCDF)	Kamuli	86,165,000
Kamwokya Community Health Env. Protection Association (KACHEPA)	Kampala	0
Kaproron PHC Program	Kapchorwa	148,000,000
KARUDEC	Kasese	960,509,430
KATOSI Women Development Trust	Mukono	42,104,000
Kigezi Diocese Water and Sanitation Program (KDWSP)	Kabale	1,138,863,138
Kigulu Development Group (KDG)	Iganga	65,400,000
Kisenyi II CHW Association (KICHWA)	Kampala	900,000
Kumi Human Rights Initiative (KHRI)	Kumi	7,300,000
Kumi PAG Planning & Dev. Secretariat	Kumi	36,030,000
Kyakulumbye Dev. Foundation (KDF)	Mpigi	86,100,000
Kyera Farm Training Centre	Isingiro	980,100
Kyetume Community Based Health Care Program (KCBHCP)	Mukono	17,000,260
Livelihood Improvement Program of Uganda (LIPRO) UGANDA)	Masindi	21,296,000
Lodoi Development Fund (LDF)	Pallisa	180,000,000
Lutheran World Federation (LWF)	Katakwi & Amuria	916,950,000
Mbarara District Farmers' Association (MBADIFA)	Mbarara	0
NAYODEP	Tororo	70,815,000
Ndeeba Parish Youth Association (NPYA)	Kampala	5,770,000

[54] Based on investments reported on by 62 out of 150 UWASNET members.

NGO Name	District Served	Amount (UGX)
NETWAS	Bugiri, Rakai, Kamwenge	444,275,989
North Kigezi Diocese (NKD)	Rukungiri	38,819,300
Orungo Youth Integrated Dev. Organisation (OYIDO)	Arua	600,000
PAG Soroti	Soroti	4,095,000
Pakwach Subcounty Dev. Association	Nebbi	12,762,000
PLAN International	Kamuli, Luwero, Tororo, Lira and Kampala	410,169,600
SOCADIDO	Kumi and Soroti	241,764,978
Student Partnership World Wide (SPWW)	Jinja, Kayunga and Mayuge	9,024,000
Sustainable Sanitation & Water Renewal System (SSWARS)	Kampala	0
Tooro Development Agency (TDA)	Kabarole	2,050,000
UGADOSS	Kampala	5,600,000
Uganda Association for socio-economic progress (UAFSEP)	Mukono	86,000,006
Uganda Muslim Rural Dev. Association (UMURDA)	Bugiri	37,990,000
UWASNET (from UNICEF, DFID for handwashing campaign project)	Uganda	1,443,483,215
Voluntary Action for Dev. (VAD)	Wakiso	0
WaterAid Uganda (Direct Implementation and monitoring of partners)	Masindi and Kampala	2,509,652,500
WEDA UGANDA	Amuria and Katakwi	347,797,000
Youth Dev. Organisation (YODEO)	Arua	0
Yumbe Needy Kids	Yumbe	386,165,263
Total		**13,713,798,228**

Annex 4.3 UWASNET Members Investment per District Jan to Dec 2007 (UGX)

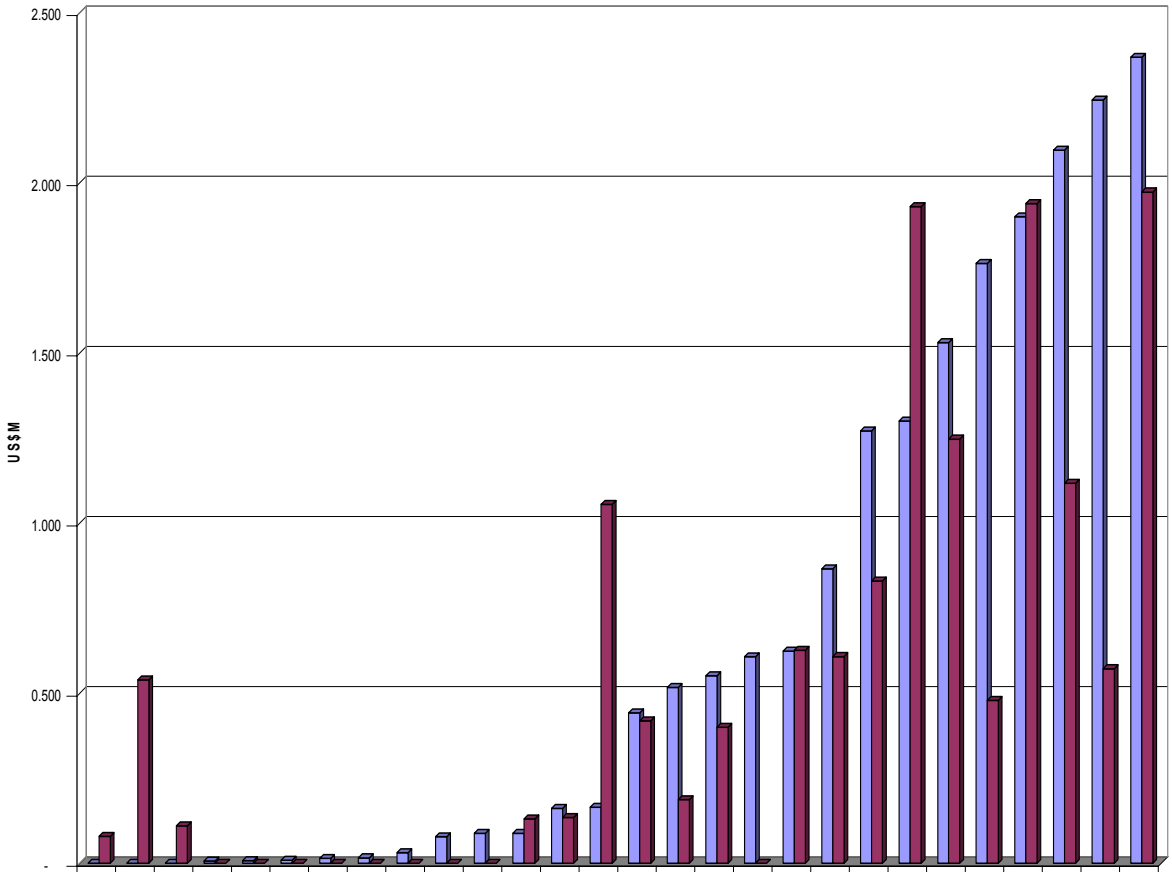
District	NGO
Amuria	58,521,000
Arua	1,797,425
Bugiri	115,340,000
Gulu	37,629,014
Iganga	24,963,000
Isingiro	28,178,078
Jinja	28,546,000
Kabale	1,042,035,269
Kabarole	315,124,300
Kaliro	24,963,000
Kampala	315,220,975
Kamuli	167,570,220
Kamwenge	800,00,000
Kasese	776,947,322
Katakwi	444,870,000
Kayunga	28,546,000
Kisoro	38,164,000
Kumi	145,828,303
Lira	1,013,693,920
Luwero	117,105,520
Masaka	48,264,500
Masindi	120,259,975
Mayuge	48,516,400
Mbarara	28,178,078
Mityana	45,327,100
Mpigi	86,100,000
Mubende	35,071,600
Mukono	145,104,266
Nebbi	40,360,000
Pallisa	158,500,000
Rakai	38,009,000
Rukungiri	36,181,700
Soroti	102,478,303
Tororo	72,865,000
Total	6,322,812,599
Wakiso	35,071,600
Yumbe	477,481,732

Annex 4.4 Donor Funding of the WASH Cluster July 2007 to June 2008 (US$)

Donor Development Agency Funding of the WASH Cluster 2007-08

Implementing Partner	ECHO	UNICEF	USAID OFDA	Oxfam	Oxfam Novib	DFID?	Govt of Germany	Govt of Netherlands	UNHCR	FAO	WV Canada/CIDA	CIDA	World Vision UK	New Zealand Aid	NAWAD?	Private CAP donors	CERF	Charity Water	Italian Cooperation	UN WFP	ICCO?	Donor not defined	Total
ACF	513,261	-	486,500	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	300,000	1,299,761
ADRA	444,446	72,343	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		516,789
AVSI	220,000	149,029	1,160,241	-	-	-	-	322,154	-	-	-	-	-	-	-	-	-	-	-	-	-		1,900,000
ACTED	-	31,140	-																				31,148
CAD	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-		-
CESVI	-	479,785	577,432	-	-	-	-	561,400	-	-	-	-	-	-	-	40,000	-	-	-	-	-		1,762,588
Children's Environment Health Network	-	9,709	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	9,709
CONCERN Worldwide	1,655,585	-	-	-	-	-	-	-	-	-	-	-	-	-	587,874			100,000	-	-	-		2,343,517
COOPI																			165,416				165,918
Cooperation & Development		16,645																					16,645
CRDB?	-	88,963	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	88,963
Eco-Ltd?																						15,300	16,500
FOOD FOR THE HUNGRY	-	-	422,500	-	-	-	-	-	-	-	-	-	-	-	-	20,000		-	-	-	-	-	442,500
GAA	-	-	-				852,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	852,000
GOAL	477,178	-	-	-	-	-	-	-	-	-	-	-	-	-	146,168	-	-	-	-	-	-	243,000	866,346
HEALTHNET?	-	7,000	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,000
HEKS?	-	7,421	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	7,421
IFO?	-	-		-	-	-	-	76,098	-	-	-	-	-	-	-	-	-	-	-	-	-	-	76,098
IMC?		-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
IRC	300,000	-	794,259	-	-	-	-		125,000	17,000	-	-	-	-	-	-	-	-	-	-	421,385	-	1,636,744
MED-UK?	1,550,000	49,487	596,613	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,196,100
MERCY CORPS	-		161,331	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	161,331
OXFAM	1,044,864	358,773	-	65,835	216,415	13,294	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	2,349,181
Premiere Urgence Uia?	-	307,505	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	607,505
PSI	-	634,391	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	634,391
SOCADIDO	-	18,256	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	18,256
UNO 2007?	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
WV	-	-	-	-	-	-	-	-	-	-	142,300	400,000	300,000	154,000	195,000	-	-	-	-	-	-	-	1,271,000
TOTAL	6,040,680	2,502,282	4,879,846	65,835	216,415	13,294	852,000	974,193	125,000	17,000	-	-	-	-	733,242	60,000	-	100,000	165,416	-	421,385	558,300	18,756,139

Annex 4.5 WASH Cluster NGOs Investments July 2007 to June 2008 (US$)



	UWA SNET	C&D	IMC	HIDO	HESS EP	Childr en's EHN	Eco-trust	Coop & Dev.	ACTE D	IFDI	SOCA DIDO	CPAR	MERC Y CORP	COO PI	Food for Hungr	ASB	GAA	Premi ere Urgen	PSI	GOAL	WVI	ACF	IRC	CESV I	AVSI	MED AIR	CONC ERN	OXFA M
2007-08	-	-	-	0.008	0.008	0.010	0.015	0.017	0.031	0.079	0.088	0.089	0.162	0.166	0.443	0.517	0.552	0.608	0.624	0.866	1.271	1.300	1.531	1.764	1.900	2.096	2.244	2.369
2006-07	0.080	0.539	0.110	-	-	-	-	-	-	-	-	0.131	0.135	1.055	0.419	0.188	0.400	-	0.626	0.608	0.830	1.930	1.247	0.480	1.939	1.118	0.572	1.973

Annex 5 Water Resources Management

Annex 5.1 Roll out of IWRM to other catchments

While DWRM's direct support to piloting decentralized WRM in the Rwizi catchment will continue during 2008 and in 2009, other opportunities also exist for expanding decentralized WRM in Uganda. By making use of these opportunities, it is possible to introduce decentralized WRM in other basins and catchments in Uganda.

With the lessons leant from piloting decentralized WRM in the Rwizi catchment as well as experience from elsewhere within the country and outside, it was decided to roll out IWRM in other catchments in the country using all available opportunities. These experiences provided the basis for deriving common elements of an approach for rolling out WRM in other catchments and basins in Uganda. The common elements of the IWRM roll out strategy are:

- Catchment area/basin should be defined and mapped
- Water resource issues and problems should be identified in a participatory manner
- Positive interest from local authorities and other key stakeholders should be ensured
- WR assessment/situation analysis should be prepared
- Catchment management committee should be formed
- Stakeholder analysis should be conducted
- Stakeholder Forum should be established
- Water user associations should be identified and involved
- Capacity of decentralized WRM bodies should be built
- Catchment WRM strategy should be prepared
- WRM action plan and budget should be prepared
- Funding and other required support should be secured
- WRM action plan should be implemented in collaboration with all stakeholders

Management of rollout of decentralized WRM in the rest of the catchments in the country

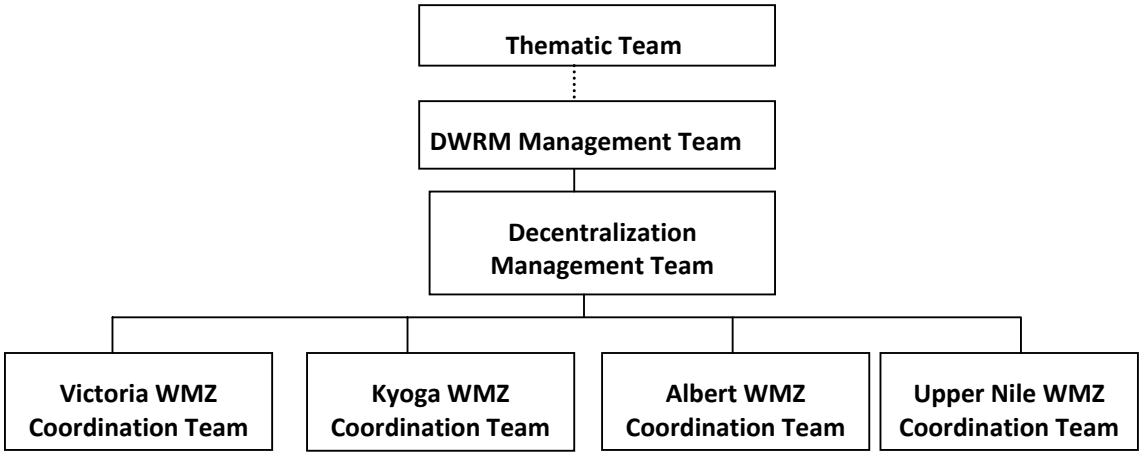
It has been recognized that concurrently with the rollout of decentralized WRM, more formal management arrangements need to be established in DWRM to be responsible for planning, coordinating, supervising, implementing and monitoring WR activities in the four Water Management Zones (WMZ). It was noted that responsibilities for the four WMZs are not defined, nor are they reflected in the new DWRM organogram or job descriptions. It was therefore decided that a Thematic Team formed for JSR 2006 Undertaking No. 1 and chaired by DWRM continues to provide guidance to decentralization of IWRM and its mandate be expanded to include direction, advice and support to rolling out decentralized WRM in the Rwizi and other basins/catchments in Uganda. The thematic team could be known as; *Thematic Team for Decentralization of Water Resources Management.*

It was also decided that a Decentralization Management Team (DMT) be created within DWRM. The DMT, chaired by a Commissioner and consisting of four Assistant Commissioners from the three existing departments and the Transboundary Division will be responsible for planning, guiding, supervising and supporting implementation of decentralized WRM in Rwizi and other basins/catchments in the country. The DMT will report to the top management of DWRM composed of the Director and in DWRM. This team will later report to the thematic team for guidance and advice as appropriate.

For long-term management of WR activities in the four WMZs, it was recommended that a WMZ Coordination Team be constituted for each of the four WMZs, to be headed by a principal officer and containing representatives from each of the three existing departments and the Transboundary Division of DWRM. However, during the rollout period, which is likely to be around 12 to 24 months, the teams will report to the Decentralization Management Team described above, and thereafter to a top management team consisting of the Director and Commissioners. The teams will initially operate from DWRM headquarters, but later, as the scope and nature of responsibilities and tasks expand, will be located within each WMZ.

The organograms for the proposed arrangements during the two phases are as follows:

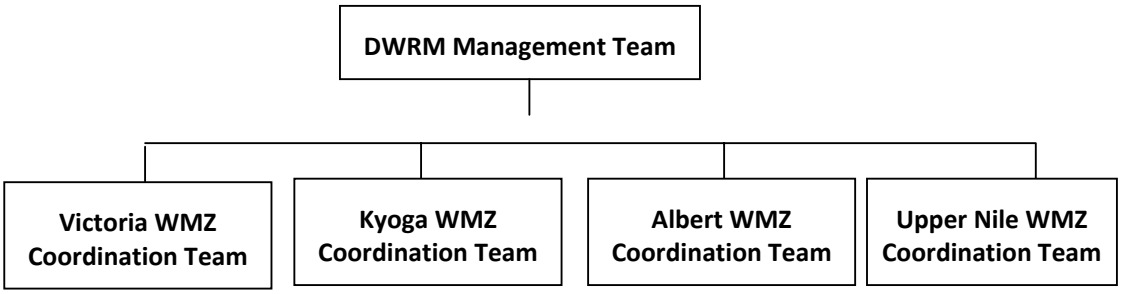
Phase I: During the rollout period



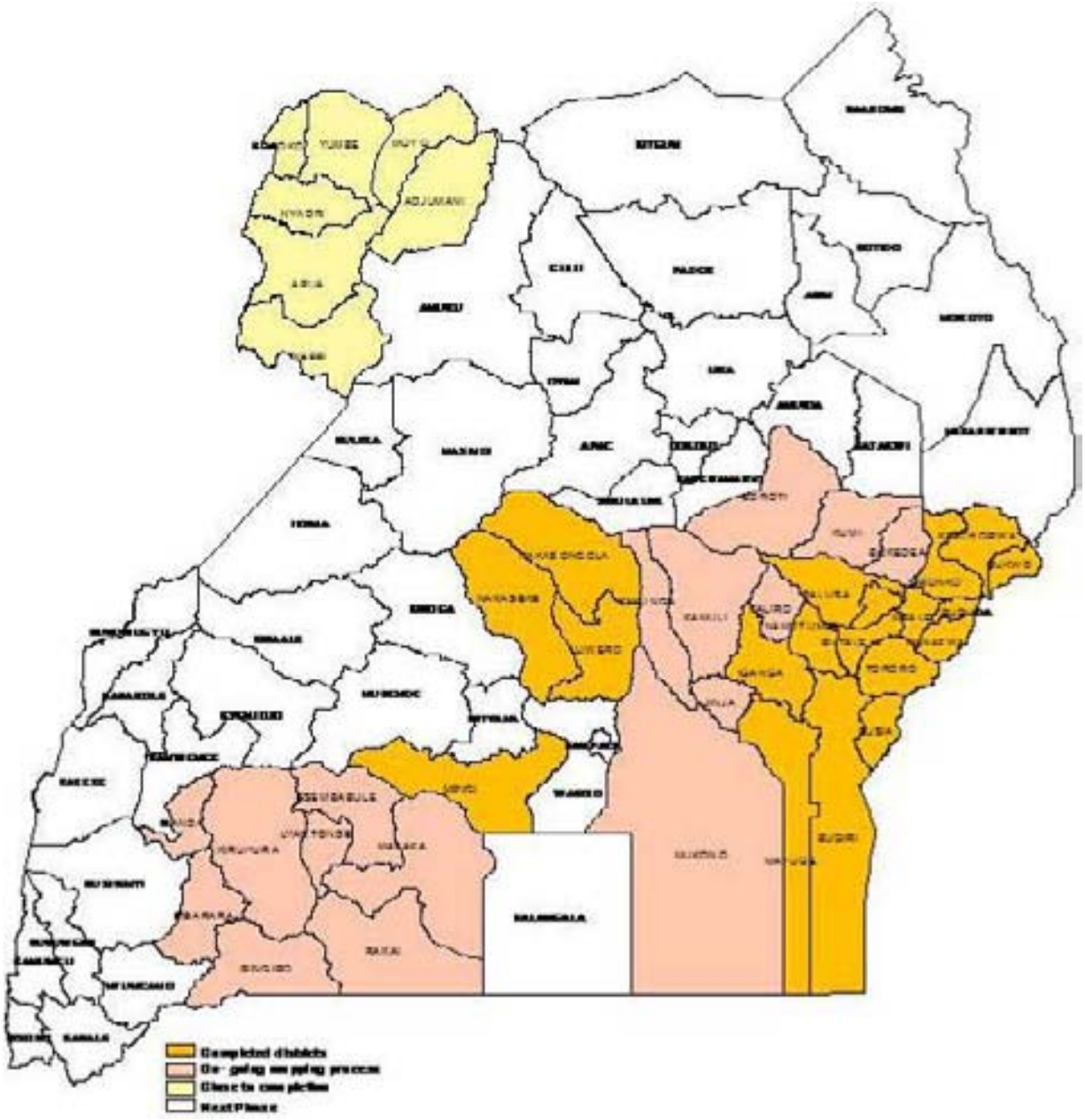
----- consultative/advisory linkage

____ direct line of authority

Phase II: Long-term management arrangements following the rollout period



Annex 5.2 Status of Groundwater Mapping in Uganda



Annex 6 Water and Sanitation Development

Annex 6.1 District Water and Sanitation Conditional Grant (DWSCG) Expenditure on Each Budget Line (2007/8)

	1. Stakeholder coordination	2. Office equipment for DWO	3. General operational costs for DWO	4. Wages and Salaries for DWO staff	5. O&M for urban water facilities	6. Software	7. Sanitation (hardware)	8. Water supply facilities (hardware)	9. Rehabilitation of water facilities	10. Water quality surveillance	11. Supervision and Monitoring	Total
Abim	687,000	51,029,317	8,660,250	0	0	12,751,600	8,383,000	128,502,779	16,000,000	0	7,736,000	233,749,946
Adjumani	314,000	0	8,211,697	0	11,600,000	12,128,000	0	260,079,550	29,600,000	1,000,000	9,500,000	332,433,247
Amolator	1,020,000	2,300,000	2,309,500	0	0	3,990,000	0	148,587,632	13,300,000	720,000	360,000	172,587,132
Amuria	3,051,000	65,867,738	90,992,830	1,810,000	4,464,000	55,283,900	0	351,563,509	0	6,038,000	12,595,743	591,666,720
Amuru	0	43,666,575	4,550,000	0	36,982,550	3,640,000	5,468,362	58,253,555	0	0	3,200,000	155,761,042
Apac	15,830,350	67,076,625	17,649,258	0	0	48,327,550	6,700,000	499,600,089	76,635,464	3,860,000	35,441,758	771,121,094
Arua	2,422,400	0	10,090,000	913,745	0	45,250,300	0	485,244,600	0	1,920,000	12,423,200	558,264,245
Budaka	3,160,000	68,668,070	31,707,502	0	0	13,617,000	5,700,005	284,230,606	4,284,000	1,320,000	11,252,800	423,939,983
Bududa	4,326,500	57,488,805	28,425,997	0	0	8,406,700	8,416,120	263,467,848	0	0	1,369,050	371,901,020
Bugiri	4,096,838	89,644,245	29,790,595	0	0	49,894,800	25,435,598	471,821,579	30,737,300	6,085,000	8,992,200	716,498,155
Bukedea	238,000	210,500	4,493,800	0	0	10,124,350	0	0	0	0	2,696,700	17,763,350
Bukwo	265,000	11,800,000	1,000,000	0	0	1,050,000	3,000,000	69,436,000	15,200,000	3,451,000	2,893,300	108,095,300
Bullisa	160,000	170,251,661	13,882,000	0	0	13,184,500	0	80,468,000	4,000,000	0	4,615,000	286,561,161
Bundibugyo	700,000	1,000,000	23,250,000	900,000	0	27,178,000	0	195,187,000	26,505,000	1,000,000	12,380,000	288,100,000
Bushenyi	5,831,500	0	33,155,850	0	0	67,531,314	6,649,743	710,519,863	6,235,000	4,500,000	20,316,600	854,739,870
Busia	807,000	0	7,143,122	0	0	15,207,507	0	15,321,190	19,800,000	100,000	5,615,789	63,994,608
Butaleja	2,811,800	3,702,500	42,452,729	0	9,498,400	31,037,046	12,126,145	551,476,273	0	2,145,000	5,437,900	660,687,793
Dokolo	590,000	480,000	12,442,064	1,747,000	0	12,794,200	0	165,051,660	25,220,000	2,099,500	2,002,000	222,426,424
Gulu	264,000	0	816,000	640,500	12,565,000	23,383,000	5,200,000	180,805,000	0	0	9,910,000	233,583,500
Hoima	1,147,700	0	16,797,250	0	0	4,226,600	0	75,086,697	15,679,702	1,002,000	6,571,332	120,511,281
Ibanda	1,935,600	5,700,000	23,212,770	656,964	0	22,777,800	703,618	341,957,680	995,500	6,630,000	21,860,218	426,430,150
Iganga	3,150,080	3,000,000	21,538,179	8,711,102	0	46,512,210	6,154,280	682,472,401	0	7,499,900	15,694,563	794,732,715
Isingiro	7,132,000	3,337,300	35,355,405	3,749,873	0	64,619,720	0	550,284,613	21,440,160	17,880,000	18,967,973	722,767,044
Jinja	5,754,500	4,003,297	7,156,000	8,955,008	0	32,670,000	0	66,848,000	7,134,469	0	5,785,992	138,307,266
Kaabong	1,112,000	13,200,000	20,750,000	5,300,000	0	28,900,000	0	464,000,000	0	3,360,000	9,890,000	546,512,000
Kabale	1,746,000	0	14,731,188	15,001,704	0	41,995,827	14,920,995	600,554,391	0	2,500,000	13,924,321	705,374,426
Kabarole	748,800	0	19,939,050	0	0	37,762,800	0	711,883,056	0	4,000,000	19,066,276	793,399,982
Kaberamaid	7,854,000	17,100,000	14,567,586	8,692,530	0	24,955,788	0	191,840,026	0	2,088,000	13,124,000	280,221,930
Kalangala	1,480,200	420,000	19,286,000	15,036,000	0	20,862,000	0	183,500,000	19,740,000	7,000,000	4,206,000	271,530,200
Kaliro	4,280,000	110,197,522	18,427,275	5,662,000	0	23,460,600	919,220	260,095,955	18,370,235	5,732,000	11,114,609	458,259,416
Kamuli	4,000,000	2,105,000	19,230,593	0	0	52,134,970	27,456,851	793,514,330	58,651,450	1,926,000	19,009,500	978,028,694
Kamwenge	4,000,000	8,179,500	31,217,850	0	0	51,573,500	21,240,000	495,554,938	0	5,500,000	34,523,850	651,789,638

	1. Stakeholder coordination	2. Office equipment for DWO	3. General operational costs for DWO	4. Wages and Salaries for DWO staff	5. O&M for urban water facilities	6. Software	7. Sanitation (hardware)	8. Water supply facilities (hardware)	9. Rehabilitation of water facilities	10. Water quality surveillance	11. Supervision and Monitoring	Total
Kanungu	889,000	42,767,150	10,040,940	5,237,366	0	16,992,700	0	171,039,614	0	0	5,014,350	251,981,120
Kapchorwa	1,721,000	4,700,000	15,047,508	0	0	30,189,300	5,850,000	167,288,892	23,656,800	3,972,000	3,346,500	255,772,000
Kasese	2,071,000	54,166,493	13,160,866	0	0	46,165,700	0	546,950,807	0	3,000,000	11,195,000	676,709,866
Katakwi	400,000	4,890,000	20,050,200	0	0	42,407,000	2,557,514	153,086,012	63,101,380	8,926,000	6,512,000	301,930,106
Kayunga	1,850,000	74,308,250	14,942,000	3,000,000	0	12,400,310	12,060,893	328,514,197	27,196,000	2,600,000	10,959,950	487,831,600
Kibaale	8,880,000	10,895,541	23,600,000	0	4,000,000	42,150,000	0	145,155,759	50,024,000	904,500	11,004,000	296,613,800
Kiboga	3,990,000	0	14,666,550	3,262,576	0	14,530,200	0	240,008,312	0	3,118,200	11,047,080	290,622,918
Kiruhura	9,810,001	0	36,281,999	0	0	22,921,286	8,964,000	294,547,000	33,809,000	54,346,400	30,399,000	491,078,686
Kisoro	13,645,500	15,007,200	26,743,632	0	0	39,749,000	18,000,000	257,457,197	7,570,014	4,500,000	3,720,000	386,392,543
Kitgum	1,029,500	18,625,938	34,331,346	12,490,461	89,268,394	63,614,400	41,008,175	198,776,910	64,786,200	4,040,000	22,769,000	550,740,324
Koboko	1,706,000	4,800,000	12,165,000	1,720,000	0	11,511,000	0	28,924,000	0	0	10,889,000	71,715,000
Kotido	1,339,000	14,940,000	45,261,920	2,970,000	0	23,206,700	886,000	306,551,000	27,727,312	6,477,000	13,118,000	442,476,932
Kumi	822,000	78,800,000	16,892,160	8,855,568	0	19,564,389	0	334,760,807	7,373,340	4,302,000	8,620,550	479,990,814
Kyenjojo	7,550,000	26,275	51,157,602	0	0	43,076,400	20,667,818	793,581,319	53,173,765	0	24,399,000	993,632,179
Lira	1,800,000	0	18,580,306	2,633,676	3,600,000	36,680,400	56,337,901	543,863,130	40,661,450	7,425,000	31,439,678	743,021,541
Luwero	1,201,000	0	14,083,250	0	0	12,440,000	0	371,385,431	17,181,161	5,500,000	6,854,000	428,644,842
Lyantonde	5,190,500	39,160,352	24,318,300	1,500,000	0	20,251,750	0	66,390,349	19,677,333	0	0	176,488,584
Manafa	600,000	55,692,239	21,871,383	5,305,256	0	25,583,500	29,181,615	372,113,471	46,434,352	6,840,000	4,905,000	568,526,816
Maracha	2,710,000	2,875,000	6,594,854	503,919	0	30,151,000	0	371,836,794	24,747,460	3,300,000	30,848,050	473,567,077
Masaka	1,107,400	0	11,157,076	5,896,854	0	44,161,346	25,522,124	429,472,910	22,750,749	0	30,300,600	570,369,059
Masindi	0	75,714,687	23,459,472	0	30,200,071	22,387,500	0	400,647,156	0	0	7,980,000	560,388,886
Mayuge	4,120,000	3,270,000	28,696,781	544,698	0	74,207,500	30,297,500	588,372,990	57,831,903	21,245,600	2,934,000	811,520,972
Mbale	0	0	5,456,800	700,000	0	11,755,150	0	70,108,281	35,117,655	0	2,993,600	126,131,486
Mbarara	2,020,400	1,870,000	7,183,285	0	0	18,089,840	8,949,601	279,023,285	7,500,000	9,000,000	11,078,001	344,714,412
Mityana	2,440,000	1,605,000	21,058,500	0	0	21,149,800	0	611,552,948	0	2,653,000	8,603,960	669,063,208
Moroto	572,000	0	4,329,000	4,140,000	0	7,033,000	4,500,000	0	600,000	0	1,700,000	22,874,000
Moyo	797,000	72,200,000	11,699,800	0	0	24,609,000	0	278,281,444	2,948,000	3,499,400	13,373,500	407,408,144
Mpigi	0	0	16,505,000	0	0	27,769,950	0	485,932,676	0	6,575,269	18,670,105	555,453,000
Mubende	729,000	0	34,967,547	0	51,485,550	33,661,000	0	503,465,036	36,534,510	3,600,000	23,115,200	687,557,843
Mukono	375,000	2,069,400	22,788,346	7,937,077	0	39,237,000	36,439,661	638,999,506	60,173,950	0	57,825,900	865,845,840
Nakapiripiri	6,225,056	10,753,508	33,080,132	908,900	0	20,939,100	14,370,631	433,081,152	34,248,491	9,636,000	2,959,500	566,202,470
Nakaseke	1,032,000	72,506,447	12,307,042	0	0	25,220,000	0	294,034,940	0	2,250,000	10,460,000	417,810,429
Nakasongol	1,290,000	2,500,000	12,024,900	27,221,424	0	16,019,000	0	190,664,878	20,309,000	3,616,500	16,576,019	290,221,721
Namutumb	2,804,400	0	2,660,000	0	0	2,640,000	0	0	0	0	0	8,104,400
Nebbi	700,000	79,798,159	4,931,500	5,421,938	0	23,665,000	14,355,000	82,686,367	17,993,800	6,515,000	33,303,100	269,369,864
Ntungamo	604,000	1,740,000	25,756,482	0	0	60,504,500	0	144,305,131	46,790,270	4,500,000	28,702,000	312,902,383

	1. Stakeholder coordination	2. Office equipment for DWO	3. General operational costs for DWO	4. Wages and Salaries for DWO staff	5. O&M for urban water facilities	6. Software	7. Sanitation (hardware)	8. Water supply facilities (hardware)	9. Rehabilitation of water facilities	10. Water quality surveillance	11. Supervision and Monitoring	Total
Oyam	3,792,000	4,090,000	14,149,366	4,865,000	12,064,650	23,181,000	0	412,156,688	39,690,000	4,500,000	8,257,500	526,746,204
Pader	1,166,400	7,662,000	20,128,676	0	14,641,614	23,649,377	33,264,720	490,185,682	18,432,566	3,830,000	14,387,940	627,348,975
Pallisa	3,326,500	74,754,786	17,023,332	0	0	17,721,000	10,311,708	383,519,648	1,064,225	4,498,000	14,348,940	526,568,139
Rakai	6,421,300	85,826,622	23,181,546	10,392,500	1,192,140	107,958,191	9,274,163	462,812,666	101,416,927	3,987,200	38,465,500	850,928,755
Rukungiri	4,020,000	4,900,000	34,942,254	3,000,000	0	54,765,000	30,247,304	325,458,827	35,118,675	6,264,500	56,634,400	555,350,960
Sembabule	1,352,000	6,205,000	40,704,324	35,923,068	0	20,104,800	11,997,816	460,147,695	59,995,000	0	72,089,803	708,519,506
Sironko	4,085,000	78,124,386	15,387,400	4,993,100	0	19,733,500	13,703,798	151,990,135	11,176,000	1,519,500	6,942,600	307,655,419
Soroti	1,248,500	13,550,000	4,197,165	22,740,483	0	58,518,900	0	272,112,070	960,000	9,258,300	13,632,800	396,218,218
Tororo	0	300,000	8,184,078	0	0	8,395,000	15,720,648	368,982,722	0	16,000,000	2,886,000	420,468,448
Wakiso	0	78,741,000	28,467,000	0	0	45,812,300	0	744,455,978	15,124,000	6,075,000	76,202,482	994,877,760
Yumbe	1,210,000	2,010,000	29,828,016	0	0	10,564,000	0	336,071,959	390,000	1,681,000	9,154,000	390,908,975
Total	**209,558,725**	**1,902,274,088**	**1,567,276,976**	**259,940,290**	**281,562,369**	**2,324,268,371**	**612,942,527**	**25,867,962,591**	**1,542,813,568**	**349,311,769**	**1,193,094,282**	**36,111,005,556**

Annex 6.2 District Water and Sanitation Conditional Grant (DWSCG) Proportion Spent on Each Budget Line (2007/8) (%)

	1. Stakeholder coordination	2. Office equipment for DWO	3. General operational costs for DWO	4. Wages and Salaries for DWO staff	5. O&M for urban water facilities	6. Software	7. Sanitation (hardware)	8. Water supply facilities (hardware)	9. Rehabilitation of water facilities	10. Water quality	11. Supervision and Monitoring	Total
Abim	0.3%	21.8%	3.7%	0.0%	0.0%	5.5%	3.6%	55.0%	6.8%	0.0%	3.3%	100.0%
Adjumani	0.1%	0.0%	2.5%	0.0%	3.5%	3.6%	0.0%	78.2%	8.9%	0.3%	2.9%	100.0%
Amolator	0.6%	1.3%	1.3%	0.0%	0.0%	2.3%	0.0%	86.1%	7.7%	0.4%	0.2%	100.0%
Amuria	0.5%	11.1%	15.4%	0.3%	0.8%	9.3%	0.0%	59.4%	0.0%	1.0%	2.1%	100.0%
Amuru	0.0%	28.0%	2.9%	0.0%	23.7%	2.3%	3.5%	37.4%	0.0%	0.0%	2.1%	100.0%
Apac	2.1%	8.7%	2.3%	0.0%	0.0%	6.3%	0.9%	64.8%	9.9%	0.5%	4.6%	100.0%
Arua	0.4%	0.0%	1.8%	0.2%	0.0%	8.1%	0.0%	86.9%	0.0%	0.3%	2.2%	100.0%
Budaka	0.7%	16.2%	7.5%	0.0%	0.0%	3.2%	1.3%	67.0%	1.0%	0.3%	2.7%	100.0%
Bududa	1.2%	15.5%	7.6%	0.0%	0.0%	2.3%	2.3%	70.8%	0.0%	0.0%	0.4%	100.0%
Bugiri	0.6%	12.5%	4.2%	0.0%	0.0%	7.0%	3.5%	65.9%	4.3%	0.8%	1.3%	100.0%
Bukedea	1.3%	1.2%	25.3%	0.0%	0.0%	57.0%	0.0%	0.0%	0.0%	0.0%	15.2%	100.0%
Bukwo	0.2%	10.9%	0.9%	0.0%	0.0%	1.0%	2.8%	64.2%	14.1%	3.2%	2.7%	100.0%
Bullisa	0.1%	59.4%	4.8%	0.0%	0.0%	4.6%	0.0%	28.1%	1.4%	0.0%	1.6%	100.0%
Bundibugyo	0.2%	0.3%	8.1%	0.3%	0.0%	9.4%	0.0%	67.7%	9.2%	0.3%	4.3%	100.0%
Bushenyi	0.7%	0.0%	3.9%	0.0%	0.0%	7.9%	0.8%	83.1%	0.7%	0.5%	2.4%	100.0%
Busia	1.3%	0.0%	11.2%	0.0%	0.0%	23.8%	0.0%	23.9%	30.9%	0.2%	8.8%	100.0%
Butaleja	0.4%	0.6%	6.4%	0.0%	1.4%	4.7%	1.8%	83.5%	0.0%	0.3%	0.8%	100.0%
Dokolo	0.3%	0.2%	5.6%	0.8%	0.0%	5.8%	0.0%	74.2%	11.3%	0.9%	0.9%	100.0%
Gulu	0.1%	0.0%	0.3%	0.3%	5.4%	10.0%	2.2%	77.4%	0.0%	0.0%	4.2%	100.0%
Hoima	1.0%	0.0%	13.9%	0.0%	0.0%	3.5%	0.0%	62.3%	13.0%	0.8%	5.5%	100.0%
Ibanda	0.5%	1.3%	5.4%	0.2%	0.0%	5.3%	0.2%	80.2%	0.2%	1.6%	5.1%	100.0%
Iganga	0.4%	0.4%	2.7%	1.1%	0.0%	5.9%	0.8%	85.9%	0.0%	0.9%	2.0%	100.0%
Isingiro	1.0%	0.5%	4.9%	0.5%	0.0%	8.9%	0.0%	76.1%	3.0%	2.5%	2.6%	100.0%
Jinja	4.2%	2.9%	5.2%	6.5%	0.0%	23.6%	0.0%	48.3%	5.2%	0.0%	4.2%	100.0%
Kaabong	0.2%	2.4%	3.8%	1.0%	0.0%	5.3%	0.0%	84.9%	0.0%	0.6%	1.8%	100.0%
Kabale	0.2%	0.0%	2.1%	2.1%	0.0%	6.0%	2.1%	85.1%	0.0%	0.4%	2.0%	100.0%
Kabarole	0.1%	0.0%	2.5%	0.0%	0.0%	4.8%	0.0%	89.7%	0.0%	0.5%	2.4%	100.0%
Kaberamaid	2.8%	6.1%	5.2%	3.1%	0.0%	8.9%	0.0%	68.5%	0.0%	0.7%	4.7%	100.0%
Kalangala	0.5%	0.2%	7.1%	5.5%	0.0%	7.7%	0.0%	67.6%	7.3%	2.6%	1.5%	100.0%
Kaliro	0.9%	24.0%	4.0%	1.2%	0.0%	5.1%	0.2%	56.8%	4.0%	1.3%	2.4%	100.0%
Kamuli	0.4%	0.2%	2.0%	0.0%	0.0%	5.3%	2.8%	81.1%	6.0%	0.2%	1.9%	100.0%
Kamwenge	0.6%	1.3%	4.8%	0.0%	0.0%	7.9%	3.3%	76.0%	0.0%	0.8%	5.3%	100.0%
Kanungu	0.4%	17.0%	4.0%	2.1%	0.0%	6.7%	0.0%	67.9%	0.0%	0.0%	2.0%	100.0%
Kapchorwa	0.7%	1.8%	5.9%	0.0%	0.0%	11.8%	2.3%	65.4%	9.2%	1.6%	1.3%	100.0%
Kasese	0.3%	8.0%	1.9%	0.0%	0.0%	6.8%	0.0%	80.8%	0.0%	0.4%	1.7%	100.0%

	1. Stakeholder coordination	2. Office equipment for DWO	3. General operational costs for DWO	4. Wages and Salaries for DWO staff	5. O&M for urban water facilities	6. Software	7. Sanitation (hardware)	8. Water supply facilities (hardware)	9. Rehabilitation of water facilities	10. Water quality	11. Supervision and Monitoring	Total
Katakwi	0.1%	1.6%	6.6%	0.0%	0.0%	14.0%	0.8%	50.7%	20.9%	3.0%	2.2%	100.0%
Kayunga	0.4%	15.2%	3.1%	0.6%	0.0%	2.5%	2.5%	67.3%	5.6%	0.5%	2.2%	100.0%
Kibaale	3.0%	3.7%	8.0%	0.0%	1.3%	14.2%	0.0%	48.9%	16.9%	0.3%	3.7%	100.0%
Kiboga	1.4%	0.0%	5.0%	1.1%	0.0%	5.0%	0.0%	82.6%	0.0%	1.1%	3.8%	100.0%
Kiruhura	2.0%	0.0%	7.4%	0.0%	0.0%	4.7%	1.8%	60.0%	6.9%	11.1%	6.2%	100.0%
Kisoro	3.5%	3.9%	6.9%	0.0%	0.0%	10.3%	4.7%	66.6%	2.0%	1.2%	1.0%	100.0%
Kitgum	0.2%	3.4%	6.2%	2.3%	16.2%	11.6%	7.4%	36.1%	11.8%	0.7%	4.1%	100.0%
Koboko	2.4%	6.7%	17.0%	2.4%	0.0%	16.1%	0.0%	40.3%	0.0%	0.0%	15.2%	100.0%
Kotido	0.3%	3.4%	10.2%	0.7%	0.0%	5.2%	0.2%	69.3%	6.3%	1.5%	3.0%	100.0%
Kumi	0.2%	16.4%	3.5%	1.8%	0.0%	4.1%	0.0%	69.7%	1.5%	0.9%	1.8%	100.0%
Kyenjojo	0.8%	0.0%	5.1%	0.0%	0.0%	4.3%	2.1%	79.9%	5.4%	0.0%	2.5%	100.0%
Lira	0.2%	0.0%	2.5%	0.4%	0.5%	4.9%	7.6%	73.2%	5.5%	1.0%	4.2%	100.0%
Luwero	0.3%	0.0%	3.3%	0.0%	0.0%	2.9%	0.0%	86.6%	4.0%	1.3%	1.6%	100.0%
Lyantonde	2.9%	22.2%	13.8%	0.8%	0.0%	11.5%	0.0%	37.6%	11.1%	0.0%	0.0%	100.0%
Manafa	0.1%	9.8%	3.8%	0.9%	0.0%	4.5%	5.1%	65.5%	8.2%	1.2%	0.9%	100.0%
Maracha	0.6%	0.6%	1.4%	0.1%	0.0%	6.4%	0.0%	78.5%	5.2%	0.7%	6.5%	100.0%
Masaka	0.2%	0.0%	2.0%	1.0%	0.0%	7.7%	4.5%	75.3%	4.0%	0.0%	5.3%	100.0%
Masindi	0.0%	13.5%	4.2%	0.0%	5.4%	4.0%	0.0%	71.5%	0.0%	0.0%	1.4%	100.0%
Mayuge	0.5%	0.4%	3.5%	0.1%	0.0%	9.1%	3.7%	72.5%	7.1%	2.6%	0.4%	100.0%
Mbale	0.0%	0.0%	4.3%	0.6%	0.0%	9.3%	0.0%	55.6%	27.8%	0.0%	2.4%	100.0%
Mbarara	0.6%	0.5%	2.1%	0.0%	0.0%	5.2%	2.6%	80.9%	2.2%	2.6%	3.2%	100.0%
Mityana	0.4%	0.2%	3.1%	0.0%	0.0%	3.2%	0.0%	91.4%	0.0%	0.4%	1.3%	100.0%
Moroto	2.5%	0.0%	18.9%	18.1%	0.0%	30.7%	19.7%	0.0%	2.6%	0.0%	7.4%	100.0%
Moyo	0.2%	17.7%	2.9%	0.0%	0.0%	6.0%	0.0%	68.3%	0.7%	0.9%	3.3%	100.0%
Mpigi	0.0%	0.0%	3.0%	0.0%	0.0%	5.0%	0.0%	87.5%	0.0%	1.2%	3.4%	100.0%
Mubende	0.1%	0.0%	5.1%	0.0%	7.5%	4.9%	0.0%	73.2%	5.3%	0.5%	3.4%	100.0%
Mukono	0.0%	0.2%	2.6%	0.9%	0.0%	4.5%	4.2%	73.8%	6.9%	0.0%	6.7%	100.0%
Nakapiripiri	1.1%	1.9%	5.8%	0.2%	0.0%	3.7%	2.5%	76.5%	6.0%	1.7%	0.5%	100.0%
Nakaseke	0.2%	17.4%	2.9%	0.0%	0.0%	6.0%	0.0%	70.4%	0.0%	0.5%	2.5%	100.0%
Nakasongol	0.4%	0.9%	4.1%	9.4%	0.0%	5.5%	0.0%	65.7%	7.0%	1.2%	5.7%	100.0%
Namutumb	34.6%	0.0%	32.8%	0.0%	0.0%	32.6%	0.0%	0.0%	0.0%	0.0%	0.0%	100.0%
Nebbi	0.3%	29.6%	1.8%	2.0%	0.0%	8.8%	5.3%	30.7%	6.7%	2.4%	12.4%	100.0%
Ntungamo	0.2%	0.6%	8.2%	0.0%	0.0%	19.3%	0.0%	46.1%	15.0%	1.4%	9.2%	100.0%
Oyam	0.7%	0.8%	2.7%	0.9%	2.3%	4.4%	0.0%	78.2%	7.5%	0.9%	1.6%	100.0%
Pader	0.2%	1.2%	3.2%	0.0%	2.3%	3.8%	5.3%	78.1%	2.9%	0.6%	2.3%	100.0%
Pallisa	0.6%	14.2%	3.2%	0.0%	0.0%	3.4%	2.0%	72.8%	0.2%	0.9%	2.7%	100.0%

	1. Stakeholder coordination	2. Office equipment for DWO	3. General operational costs for DWO	4. Wages and Salaries for DWO staff	5. O&M for urban water facilities	6. Software	7. Sanitation (hardware)	8. Water supply facilities (hardware)	9. Rehabilitation of water facilities	10. Water quality	11. Supervision and Monitoring	Total
Rakai	0.8%	10.1%	2.7%	1.2%	0.1%	12.7%	1.1%	54.4%	11.9%	0.5%	4.5%	100.0%
Rukungiri	0.7%	0.9%	6.3%	0.5%	0.0%	9.9%	5.4%	58.6%	6.3%	1.1%	10.2%	100.0%
Sembabule	0.2%	0.9%	5.7%	5.1%	0.0%	2.8%	1.7%	64.9%	8.5%	0.0%	10.2%	100.0%
Sironko	1.3%	25.4%	5.0%	1.6%	0.0%	6.4%	4.5%	49.4%	3.6%	0.5%	2.3%	100.0%
Soroti	0.3%	3.4%	1.1%	5.7%	0.0%	14.8%	0.0%	68.7%	0.2%	2.3%	3.4%	100.0%
Tororo	0.0%	0.1%	1.9%	0.0%	0.0%	2.0%	3.7%	87.8%	0.0%	3.8%	0.7%	100.0%
Wakiso	0.0%	7.9%	2.9%	0.0%	0.0%	4.6%	0.0%	74.8%	1.5%	0.6%	7.7%	100.0%
Yumbe	0.3%	0.5%	7.6%	0.0%	0.0%	2.7%	0.0%	86.0%	0.1%	0.4%	2.3%	100.0%

Annex 6.3 District Water and Sanitation Conditional Grant (DWSCG) Hardware Achievements (2007/8)

District	Dams	Piped Water Supply (Borehole)	Piped Water Supply (GFS)	Piped Water Supply (Surface Water)	Valley Tanks	Deep Borehole drilling (Motorised Pump)	Deep Boreholes drilling (Hand Pump)	Design of Piped Water System (GFS, Borehole, Surface)	Extra Large Spring Protection	Medium Spring Protection	Other (specify)	Promoting domestic rainwater	Shallow Well construction - Hand augured	Shallow Well construction - Hand dug	Shallow Well construction - Motorised	Small Spring Protection
Abim	0	0	0	0	0	9	0	0	0	1	0	0	0	0	0	10
Adjumani	0	1	0	0	0	0	5	1	0	0	0	0	0	0	0	7
Amolator	0	0	0	0	0	0	9	1	0	0	0	0	0	0	0	10
Amuria	0	0	0	0	0	0	22	0	0	0	0	0	0	0	0	22
Amuru	0	0	0	0	0	0	6	0	0	0	0	0	0	5	0	11
Apac	0	0	0	0	0	0	30	0	0	0	5	0	0	12	0	47
Arua	0	0	0	0	0	1	15	2	11	12	5	0	3	6	0	55
Budaka	0	0	0	0	0	0	20	0	4	0	0	0	0	0	0	24
Bududa	0	0	1	0	0	0	0	1	0	14	1	0	0	0	0	17
Bugiri	0	0	0	0	0	0	23	0	0	24	0	0	0	8	0	55
Bukedea	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Bukwo	0	0	1	0	0	0	0	1	6	0	0	0	0	0	0	8
Bullisa	0	0	0	0	0	0	3	1	0	3	0	0	12	0	0	19
Bundibugyo	0	0	3	0	0	0	0	0	0	0	0	0	0	0	0	3
Bushenyi	0	0	4	0	0	0	0	0	10	0	11	0	40	0	0	65
Busia	0	0	0	0	0	0	7	0	0	0	0	0	3	0	0	10
Butaleja	0	0	0	0	0	0	48	0	0	0	0	0	0	0	0	48
Dokolo	0	0	0	0	0	0	8	0	0	6	0	0	0	0	0	14
Gulu	0	0	0	0	0	0	8	0	0	0	0	0	7	5	0	20
Hoima	0	0	0	0	0	0	0	0	4	5	0	0	22	0	0	31
Ibanda	0	0	0	0	0	0	0	0	0	4	0	22	0	0	0	26
Iganga	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Isingiro	2	0	3	0	0	0	0	0	0	0	21	0	15	0	0	41
Jinja	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kaabong	0	0	0	0	0	0	24	1	0	0	0	0	0	0	0	25
Kabale	0	0	2	0	0	0	0	2	0	0	19	0	0	0	20	43
Kabarole	0	0	2	0	0	0	0	0	0	0	0	0	15	0	8	25
Kaberamaido	0	0	0	0	0	0	16	0	0	0	6	0	0	0	0	22
Kalangala	0	0	0	0	0	0	0	0	0	0	1	0	16	0	0	17
Kaliro	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	
Kamuli	0	2	0	0	0	0	28	0	0	0	8	0	10	7	0	55

District	Dams	Piped Water Supply (Borehole)	Piped Water Supply (GFS)	Piped Water Supply (Surface Water)	Valley Tanks	Deep Borehole drilling (Motorised Pump)	Deep Boreholes drilling (Hand Pump)	Design of Piped Water System (GFS, Borehole, Surface)	Extra Large Spring Protection	Medium Spring Protection	Other (specify)	Promoting domestic rainwater	Shallow Well construction - Hand augured	Shallow Well construction - Hand dug	Shallow Well construction - Motorised	Small Spring Protection
Kamwenge	0	0	1	0	0	0	8	0	0	0	38	0	16	0	6	69
Kanungu	0	0	1	1	0	0	0	0	0	7	0	0	4	0	0	13
Kapchorwa	0	0	3	0	0	0	0	0	3	5	0	0	0	0	5	16
Kasese	0	0	0	1	0	0	0	0	0	0	0	0	0	0	0	1
Katakwi	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Kayunga	0	1	0	0	0	0	14	0	0	0	2	0	15	0	0	32
Kibaale	0	0	0	0	0	0	0	0	0	0	0	0	12	0	0	12
Kiboga	0	0	0	0	0	0	7	0	0	1	0	0	17	0	0	25
Kiruhura	0	0	0	0	12	0	0	0	0	0	134	0	14	0	0	160
Kisoro	0	0	2	0	0	0	0	2	0	8	60	0	0	0	0	72
Kitgum	0	0	0	0	0	0	9	0	0	0	0	0	0	0	0	9
Koboko	0	0	0	0	0	0	8	0	2	4	0	0	0	4	0	18
Kotido	0	0	0	0	0	0	16	0	0	0	0	0	0	0	0	16
Kumi	0	1	0	0	0	0	15	0	0	0	0	6	0	0	0	22
Kyenjojo	0	0	0	0	0	0	20	2	0	0	0	0	62	0	0	84
Lira	0	0	0	0	0	0	4	0	0	33	0	0	0	40	0	77
Luwero	0	0	0	0	6	0	0	0	0	0	0	0	40	0	0	46
Lyantonde	0	0	0	0	0	0	0	0	0	0	10	0	0	0	0	10
Manafa	0	0	1	0	0	0	16	1	0	0	9	0	0	3	25	55
Maracha Terego	0	0	0	0	0	1	18	2	0	2	0	0	0	7	0	30
Masaka	0	0	0	0	3	0	0	0	8	0	0	24	36	0	0	71
Masindi	0	0	0	0	0	0	14	0	0	8	0	0	17	22	0	61
Mayuge	0	0	0	0	0	0	20	0	0	11	0	5	3	16	21	76
Mbale	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Mbarara	0	0	0	0	0	0	10	0	0	10	247	0	12	0	0	279
Mityana	0	1	0	0	0	0	12	0	0	0	0	0	12	0	0	25
Moroto	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Moyo	0	1	0	0	0	0	2	0	0	0	1	0	0	0	0	4
Mpigi	0	1	0	0	0	0	0	0	0	0	0	0	42	9	0	52
Mubende	0	0	0	0	7	0	8	1	0	0	0	0	48	0	0	64
Mukono	0	1	0	0	0	0	25	0	21	12	27	0	27	0	0	113
Nakapiripirit	0	1	0	0	0	0	18	1	0	0	9	0	0	0	3	32

District	Dams	Piped Water Supply (Borehole)	Piped Water Supply (GFS)	Piped Water Supply (Surface Water)	Valley Tanks	Deep Borehole drilling (Motorised Pump)	Deep Boreholes drilling (Hand Pump)	Design of Piped Water System (GFS, Borehole, Surface)	Extra Large Spring Protection	Medium Spring Protection	Other (specify)	Promoting domestic rainwater	Shallow Well construction - Hand augured	Shallow Well construction - Hand dug	Shallow Well construction - Motorised	Small Spring Protection
Nakaseke	0	0	0	0	0	0	12	0	0	0	0	0	9	0	0	21
Nakasongola	0	0	0	0	0	0	6	0	0	0	0	0	0	0	0	6
Namutumba	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0	0
Nebbi	0	0	0	0	0	0	3	1	0	3	0	4	0	0	6	17
Ntungamo	0	1	0	0	0	0	0	0	0	0	0	0	30	0	0	31
Oyam	0	0	0	0	0	1	19	0	0	9	0	0	0	15	0	44
Pader	0	0	0	0	0	0	18	0	0	0	3	0	6	0	5	32
Pallisa	0	0	0	0	0	0	0	0	0	0	0	0	5	0	0	5
Rakai	0	0	0	0	0	0	0	0	0	0	16	0	8	0	0	24
Rukungiri	0	0	0	0	0	0	0	1	0	0	0	0	0	5	0	6
Sembabule	0	0	0	0	5	0	0	0	0	0	40	3	6	6	0	60
Sironko	0	0	0	0	0	0	1	1	0	0	0	0	0	0	19	21
Soroti	0	0	0	0	0	0	18	1	0	0	4	0	10	0	0	33
Tororo	0	0	0	0	0	0	15	0	0	0	0	0	0	0	0	15
Wakiso	0	2	0	0	0	0	10	0	0	8	0	14	43	6	0	83
Yumbe	0	0	0	0	0	0	18	0	0	0	0	0	0	0	0	18
Total	**2**	**13**	**24**	**2**	**33**	**12**	**636**	**23**	**69**	**190**	**677**	**78**	**637**	**176**	**118**	**2690**

Annex 6.4 Piped Water Supplies Constructed by Districts (2007/8)

TSU	District Name	Name of Scheme	Type (GFS = Gravity Flow Scheme; Pumped BH = Pumped Borehole Scheme)	Number of GFS Taps	Number of Pumped Borehole Taps	2007/8 Expenditure (UGX)	Source of Funding	Comments
TSU1	ADJUMANI							
	ARUA	Take note(1)						
	KOBOKO							
	MARACHA/TEREGO							
	MOYO	Take note(1)						
	NEBBI					14,885,288		
		Paidha GFS additional works	Pumped BH		44		Centre	complete
TSU2		Nyapea						
	AMOLATAR		Pumped BH		24			
	AMURU	Aputi						
	APAC							
	DOKOLO		Pumped BH					
	GULU	Corner agwata extension						
	KITGUM		Pumped BH		4			
		Amida	Pumped BH		15			
		Palabek kal	Pumped BH		4			
		Padibe east	Pumped BH		4			
		Padibe west	Pumped BH		8			
		Lokung	Pumped BH		10			
		paloga	Pumped BH		10			
		omiyanyima	Pumped BH		10			
		orom	Pumped BH		10			
	LIRA	namokora	Pumped BH					
	OYAM		Pumped BH					
	PADER		Pumped BH					
TSU3								
	ABIM							
	AMURIA							
	BUKEDEA							
	KAABONG							

TSU	District Name	Name of Scheme	Type (GFS = Gravity Flow Scheme; Pumped BH = Pumped Borehole Scheme)	Number of GFS Taps	Number of Pumped Borehole Taps	2007/8 Expenditure (UGX)	Source of Funding	Comments
	KABERAMAIDO							
	KATAKWI		Pumped BH		38			
	KOTIDO	toroma						
	KUMI							
	MOROTO		Pumped BH					
		kangole	Pumped BH		22			
		Matany(Extension)	GFS					
	NAKAPIRIPIRIT	Iriri	Pumped BH		20		funded by nusaf - total budget = 85,500,000 on going	
	SOROTI	Nabilatuk	Pumped BH		0	100,000,000		
		Ochaapa(Brooks corner)	Pumped BH					new connections
		Serere	Pumped BH		0	-		under design
TSU4		Kamodo						
	BUDAKA							
	BUDUDA		GFS	36		215,137,470		ongoing
	BUGIRI	Bumayoka/Bulucheke	Pumped BH					
	BUKWO	take note(1)						
	BUSIA							
	BUTALEJA							
	IGANGA							
	JINJA							
	KALIRO		Pumped BH		0	29,591,000		on going(phased)
	KAMULI	Bulumba	Pumped BH		25	267,040,738		
	KAPCHORWA	Namwendwa	GFS	4		48,500,000		
		Kaptang/kaproron	GFS	1		17,000,000		ongoing
		Binyiny	GFS	9		20,000,000		
		Amukol sirimityo	GFS	3		22,000,000		
	MANAFA	kamakunga	GFS	10		64,563,120		
	MAYUGE	take note(1)- Buwabwala						
	MBALE		GFS			25,879,927		ongoing
	NAMUTUMBA	take not(Bungokho gfs)						
	PALLISA							

TSU	District Name	Name of Scheme	Type (GFS = Gravity Flow Scheme; Pumped BH = Pumped Borehole Scheme)	Number of GFS Taps	Number of Pumped Borehole Taps	2007/8 Expenditure (UGX)	Source of Funding	Comments
	SIRONKO							
		take note(1 pumped)	GFS	12				
	TORORO	Buwalasi						
	BULISA							
	HOIMA		GFS	34		213,840,243	co funded by LR, LGDP= 212,243,000	
	KAMPALA	Bulyango						
	KAYUNGA					19,125,065		
	KIBOGA	take note (1)						
TSU5	LUWEERO							
	MASINDI							
	MPIGI		Pumped BH			346,800,000		on going(phased)
	MUKONO	Bujjuko						
	NAKASEKE							
	NAKASONGOLA							
	WAKISO		Pumped BH		28	297,544,963		
	BUNDIBUGYO	Bukalango RGC	GFS	10		64,000,000		
		Bimara GFS	GFS	9		60,000,000		
		Ndugutu(butama ext GFS	GFS	29				
		Bukangama GFS	GFS	12				
	KABAROLE	Nyaruru GFS	GFS	21				
		Kibiito GFS	GFS					
TSU6		take note (1) GFS	GFS			446,621,052		
	KAMWENGE	take note (1) GFS	GFS	21		248,052,000		
	KASESE	Nyabutoma GFS	GFS	18		64,000,000		
	KIBAALE	kiywebe GFS						
	KYENJOJO		GFS	4				
		Kapetero GFS	Pumped BH		20	273,071,230		
	MITYANA	Kyamutunzi RGC	Pumped BH		10	356,777,846		
	MUBENDE	Busunju	Pumped BH		17	24,500,000		
TSU7		Kasanda ext						

TSU	District Name	Name of Scheme	Type (GFS = Gravity Flow Scheme; Pumped BH = Pumped Borehole Scheme)	Number of GFS Taps	Number of Pumped Borehole Taps	2007/8 Expenditure (UGX)	Source of Funding	Comments
	LYANTONDE							
	KALANGALA							
	MASAKA	take note(1- Kachanga)	Pumped BH			36,687,800		Ongoing
	RAKAI	Mpugwe	Pumped BH			151,854,362		Ongoing
	SEMBABULE	Sanje						
TSU8	BUSHENYI		GFS					
		Nyeibingo GFS Ext	GFS			423,906,628		
		Mabanga GFS	GFS			64,000,000		
		Kamuhembe GFS	GFS			56,718,847		
	IBANDA	Rwamwanja GFS				569,530,511		
		Rubaya- Kagando	GFS			95,748,373		
	ISINGIRO	Bwenda GFS	GFS	6		58,392,861		
		Murema GFS Ext	GFS			71,842,650		ongoing
		Nyakigera GFS	GFS	17		151,026,223		
	KABALE	Rwacece GFS	GFS	25		101,934,711		
		Kabisha GFS	GFS	56		243,475,254		
	KANUNGU	Ndeego GFS	GFS					
		take note (1) GFS Mpangango	GFS					
	KIRUHURA	take note (1) GFS Kyeshero						
	KISORO		GFS			14,850,000		
		Gitovu GFS	GFS			14,380,000		
	NTUNGAMO	Gasharara GFS	GFS			143,000,000		
		take note(Nyabushenyi gfs	GFS			74,113,225		
	RUKUNGIRI	Take note(Kirungo)				278,636,715		
	Total (GFS Taps and Pumped BH Taps)			337	323	5,789,028,102		
	Total (Combined)			660				
	Total Number of People Served by Piped Water Supplies (GFS Taps and Pumped BH Taps			50,550	48,450			
	Total Number of People Served by Piped Water Supplies (Combined)			99,000				

Annex 6.5 Annual Summary of Small Towns Performance[55] (2007/8)

No.	Town	Water Supplied (M^3)	Water Sold (M^3)	UFW (%)	Total Connections	Active Connections	New Connections	Extensions made (m)	Total. Bills (UGX'000)	Total Collections (UGX '000)	Collection Efficiency (%)	Total Cost of System Operation (UGX '000)	Unit Cost (UGX /m^3)	%age funded by rev.
1	ADJUMANI	45,604	41,587	9%	371	300	41	3,000	47,778	42,092	88%	43,796	1,053	96
2	ADUKU	27,673	22,988	17%	180	180	48	0	26,909	25,560	95%	17,070	743	150
3	APAC	20,287	7,372	64%	499	468	21	-	9,497	6,410	67%	50,186	6,808	13
4	BOMBO	40,742	16,975	58%	433	312	46	1,890	24,928	31,144	125%	16,421	967	190
5	BUDADIRI	38,238	13,094	66%	507	414	6	800	21,306	7,173	34%	8,181	625	88
6	BUDAKA	16,008	9,625	40%	246	143	0	0	13,558	13,127	97%	9,250	961	142
7	BUGIRI	26,973	23,829	12%	671	579	22	0	42,260	47,676	113%	36,902	1,549	129
8	BUKOMANSIMBI	15,405	13,525	12%	245	245	63	3,000	26,186	23,332	89%	46,781	3,459	50
9	BUNDIBUGYO	34,604	19,518	44%	226	172	36	570	17,117	11,474	67%	19,928	1,021	58
10	BUSEMBATYA	44,026	39,392	11%	236	225	0	0	37,804	30,535	81%	20,274	515	151
11	BUSIA	187,453	141,711	24%	723	611	47	0	110,225	94,828	86%	85,332	602	111
12	BUSOLWE	17,209	14,681	15%	254	-	28	450	17,304	11,171	65%	13,689	932	82
13	BUWENGE	38,560	30,413	21%	653	603	7	0	28,922	19,477	67%	27,793	914	70
14	DOKOLO	22,937	17,949	22%	81	-	16	6,000	17,031	12,745	75%	18,027	1,004	71
15	IBANDA	68,437	59,724	13%	717	634	47	0	40,003	35,123	88%	24,232	406	145
16	KABWOHE-ITENDERO	74,901	70,303	6%	574	535	30	1,600	70,348	76,572	109%	68,907	980	111
17	KACHUMBALA	1,304	1,216	7%	81	-	0	0	3,752	1,160	31%	1,700	1,398	68
18	KANGULUMIRA	18,618	17,052	8%	288	282	55	3,350	21,076	17,503	83%	13,147	771	133
19	KAKIRI	12,834	9,933	23%	149	111	6	0	4,892	2,062	42%	13,731	1,382	15
20	KALANGALA	21,423	15,931	26%	241	224	34	1,000	20,372	18,875	93%	33,966	2,132	56
21	KALIR0	20,573	18,884	8%	345	260	25	750	19,772	15,533	79%	16,607	879	94
22	KALISIZO	47,547	40,905	14%	421	349	25	0	55,973	50,065	89%	31,211	763	160
23	KALUNGU	15,279	12,258	20%	294	284	76	5,200	24,055	22,375	93%	40,312	3,289	56
24	KAMULI	56,484	46,530	18%	936	825	29	0	44,913	37,478	83%	45,387	975	83
25	KAPCHORWA	145,521	41,954	71%	425	386	10	0	4,100	4,800	117%	4,320	103	111
26	KASAMBYA	14,169	7,764	45%	164	148	34	1,500	20,074	12,836	64%	10,893	1,403	118
27	KATAKWI	18,641	16,993	9%	158	146	19	1,100	20,396	17,461	86%	33,429	1,967	52
28	KATWE-KABATORO	18,976	16,151	15%	197	190	57	2,140	22,739	13,254	58%	35,619	2,205	37
29	KAYUNGA	37,036	22,164	40%	677	571	36	1,150	25,920	12,429	48%	18,989	857	65
30	KIBIBI	18,964	15,763	17%	135	123	56	2,500	16,585	13,854	84%	23,607	1,498	59
31	KIBOGA	46,445	38,467	17%	133	117	2	0	31,568	26,175	83%	18,231	474	144

[55] For the Small Towns operating under the Water Authorities Unit of MWE

No.	Town	Water Supplied (M^3)	Water Sold (M^3)	UFW (%)	Total Connections	Active Connections	New Connections	Extensions made (m)	Total. Bills (UGX'000)	Total Collections (UGX '000)	Collection Efficiency (%)	Total Cost of System Operation (UGX '000)	Unit Cost (UGX /m^3)	%age funded by rev.
32	KIGUMBA	10,638	7,589	29%	371	371	-	3,443	16,226	7,400	46%	6,879	906	108
33	KIHIHI	12,328	11,719	5%	128	4	10	3,000	42,698	35,132	82%	20,475	1,747	172
34	KINONI	8,752	7,743	12%	305	300	4	0	13,210	8,598	65%	18,419	2,379	47
35	KISORO	192,345	171,545	11%	996	955	252	2,100	299,782	292,542	98%	248,279	1,447	118
36	KITGUM	83,821	70,156	16%	802	650	19	500	67,690	48,348	71%	36,943	527	131
37	KOTIDO	33,857	27,044	20%	126	94	16	997	90,340	88,833	98%	76,057	2,812	117
38	KUMI	19,658	17,684	10%	318	219	30	500	45,361	36,944	81%	30,274	1,712	122
39	KYAZANGA	11,664	10,509	10%	375	361	18	0	17,137	16,596	97%	24,446	2,326	68
40	KYENJOJO	15,472	13,059	16%	220	215	32	2,554	37,598	29,735	79%	33,779	2,587	88
41	KYOTERA	-	-	0	68	-	-	-	-	-	0	5,200	0	0
42	LAROPI	2,357	2,002	15%	39	-	6	0	1,863	1,995	107%	12,385	6,186	16
43	LUKAYA	52,941	47,285	11%	566	541	35	0	74,555	71,789	96%	76,788	1,624	93
44	LUWERO	107,735	89,565	17%	984	861	15	200	108,051	103,458	96%	116,313	1,299	89
45	LWAKHAKHA	20,336	14,154	30%	338	306	5	0	7,920	3,345	42%	7,351	519	46
46	LYANTONDE	40,763	32,103	21%	495	426	19	0	53,607	54,028	101%	71,131	2,216	76
47	MBIRIZI	12,590	11,643	8%	263	241	11	0	19,533	17,775	91%	14,731	1,265	121
48	MIGEERA	7,862	7,050	10%	107	90	27	800	9,516	4,316	45%	23,607	3,348	18
49	MITYANA	19,626	17,271	12%	803	800	465	-	27,012	9,913	37%	8,426	488	118
50	MPIGI	0	9,618	0	695	596	312	-	15,892	9,691	61%	-	0	0
51	MOROTO	5,117	3,120	39%	166	-	0	0	5,220	4,137	79%	11,957	3,832	35
52	MOYO	99,080	31,396	68%	456	401	19	0	60,944	25,864	42%	33,035	1,052	78
53	NAGONGERA	28,760	14,823	48%	226	173	14	1,500	17,417	13,974	80%	8,412	567	166
54	NAKASONGOLA	17,661	15,835	10%	270	236	14	2,600	26,850	25,999	97%	42,309	2,672	61
55	NEBBI	0	5,802	0	611	549	0	0	13,903	2,546	18%	-	0	0
56	NGORA	56,599	33,920	40%	182	139	18	0	54,705	41,185	75%	34,174	1,007	121
57	NKOKONJERU	13,174	7,387	44%	250		22	0	8,309	2,241	27%	7,780	1,053	29
58	NTUNGAMO	48,668	27,897	43%	423	-	12	0	52,147	55,093	106%	23,374	838	236
59	PAKELE	8,151	7,137	12%	71	58	2	0	5,849	3,487	60%	6,038	846	58
60	PAKWACH	-	-	0	656	656	-	-	-	-	0%	0	0	0
61	PALLISA	25,596	17,235	33%	522	-	3	538	23,545	24,353	103%	16,990	986	143
62	RAKAI	17,111	12,442	27%	312	255	18	2,100	27,515	22,667	82%	31,403	2,524	72
63	RUKUNGIRI	61,849	51,336	17%	570	521	31	350	71,535	74,008	103%	51,661	1,006	143
64	SEMBABULE	6,294	5,039	20%	157	146	75	3,650	27,232	19,167	70%	13,625	2,704	141
65	SEMUTO	14,480	10,978	24%	135	110	0	0	14,716	11,393	77%	9,766	890	117
66	SERERE	7,457	4,876	35%	58	55	5	300	6,433	3,801	59%	8,027	1,646	47
67	SIRONKO	5,909	5,615	5%	424	394	70	-	6,664	7,021	105%	4,107	731	171

No.	Town	Water Supplied (M^3)	Water Sold (M^3)	UFW (%)	Total Connections	Active Connections	New Connections	Extensions made (m)	Total. Bills (UGX'000)	Total Collections (UGX '000)	Collection Efficiency (%)	Total Cost of System Operation (UGX '000)	Unit Cost (UGX /m^3)	%age funded by rev.
68	**WAKISO**	60,799	42,421	30%	483	451	39	0	41,889	29,957	72%	28,228	665	106
69	**WOBULENZI**	82,069	57,941	29%	501	451	14	0	56,609	51,578	91%	37,852	653	136
	AVERAGE			26%							85%		845	**96**
	TOTAL	**2,424,390**	**1,787,587**		**25,732**	**21,062**	**2,554**	**61,132**	**2,356,833**	**2,013,207**		**2,048,140**		

Annex 6.6 O&M Grant for Small Towns (UGX)

TOWN	Allocation	Release
Adjumani	18,480,000	17,556,000
Pakele	26,450,000	25,127,500
Aduku	24,000,000	22,800,000
Apac	12,000,000	11,400,000
BUNDIBUGYO	30,000,000	28,500,000
Bushenyi (Itendero)	18,000,000	17,100,000
IGANGA(Busembatia)	24,000,000	22,800,000
KABALE(Umbrella)	120,000,000	114,000,000
KABERAMAIDO	19,350,000	18,382,500
KALANGALA	32,870,000	31,226,500
KANUNGU (Kihiihi)	36,000,000	34,200,000
KAPCHORWA	24,000,000	22,800,000
KASESE(Katwe-Kabatoro)	42,000,000	39,900,000
KATAKWI	20,300,000	19,285,000
Kangulumira	24,000,000	22,800,000
Kayunga	36,000,000	34,200,000
KIBOGA	25,290,000	24,025,500
KOTIDO	27,210,000	25,849,500
KUMI(Ngora)	50,270,000	47,756,500
KYENJOJO	26,090,000	24,785,500
Bukomansimbi	36,000,000	34,200,000
Kalungu	36,000,000	34,200,000
MASINDI(Kigumba)	18,000,000	17,100,000
MBALE(Umbrella)	90,000,000	85,500,000
Moyo	14,960,000	14,212,000
Laropi	26,050,000	24,747,500
Kibibi	36,000,000	34,200,000
Mpigi	18,000,000	17,100,000
MUBENDE (Kasambya)	32,880,000	31,236,000
MUKONO (Nkokonjeru)	24,000,000	22,800,000
Migeera	36,000,000	34,200,000
Nakasongola	20,970,000	19,921,500
Nebbi	18,000,000	17,100,000
Pakwach	18,000,000	17,100,000
PALLISA	18,000,000	17,100,000
Rakai	36,000,000	34,200,000
Kyotera	12,000,000	11,400,000
SEMBABULE	42,000,000	39,900,000
SIRONKO	18,000,000	17,100,000
SOROTI (Serere)	25,540,000	24,263,000
TORORO(Nagongera)	13,080,000	12,426,000
BUTALEJA (Busolwe)	33,540,000	31,863,000
MITYANA	18,000,000	17,100,000
NAKASEKE(Semuto)	37,110,000	35,254,500
BUDAKA	24,000,000	22,800,000
DOKOLO	38,600,000	36,670,000
BUKEDEA	36,000,000	34,200,000
BUDUDA	36,000,000	34,200,000
Lyantonde	24,000,000	22,800,000
MOROTO	26,770,000	25,431,500
Total	**1,499,810,000**	**1,424,819,500**

Annex 7 Access

Annex 7.1 District Access to Improved Water Supplies and Functionality (2007/8) – Data from District Situation Analysis Reports

Districts	Data update	Protected springs		Deep Boreholes		Shallow Wells		Piped GFS		Piped Pumped		Rain Water Tanks <10M3		Rain Water Tanks >10M3		Valley Tank		Dams		Proj. rural Pop. June 08	Pop. Served	% Access
Functional (**F**) /Non-Functional (**NF**)		**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**			
KALANGALA	Jun-08	8	3	-	-	57	8	11	-	-	-	20	-	3	-	-	-	-	-	46,244	23,428	51
KIBOGA	Jun-08	102	31	124	25	225	54	32	-	-	-	-	-	-	-	-	-	-	-	275,344	156,469	57
LUWERO	Jun-08	7	-	429	45	363	-	-	-	-	-	36	-	-	-	-	-	-	-	329,683	243,927	74
NAKASEKE	Jun-08	-	-	169	101	192	126	-	-	185	-	240	24	42	17	13	4	-	-	160,334	136,601	85
MASAKA	Jun-08	462	142	211	200	836	211	-	-	-	-	41	-	-	6	14	-	-	-	725,328	537,490	74
MPIGI	Jun-08	425	115	160	61	535	151	-	-	29	-	-	-	1	1	2	-	-	-	428,371	326,201	76
MITYANA	Jun-08	71	59	137	41	375	108	4	-	-	-	384	83	-	-	-	-	-	-	270,955	179,419	66
MUBENDE	Jun-08	71	21	111	93	292	113	25	20	19	14	88	-	-	-	42	16	-	-	475,853	178,364	37
MUKONO	Jun-08	1,423	52	538	72	463	88	60	-	16	-	90	-	-	-	-	-	-	-	764,775	585,622	77
NAKASONGOLA	Jun-08	-	-	203	61	34	18	-	-	84	-	-	-	-	-	76	-	-	-	135,259	94,771	70
LYANTONDE	Jun-07	-	-	61	37	6	-	-	-	-	-	18	-	25	-	2	-	-	-	64,914	31,404	48
RAKAI	Jun-08	161	128	214	172	455	304	-	-	-	-	137	137	72	71	16	15	-	-	433,373	299,970	69
SSEMBABULE	Jun-08	-	-	108	39	155	40	-	-	-	-	-	-	24	2	22	5	-	-	196,358	101,401	52
KAYUNGA	Jun-08	24	30	364	35	151	33	-	-	-	-	2	-	-	-	-	-	-	-	306,541	185,706	61
WAKISO	Jun-08	649	52	287	7	868	63	4	1	265	9	22	5	-	-	-	-	-	-	1,061,167	524,169	49
BUGIRI	Jun-08	165	43	251	38	118	32	-	-	-	-	48	22	15	1	2	3	-	-	518,023	173,606	34
BUSIA	Jun-08	185	-	309	35	41	-	-	-	-	-	39	-	-	-	-	-	-	-	220,016	152,617	69
NAMUTUMBA	Jun-06	41	-	248	14	239	23	-	-	-	-	23	-	-	-	-	-	-	-	201,567	161,562	80
IGANGA	Jun-08	48	2	769	60	261	46	-	-	-	-	37	2	-	-	-	-	-	-	602,843	350,917	58
JINJA	Jun-08	337	8	283	13	337	20	-	-	-	-	-	-	-	-	-	-	-	-	348,571	236,027	68
KALIRO	Jun-08	-	-	313	26	13	3	-	-	-	-	-	-	-	-	-	-	-	-	185,912	106,500	57
KAMULI	Jun-08	4	-	787	61	321	52	-	-	-	-	-	-	-	-	-	-	-	-	650,676	367,100	56
BUKWA	Jun-08	91	7	-	-	-	-	79	19	-	-	9	5	-	-	-	-	-	-	62,324	34,342	55
KAPCHORWA	Jun-08	452	-	14	9	-	-	119	22	-	-	12	56	-	28	-	2	-	-	168,938	110,259	65

Districts	Data update	Protected springs		Deep Boreholes		Shallow Wells		Piped GFS		Piped Pumped		Rain Water Tanks <10M3		Rain Water Tanks >10M3		Valley Tank		Dams		Proj. rural Pop. June 08	Pop. Served	% Access
Functional (**F**) /Non-Functional (**NF**)		**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**			
AMURIA	Jun-08	17	102	423	91	55	114	-	-	-	-	4	86	-	-	-	13	-	-	257,129	214,442	83
KATAKWI	Jun-08	1	1	277	37	38	28	-	-	-	-	6	1	-	-	-	-	-	-	161,423	114,421	71
BUKEDEA	Jun-08	158	83	80	40	100	18	50	-	-	-	50	-	-	-	-	-	-	-	156,775	127,250	81
KUMI	Jun-08	184	6	309	39	285	121	-	-	233	4	94	-	4	-	-	-	-	-	330,913	174,900	53
MANAFWA	Jun-08	325	42	128	6	5	-	80	10	-	-	23	-	-	-	-	-	-	-	313,799	128,669	41
BUDUDA	Jun-08	438	65	7	2	1	-	106	9	-	-	8	-	-	-	-	-	-	-	147,123	113,082	77
MBALE	Jun-08	246	-	209	47	20	-	182	14	-	-	-	-	-	-	-	-	-	-	312,454	161,400	52
BUDAKA	Jun-08	63	-	205	18	6	5	-	-	255	-	-	-	-	-	-	4	-	-	164,062	96,464	59
PALLISA	Jun-08	95	2	498	46	110	24	-	-	-	-	-	-	-	-	-	-	-	-	433,264	222,800	51
SOROTI	Jun-08	134	36	712	73	244	69	-	-	56	8	69	10	18	7	-	-	-	-	439,880	346,662	79
BUTALEJA	Jun-08	8	7	276	26	22	2	58	5	-	-	16	-	-	-	-	-	-	-	183,939	110,298	60
TORORO	Jun-08	215	-	567	30	32	6	-	-	200	10	-	-	-	-	-	15	-	-	402,463	249,374	62
KABERAMAIDO	Jun-08	44	22	304	82	82	43	-	-	5	-	16	11	19	12	-	-	-	-	163,677	149,916	92
MAYUGE	Jun-08	114	2	257	14	109	19	13	-	-	-	-	-	-	-	-	-	-	-	379,788	144,850	38
SIRONKO	Jun-08	646	6	74	11	36	10	386	47	-	-	17	-	-	-	-	-	-	-	313,933	221,838	71
ADJUMANI	Jun-08	17	-	451	35	45	6	-	-	116	-	-	-	-	-	-	-	-	-	263,559	180,471	68
OYAM	Jun-08	120	65	158	88	85	97	33	9	-	-	9	50	-	-	-	-	-	-	328,253	171,877	52
APAC	Jun-08	223	-	455	117	182	70	-	-	-	-	-	-	100	110	17	10	-	-	495,826	293,060	59
KOBOKO	Jun-08	275	119	83	17	21	1	8	11	-	-	-	-	23	3	-	-	-	-	123,701	102,898	83
MARACHI	Jun-08	417	69	354	62	73	1	22	-	42	-	-	-	18	82	2	-	-	-	375,887	248,123	66
ARUA	Jun-08	645	107	495	50	84	7	11	23	-	-	99	14	-3	-	5	1	-	-	446,350	324,820	73
AMURU	Jun-08	124	27	238	38	73	4	-	-	66	1	17	15	30	35	-	-	-	-	208,803	134,293	64
GULU	Jun-08	126	79	230	58	111	49	-	-	75	38	8	15	6	51	-	-	-	-	211,596	181,184	86
KITGUM	Jun-08	-	-	868	34	7	3	156	17	-	-	-	-	-	-	-	-	-	-	304,507	268,586	88
KAABONG	Jun-08	-	-	186	25	25	-	-	-	-	-	7	1	-	-	5	-	-	-	610,382	70,824	12
KOTIDO	Jun-08	-	-	166	65	-	-	-	-	8	-	1	-	-	-	3	4	-	-	243,319	70,503	29
ABIM	Jun-08	-	1	52	29	6	9	-	-	-	-	-	-	-	-	-	-	-	-	91,646	29,000	32
AMOLATAR	Jun-08	-	-	156	33	-	-	-	-	24	-	-	-	-	-	-	-	-	-	116,958	60,300	52

Districts	Data update	Protected springs		Deep Boreholes		Shallow Wells		Piped GFS		Piped Pumped		Rain Water Tanks <10M3		Rain Water Tanks >10M3		Valley Tank		Dams		Proj. rural Pop. June 08	Pop. Served	% Access
Functional (**F**) /Non-Functional (**NF**)		**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**	**F**	**NF**			
DOKOLO	Jun-08	128	6	105	25	140	61	24	1	24	1	-	-	3	9	-	2	-	-	157,322	129,841	83
LIRA	Jun-08	394	98	282	105	240	77	71	25	-	-	-	-	-	-	-	-	-	-	528,666	324,000	61
MOROTO	Jun-08	3	1	254	156	-	-	26	-	10	-	-	-	-	-	-	-	-	-	254,825	129,200	51
MOYO	Jun-08	16	14	229	120	24	21	63	12	38	12	5	-	-	-	-	-	-	-	284,467	142,965	50
NEBBI	Jun-08	772	170	343	212	98	41	18	32	-	44	114	96	-	-	3	1	-	-	433,210	359,419	83
NAKAPIRIPIRIT	Jun-08	5	6	142	115	11	13	2	-	18	-	24	25	-	-	2	6	-	-	214,591	89,647	42
PADER	Jun-08	13	-	540	107	85	3	-	-	-	-	48	-	-	-	-	-	-	-	423,470	222,639	53
YUMBE	Jun-08	27	8	343	93	56	18	-	-	-	-	27	12	-	-	-	-	-	-	372,301	160,117	43
BUNDUBUGYO	Jun-08	310	31	19	22	54	90	534	166	43	9	20	80	-	-	-	-	-	-	261,547	201,408	77
BUSHENYI	Jun-08	1,803	520	123	73	169	37	851	211	-	-	128	53	-	-	-	-	-	-	778,148	619,688	80
HOIMA	Jun-08	577	-	325	10	356	6	18	7	-	-	13	-	-	-	-	-	-	-	408,742	311,354	76
KABALE	Jun-08	1,365	241	64	52	6	-	1,465	471	1	-	-	-	318	96	-	-	-	-	436,603	399,690	92
KABAROLE	Jun-08	333	63	50	27	274	62	219	47	4	-	-	-	-	-	-	-	-	-	344,379	219,390	64
KASESE	Jun-08	690	453	116	54	5	-	1,032	773	-	-	-	-	-	-	-	-	-	-	569,857	441,565	77
KIBAALE	Jun-08	576	80	280	82	1,166	62	-	-	-	-	115	13	-	-	-	-	-	-	540,914	458,045	85
KISORO	Jun-08	259	3	4	1	-	-	72	10	66	-	70	-	67	6	-	-	-	-	226,503	75,485	33
BULISA	Jun-08	29	3	100	31	45	2	-	-	8	-	-	-	-	-	-	-	-	-	83,984	61,000	73
MASINDI	Jun-08	279	60	344	78	445	21	-	-	4	-	18	-	-	-	-	-	-	-	487,535	329,265	68
IBANDA	Jun-08	163	24	24	19	77	-	333	11	-	-	-	-	-	-	-	-	-	-	206,635	122,226	59
ISINGIRO	Jun-08	52	4	99	56	58	22	164	5	21	1	768	6	-	-	23	8	-	-	371,230	112,672	30
KIRUHURA	Jun-08	1	-	97	80	73	1	-	-	-	-	810	-	-	-	64	7	-	-	249,290	77,930	31
MBARARA	Jun-08	268	123	84	44	37	5	551	91	26	-	834	5	-	-	-	-	-	-	343,142	202,689	59
NTUGAMO	Jun-08	627	82	46	127	179	80	191	53	2	-	97	12	-	-	-	-	-	-	408,995	281,850	69
RUKUNGIRI	Jun-08	850	185	47	36	23	2	140	10	-	-	6	4	-	-	-	-	-	-	286,033	241,302	84
KAMWENGE	Jun-08	542	21	41	40	346	14	275	12	6	-	317	-	4	-	-	-	-	-	285,815	235,108	82
KANUNGU	Jun-08	703	297	38	46	33	3	430	20	84	-	-	-	8	10	-	-	-	-	216,471	196,310	91
KYENJOJO	Jun-08	384	36	209	36	398	42	76	33	2	-	77	50	-	-	4	11	-	-	447,986	304,190	68

Annex 7.2 List of Sub-Counties with Access below 20%

District	County	Sub-County	Access to Improved Water Supply (%)
KAABONG	DODOTH	KAABONG SUB-COUNTY	6
KAABONG	DODOTH	KALAPATA	7
KAABONG	DODOTH	LOLELIA	7
MUKONO	BUVUMA ISLANDS	BWEEMA	8
BUGIRI	BUKOOLI	BANDA	8
BUGIRI	BUKOOLI	MUTUMBA	8
KALANGALA	KYAMUSWA	BUBEKE	10
RAKAI	KOOKI	KYALULANGIRA	11
KAABONG	DODOTH	KATHILE	12
KAABONG	DODOTH	LOYORO	12
KISORO	BUFUMBIRA	CHAHI	12
RAKAI	KOOKI	KAGAMBA (BUYAMBA)	12
KIRUHURA	NYABUSHOZI	KASHONGI	12
KABAROLE	BURAHYA	RUTEETE	13
MBARARA	KASHARI	RUBAYA	13
KISORO	BUFUMBIRA	MURORA	14
KAABONG	DODOTH	SIDOK	14
WAKISO	KYADONDO	NABWERU	14
BUGIRI	BUKOOLI	SIGULU ISLANDS	14
RAKAI	KOOKI	DDWANIRO	15
ISINGIRO	ISINGIRO	NYAKITUNDA	15
MUBENDE	KASSANDA	KIGANDA	16
ISINGIRO	ISINGIRO	KIKAGATE	16
NAKAPIRIPIRIT	POKOT	KARITA	16
KAABONG	DODOTH	KAPEDO	17
NAKASEKE	NAKASEKE	NGOMA	18
BUGIRI	BUKOOLI	BUYINJA	19
KISORO	BUFUMBIRA	NYARUSIZA	19
SSEMBABULE	MAWOGOLA	LUGUSULU	19
KISORO	BUFUMBIRA	MURAMBA	19

Annex 7.3 List of Large Towns and their Coverage (2007/8)

Town	Total No. of Connections	Pipe Network (km)	Targeted Population	Population Served	% Served (Water)	% Served (Sewerage)
Kampala/Mukono	120,393	2,085.78	1,554,,818	1,150,565	74%	5%
Jinja/Lugazi	12,391	284.53	186,127	152,624	82%	22%
Entebbe/Kajjansi	12,445	167.27	65,090	46,214	71%	4%
Tororo/Malaba	3,552	125.90	39,776	22,672	57%	7%
Mbale	6,656	268.60	79,021	52,154	66%	26%
Masaka	5,391	203.70	72,613	51,555	71%	8%
Mbarara	7,936	204.41	78,636	60,550	77%	5%
Lira	4,789	144.70	93,761	69,383	74%	2%
Gulu	3,543	103.45	138,452	112.146	81%	7%
F/Portal	3,575	145.64	46,589	32,612	70%	2%
Kasese	3,196	73.84	62,493	49,369	79%	0%
Kabale	3,215	118.37	44,438	30,219	68%	11%
Arua	3,997	108.61	52,223	32,900	63%	0%
Bushenyi/Ishaka	1,480	72.00	26,198	12,313	47%	0%
Soroti	3,524	108.50	39,776	17,104	43%	2%
Hoima	2,479	114.13	33,986	16,993	50%	0%
Masindi	2,264	135.4	32,807	12,467	38%	0%
Mubende	1,733	70.00	18,544	7,232	39%	0%
Total	**202,559**	**4,426.39**	**2,701,029**	**1,944,741**	**72%**	**6%**

Annex 7.4 Small towns: List of Towns Councils and their Coverage (2007/8)[56]

	Name of Town	District	Town population 2008	Population served (capped at 95%)	Coverge
1	Abim	Abim	15,500	750	5%
2	Adjumani	Adjumani	28,700	15,522	54%
3	Amolatar	Amolatar	13,500	1,800	13%
4	Amuria	Amuria	4,200	900	21%
5	Amuru	Amuru	7,700	1,650	21%
6	Apac	Apac	12,300	11,685	95%
7	Bombo	Luwero	19,400	11,028	57%
8	Budaka	Budaka	19,900	3,486	18%
9	Bududa	Bududa	3,800	2,094	55%
10	Bugiri	Bugiri	22,500	15,528	69%
11	Bukedea	Bukedea	32,200	2,718	8%
12	Bukwo	Bukwo	4,300	300	7%
13	Bulisa	Bulisa	26,100	3,270	13%
14	Bundibugyo	Bundibugyo	18,500	5,814	31%
15	Busembatia	Iganga	14,100	8,616	61%
16	Busia	Busia	43,200	25,008	58%
17	Butaleja	Butaleja	5,100	1,200	24%
18	Buwenge	Jinja	16,800	15,210	91%
19	Dokolo	Dokolo	16,200	7,002	43%
20	Hima	Kasese	26,600	750	3%
21	Ibanda	Ibanda	26,400	17,094	65%
22	Iganga	Iganga	48,200	26,460	55%
23	Isingiro	Isingiro	20,100	6,300	31%
24	Kabong	Kabong	19,500	2,700	14%
25	Kabwohe-Itendero	Bushenyi	17,300	15,390	89%
26	Kagadi	Kibaale	18,500	2,646	14%
27	Kakiri	Wakiso	5,300	5,035	95%
28	Kalangala	Kalangala	4,300	4,085	95%
29	Kaliro	Kaliro	12,300	8,556	70%
30	Kalisizo	Rakai	31,000	11,844	38%
31	Kalongo	Pader	12,900	3,750	29%
32	Kamuli	Kamuli	13,700	5,898	43%
33	Kamwenge	Kamwenge	15,300	1,050	7%
34	Kanungu	Kanungu	14,600	6,420	44%
35	Kapchorwa	Kapchorwa	11,300	10,735	95%
36	Katakwi	Katakwi	7,500	5,736	76%
37	Katwe-Kabatooro	Kasese	7,200	5,934	82%
38	Kayunga	Kayunga	22,200	11,100	50%
39	Kibaale	Kibaale	6,500	1,200	18%
40	Kiboga	Kiboga	15,200	5,814	38%
41	Kigolobya	Hoima	5,000	1,800	36%
42	Kihihi	Kanungu	18,100	7,638	42%
43	Kiruhura	Kiruhura	12,500	600	5%

[56] 2008 Town Council Populations were obtained from UBOS

	Name of Town	District	Town population 2008	Population served (capped at 95%)	Coverge
44	Kisoro	Kisoro	12,400	11,780	95%
45	Kitgum	Kitgum	52,800	24,936	47%
46	Koboko	Koboko	42,600	2,400	6%
47	Kotido	Kotido	18,800	7,746	41%
48	Kumi	Kumi	11,400	9,822	86%
49	Kyenjojo	Kyenjojo	18,600	9,726	52%
50	Kyotera	Rakai	8,400	1,800	21%
51	Lukaya	Masaka	15,000	11,550	77%
52	Luwero	Luwero	27,300	24,978	91%
53	Lyantonde	Lyantonde	8,400	7,980	95%
54	Manafwa	Manafwa	14,300	2,700	19%
55	Mayuge	Mayuge	10,700	1,950	18%
56	Mityana	Mityana	37,400	32,562	87%
57	Moroto Munic.	Moroto	10,300	9,150	89%
58	Moyo	Moyo	18,800	14,400	77%
59	Mpigi	Mpigi	11,200	10,640	95%
60	Nagongera	Tororo	11,000	7,224	66%
61	Nakapiripit	Nakapiripit	2,300	2,185	95%
62	Nakaseke	Nakaseke	2,000	1,650	83%
63	Nakasongola	Nakasongola	7,300	6,935	95%
64	Namutumba	Namutumba	9,800	2,250	23%
65	Nebbi	Nebbi	26,600	20,190	76%
66	Nkonkonjeru	Mukono	13,000	7,398	57%
67	Ntungamo	Ntungamo	15,300	10,242	67%
68	Nyadri	Maracha/Terego	6,900	1,344	19%
69	Oyam	Oyam	13,000	3,300	25%
70	Pader	Pader	11,600	2,154	19%
71	Paidha	Nebbi	28,100	5,520	20%
72	Pakwach	Nebbi	20,600	16,368	79%
73	Pallisa	Pallisa	29,000	15,498	53%
74	Rakai	Rakai	6,600	6,270	95%
75	Rukungiri	Rukungiri	14,000	12,612	90%
76	Sembabule	Sembabule	4,500	4,275	95%
77	Sironko	Sironko	13,000	11,346	87%
78	Wakiso	Wakiso	18,700	12,222	65%
79	Wobulenzi	Luwero	21,900	7,920	36%
80	Yumbe	Yumbe	24,300	7,626	31%
	Total		**1,333,400**	**650,765**	**49%**

Annex 7.5 Small towns: List of Town Boards and their Access (2007/8)[57]

	Name of Town	District	Town population 2008	Population served (capped at 95%)	Coverage
1	Aduku	Apac	10,383	6,156	59%
2	Bamunanika	Luwero	3,125	600	19%
3	Budadiri	Sironko	15,996	5,706	36%
4	Bugobero	Manafwa	3,155	450	14%
5	Bugongi	Bushenyi	4,330	978	23%
6	Buikwe	Mukono	12,640	3,000	24%
7	Bukhaweka	Manafwa	2,000	300	15%
8	Bukomansimbi	Masaka	1,800	1,710	95%
9	Bulegeni	Sironko	1,000	450	45%
10	Bulumba	Kaliro	4,000	450	11%
11	Bumbo	Manafwa	5,860	1,050	18%
12	Busula	Luweero	6,573	2,700	41%
13	Butalangu	Nakaseke	1,500	750	50%
14	Butenga	Masaka	1,500	1,425	95%
15	Buteraniro-Nyihanga	Mbarara	1,039	150	14%
16	Butiru	Manafwa	3,018	1,560	52%
17	Buwangani	Manafwa	2,500	300	12%
18	Buyaga	Sironko	3,002	750	25%
19	Idudi	Iganga	7,916	600	8%
20	Kabango	Masindi	3,308	3,143	95%
21	Kabira	Bushenyi	4,250	1,050	25%
22	Kagarama	Ntungamo	2,113	900	43%
23	Kalungu	Masaka	5,966	5,668	95%
24	Kamdini	Oyam	11,520	2,400	21%
25	Kangole	Moroto	9,624	2,700	28%
26	Kapeeka	Nakaseke	7,814	0	0%
27	Kasawo	Mukono	7,242	3,900	54%
28	Kasensero	Rakai	5,200	900	17%
29	Kashenshero	Bushenyi	4,300	3,150	73%
30	Kashenyi	Bushenyi	866	600	69%
31	Kashenyi Akajani	Bushenyi	3,012	600	20%
32	Katerera	Bushenyi	6,031	2,580	43%
33	Katosi	Mukono	8,632	450	5%
34	Katovu	Masaka	1,843	750	41%
35	Kazo	Kiruhura	6,541	750	11%
36	Kikyusa	Luwero	2,609	900	34%
37	Kinoni	Masaka	7,933	7,536	95%
38	Kitagata	Bushenyi	7,021	1,350	19%
39	Kitwe	Ntungamo	2,145	600	28%
40	Kiwoko	Nakaseke	3,695	1,200	32%
41	Kiyunga	Iganga	7,024	750	11%

[57] 2008 Population Data and Water Points are from the 2007/8 MWE data collection exercise as reported by the District and Town Boards.

	Name of Town	District	Town population 2008	Population served (capped at 95%)	Coverage
42	Kyabugimbi	Bushenyi	1,720	300	17%
43	Kyamulibwa	Masaka	6,520	900	14%
44	Kyazanga	Masaka	7,953	7,555	95%
45	Loro	Oyam	8,550	1,800	21%
46	Magale	Manafwa	6,190	900	15%
47	Magodesi/Molo	Tororo	1,600	600	38%
48	Masaaka	Manafwa	1,000	300	30%
49	Masheruka	Bushenyi	4,609	792	17%
50	Matany	Moroto	7,242	2,328	32%
51	Mbirizi	Masaka	7,200	6,606	92%
52	Merikit	Tororo	2,002	0	0%
53	Mitoma	Bushenyi	7,236	2,790	39%
54	Mukoko	Masaka	2,027	1,050	52%
55	Mutara	Bushenyi	5,123	1,050	20%
56	Mutukura	Rakai	9,520	1,050	11%
57	Muyembe	Sironko	5,441	3,162	58%
58	Nakaikoke	Kaliro	4,500	450	10%
59	Nakifuma	Mukono	6,098	3,186	52%
60	Namungalwe	Iganga	6,829	450	7%
61	Namwiwa	Kaliro	3,522	900	26%
62	Ndejje	Luwero	6,312	1,500	24%
63	Ndekye	Bushenyi	5,203	900	17%
64	Ngoma	Nakaseke	2,599	900	35%
65	Nyakashaka	Bushenyi	2,540	1,050	41%
66	Nyamunuka	Ntungamo	1,560	450	29%
67	Pajule	Pader	5,330	2,550	48%
68	Panyimuri	Nebbi	8,650	1,350	16%
69	Parombo	Nebbi	4,588	600	13%
70	Patongo	Pader	8,082	6,150	76%
71	Rubare	Ntungamo	5,674	4,236	75%
72	Rubindi A	Mbarara	1,700	1,266	74%
73	Rushere	Kiruhura	5,000	1,044	21%
74	Rwamabondo	Ntungamo	3,158	1,050	33%
75	Rwashamire	Ntungamo	5,840	2,904	50%
76	Sanga	Kiruhura	4,632	450	10%
77	Semuto	Nakaseke	6,242	4,500	72%
78	Shuuku	Bushenyi	2,583	2,454	95%
79	Tsakhana	Manafwa	3,022	300	10%
80	Zirobwe	0	2,015	1,200	60%
					399,638

Annex 8 Functionality

Annex 8.1 Functionality Rates in Districts (2007/8)

District	Functionality Rate (%)	District	Functionality Rate (%)
KALANGALA	90	ADJUMANI	94
KIBOGA	81	OYAM	57
LUWERO	95	APAC	76
NAKASEKE	76	KOBOKO	73
MASAKA	73	MARACHI	81
MPIGI	78	ARUA	87
MITYANA	77	AMURU	82
MUBENDE	70	GULU	66
MUKONO	92	KITGUM	95
NAKASONGOLA	80	KAABONG	89
LYANTONDE	75	KOTIDO	73
RAKAI	56	ABIM	60
SSEMBABULE	78	AMOLATAR	85
KAYUNGA	85	DOKOLO	80
WAKISO	94	LIRA	76
BUGIRI	81	MOROTO	65
BUSIA	94	MOYO	68
NAMUTUMBA	94	NEBBI	69
IGANGA	91	NAKAPIRIPIRIT	56
JINJA	95	PADER	86
KALIRO	92	YUMBE	78
KAMULI	91	BUNDUBUGYO	71
BUKWA	85	BUSHENYI	77
KAPCHORWA	84	HOIMA	95
AMURIA	56	KABALE	79
KATAKWI	83	KABAROLE	82
BUKEDEA	76	KASESE	59
KUMI	87	KIBAALE	90
MANAFWA	91	KISORO	95
BUDUDA	88	BULISA	83
MBALE	92	MASINDI	87
BUDAKA	95	IBANDA	92
PALLISA	91	ISINGIRO	93
SOROTI	86	KIRUHURA	92
BUTALEJA	90	MBARARA	87
TORORO	95	NTUGAMO	76
KABERAMAIDO	73	RUKUNGIRI	82
MAYUGE	93	KAMWENGE	95
SIRONKO	94	KANUNGU	78
		KYENJOJO	85

Annex 8.2 List of Large Towns (NWSC), Connections and Accounts

Area	*Water Supplied (m3)*	*Water Sold (m3)*	*Number of New Water Connections (No.)*	*Total No. of Accounts*	*Active Accounts (No.)*	*Inactive Accounts (No.)*	*Metered Accounts (No.)*	*Total No. of Kiosks*	*Cummulative Water Mains Extensions (kms)*	*Cummulative Sewer mains (kms)*	*Sewer Connections (No.)*
Kampala	46,208,7	26,673,985	14,685	120,393	102,384	18,009	119,897	324	2,085.774	54.000	46
Jinja/Lugazi	4,452,00	3,348,940	1,381	12,391	10,061	2,330	12,391	17	274.532	0.000	16
Entebbe/Kajansi	2,623,00	2,240,881	1,562	12,445	11,539	906	12,422	0	146.924	5.094	18
Tororo	909,000	804,247	315	3,552	3,226	326	3,533	11	125.900	7.054	16
Mbale	1,221,00	1,109,00	667	6,656	5,704	952	6,656	6	268.600	30.050	36
Mbarara	2,222,25	1,875,70	831	7,936	7,936	0	7,864	2	204.407	16.254	30
Masaka	1,068,00	817,000	527	5,391	4,844	547	5,315	5	203.700	11.800	7
Lira	934,000	816,000	527	4,789	4,385	404	4,776	4	144.700	14.000	7
Gulu	730,730	659,220	357	3,543	3,350	193	3,543	6	103.451	0.367	32
Kasese	563,715	434,030	386	3,196	3,109	87	3,196	4	61.639	0.000	0
Fort Portal	707,490	513,534	439	3,575	3,433	142	3,575	0	100.100	1.100	7
Kabale	482,668	423,700	398	3,215	3,190	25	3,215	3	116.522	8.920	11
Arua	605,000	558,000	566	3,997	3,878	119	3,997	8	102.686	0.000	0
Bushenyi/Ishaka	250,200	208,560	106	1,480	1,463	17	1,459	1	72.000	0.000	0
Soroti	748,810	498,579	584	3,524	2,913	611	3,524	4	108.500	0.000	8
Hoima	322,521	262,941	495	2,479	2,150	329	2,479	1	110.350	0.000	0
Masindi	441,122	386,175	334	2,264	1,889	375	2,264	2	126.600	0.000	0
Mubende	358,770	283,310	224	1,733	1,591	142	1,733	8	70.000	0.000	0
Total	**64,849,0**	**41,913,802**	**24,384**	**202,559**	**177,045**	**25,514**	**201,839**	**406**	**4,426.385**	**148.639**	**234**

Annex 9 Per Capita Investment Cost

Annex 9.1 District Water and Sanitation Conditional Grant (DWSCG) Average Unit Costs for Technology (2007/08)

District	Dams	Valley Tanks	Deep Borehole drilling (Motorised	Deep Boreholes drilling (Hand	Extra Large Spring Protection	Medium Spring Protection	Promoting domestic rainwater	Shallow Well construction - Hand augured	Shallow Well construction - Hand dug	Shallow Well construction - Motorised	Small Spring Protection
Abim	0	0	5,711,235	6,425,139	0	0	0	0	0	0	0
Adjumani	0	0	0	13,955,310	0	0	0	0	0	0	0
Amolator	0	0	0	13,163,070	0	0	0	0	0	0	0
Amuria	0	0	0	12,457,773	0	0	0	0	0	0	0
Amuru	0	0	0	4,193,172	0	0	0	0	0	5,433,905	0
Apac	0	0	0	14,368,525	0	0	3,358,080	0	0	3,182,313	0
Arua	0	0	19,060,000	16,508,749	4,441,127	2,990,243	3,707,600	0	4,750,000	6,408,610	0
Budaka	0	0	0	13,534,948	2,263,467	0	0	0	0	0	0
Bududa	0	0	0	0	0	1,481,429	4,112,944	0	0	0	0
Bugiri	0	0	0	9,909,518	0	3,005,256	0	0	0	9,142,104	0
Bukedea	0	0	0	0	0	0	0	0	0	0	0
Bukwo	0	0	0	0	1,816,667	0	0	0	0	0	0
Bullisa	0	0	0	0	0	0	0	0	2,372,083	0	0
Bundibugyo	0	0	0	0	0	0	0	0	0	0	0
Bushenyi	0	0	0	0	2,920,563	0	1,818,182	0	3,670,757	0	0
Busia	0	0	0	1,654,000	0	0	0	0	1,247,730	0	0
Butaleja	0	0	0	8,967,599	0	0	0	0	0	0	0
Dokolo	0	0	0	15,091,300	0	1,979,167	0	0	0	0	0
Gulu	0	0	0	11,968,750	0	0	0	0	5,275,000	6,926,000	0
Hoima	0	0	0	0	1,641,277	1,375,089	0	0	1,337,512	0	0
Ibanda	0	0	0	0	0	1,768,541	0	3,843,203	0	0	0
Iganga	0	0	0	0	0	0	0	0	0	0	0
Isingiro	32,533,425	0	0	0	0	0	1,508,236	0	3,516,028	0	0
Jinja	0	0	0	0	0	0	0	0	0	0	0
Kaabong	0	0	0	17,041,667	0	0	0	0	0	0	0
Kabale	0	0	0	0	0	0	663,772	0	0	0	1,615,400

District	Dams	Valley Tanks	Deep Borehole drilling (Motorised	Deep Boreholes drilling (Hand	Extra Large Spring Protection	Medium Spring Protection	Promoting domestic rainwater	Shallow Well construction - Hand augured	Shallow Well construction - Hand dug	Shallow Well construction - Motorised	Small Spring Protection
Kabarole	0	0	0	0	0	0	0	0	2,996,102	0	1,779,661
Kaberamaido	0	0	0	11,110,002	0	0	1,333,333	0	0	0	0
Kalangala	0	0	0	0	0	0	16,000,000	0	5,000,000	0	0
Kaliro	0	0	0	0	0	0	0	0	0	0	0
Kamuli	0	0	0	13,270,667	0	0	2,297,139	0	7,490,221	4,305,866	0
Kamwenge	0	0	0	14,375,000	0	0	850,000	0	3,700,000	0	3,505,791
Kanungu	0	0	0	0	0	1,653,870	0	0	4,544,964	0	0
Kapchorwa	0	0	0	0	1,527,701	1,667,600	0	0	0	0	1,511,983
Kasese	0	0	0	0	0	0	0	0	0	0	0
Katakwi	0	0	0	0	0	0	0	0	0	0	0
Kayunga	0	0	0	14,656,271	0	0	1,233,500	0	4,230,143	0	0
Kibaale	0	0	0	0	0	0	0	0	3,900,000	0	0
Kiboga	0	15,000,000	0	19,572,969	0	1,900,000	0	0	4,655,000	0	0
Kiruhura	0	11,037,917	0	0	0	0	457,000	0	3,522,357	0	0
Kisoro	0	0	0	0	0	3,125,000	546,640	0	0	0	0
Kitgum	0	0	9,933,356	17,671,499	0	0	0	0	0	0	0
Koboko	0	0	0	154,750	0	275,500	0	0	0	5,868,750	0
Kotido	0	0	0	16,375,000	0	0	0	0	0	0	0
Kumi	0	0	0	10,492,696	0	0	0	2,079,104	0	0	0
Kyenjojo	0	0	0	13,670,983	0	0	0	0	2,249,893	0	0
Lira	0	0	0	45,507,376	0	2,375,020	0	0	0	3,795,032	0
Luwero	0	27,377,825	0	0	0	0	0	0	4,990,794	0	0
Lyantonde	0	0	0	0	0	0	794,000	0	0	0	0
Manafa	0	0	0	14,922,820	0	0	554,333	0	0	4,697,750	1,372,919
Maracha	0	0	29,219,817	13,321,752	0	2,500,000	0	0	0	6,068,554	2,200,000
Masaka	0	64,659,161	0	0	2,562,561	0	0	2,358,206	3,310,508	0	0
Masindi	0	0	0	12,568,593	0	1,979,306	0	0	4,745,552	4,793,549	0
Mayuge	0	0	0	14,658,973	0	1,895,404	0	6,701,583	5,506,990	10,127,586	1,794,169
Mbale	0	0	0	0	0	0	0	0	0	0	0

District	Dams	Valley Tanks	Deep Borehole drilling (Motorised	Deep Boreholes drilling (Hand	Extra Large Spring Protection	Medium Spring Protection	Promoting domestic rainwater	Shallow Well construction - Hand augured	Shallow Well construction - Hand dug	Shallow Well construction - Motorised	Small Spring Protection
Mbarara	0	0	0	12,275,658	0	1,546,125	356,223	0	2,918,828	0	0
Mityana	0	0	0	14,478,435	0	0	0	0	3,558,333	0	0
Moroto	0	0	0	0	0	0	0	0	0	0	0
Moyo	0	0	0	43,375,000	0	0	4,591,000	0	0	0	0
Mpigi	0	0	0	0	0	0	0	0	2,003,566	916,600	0
Mubende	0	24,512,563	0	17,343,000	0	0	0	0	3,213,350	0	0
Mukono	0	0	0	10,583,216	2,318,248	1,690,171	1,509,575	0	3,875,656	0	0
Nakapiripirit	0	0	0	15,050,162	0	0	3,639,239	0	0	0	3,244,303
Nakaseke	0	0	0	14,295,350	0	0	0	0	4,039,434	0	0
Nakasongola	0	0	0	24,410,009	0	0	0	0	0	0	0
Namutumba	0	0	0	0	0	0	0	0	0	0	0
Nebbi	0	0	0	2,115,333	0	2,300,000	0	4,874,770	0	0	2,090,000
Ntungamo	0	0	0	0	0	0	0	0	0	0	0
Oyam	0	0	0	13,893,689	0	2,985,767	0	0	0	5,280,000	0
Pader	0	0	0	23,590,132	0	0	4,183,920	0	5,960,077	0	3,450,218
Pallisa	0	0	0	0	0	0	0	0	8,069,070	0	0
Rakai	0	0	0	0	0	0	1,000,900	0	8,188,949	0	0
Rukungiri	0	0	0	0	0	0	0	0	0	4,491,267	0
Sembabule	0	58,931,289	0	0	0	0	793,740	2,754,295	3,617,076	3,938,088	0
Sironko	0	0	0	15,000,000	0	0	0	0	0	0	1,388,150
Soroti	0	0	0	12,167,845	0	0	298,425	0	2,407,317	0	0
Tororo	0	0	0	20,715,515	0	0	0	0	0	0	0
Wakiso	0	0	0	17,249,179	0	1,772,284	0	2,979,984	3,435,268	2,629,600	0
Yumbe	0	0	0	14,975,419	0	0	0	0	4,859,248	0	0
Average	32,533,425	28,998,298			2,584,693	2,138,125	30,528	391,939	2,046,402	2,797,653	348,260

Annex 9.2 Investment Costs in Small Towns Piped Water Supplies and Sanitation Completed in 2007/08

No.	Town	Population 2008	Projected population (2018)	Water source type	Total length of pipelines (km)	Investment (Million UGX)			Per Capita Investment (per person)		Remarks
						(Water)	Sanitation	Total	UGX	USD	
1	Iganga	53,956	83,206	NWSC	81.2	12,613	1,309	13,922	167,320	98	Investment in sanitation reflect school facilities and software
2	Mityana	41,483	64,547	Swamp	72.2	9,987	1,058	11,045	171,116	101	
3	Mpigi	13,381	19,047	Swamp	51.6	5,694	853	6,547	343,729	202	
4	Kigumba	16,259	31,518	BHs	72	5,809	374	6,183	196,174	115	
5	Apac	14,191	21,430	BHs	38	5,220	360	5,580	260,383	153	
6	Pakwach	28,077	54,307	RiverNile	34	4,522	507	5,029	92,603	54	
7	Nebbi	31,975	48,286	River	30.55	6,177	730	6,907	143,044	84	
8	Yumbe	19,628	26,378	BH	17.57	2,044	45	2,089	79,209	47	The cost includes solar energy investments from ERT
9	Sironko	15,398	21,683	Surface	27.5	2,768	111	2,879	132,760	78	
10	Kaberamaido	7,522	9,815	Surface	74.1	3,108	92	3,200	326,030	192	
11	Soroti	86,813	132,692	Surface	57	11,559	79	11,637	87,702	52	Intake, pumping station & reservoirs were expanded to supply other areas in bulk including limited distribution in the town
12	Ibanda	27,583	47,060	Spring	23	1,392	18	1,410	29,963	18	A spring source was only developed to increase on water produced
13	Rushere	8,669	14,359	S/well	52.8	625	30	655	45,613	27	
14	Katerera	5,940	9,553	Spring	13.3	369	30	399	41,752	25	
15	Kisoro (extension)	25,029	43,983	Spring	22.7	1,271	10	1,281	29,132	17	The water supply was extended to nearby areas of the Town Council from an existing supply
16	Natete	4,760	8,365	Spring	7.3	321	10	331	39,531	23	
Sub Total (Water)		**400,663**	**636,229**		**674.8**	**73,479**	**5,616**	**79,094**	**124,317**	**73.1**	
17	Hoima (sewerage)	39,273	52,780				3,523	3,523	66,749	39	
18	Iganga (sewerage)	48,720	65,476				2,178	2,178	33,264	20	
Sub Total (Sewerage)		**87,993**	**118,256**				**5,701**	**5,701**	**100,013**	**59**	Analysis of per capita based on Total population

Annex 10 Hygiene and Sanitation

Annex 10.1 Latrine Coverage for District (2007 to 2008). Source: HIASS 2007, 2008

DISTRICT	LAT COV (%) 2007	LAT COV (%) 2008	% CHANGE
ABIM	2	2	0
KABONG	2	2	0
KOTIDO	2	2	0
NAKAPIRIPIRIT	3	3	0
MOROTO	10	10	0
KITGUM	19	19	0
AMURIA	21	24	3
AMURU	42	34	-8
PADER	38	38	0
GULU	42	42	0
AMOLATAR	48	49	1
DOKOLO	49	49	0
BULISA	50	49	-1
MASINDI	48	51	3
KALANGALA	54	51	-3
NAMUTUMBA	42	52	10
LIRA	45	52	7
KABERAMAIDO	52	52	0
APAC	53	53	0
OYAM	53	53	0
MPIGI	52	55	3
SEMBABULE	52	55	3
KATAKWI	55	55	0
KUMI	53	56	3
BUNDIBUGYO	46	57	11
ARUA	57	57	0
MARACHA	57	57	0
SIRONKO	64	57	-7
KAPCHORWA	57	58	1
KIBOGA	58	58	0
BUDUDA	58	59	1
ISINGIRO	59	59	0
KAYUNGA	59	59	0
BUKWA	40	60	20
BUKEDEA	42	60	18
BUDAKA	50	60	10
PALLISA	70	60	-10
KOBOKO	50	61	11
MANAFWA	64	62	-2
ADJUMANI	61	63	2
YUMBE	65	63	-2
IGANGA	57	65	8
MBALE	57	65	8
BUGIRI	65	65	0
KIBAALE	68	65	-3
MAYUGE	51	68	18
SOROTI	55	68	13
HOIMA	68	71	3

DISTRICT	LAT COV (%) 2007	LAT COV (%) 2008	% CHANGE
KAMWENGE	69	71	2
NAKASONGOLA	70	71	1
JINJA	71	71	0
LUWERO	55	73	18
WAKISO	72	73	1
KAMULI	58	74	16
MUBENDE	67	74	7
NAKASEKE	67	74	7
MOYO	71	74	3
KISORO	71	75	4
KYENJOJO	75	76	1
KIRUHURA	76	76	0
NEBBI	58	78	20
LYANTONDE	71	80	9
KASESE	80	81	1
MUKONO	86	81	5
TORORO	73	82	9
BUSIA	78	82	4
RAKAI	76	83	7
MITYANA	72	85	13
KALIRO	79	86	6
IBANDA	80	88	0
KABALORE	86	88	2
BUTALEJA	64	89	25
MBARARA	76	90	14
KANUNGU	90	90	0
NTUNGAMO	86	91	5
KABALE	89	91	2
BUSHENYI	91	92	1
KAMPALA	94	94	0
MASAKA	86	95	9
RUKUNGIRI	98	99	1

Annex 10.2 Sanitation and Handwashing Coverage in 28 Town Councils

TOWN COUNCIL	LATRINE COVERAGE (%)	HAND WASHING COVERAGE (%)
BUSIA	85	No Data
NAKASONGOLA	85	No Data
LYANTONDE	82	9
MUKONO	75	20
KATAKWI	56	No Data
RUKUNGIRI	63	47
IBANDA	94	68
KAYUNGA	59	20
KIHIHI	82	54
KAYUNGA	78	34
KAMULI	85	ND
MASINDI	80	20
NAKAPIRIPIRIT	30	No Data
HOIMA	78	25
ADJUMANI	57	37
YUMBE	68	4
BUDAKA	53	48
BUTALEJA	57	16
BUSOLWE	68	8
KYENJOJO	ND	No Data
PADER	20	No Data
KITGUM	53	No Data
WAKISO	70	25
KASESE	69	20
MOYO	92	No Data
KAMWENGE	70	10
MPIGI	67	No Data
BUNDIBUGYO	68	17
BOMBO	68	40
BUGIRI	72	25
KISORO	76	30
MALABA	70	4
MANAFWA	45	10
LYANTONDE	82	14
KALIRO	98	48
KUMI	87	4
KAGADI	68	14
KIBALE	68	14
Average	70	24

Annex 10.3 Pupil-Stance Ratio in Primary Schools (FY 2007/8)

District	Number of pupils	Number of toilet stances	Pupil:stance ratio
Kalangala	4,221	297	14:1
Nakasongola	44,389	1,843	24:1
Mbarara	104,376	4,173	25:1
Rukungiri	83,583	3,252	26;1
Moroto	21,420	808	27:1
Wakiso	183,290	6,591	28:1
Kotido	13,004	464	28:1
Kiruhura	67,923	2,420	28:1
Kanungu	62,601	2,136	29;1
Adjumani	41,406	1,389	30:1
Bushenyi	225,086	7,469	30:1
Ibanda	63,805	2,114	30:1
Kiboga	65,095	2,066	32:1
Kampala	167,546	5,271	32:1
Moyo	35,269	1,101	32:1
Jinja	97,699	2,949	33:1
Ntungamo	119,741	3,470	35:1
Kamwenge	75,810	2,170	35:1
Hoima	95,008	2,711	35:1
Kaberamaido	51,259	1,434	36:1
Kibaale	134,467	3,691	36:1
Kisoro	66,310	1,777	37:1
Mityana	68,166	1,819	37:1
Isingiro	90,539	2,399	38:1
Mpigi	131,230	3,463	38:1
Mukono	214,570	5,430	40:1
Rakai	117,158	2,882	41:1
Gulu	114,634	2,779	41:1
Kabale	148,470	3,575	42:1
Sembabule	81,016	1,909	42:1
Katakwi	37,058	851	44:1
Lyantonde	17,986	413	44:1
Luwero	129,664	2,968	44:1
Masaka	232,305	5,261	44:1
Kapchorwa	47,661	1,077	44:1
Budaka	52,827	1,177	45:1
Amuru	55,353	1,230	45:1
Bugiri	136,091	3,002	45:1
Apac	153,936	3,388	45:1
Busia	86,288	1,892	46:1
Kabarole	99,522	2,163	46:1

District	Number of pupils	Number of toilet stances	Pupil:stance ratio
Nakaseke	53,136	1,154	46:1
Dokolo	46,445	969	48:1
Kyenjojo	108,836	2,269	48:1
Mubende	106,612	2,221	48:1
Nakapiripirit	21,622	446	48:1
Kumi	93,447	1,881	50:1
Kasese	158,852	3,193	50:1
Pallisa	129,620	2,599	50:1
Amuria	59,904	1,194	50:1
Masindi	111,953	2,230	50:1
Kayunga	96,518	1,893	51:1
Tororo	138,218	2,653	52:1
Bundibugyo	52,594	998	53:1
Soroti	131,677	2,467	53:1
Kitgum	116,195	2,159	54:1
Iganga	176,682	3,273	54:1
Lira	189,859	3,492	54:1
Bukedea	43,207	786	55:1
Amolatar	30,884	558	55:1
Nebbi	159,121	2,792	57:1
Yumbe	82,994	1,436	58:1
Butaleja	65,214	1,087	60:1
Mbale	107,829	1,778	61:1
Kaabong	36,201	582	62:1
Bulisa	18,046	288	63:1
Oyam	102,959	1,634	63:1
Kamuli	189,744	2,988	64:1
Mayuge	96,618	1,499	64:1
Kaliro	53,185	823	65:1
Bukwo	28,238	435	65:1
Arua	184,421	2,714	68:1
Sironko	100,848	1,451	70:1
Bududa	57,638	794	73:1
Manafwa	100,678	1,373	73:1
Maracha-Terego	143,986	1,947	74:1
Pader	158,271	2,133	74:1
Abim	23,738	312	76:1
Namutumba	66,090	827	80:1
Koboko	58,109	718	81:1
Total	**7,537,971**	**171,320**	

Annex 10.4 Recommendations for Addressing Financial and Institutional Sanitation Challenges

Issue	Recommendation	Responsible Agency
Recommendations for excreta related sanitation and hygiene		
Weak prioritization of sanitation and hygiene at national and local government levels	Implement integrated budget line as a top up to the LGDP grant with clear performance standards and accountability mechanisms to meet targets	MFPED/MoLG
Slow improvement of sanitation and hygiene targets and implementation of sanitation MOU	Clarification of mandates/Reform of MOU should be linked with implementation of Budget line	MoLG/Inter-ministerial Working Group
Promotion of sanitation is being done without promoting hand-washing with soap yet handwashing with soap can reduce diarrhoea disease among children by nearly 47% and ARI by about 30%.	Sensitize local leaders to be advocates for sanitation and hygiene; promotion of sanitation should always include hand-washing with soap especially at critical times (after visiting a toilet, before eating food and before feeding a baby.	LGs, NGOs, CBOs
Enforcement of sanitation bylaws is weak; some LGs do not have bylaws linked with sanitation and hygiene	All local governments should establish and enforce local bylaws on sanitation and hygiene	LGs, MoH (EHD)
Lack of incentives for local governments to prioritize sanitation and hygiene	Establish Reward mechanism at National and LG levels	Line Ministries/MoLG through Inter-ministerial working Group
Weak planning and budgeting capacity at local government level for sanitation & hygiene	Establish District and Town Water and Sanitation Committees	LGs
Shortage of health inspectorate staff	Fill the vacant posts of health inspectorates at LG in both urban and rural areas	Local Governments, MoFPED, MoLG
Recommendations with respect to solid waste and drainage		
Mandates for solid waste at national level clear but existing approach to solid waste management in urban areas is ad hoc	Prepare National Solid waste management strategy and financing strategy for the sector	NEMA
Lack of leadership on drainage at the national level	MoWE should clarify specific agency (potentially DWRD) within the Ministry that should take the lead on policy making and strategy development with respect to drainage. Further, a working group on drainage should be formed including DWRD, NEMA, NWSC and MOLG. Its task should be to collaborate and develop a joint strategy to support LGs for management, upgrading and maintenance of drainage	DWRD, NEMA, NWSC, MoW, and MoLG
Shortage of staffing for environmental sanitation in KCC	Increase staff capacity for addressing solid waste and drainage	KCC
Informality in contracting constraints monitoring and supervision of private sector operators thus creating inefficiencies in service delivery	Formalize contracts between KCC and private operators for collection and transportation of waste with realistic performance indicators	KCC

Annex 13 Equity

Annex 13.1 Mean sub-county deviation from the district average – an explanation

The indicator is based on the number of people per improved water point and **not** the proportion of the population that has access to safe water. The indicator helps to determine deviation between the number of persons per improved water point in the district and that of the sub counties.

To determine the indicator:

Step 1 – calculate how many rural people there are per improved water source in an entire District (i.e. District rural population divided by number of improved water sources).

Step 2 - calculate how many rural people there are per improved water source in each sub-county (i.e. sub-county rural population divided by number of improved water sources in the sub-county)

Step 3 – calculate the difference between the District people per improved water point and the sub-county people per improved water point

Step 4 – calculate the absolute value of the difference obtained in step 3.

Step 5 – add up the absolute values and divide by the number of sub-counties.

The table below uses data from Kaabong District as an example.

			Step 1&2	**Step 3**	**Step 4**
Sub county	**Projected pop June 08**	**Total number of Improved Water Points**	**Average number of Persons per water point**	**District Average minus S/ C Averages**	**Absolute value of Difference between S/C and District Averages**
KALAPATA	101,577	18	5,643	-1988	1,988
KAPEDO	71,994	24	3,000	655	655
KARENGA	63,058	45	1,401	2254	2,254
KATHILE	79,664	20	3,983	-328	328
LOLELIA	49,346	6	8,224	-4569	4,569
LOYORO	53,844	14	3,846	-191	191
SIDOK	58,819	19	3,096	559	559
KAABONG SUB-COUNTY	132,080	21	6,290	-2635	2,635
District	610,382	167	3,655		
Step 5: Mean Sub County deviation from District Average i.e. Sum of Sub County/No of Sub Counties					**1,647**

Note: *The higher* ***the numerical value, the higher the inequity; the lower numerical value indicates better equity.***

Annex 13.2 Trends in Mean Sub-County deviation from the District Average

Districts	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
Abim	n/a	n/a	n/a	n/a	223	81
Adjumani	273	41	225	63	59	117
Amolatar	n/a	n/a	n/a	60	112	242
Amuria	n/a	n/a	n/a	102	84	62
Amuru	n/a	n/a	n/a	n/a	199	141
Apac	359	339	174	862	556	96
Arua	317	154	156	156	218	143
Budaka	n/a	n/a	n/a	n/a	143	230
Bududa	n/a	n/a	n/a	n/a	195	55
Bugiri	1065	2090	1020	980	684	634
Bukedea	n/a	n/a	n/a	n/a	62	59
Bukwo	n/a	n/a	n/a	58	37	33
Bulisa	n/a	n/a	n/a	n/a	189	41
Bundibugyo	188	125	137	145	109	81
Bushenyi	162	72	74	106	83	130
Busia	262	25	56	56	61	46
Butaleja	n/a	n/a	n/a	97	87	70
Dokolo	n/a	n/a	n/a	n/a	102	29
Gulu	-	155	147	141	69	49
Hoima	343	106	123	124	117	106
Ibanda	n/a	n/a	n/a	210	206	181
Iganga	186	186	114	108	90	83
Isingiro	n/a	n/a	n/a	436	439	450
Jinja	829	263	261	260	250	260
Kaabong	n/a	n/a	n/a	5,775	1203	1,123
Kabale	-	-	-	-	56	52
Kabarole	155	162	151	154	109	313
Kaberamaido	168	60	60	61	49	38
Kalangala	402	249	288	168	153	429
Kaliro	n/a	n/a	n/a	75	56	58
Kamuli	397	163	196	161	127	125
Kamwenge	164	376	329	340	129	115
Kanungu	159	38	40	39	42	37
Kapchorwa	242	91	93	73	71	107
Kasese	509	153	155	143	133	147
Katakwi	418	78	97	77	76	76
Kayunga	445	91	76	54	46	52
Kibaale	154	118	108	113	103	86
Kiboga	100	337	189	176	175	188
Kiruhura	n/a	n/a	n/a	276	259	325
Kisoro	91	393	398	422	1408	246
Kitgum	n/a	177	177	4,068	4092	44
Koboko	n/a	n/a	n/a	87	84	68

Districts	2002/2003	2003/2004	2004/2005	2005/2006	2006/2007	2007/2008
Kotido	1891	1226	1214	388	204	168
Kumi	223	91	104	103	83	75
Kyenjojo	426	426	167	130	87	83
Lira	229	147	152	135	154	93
Luwero	181	163	163	97	117	199
Lyantonde	n/a	n/a	n/a	n/a	113	115
Manafwa	n/a	n/a	n/a	222	235	192
Maracha/ Terego	n/a	n/a	n/a	n/a	83	80
Masaka	604	190	199	143	132	124
Masindi	295	147	144	132	98	94
Mayuge	477	216	210	547	224	218
Mbale	489	122	165	213	219	174
Mbarara	648	402	390	280	396	378
Mityana	n/a	n/a	n/a	358	233	226
Moroto	332	332	153	150	203	175
Moyo	826	434	446	481	348	263
Mpigi	350	140	333	540	208	100
Mubende	744	260	255	222	230	451
Mukono	454	609	287	602	421	274
Nakapiripirit	636	658	553	270	397	319
Nakaseke	n/a	n/a	n/a	238	286	261
Nakasongola	152	970	727	715	692	225
Namutumba	n/a	n/a	n/a	n/a	66	68
Nebbi	301	117	82	82	133	98
Ntungamo	136	63	62	56	52	105
Oyam	n/a	n/a	n/a	n/a	97	150
Pader	-	544	533	381	170	171
Pallisa	559	155	139	112	93	114
Rakai	544	691	703	715	801	496
Rukungiri	55	64	59	59	44	62
Sembabule	268	279	364	309	308	114
Sironko	385	153	151	126	115	73
Soroti	255	134	87	78	72	370
Tororo	456	160	120	127	196	118
Wakiso	686	686	407	415	297	257
Yumbe	472	334	353	381	411	159

Source: *District Reports 2008*

Annex 15 Gender

Annex 15.1 Water and sanitation committees with at least one woman holding a key position

	District	Water sources	No. of Sources with at least one woman holding key positions.	% of water sources with women holding key positions
1	Maracha/ Terego	1,130	1,130	100
2	Mbale	44	44	100
3	Kiruhura	204	201	98
4	Amuru	239	221	92
5	Tororo	239	221	92
6	Lira	96	85	89
7	Mayuge	208	184	88
8	Mukono	2,783	2,439	87
9	Soroti	45	39	87
10	Kiboga	7	6	85
11	Moroto	192	161	84
12	Kamwenge	181	149	82
13	Abim	11	9	81
14	Kabarole	110	90	81
15	Kibaale	2,107	1,721	81
16	Kasese	104	83	79
17	Rakai	117	93	79
18	Kumi	245	190	78
19	Budaka	179	133	74
20	Dokolo	94	67	71
21	Isingiro	378	270	71
22	Wakiso	67	47	70
23	Moyo	1,024	707	69
24	Apac	110	75	68
25	Sironko	370	235	63
26	Mityana	53	32	60
27	Butaleja	117	68	58
28	Mpigi	1,447	778	53
29	Ibanda	652	320	49
30	Yumbe	882	428	49
31	Kyenjojo	9	4	44
32	Kalangala	111	45	40
33	Nakaseke	222	85	38
34	Kaberamaido	321	110	34
35	Bundibugyo	925	253	27
36	Nakapiripirit	165	18	11
	Total	**15,188**	**10,741**	**71**

Annex 15.2 Status of Staff Showing Gender Balance in NWSC as at March 2008

Area	Permanent Staff	Contract Staff	Male	Female	Female /Total Staff Ratio	Total March 2008	Total Dec 2007	Increase/ Decrease
Headquarters	0	206	141	65	32%	206	201	5
Kampala Water	0	650	501	149	23%	650	640	10
Jinja/Njeru	0	81	68	13	16%	81	80	1
Entebbe	0	71	49	22	31%	71	58	13
Tororo	1	30	26	5	16%	31	31	0
Mbale	3	54	46	11	19%	57	57	0
Masaka	1	38	33	6	15%	39	39	0
Mbarara	4	56	52	8	13%	60	60	0
Lira	1	29	28	2	7%	30	30	0
Gulu	1	26	25	2	7%	27	27	0
Kasese	1	15	14	2	13%	16	16	0
FortPortal	1	18	17	2	11%	19	19	0
Kabale	0	23	20	3	13%	23	23	0
Arua	1	21	16	6	27%	22	22	0
Bushenyi/	0	20	17	3	15%	20	20	0
Soroti	1	20	16	5	24%	21	21	0
Hoima	0	14	12	2	14%	14	13	1
Masindi	1	12	10	3	23%	13	13	0
Mubende	1	12	10	3	23%	13	13	0
Total	17	1,396	1,101	312	22%	1,423	1,383	30